



# **Safe, Clean Water and Natural Flood Protection**

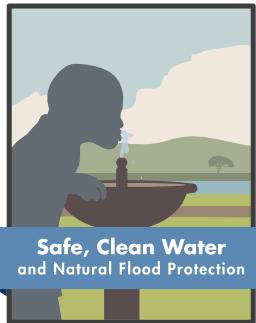
**Fiscal Year 2017-2018 | Year 5**



**Santa Clara Valley  
Water District**



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# **Safe, Clean Water and Natural Flood Protection**

## **Fiscal Year 2017-2018 | Year 5**

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Submitted by

**Melanie Richardson**  
Chief Operating Officer

Presented by

**Ngoc Nguyen**  
Deputy Operating Officer

November 16, 2018

**Santa Clara Valley  
Water District**

# Santa Clara Valley Water District

## Safe, Clean Water and Natural Flood Protection Fiscal Year 2017-18 Annual Report

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# **Santa Clara Valley Water District**

## **Safe, Clean Water and Natural Flood Protection Fiscal Year 2017-18 Annual Report**

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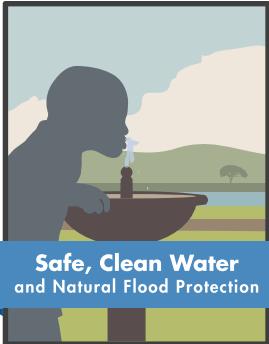
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FY 2017-18 Annual Report  
**Safe, Clean Water  
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Safe, Clean Water  
and Natural Flood Protection

## MESSAGE FROM THE CHIEF EXECUTIVE OFFICER

November 2018

Fiscal Year 2017-18 (FY18) marks the fifth of the 15-year Safe, Clean Water and Natural Flood Protection Program (Safe, Clean Water Program). This report (Year 5 annual report) presents a status update on the implementation of projects during FY18.

On November 6, 2012, voters approved the Safe, Clean Water Program as a countywide special parcel tax for 15 years with a sunset date of June 30, 2028. This program replaced the Clean, Safe Creeks and Natural Flood Protection Plan, which voters approved in November 2000.

The Safe, Clean Water Program addresses the following needs, values, and priorities as identified by Santa Clara County stakeholders:

**Priority A:** Ensure a Safe, Reliable Water Supply

**Priority B:** Reduce Toxins, Hazards and Contaminants in our Waterways

**Priority C:** Protect our Water Supply from Earthquakes and Natural Disasters

**Priority D:** Restore Wildlife Habitat and Provide Open Space

**Priority E:** Provide Flood Protection to Homes, Businesses, Schools, and Highways

Each year, the Santa Clara Valley Water District (District) prepares a report providing a progress update for each of these Program priorities, along with fiscal year accomplishments.

To date, the District has completed multiple Key Performance Indicators (KPIs) for various projects and laid the groundwork for many other projects to be completed in the next 5 years. Key highlights from FY18 accomplishments consistent with the District's core mission areas include:

### Water Supply

- **Main Avenue and Madrone Pipelines Restoration:** Construction began in FY18 and is scheduled to be completed in FY19. Once completed, this project will increase the District's groundwater recharge in South County by about 2,000 acre feet per year and maximize the delivery of imported water to treatment plants supplying drinking water to North County.
- **Water Conservation Grant Program:** Under KPI #1 of the Safe, Clean Water Partnerships and Grants project (Project A2) the District awarded three grants for a total of \$130,192 in grant funding toward project costs of \$291,028. The grants are for agencies and organizations to study and pilot-test new water conservation programs.
- **Water to Go (Hydration Station) Grant Program:** Completed KPI #2 of the Safe, Clean Water Partnerships and Grants project in FY18 by funding grants for 50 bottle filling stations to help schools provide safe, clean drinking water to students and comply with the state mandate, SB 1413, and the Healthy Hunger-Free Kids Act.

## Flood Protection

- **Berryessa Creek Flood Protection Project:** This project was completed in FY18, upon the finalization of Phase 3 construction of the Montague Expressway bridge replacement in June 2018. This project provides 1% flood protection to approximately 1,662 parcels in Milpitas and San José.
- **Coyote Creek Flood Protection Project:** In FY18, the District identified and constructed a short-term flood relief solution for the Rock Springs neighborhood prior to the 2017- 2018 winter season. The District also signed a Memorandum of Agreement with the U.S. Army Corps of Engineers (USACE) that allows the District to conduct a USACE feasibility study, which is the first step in pursuing federal and state funding for the preferred project. Once completed, the preferred project will provide flood protection for approximately 1,000 parcels in San José from the level of flooding that occurred on February 21, 2017.
- **Permanente Creek Flood Protection Project:** Construction of the Rancho San Antonio and McKelvey Park detention sites and channel improvements continued in FY18 and are on target for completion by FY19. Once completed, this project will provide 1% flood protection to approximately 1,664 parcels in Mountain View and Los Altos.
- **San Francisquito Creek Flood Protection Project:** For the local-state funding only project for S.F. Bay to Highway 101, construction continued in FY18, which included installing approximately 4,000 feet of floodwall; excavating sediment and degrading the existing levee; and completing approximately 800 feet of the new offset levee. Construction is scheduled to be completed in FY19. Once completed, this reach will protect approximately 3,000 parcels in Palo Alto from a flood event close to the February 1998 flood, the largest on record.
- **Sediment Removal:** The District completed 12 sediment removal projects, removing nearly 34,714 cubic yards of sediment to maintain design capacity, with 14% of this work funded through the Safe, Clean Water Program.
- **Vegetation Control:** The District completed 470 acres of in-stream vegetation management to reduce flood risk on 168 miles of streams throughout the county using an integrated combination of mechanical, hand labor and herbicide methods.

## Stewardship

- **Trash Removal Projects:** Of the 7 projects in Priority B, 5 include trash removal components, with the goal of reducing and removing contaminants in our local creeks, streams and bay. This work is accomplished not only by the District, but with the help of volunteers and grantees alike. In FY18, approximately 1,404 tons of trash were removed from our waterways.
- **Safe, Clean Water Stewardship Grants:** Through Priorities B and D, the District awarded more than \$1.4 million in grant funding toward project costs exceeding \$3.5 million. These dollars went to local grantees for projects addressing issues such as water conservation, water quality, green initiatives, storm water pollution reduction, storm water quality, trash removal and reduction along our waterways, restoring wildlife habitat, and providing access to trails. In FY18, the Board of Directors also approved \$200,000 for a Pilot Mini-Grant Program, with each mini-grant not to exceed \$5,000. Since the release of the pilot program, the District has awarded more than \$106,000 in mini-grant funds to 22 projects. Projects range from restoring native wildlife habitat to community outreach and education around watershed stewardship to engaging seniors on the importance of restoring open space and healthy watersheds.

To ensure transparency and accountability, the Board established an Independent Monitoring Committee (IMC) to monitor the program's progress and to ensure the outcomes are achieved in a cost-efficient manner. Each year, the Board authorizes finalization of the prior fiscal year's annual report and submittal to the IMC for its review. In addition, the Safe, Clean Water Program requires 3 independent audits, the first of which was conducted in FY17. The audit focused on compliance and performance, and while the Safe, Clean Water Program was found to be operating in full compliance, the auditors did make some recommendations regarding performance. The independent audit, as well as a staff response, are available on the Safe, Clean Water website.

The Year 4 annual report was reviewed by the IMC and recommendations for improving the report were presented to the Board. These recommendations have been incorporated into the Year 5 annual report. The District appreciates each IMC member for volunteering and looks forward to the committee's review of the Year 5 annual report.

The accomplishments presented in this report would not have been achieved without the District's dedicated employees, each of whom is committed to the success of the Safe, Clean Water Program and will continue to work hard to provide Silicon Valley safe, clean water for a healthy life, environment, and economy.

The FY18 annual report and independent audit is available to the public at [valleywater.org/SafeCleanWater.aspx](http://valleywater.org/SafeCleanWater.aspx). Also available is the Safe, Clean Water 5-Year Implementation Plan for FYs19-23. Approved by the Board on July 10, 2018, the 5-Year Implementation Plan provides direction for the second 5 years of the 15-year Program and is updated annually to reflect any adjustments or modifications.

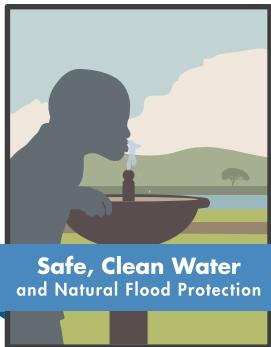
We welcome your inquiries and insightful comments on the FY18 annual report.

Sincerely,



Norma J. Camacho,  
Chief Executive Officer, Santa Clara Valley Water District

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Safe, Clean Water  
and Natural Flood Protection

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# Safe, Clean Water and Natural Flood Protection



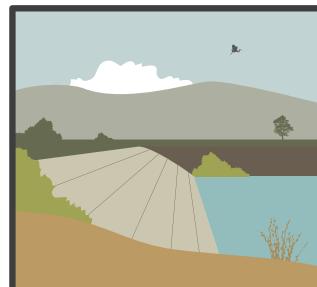
**Priority A:**  
Ensure a safe, reliable  
water supply

**Safe, Clean Water**  
and Natural Flood Protection



**Priority B:**  
Reduce toxins, hazards and  
contaminants in our waterways

**Safe, Clean Water**  
and Natural Flood Protection



**Priority C:**  
Protect our water supply from  
earthquakes and natural disasters

**Safe, Clean Water**  
and Natural Flood Protection



**Priority D:**  
Restore wildlife habitat  
and provide open space

**Safe, Clean Water**  
and Natural Flood Protection

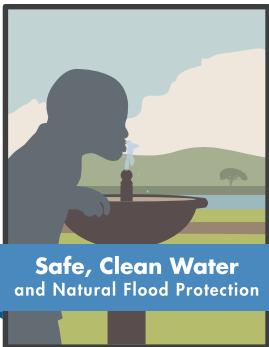


**Priority E:**  
Provide flood protection to homes,  
businesses, schools and highways

**Safe, Clean Water**  
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## Fiscal Year 2017-2018 Annual Report

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## PROGRAM SUMMARY

The Safe, Clean Water and Natural Flood Protection Program (Safe, Clean Water Program) is a 15-year strategy to ensure uninterrupted water resources services in Santa Clara County. The Program was developed through more than 18 months of community collaboration, with input from more than 16,000 residents and stakeholders, to prepare for the scheduled sunset of Clean, Safe Creeks and Natural Flood Protection Plan (CSC) funding. The result of this effort is a program that fulfills our community's top priorities to:

**Priority A:** Ensure a Safe, Reliable Water Supply

**Priority B:** Reduce Toxins, Hazards and Contaminants in our Waterways

**Priority C:** Protect our Water Supply from Earthquakes and Natural Disasters

**Priority D:** Restore Wildlife Habitat and Provide Open Space

**Priority E:** Provide Flood Protection to Homes, Businesses, Schools, and Highways

Santa Clara County voters passed the Safe, Clean Water ballot measure in November 2012 by an overwhelming majority – nearly 74%. The Safe, Clean Water Program extends funding at the same parcel tax rate approved under the previous CSC plan, and ensures a seamless continuation of critical water-related services to Santa Clara County. The 2012 Board resolution providing for the special parcel tax and the ballot language, along with all adjustments and modifications to the original Safe, Clean Water Program, can be found at [valleywater.org/safe-clean-water-program-archive](http://valleywater.org/safe-clean-water-program-archive).

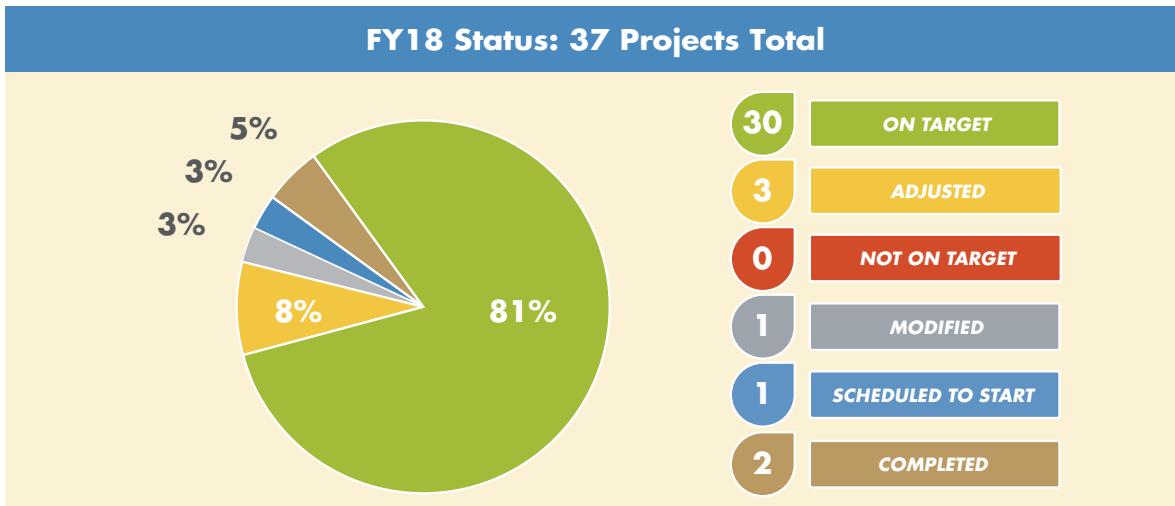
This report is the fifth of 15 annual reports to be prepared for the Safe, Clean Water Program and provides project status towards accomplishing Program Key Performance Indicators (KPIs) and the targets in the 5-Year Implementation Plan:

- On Target: Status indicates the project is on track to meet targets
- Adjusted: Status indicates the potential that targets will not be met and implementation required a schedule adjustment (future year status' will be based upon the adjusted schedule)
- Not on Target: Status indicates that the target has not been or will not be met
- Modified: Status indicates the Board formally modified the project following a public hearing (future year status' will be based upon the modified project targets)
- Scheduled to Start: Status indicates that the project is scheduled to start in a future fiscal year
- Completed: Status indicates that the project has been completed and the KPIs have been met

There are 37<sup>1</sup> projects under Safe, Clean Water. As indicated in Table 1 (p. 3), approximately 81% (30 projects) are on target (■); 8% (3 projects) required schedule adjustments (■); 3% (1 project) was modified (■); 3% (1 project) is scheduled to start (■) in FY19; and 5% (2 projects) were completed (■). See Graph 1 (p. 2).

<sup>1</sup> Previously, the Annual Report listed 38 projects, however 2 projects, namely Coordination with Local Municipalities on Flood Communication (E2.1) and Flood Fighting Action Plans (E2.2), have been re-combined under the single Emergency Response Planning Project.

Graph 1



For Fiscal Year 2017-18 (FY18), the adjusted budget for the Safe, Clean Water Program totaled \$106 million. Actual funds expended and encumbered as of June 30, 2018 were \$62.1 million, approximately 59% of the Safe, Clean Water Program's adjusted budget. Underspending was primarily due to delays in construction and real estate acquisition for the following capital flood protection projects: Upper Llagas (E6) and Sunnyvale East and West (CSC). Project construction delays occurred primarily as a result of: determining suitable and appropriate project mitigation, on-going negotiations with various resource agencies, delays in acquisition of regulatory permits, delays in land acquisition, and incorporating design changes. To address delays in obtaining permits, the District permit strategy team continues to work on short-and long-term strategies to secure timely permits.

To address recommendations made by the Independent Monitoring Committee (IMC), the District utilizes a rating system for capital projects that include confidence levels for schedule, funding, permits, and jurisdictional complexity (the level to which a project's deliverables can be impacted by other entities or jurisdictions). By applying a confidence level to each of these topics, the IMC and community will be able to identify the areas of concern for each project that could impact the probability for the project to remain On Target. The confidence levels are addressed under the Opportunities and Challenges section for each of the capital projects. Appendix D was created to delve into the confidence levels for each capital project, as well as demonstrate the jurisdictional complexity related to funding sources, regulatory permitting, and coordination between cities, counties and other agencies. Listed below are the 3 confidence levels and their definitions:

- **High** – Applies to projects that have achieved the following: received full funding, received regulatory permits, met schedule milestones (and will continue to move forward on schedule), and, if applicable, jurisdictional complexity issues have been resolved.
- **Moderate** – Applies to projects that are in the process of the following: receiving funding from other sources, receiving permits, recommending the Board approve a schedule adjustment, and, if applicable, resolving jurisdictional complexity issues.
- **Low** – Applies to projects that have a high probability of experiencing or already have been: denied funding, denied permits, delayed in schedule, and, if applicable, jurisdictional complexity issues that are impacting completion of the project.

Additionally, a glossary and updated countywide map were added to the Appendices, along with Appendices G and H, to aid those reviewing the annual report in their understanding of the projects and how they align with the District's business and mission areas, respectively. For further project and contact information, visit: [valleywater.org/SafeCleanWater.aspx](http://valleywater.org/SafeCleanWater.aspx).

**Table 1**

Project	Project Description	Status
Priority A: Ensure a Safe, Reliable Water Supply		
A1	Main and Madrone Avenue Pipelines Restoration	ON TARGET
A2	Safe, Clean Water Partnerships and Grants	MODIFIED
A3	Pipeline Reliability Project	SCHEDULED TO START
Priority B: Reduce Toxins, Hazards, and Contaminants in our Waterways		
B1	Impaired Water Bodies Improvement	ON TARGET
B2	Interagency Urban Runoff Program	ON TARGET
B3	Pollution Prevention Partnerships and Grants	ON TARGET
B4	Good Neighbor Program: Encampment Cleanup	ON TARGET
B5	Hazardous Materials Management and Response	ON TARGET
B6	Good Neighbor Program: Remove Graffiti and Litter	ON TARGET
B7	Support Volunteer Cleanup Efforts and Education	ON TARGET
Priority C: Protect our Water Supply from Earthquakes and Natural Disasters		
C1	Anderson Dam Seismic Retrofit	ON TARGET
C2	Emergency Response Upgrades	ON TARGET
Priority D: Restore Wildlife Habitat and Provide Open Space		
D1	Management of Revegetation Projects	ON TARGET
D2	Revitalize Stream, Upland and Wetland Habitat	ON TARGET
D3	Grants and Partnerships to Restore Wildlife Habitat and Provide Access to Trails	ON TARGET
D4	Fish Habitat and Passage Improvement	ON TARGET
D5	Ecological Data Collection and Analysis	ON TARGET
D6	Creek Restoration and Stabilization	ON TARGET
D7	Partnerships for the Conservation of Habitat Lands	ON TARGET
D8	South Bay Salt Ponds Restoration Partnership	ON TARGET
Priority E: Provide Flood Protection to Homes, Businesses, Schools, and Highways		
E1.1	Vegetation Control for Capacity	ON TARGET
E1.2	Sediment Removal for Capacity	ON TARGET
E1.3	Maintenance of Newly Improved Creeks	ON TARGET
E1.4	Vegetation Management for Access	ON TARGET
E2	Emergency Response Planning	ON TARGET
E3	Flood Risk Reduction Studies	ON TARGET
E4	Upper Penitencia Creek Flood Protection	ON TARGET
E5	San Francisquito Creek Flood Protection	ADJUSTED
E6	Upper Llagas Creek Flood Protection	ON TARGET
E7	San Francisco Bay Shoreline Protection	ON TARGET
E8	Upper Guadalupe River Flood Protection	ON TARGET
Other Flood Protection Projects and Clean, Safe Creeks Grants Projects		
	Permanente Creek Flood Protection	ON TARGET
	Sunnyvale East and Sunnyvale West Channels Flood Protection	ADJUSTED
	Berryessa Creek Flood Protection	COMPLETED
	Coyote Creek Flood Protection	ON TARGET
	Calabazas Creek Flood Protection	COMPLETED
	Clean Safe Creeks Grants Projects	ADJUSTED

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**Safe, Clean Water  
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**Priority A:**  
Ensure a safe, reliable  
water supply

**Safe, Clean Water  
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# Priority A

## Ensure a Safe, Reliable Water Supply

Projects under Priority A will upgrade aging water transmission systems to increase pipeline capacity and reduce the risk of water outages. The priority also provides grants to develop future conservation programs, helps local schools fulfill state mandates for drinking water availability, and provides rebates on nitrate removal systems to improve water quality and safety for private well users.

### **Project A1**

Main Avenue and Madrone Pipelines Restoration

### **Project A2**

Safe, Clean Water Partnerships and Grants

### **Project A3**

Pipeline Reliability Project



Main Ave. pipeline installation.

## ON TARGET

## Project A1 FY18 Highlights

- Completed 100% design
- Completed the right-of-way and permit acquisitions
- Awarded the construction contract and began construction

# Project A1

## Main Avenue and Madrone Pipelines Restoration

This project will restore the Main Avenue and Madrone pipelines to full operating capacity of conveying 10 cubic feet per second (cfs) and 27 cfs, respectively, for a total of 37 cfs from Anderson Reservoir or the Santa Clara Conduit for groundwater recharge via the Main Avenue Recharge Ponds and the Madrone Channel. The project will plan, design, and construct approximately 14,000 linear feet or 2.6 miles of 30-inch to 36-inch diameter pipeline and associated appurtenances.

### Benefits

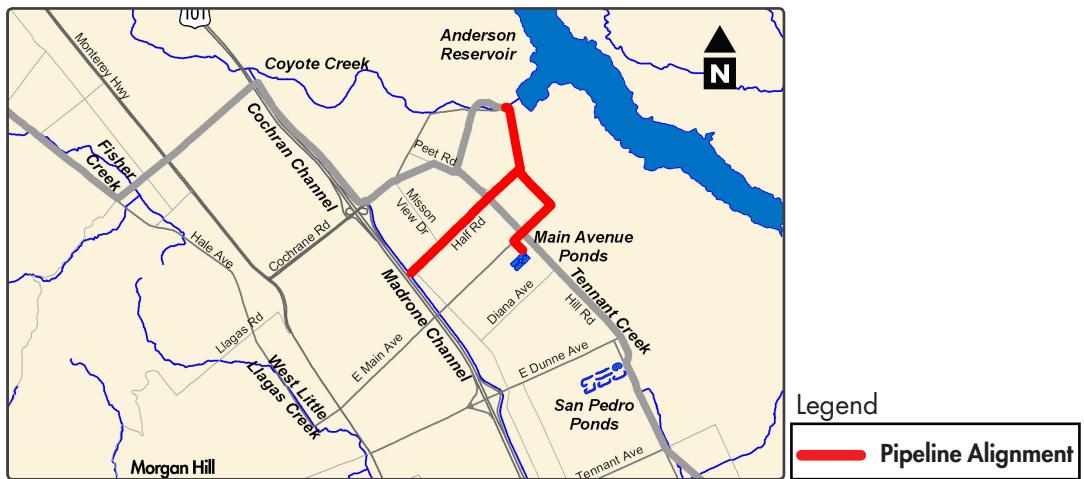
- Increases groundwater recharge by about 2,000 acre-feet per year in South County's Llagas Groundwater Sub-basin, a sufficient water supply for 4,000 families of 5.
- Improves operational flexibility.
- Maximizes the delivery of imported water to treatment plants supplying drinking water to North County.
- Saves energy, reduces operating costs, and cuts CO<sub>2</sub> emissions by reducing dependence on Coyote Pumping Plant.

### Key Performance Indicators (15-year Program)

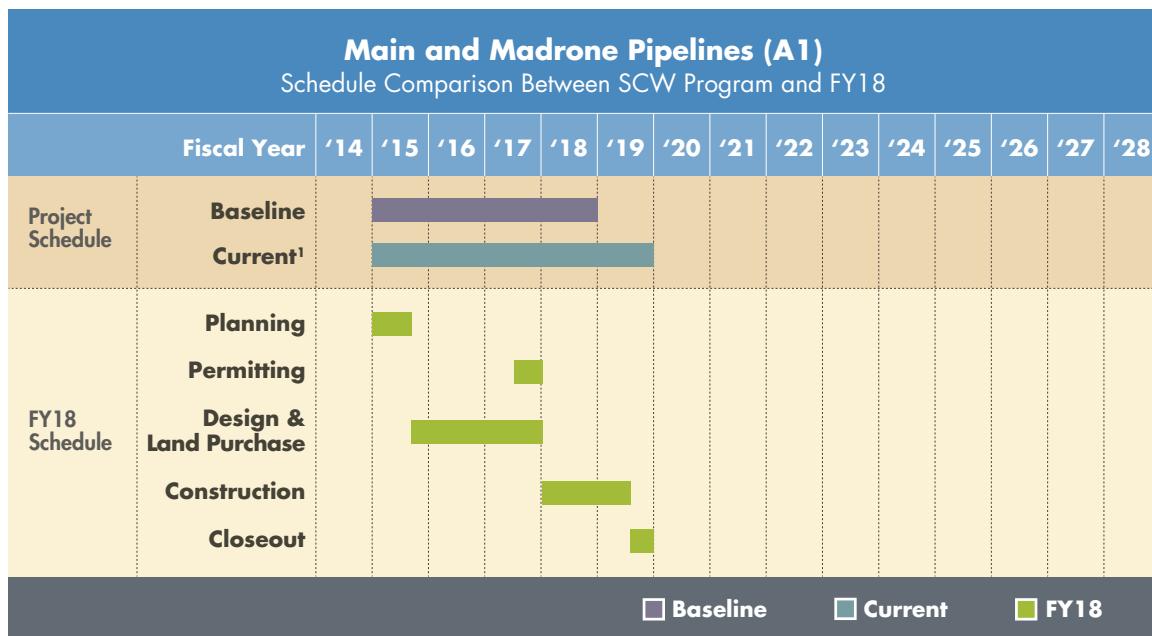
1. Restore transmission pipeline to full operating capacity of 37 cfs from Anderson Reservoir.
2. Restore ability to deliver 20 cfs to Madrone Channel.

### Geographic Area of Benefit: Countywide

### Project Location



## Schedule



<sup>1</sup> Board approved schedule adjustment through the change control process in FY16.

## Status History

Fiscal Year	Status
FY 14	<b>SCHEDULED TO START</b>
FY 15	<b>ON TARGET</b>
FY 16	<b>ADJUSTED</b>
FY 17	<b>ON TARGET</b>

## Status for FY18: On Target

### Progress on KPI #1 and #2:

- Project work continued in FY18. The 100% design was completed in August 2017. The Final Design was completed in September 2017. On September 12, 2017, the District Board of Directors adopted the Plans and Specifications and authorized advertisement of the project. Right-of-way and permit acquisitions were completed in October 2017. On October 24, 2017, the District Board of Directors awarded the construction contract to Monterey Peninsula Engineering, Inc. Construction was initiated in February 2018 and will continue through Spring 2019.

## Financial Information

In FY18, 96% of the annual budget was expended. The project is on track to meet its KPI's financial forecast. The original Safe, Clean Water Program funding level for Project A1 was set at \$5.4 million (2012 dollars).

With the project scheduled for completion in FY19, the inflated amount of funding is \$6.3 million. The adjusted total project cost has increased to \$16.1 million, with the current 15-year forecast projecting a total cost of \$17.7 million. The increase is a result of the addition of the design and construction of the connection to the Anderson Dam and other minor design changes. The Water Utility Enterprise Fund will cover the \$11.4 million remainder of costs not covered by the Safe, Clean Water Program.

Financial Summary (\$ Thousands)						
A1. Main Avenue and Madrone Pipelines Restoration						
Fiscal Year 2017-2018				15-year Program		
Adjusted Budget		Budgetary Actual		% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
		Actual	Encumbrance	Total		
\$14,150	\$5,960	\$7,552	\$13,511	95%	\$17,703	92%

## Opportunities and Challenges

### Acquisition of easements

Easement acquisition was completed in October 2017.

### Confidence levels

*Schedule: High confidence*

Completion of remaining Project activities are on schedule.

*Funding: High confidence*

All project funding through FY19 has been secured through the Safe, Clean Water Program, and is included in the Water Utility Enterprise Funding of capital improvement projects.

*Permits: High confidence*

Permit acquisition was completed in October 2017.

*Jurisdictional Complexity: High confidence*

Coordination with the County of Santa Clara and the City of Morgan Hill is ongoing. There has been no indication that jurisdictional issues will be challenging.

See Appendix D: *Capital Projects Confidence Levels* for a list of confidence levels for each project by outside agency for funding, regulatory permitting, cities, counties and other agencies.

# Project A2

## Safe, Clean Water Partnerships and Grants

Grants and partnerships covered under this project include:

- Grants for agencies and organizations to study and pilot-test new water conservation programs. In FY10, county water conservation stood at 50,600 acre-feet, but this number needs to nearly double by 2030 to meet future demand.
- Grants to help schools in the county provide drinking water dispensers and other potable water devices for students. California Senate Bill 1413 (SB 1413) requires that schools provide access to free, fresh drinking water during mealtimes in food service areas.
- Rebates to private well water users for the installation of point-of-use treatment systems to remove excess nitrate from their drinking water.

## Benefits

- Helps the District exceed the conservation goal of 98,500 acre-feet per year by 2030.
- Reduces water demands and the need to invest in new or expanded water supply sources and associated infrastructure.
- Increases water supply reliability.
- Helps schools provide safe, clean drinking water to students and comply with state mandate.
- Assists private well water users in maintaining the quality and safety of their drinking water.

## Key Performance Indicators (15-year Program)

1. Award up to \$1 million to test new conservation activities.
2. Increase number of schools in Santa Clara County in compliance with SB 1413 and the Healthy Hunger-Free Kids Act, regarding access to drinking water by awarding 100% of eligible grant requests for the installation of hydration stations; a maximum of 250 grants up to \$254,000.
3. Reduce number of private well water users exposed to nitrate above drinking water standards by awarding 100% of eligible rebate requests for the installation of nitrate removal systems; up to \$30,000 for all rebates.

## Geographic Area of Benefit: Countywide



Water to Go station at Fremont High School.

**MODIFIED**

### Project A2 FY18 Highlights

- Board approved modifications to KPI #2 through a formal public hearing (see Opportunities and Challenges)
- Executed and funded 3 water conservation grant agreements, totaling \$130,192
- Completed the Water to Go bottle filling station KPI by awarding the final grants – 75% of participants reported systems were very successful
- Awarded 100% of eligible nitrate treatment system rebate requests totaling \$3,297 for 8 nitrate removal systems

## Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ON TARGET

### Status for FY18: Modified

#### Progress on KPI #1:

- The Board approved a funding amount for the FY18 grant cycle of up to \$100,000. Seven (7) grant applications were received, of which the District recommended and the Board approved 3 grant proposals for a total of \$130,192 (See Appendix C). The 3 FY18 grant agreements were executed and funded in FY18.
- The total amount awarded to date is \$676,132. However, unspent funds from projects closed before completion (\$105,747) have been returned to the Safe, Clean Water Program Reserve resulting in \$429,615 remaining for future years' grant funding.

#### Progress on KPI #2:

- The District worked with First 5 Santa Clara County (First 5) to award the final grants under the program, so a total of 50 Water to Go Station grants have been awarded to complete the key performance indicator for this project.
- The District also designed new signage and delivered them to all the schools that have installed their stations.
- The District conducted a survey to assess the impact of the Water to Go stations at the schools. Of the 37 schools that have already installed their stations, 16 completed the survey (See Table A 2.1).

**Table A 2.1** Water-to-Go Hydration Station Survey Results

No.	Questions	Significant	Noticeable	Somewhat	None	Unknown
1	Has there been an increase in water consumption?	13%	44%	13%	0%	31%
2	Has there been an increase in students bringing in reusable water bottles?	13%	63%	19%	0%	6%
3	Has there been a decrease in litter related to disposable (plastic) water bottles?	6%	25%	50%	6%	13%

- Additionally, participants were asked about the overall success of the program and 75% said the Water to Go stations have been very successful at their schools and 25% believe it has been somewhat successful.

### Progress on KPI #3:

- In FY18, 100% of eligible rebate requests totaling \$3,297 were awarded to private well users for the installation of 8 nitrate removal systems. Total amount awarded to date is \$9,963.

## Financial Information

In FY18, 105% of the total annual budget was expended. The Water Conservation Grant Program (KPI #1) expended 121% of its FY18 budget, which was the result of the Board's approval of \$130,192 in grants awarded when only \$100,000 was budgeted for award. In FY18, there was no budget allocated for the Water to Go (Hydration Station) Grant Program (KPI #2) as the KPI is complete. The Nitrate Treatment System Rebate project (KPI #3) expended only about 38% of its budget due to few rebates being requested. See the Opportunities and Challenges section for additional information about the modification to the overall funding allocation for KPI #3.

Financial Summary (\$ Thousands)							
Fiscal Year 2017-2018					15-year Program		
Project No. and Name	Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan*	% of Plan Spent
		Actual	Encumbrance	Total			
26061008 Water Conservation	\$129	\$26	\$130	\$156	121%	\$1,272	50%
26062009 Hydration Stations	\$0	\$0	\$0	\$0	0%	\$300	101%
26061010 Nitrate Treatment System Rebate	\$29	\$11	\$0	\$11	38%	\$231	53%
<b>Total</b>	<b>\$158</b>	<b>\$37</b>	<b>\$130</b>	<b>\$167</b>	<b>105%</b>	<b>\$1,803</b>	<b>59%</b>

## Opportunities and Challenges

### Water Conservation Grant Program

Appendix C includes an update on the status of all conservation grants awarded to date. The District will be utilizing the results of these pilot studies to expand its current water conservation program. For example, the Board recently approved moving forward with planning for implementation of several new water conservation programs, including advanced metering infrastructure (AMI). The District is utilizing the results of the various AMI pilot studies its currently funding to design this new program.

### Water to Go (Hydration Station) Grant Program

In FY18, the Office of Civic Engagement took over management of the Water to Go Station Grant Program (formerly known as the Hydration Station Grant Program). The District worked with First 5 to award all the remaining grants for the program; therefore the District has completed the key performance indicator for this project. However, some stations are still in the process of being installed. First 5 is still working with school districts to select the station model and process the contract for installation. Per the IMC's recommendation, the District conducted a survey to assess the impact of the stations at the schools. Overall, 75% of the participants stated that the program was very successful and 25% stated that it was somewhat successful. Some schools stated that because of the students' overwhelming use of the station, they decided to add more stations at their schools. The following are some of the comments that were received from the survey:

*"We love it! Not only are the students drinking more water, but the staff as well."*

*"The hydration system is an excellent way to encourage students to bring their own water bottles."*

*"We love it!" Students and staff use the station to fill the bottles throughout the day"*

*"Thank you so much for funding this key piece to our healthy eating initiative!"*

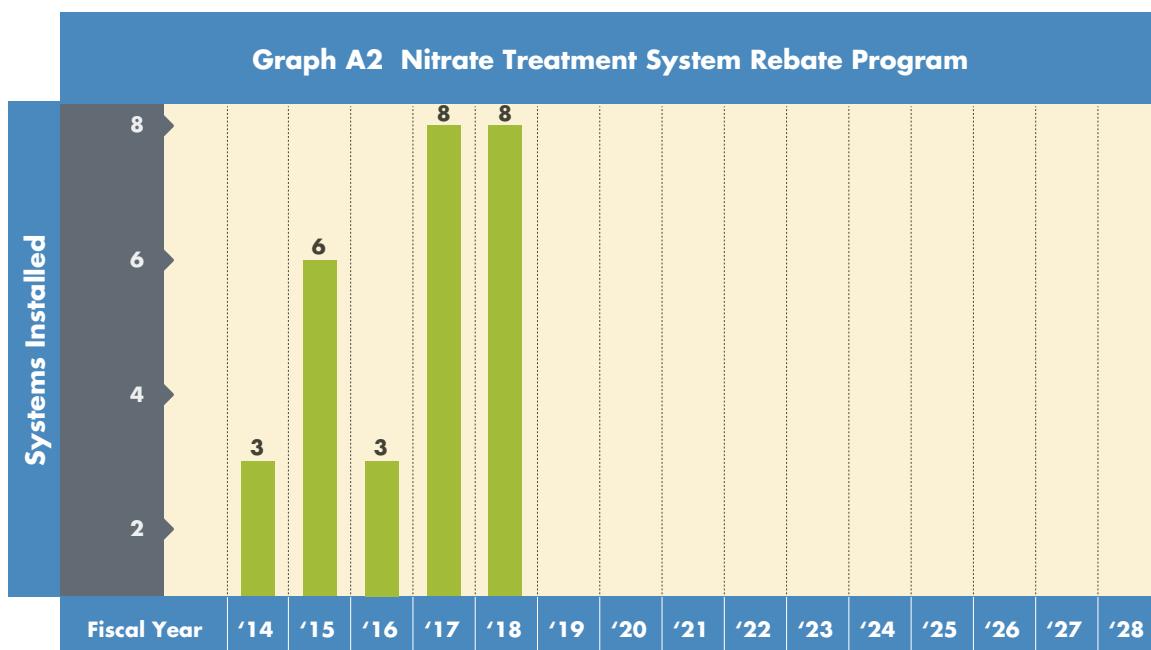
With regards to the IMC's concerns about long-term maintenance, when staff went out to distribute the signage for the stations already installed, staff also inquired about any maintenance issues. Of the 41 schools that were reached, none of them had any concerns with maintenance. The majority stated that the school district or their facilities department handles all of the maintenance including the replacement of the filters.

### Nitrate Treatment System Rebate Program

While the nitrate treatment system rebate program awarded 100% of eligible rebate requests in FY18, participation continues to be very low. The IMC acknowledged its concern about the cost/benefit ratio and has made recommendations targeted at improving participation each year of the Safe, Clean Water Program. Per the Board's direction, staff implemented each of the IMC's recommendations, which included new outreach strategies and offering rebates for 100 percent of the treatment system cost. FY18 program outreach efforts included several direct mailings to well owners, targeted promotion in South County retail stores, co-promotion with the domestic well testing program, publications in e-newsletters, use of social media, and distribution of information through the District's water education program for schools. Information on the program was also provided to at various meetings with South County residents and to community groups. Despite these additional efforts, program participation has not significantly increased.

In the IMC's Year 4 report (released on February 27, 2018), based upon the continued low demand for the Nitrate Treatment System Rebate Program despite robust outreach efforts, the IMC recommended reallocating all or a portion of the remaining funds to other Safe, Clean Water Program projects. Staff concurred with the IMC's recommendation and on March 13, 2018, the Board directed staff to pursue the modification of KPI #3 in accordance with the Change Control Process, which includes a formal public hearing.

On May 23, 2018, the Board approved a modification to KPI #3 for the Nitrate Treatment System Rebate Program. The modification reduces the maximum program funding from approximately \$798,000 (adjusted 15-year plan amount) to approximately \$141,000 to align with the program demand. This reduced program funding level includes the funds spent to date to develop, administer and advertise the program, along with an annual allocation of \$4,000, which will be used for rebates through the project's completion date of 2023. This will help ensure continued assistance for well users that want to take advantage of this opportunity to reduce nitrate levels in their drinking water. The annual amount of \$4,000 matches the maximum rebate funding for any previous year. The funds used for rebates to date, plus the annual allocation of \$4,000 through 2023, equate to an estimated \$30,000 for rebates through the program completion. The funding amount designated for rebates is reflected in the modified KPI. While the rebate program budget has been reduced to align with demand, the District will continue to explore ways to inform well owners about the program and increase participation.



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Shannon line valve.

### SCHEDULED TO START

#### Project A3 FY18 Highlights

- Design phase scheduled to start in FY19

## Project A3

### Pipeline Reliability Project

This project constructs 4 line valves at various locations along the East, West and Snell treated water pipelines in Saratoga, Cupertino and San José. This will allow the District to isolate sections of pipelines for scheduled maintenance and repairs following a catastrophic event, such as a major earthquake.

### Benefits

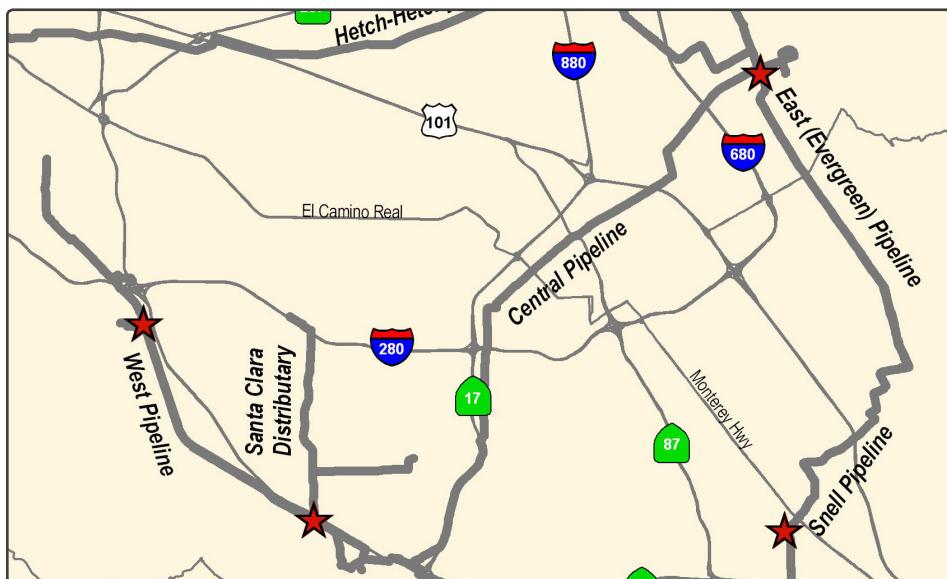
- Supports shorter service interruption in the case of a pipeline break
- Provides operational flexibility for pipeline maintenance work
- Improves drinking water reliability

### Key Performance Indicator (15-year Program)

1. Install 4 new line valves on treated water distribution pipelines.

**Geographic Area of Benefit:** Mountain View, Sunnyvale, Santa Clara, Cupertino, Saratoga, Los Gatos, Los Altos, Campbell, San José and Milpitas

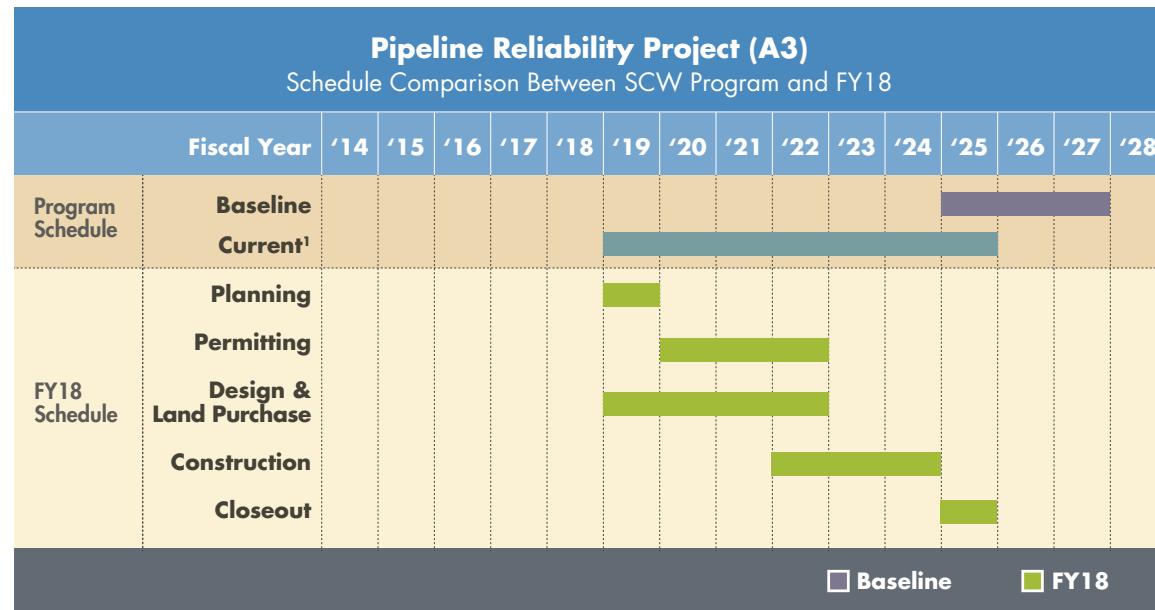
### Project Location



#### Legend

Project Location

## Schedule



<sup>1</sup>Board approved a schedule adjustment through the change control process in FY17.

## Status History

Fiscal Year	Status
FY 14	<b>SCHEDULED TO START</b>
FY 15	<b>SCHEDULED TO START</b>
FY 16	<b>SCHEDULED TO START</b>
FY 17	<b>SCHEDULED TO START</b>

**Status for FY18:** Scheduled to Start (FY19)

## Financial Information

This project is scheduled to begin in FY19.

## Opportunities and Challenges

### Schedule adjustment

The original project schedule had an estimated start date of FY25 and completion date of FY27. In reviewing the FY15 Safe, Clean Water Annual Report, the IMC recommended advancing the project schedule. The District evaluated the funding impacts and staff resource availability for initiating this project earlier, and, as part of the January 10, 2017 presentation of the Preliminary FY18-22 CIP to the Board, informed the Board that this project work will be incorporated into the District's 10-Year Pipeline Inspection and Rehabilitation Program.

The design phase for this project is anticipated to begin in FY19. The District is currently estimating that construction will be completed by FY25. On March 23, 2017, the Board approved an adjustment to the project's schedule, to begin in FY19 and be completed by FY25.

### Confidence levels

The confidence levels will be determined when work on the project begins.



**Priority B:**  
Reduce toxins, hazards and  
contaminants in our waterways

**Safe, Clean Water  
and Natural Flood Protection**

# Priority B

## Reduce Toxins, Hazards and Contaminants in our Waterways

Projects under Priority B use multiple strategies to reduce and remove contaminants in our local creeks, streams and bay. In addition to mercury treatment systems in our reservoirs, projects under this priority also prevent toxins from entering waterways by working with municipalities and other agencies to reduce runoff pollution. The District also provides grants to reduce emerging contaminants and supports public education and volunteer cleanup efforts. Additional projects include coordinated cleanup of encampments near waterways, trash and graffiti removal, and rapid emergency response to hazardous materials spills.

### **Project B1**

Impaired Water Bodies Improvement

### **Project B2**

Interagency Urban Runoff Program

### **Project B3**

Pollution Prevention Partnerships and Grants

### **Project B4**

Good Neighbor Program: Encampment Cleanup

### **Project B5**

Hazardous Materials Management and Response

### **Project B6**

Good Neighbor Program: Remove Graffiti and Litter

### **Project B7**

Support Volunteer Cleanup Efforts and Education



Calero Reservoir oxygenation line repair.

### ON TARGET

#### Project B1 FY18 Highlights

- Operated and maintained oxygenation treatment systems in 4 reservoirs
- Coordinated with project partners to plan the second 5-year phase of the Coordinated Monitoring Program for the Guadalupe River Watershed Mercury TMDL project
- Continued implementation of 2 pollution prevention activities and initiated 2 additional projects

## Project B1

### Impaired Water Bodies Improvement

This project helps the District meet surface water quality standards and reduces pollutants in streams, groundwater, lakes and reservoirs. Efforts are carried out in compliance with the Regional Water Quality Control Board (RWQCB) Total Maximum Daily Loads (TMDLs) standards as they continue to evolve (TMDLs are the maximum amount of a pollutant that a water body can receive and still safely meet water quality standards). Under this project, the District employs treatment systems in reservoirs to reduce methylation of mercury, and also helps create realistic plans and expectations for reducing contaminant loads by engaging in the regulatory development process with the RWQCB for new and emerging contaminants.

### Benefits

- Reduces contamination in creeks and reservoirs
- Improves water quality, including water going to drinking water treatment plants
- Reduces methylmercury in reservoirs to prevent its entry into the food web
- Improves ecosystem health by reducing mercury contamination in fish and other biota
- Supports regulatory compliance of TMDL standards affecting District operations

### Key Performance Indicators (15-year Program)

1. Operate and maintain existing treatment systems in 4 reservoirs to remediate regulated contaminants, including mercury.
2. Prepare plan for the prioritization of pollution prevention and reduction activities.
3. Implement priority pollution prevention and reduction activities identified in the plan in 10 creeks.

### Geographic Area of Benefit: Countywide

### Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ON TARGET

## Status for FY18: On Target

### Progress on KPI #1:

- Operated and maintained existing oxygenation treatment systems (systems) in 4 reservoirs to reduce methylmercury production and improve water quality. The District is subject to the Guadalupe River Watershed Mercury TMDL, but initiated voluntary methylmercury production and control studies in 2005 prior to its adoption.

### Oxygenation System Operation

Hypolimnetic oxygenation systems are operated to prevent anaerobic conditions that occur during summer reservoir stratification. Stratification is a separation of the water into 2 layers of differing temperature: the epilimnion (top layer) and the hypolimnion (bottom layer). During stratification, oxygen can be depleted in the hypolimnion. Under low-oxygen conditions, mercury can be converted to methylmercury, a highly-toxic compound that accumulates in fish tissue and presents serious health risks to birds and people consuming fish.

In Summer 2017, the oxygenation systems were operated nearly continuously throughout the stratification periods of the 4 reservoirs (Almaden, Calero, Guadalupe, and Stevens Creek), with only brief interruptions due to mechanical issues. Although Stevens Creek Reservoir is located outside of the Guadalupe River Watershed, and therefore unaffected by the Mercury TMDL, it is also listed as impaired for mercury. The District operates an oxygenation system at Stevens Creek Reservoir to reduce methylmercury production, improve downstream water quality, and serve as a positive control site for the District's methylmercury control studies.

In Spring 2018, the oxygen diffuser line in Calero Reservoir was damaged, likely by a recreational boater's anchor line. The system was off-line from April 24 through June 4, 2018 as repairs were being coordinated. All other systems are in operation with only brief interruptions. The reservoirs started to stratify early this year because of low inflows and high temperatures before the March 2018 rains. The District began operating oxygenation systems in February and March 2018 to avoid accumulation of harmful compounds that can exert oxygen demand in the reservoirs.

Continuous specialized maintenance and troubleshooting are needed to keep the systems operational. The addition of technical team members and greater emphasis on off-season preparation resulted in fewer shutdowns. In the winter, reservoirs are well-mixed and naturally oxygenated throughout, eliminating the need for oxygenation system operation.

#### Operation of oxygenation systems in 2018:

- Almaden Reservoir – 20 weeks
- Calero Reservoir – 12 weeks
- Guadalupe Reservoir – 18 weeks
- Stevens Creek Reservoir – 16 weeks

Although not a KPI, 4 solar-powered circulators are operated in Lake Almaden to improve oxygen concentration at the lake bottom. They have resulted in modest reductions in methylmercury in the lake.

### Technical Studies on Methylmercury Control

The District conducted water quality monitoring twice per month in each reservoir during oxygenation system operation, and once per month during the remainder of the year. The District collected fish tissue samples in Summer 2017 and Spring 2018. The District submitted a progress report to the San Francisco Bay Regional Water Quality

Control Board (RWQCB) on the effectiveness of the hypolimnetic oxygenation systems in December 2017.

The progress report and accompanying fish assemblage report can be found here: <https://www.valleywater.org/project-updates/grants-and-environmental-protection/impaired-water-bodies-improvement>. The report was well-received by the San Francisco Bay RWQCB.

The San Francisco Bay RWQCB approved the District's suggested sampling changes, which will save time and resources for the mercury sampling program.

The District's findings will inform the implementation plan of the upcoming Statewide Mercury Program for reservoirs being developed by the State Water Resources Control Board (SWRCB). The District actively participates in the statewide effort and shared technical findings with other reservoir owners and operators on May 30, 2018.

The TMDL has water quality objectives related to fish tissue and hypolimnion water methylmercury concentrations. For more information on the Guadalupe River Mercury TMDL, please see the San Francisco Bay RWQCB's website:

[http://www.waterboards.ca.gov/sanfranciscobay/water\\_issues/programs/TMDLs/guadaluperivermercurytmdl.shtml](http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/TMDLs/guadaluperivermercurytmdl.shtml)

Operation of the systems resulted in significant reduction in methylmercury in the hypolimnion (bottom of the reservoir), with an average decrease of up to 70% below historical summer concentrations. In most cases, the methylmercury TMDL for the hypolimnia of reservoirs were met, however, no change was measured in the upper layer (epilimnion). Only Guadalupe Reservoir showed a trend of decreasing fish mercury, but concentrations remain well above targets. In Calero Reservoir, oxygenation improved source water quality, benefitting the Rinconada and Santa Teresa drinking water treatment plants.

### **Coordinated Monitoring Program and Partnerships**

In addition to reservoir monitoring, the Guadalupe River Watershed Mercury TMDL requires coordinated monitoring of fish in creeks and mercury loads to the San Francisco Bay by mine site and reservoir owners. The District coordinated with project partners (County of Santa Clara, Midpeninsula Regional Open Space District, and Guadalupe Rubbish Disposal Company) to plan the second 5-year phase of the Coordinated Monitoring Program for the Guadalupe River Watershed Mercury TMDL project. The District led the development of a cost share agreement to fund a consultant agreement for the development and implementation of a plan to meet the requirements for mercury monitoring. On January 23, 2018, the Board approved the cost share agreement and authorized the CEO to negotiate and execute the consultant agreement (<https://scvwd.legistar.com/LegislationDetail.aspx?ID=3308899&GUID=72BD7D50-7327-4341-8EC9-3808AB92E>).

The District shared knowledge and lessons learned with international visitors and other local agencies (<https://www.valleywater.org/sites/default/files/CEO-Bulletin-11-30-2017.pdf>). The District also presented results of the District's methylmercury control studies to San Jose State University's Environmental Studies Department.

### **Progress on KPI #2: (Completed in FY15)**

The District drafted a Pollution Prevention Prioritization Plan (Plan) in January of 2015. This Plan is intended to prioritize 10 Santa Clara County water bodies that would benefit most from pollution prevention projects. Focusing on water bodies listed as impaired on the Environmental Protection Agency's Clean Water Act section 303(d) list, the District revised the Plan in 2017. The updated Plan includes a revised ranking methodology and recommendations for pollution prevention activities. Because the 303(d) list is updated every 2 years to include new data, emerging pollutants, and de-listings, the Plan is considered a "working document," and will be updated as

regulatory priorities evolve. As a result, the 10 specific pollution prevention projects are not identified in the Plan, but will be identified as part of annual reporting. Specific pollution prevention projects will be focused on improving existing impairments in priority water bodies.

**Progress on KPI #3:**

- In FY18, the District continued implementation of Pollution Prevention Activities #1 and #2, and initiated 2 additional projects.

**Priority pollution prevention and reduction activities**

*Pollution Prevention Activity #1: Trash Accumulation Point Mapping and Removal (Guadalupe River)*

The District began implementation of the Plan in December 2015. The first pollution reduction activity in the Plan was the mapping of trash accumulation locations in the Guadalupe River, from Highway 237 to Blossom Hill Road. The first Guadalupe River Map was completed in FY16. The District removed 78 cubic yards (approximately 7.8 U.S. tons) of trash from the accumulation points identified on the FY16 map. Initially, the District planned to update the map approximately every 6 months; however, due to high flows during Winter 2017, re-mapping was delayed to May and June 2017. A total of 1.6 tons (16 cubic yards) of trash identified during this mapping effort was removed in FY18. The District removed 0.2 tons (2 cubic yards) in September 2017. In April and May 2018, the District and the City of San José removed 0.6 tons (6 cubic yards) of trash from Los Gatos Creek and 0.8 tons (8 cubic yards) from Guadalupe River under a Memorandum of Agreement with the City of San José. ([http://valleywater.org/uploadedFiles/Programs/Safe\\_Clean\\_Water\\_and\\_Natural\\_Flood\\_Protection/Priority\\_B/TrashRaftData\\_FiscalYearComparisons.pdf](http://valleywater.org/uploadedFiles/Programs/Safe_Clean_Water_and_Natural_Flood_Protection/Priority_B/TrashRaftData_FiscalYearComparisons.pdf)).

*Pollution Prevention Activity #2: Trash Reduction (Guadalupe River and Coyote Creek)*

To reduce trash accumulation, the project funds patrol and enforcement services from City of San José park rangers and California Department of Fish and Wildlife officers to prevent reestablishment of homeless encampments along the Coyote Creek and Guadalupe River.

The agreement with the California Department of Fish and Wildlife for \$70,000 was intended to assist in identifying debris sites, patrolling areas to prevent re-encampment, and to conduct enforcement related to the Department's jurisdiction. The \$175,000 cost share agreement with the City of San José funds park ranger services to prevent re-encampment and provide outreach to the homeless community.

These services also benefit and align with the encampment cleanups completed under the Project B4: Good Neighbor Program – Encampment Cleanup.

The initial agreements were scheduled to expire in June 2017, but were subsequently extended to continue the project. However, due to staff shortages from both the California Department of Fish and Wildlife and the San José Park rangers, few funds have been expended. The District is tracking a new effort to patrol creeks and prevent re-encampment through the District Attorney's office Environmental Crimes Unit.

*Pollution Prevention Activity #3: Coyote Creek Trash Mapping and Removal*

The District coordinated with the City of San José to develop a trash accumulation point map for Coyote Creek in Summer 2017. In Spring 2018, the District removed 3.8 tons (38 cubic yards) of trash from trash rafts in Coyote Creek under a Memorandum of Agreement with the City of San José.

### Pollution Prevention Activity #4: Angler Survey in mercury impaired water bodies

The purpose of this study is multifaceted and includes assessing fish consumption and human health risk in mercury-impaired reservoirs, assessing effectiveness of existing consumption advisories, informing future consumption advisories, and directing public outreach actions. For an interim report, please see: [https://www.valleywater.org/sites/default/files/B1\\_interimreport\\_anglersurvey\\_FinalDraft.pdf](https://www.valleywater.org/sites/default/files/B1_interimreport_anglersurvey_FinalDraft.pdf)

## Financial Information

The project was slightly over expended with 108% of the FY18 budget spent. The over expenditure was due to a cost share agreement executed for the Coordinated Monitoring Program for mercury in the Guadalupe Watershed. The slight over expenditure is due to reimbursement from the project partners being deposited into the Safe, Clean Water Program fund (not the project), while payments to the consultants for the work are being made out of the project budget.

Financial Summary (\$ Thousands)						
Fiscal Year 2017-2018				15-year Program		
Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
	Actual	Encumbrance	Total			
\$1,486	\$1,148	\$455	\$1,604	108%	\$27,427	24%

## Opportunities and Challenges

### Partnership opportunities

The District continues to explore partnerships with cities, non-profits and volunteer groups to implement priority pollution prevention and reduction activities in 10 water bodies throughout the county. This includes:

- Working with the City of San José on trash in Guadalupe River and Coyote Creek.
- Increased collaboration with the San Francisco Bay RWQCB and mercury researchers, as well as invitations to present mercury findings at various conferences.

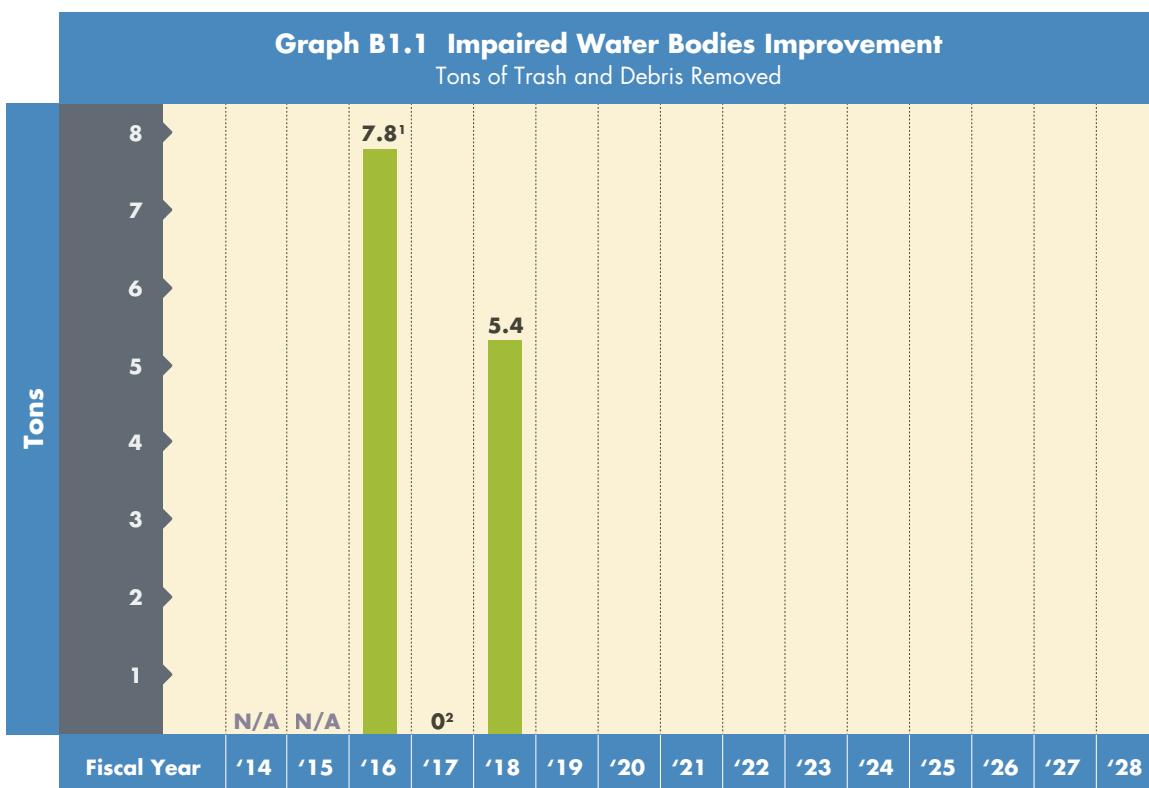
The project also assists the District's Water Utility Enterprise with water quality improvement in Calero Reservoir which supplies the Rinconada and Santa Teresa water treatment plants. Mercury program staff are also coordinating with the Calero Dam Seismic Retrofit project team to develop a contract for hydrodynamic modeling of Calero Reservoir. Modeling results will inform the sizing and design of a new oxygenation system that can accommodate post-project conditions in the reservoir.

To satisfy collective monitoring requirements of the Guadalupe River Watershed Mercury TMDL, the District collaborates with the other regulated parties – the County, Midpeninsula Regional Open Space District, and Guadalupe Rubbish Company – on a coordinated monitoring program. A 5-year monitoring report was submitted to the SFRWQCB in January 2017. The partners are primarily responsible for source control and implementing projects to remediate mercury contaminated sites upstream of the reservoirs in the old Almaden Mining district.

### **Operational and maintenance challenges**

Summer 2016 was the first year that oxygenation systems ran with consistency in all reservoirs. In FY16, shut down days ranged from 5 at Calero Reservoir to 27 at Almaden Reservoir. Maintenance issues continued to affect the systems in FY18, but were addressed by specialized maintenance servicing, adding technical support staff, improved coordination with equipment service vendors, and improved operational knowledge. Calero Reservoir's oxygenation system was not operated until June during the 2017 season due to mechanical issues and contracting delays. The oxygenation system at Calero Reservoir was off-line from April to June 2018 due to damage to the oxygen diffuser lines. Additional buoys are being installed to discourage boaters from entering the area of the diffuser lines.

Specialized equipment requires original vendors to perform much of the troubleshooting and maintenance. The District is exploring use of internal staff and/or issuing a long-term contract to ensure reliable ongoing maintenance of systems.



<sup>1</sup> This estimate may have slightly varied from past annual reports due to a refinement of the conversion from cubic yards to tons.

<sup>2</sup> Due to high flows during the winter of FY17, re-mapping was delayed and conducted in May and June 2017. The 0.2 tons of trash identified as part of this mapping effort was cleaned in FY18.

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# Project B2

## Interagency Urban Runoff Program

This project supports the District's continued participation in the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP) and South County programs that help the District reduce stormwater pollution and meet regulatory requirements to reduce contaminants in surface water.

The District also participates in the regulatory development process related to stormwater by providing review, analysis and commentary on various basin plan amendments, Total Maximum Daily Loads (TMDLs) and water bodies listed as impaired or threatened under the federal Clean Water Act. Project B2 also allows the District to maintain regional public education and outreach activities to help prevent urban runoff pollution at the source.

### Benefits

- Uses partnerships with municipalities and local agencies to reduce contaminants and improve surface water quality in our streams, reservoirs, lakes and wetlands
- Maintains District compliance with the Regional Water Quality Control Board and National Pollutant Discharge Elimination System (NPDES) permits
- Allows continued participation in SCVURPPP and South County urban runoff programs
- Promotes stormwater pollution prevention through public outreach

### Key Performance Indicators (15-year Program)

1. Install at least 2 and operate 4 trash capture devices at stormwater outfalls in Santa Clara County.
2. Maintain partnerships with cities and County to address surface water quality improvements.
3. Support 5 pollution prevention activities to improve surface water quality in Santa Clara County, either independently or collaboratively with South County organizations.

**Geographic Area of Benefit:** Countywide

### Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ON TARGET



Trash boom cleaning.

### ON TARGET

#### Project B2 FY18 Highlights

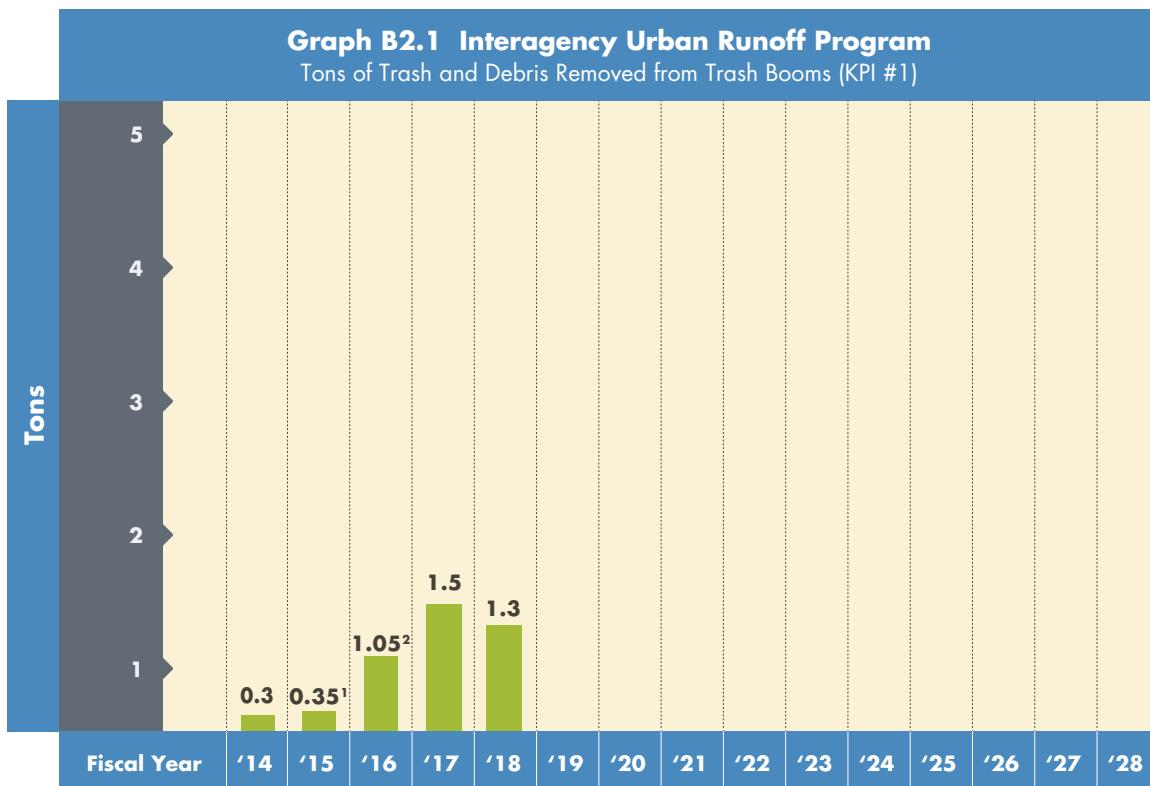
- Operated 4 trash capture devices (booms) in the county, which collected approximately 12.75 cubic yards of trash
- Maintained several partnerships with all cities and the county
- Completed Pollution Prevention Activity #1 and initiated Pollution Prevention Activity #2

## Status for FY18: On Target

### Progress on KPI #1: (Installation of 2 trash capture devices was completed in FY14)

- In FY18, a total of 4 trash capture devices (booms) were operational in Santa Clara County. Approximately 12.75 cubic yards (1.3 tons) of trash were collected and removed (Graph B2.1). The 4 booms were located at:
  - » Lower Silver Creek near King Rd. and Schulte Dr., San José
  - » Matadero Creek at West Bayshore Rd., Palo Alto
  - » Adobe Creek at East Bayshore Rd., Palo Alto
  - » Thompson Creek upstream of Tully Rd., San José

The Matadero and Adobe creek booms are managed by the City of Palo Alto under an agreement with the District, who performed the environmental permitting. Per the agreement, the 2 booms in Palo Alto are removed each year from December to April, while the booms in San Jose are typically left in the creeks all year. The booms in San José were, however, removed during the high flow of Winter 2017. The District inspects all booms regularly. The Thompson Creek boom was reinstalled in June 2017 (after rain events in 2017) and the Lower Silver Creek boom was reinstalled after sediment removal operation in Fall 2017. In addition to booms, the stormwater permit requires the cleanup of designated “hot spots.” Under Project B2, 13 hot spots were cleaned this year generating 64.5



<sup>1</sup> The amount of trash and debris removed in FY15 has been corrected. In previous annual reports, the amount was provided in cubic yards but was reported as tons on the graph.

<sup>2</sup> This estimate may have slightly varied from past annual reports due to a refinement of the conversion from cubic yards to tons.

cubic yards (6.5 tons) of trash. Other hot spots were cleaned through the Project B4: Good Neighbor Program – Encampment Cleanup and Project B7: Support Volunteer Cleanup Efforts and Education programs.

#### **Progress on KPI #2:**

- Maintained several partnerships with cities and Santa Clara County.
  - » In July 2015, the District renewed its annual agreement for SCVURPPP. SCVURPPP is a partnership with Santa Clara County and 13 cities in the county to reduce pollution in urban runoff to the “maximum extent practicable” to improve the water quality of South San Francisco Bay and the streams of Santa Clara County. The District’s contribution to the SCVURPPP budget is 30%, and the District chairs the management committee. More information can be found at <http://scvurppp-w2k.com/>. Work conducted in FY18 includes continued implementation of the requirements of the San Francisco Bay Municipal Regional Stormwater Permit (MRP 2.0), which became effective in January 2016 (see [http://www.waterboards.ca.gov/rwqcb2/water\\_issues/programs/stormwater/Municipal/R2-2015-0049.pdf](http://www.waterboards.ca.gov/rwqcb2/water_issues/programs/stormwater/Municipal/R2-2015-0049.pdf)). A SCVURPPP 2017 Program Summary can be found here: [http://scvurppp-w2k.com/pdfs/1718/2017\\_SCVURPPP\\_Program\\_Summary\\_web.pdf](http://scvurppp-w2k.com/pdfs/1718/2017_SCVURPPP_Program_Summary_web.pdf). Annual reports are submitted to the San Francisco Bay Regional Water Quality Control Board with accomplishments on the required activities ([http://www.waterboards.ca.gov/rwqcb2/water\\_issues/programs/stormwater/MRP/2016\\_AR/Santa\\_Clara/index.shtml](http://www.waterboards.ca.gov/rwqcb2/water_issues/programs/stormwater/MRP/2016_AR/Santa_Clara/index.shtml)).
  - » In December 2016, the District on behalf of SCVURPPP was awarded a California Proposition 1 grant by the State Water Resources Control Board to develop a Storm Water Resource Plan for the Santa Clara Basin that will support the development and implementation of MRP-required Green Infrastructure Plans and produce a list of prioritized runoff capture and use projects eligible for future state implementation grant funds. Matching funds for this grant are provided by the annually approved SCVURPPP budget (as stated above, the District funds 30% of SCVURPPP). The District, in addition to managing the grant, participates on the Technical Advisory Committee. The work under the grant is on schedule per the agreement with the State Board. A map of priority parcels as well as a list of possible green stormwater infrastructure projects has been developed and a selection of priority projects are being developed into conceptual designs. The Stormwater Resource Plan is coordinated with the District’s One Water Plan and stakeholders from the One Water effort are participating. For more information, please see <https://onewaterplan.wordpress.com/data-documents/stormwater-resource-plan/>
  - » The District chairs the Bay Area Stormwater Management Agencies Association (BASMAA) trash committee and has played a lead role in developing a receiving water trash monitoring plan as part of a Bay Area wide effort. Receiving water trash monitoring began during the 2017-18 wet season. More information on BASMAA can be found at <http://basmaa.org/>
  - » The District participates in the Santa Clara County Technical Advisory Committee (TAC) to the Recycling and Waste Reduction Commission (RWRC). The TAC works on various relevant issues, including waste and litter reduction, outreach, green business and reducing disposables. Under Project B3, the District funds an agreement with the County for its Green Business Program, which is reviewed by the RWRC TAC. In addition, the District chairs the Eco-Gardeners committee, jointly funded by the Recycling and Waste

Reduction Committee and SCVURPPP, with a goal of promoting native, drought tolerant landscaping, reducing use of pesticides and encouraging composting.

- » The District actively participates and shares data, reports, and findings with the South County stormwater group, comprised of Morgan Hill, Gilroy, and the County of Santa Clara.

#### Progress on KPI #3:

In FY18, Pollution Prevention Activity #1 was completed and Pollution Prevention Activity #2 was initiated for a total of 2 pollution prevention activities in South County. The Pollution Prevention Prioritization Plan completed under Project B1 (KPI #2) is also being used to prioritize projects for Project B2 with a focus on South County.

- Pollution Prevention Activity #1: Worked with Gilroy, Morgan Hill, and the County to complete the South County Pajaro River Watershed Pathogen and Microbial Source Tracking Study ([http://valleywater.org/uploadedFiles/Programs/Safe\\_Clean\\_Water\\_and\\_Natural\\_Flood\\_Protection/Priority\\_B/B2%20-%202016%20MST%20Map%20results\\_w\\_total.pdf](http://valleywater.org/uploadedFiles/Programs/Safe_Clean_Water_and_Natural_Flood_Protection/Priority_B/B2%20-%202016%20MST%20Map%20results_w_total.pdf)). The District's report was finalized in FY17. This study resulted in further monitoring of pathogen sources by South County agencies with additional investment by the District this year. This activity has resulted in information that other agencies are using to develop pollution prevention outreach. A summary of the study was developed: [https://www.valleywater.org/sites/default/files/B2\\_Pathogen%20Study%20Report%20Summary\\_RevisedFINAL\\_03222018.pdf](https://www.valleywater.org/sites/default/files/B2_Pathogen%20Study%20Report%20Summary_RevisedFINAL_03222018.pdf)
- Pollution Prevention Activity #2: The District performed data analysis for South County nutrient impairment and TMDL for the Pajaro River watershed to prioritize agricultural parcels based on predicted nitrate, precipitation, soil erosivity, slope and area. The analysis was presented to the South County stormwater group. The District is currently developing next steps to reduce nutrient loading in the Uvas/Llagas Watershed.

## Financial Information

The project was slightly over expended with 108% of the FY18 budget spent. The slight over expenditure is due to grant funding from the Stormwater Resource Plan Planning Grant being deposited into the Safe, Clean Water Program fund (not the project), while payments to SCVURPPP consultants for the work are being made out of the project budget. KPI #1 focuses on pollutant removal by intercepting and removing trash in creeks and is an estimated 10% of the expenditures. KPIs #2 and #3 focus on pollution prevention.

Financial Summary (\$ Thousands)						
Fiscal Year 2017-2018				15-year Program		
Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
	Actual	Encumbrance	Total			
\$699	\$754	\$0	\$754	108%	\$12,641	26%

## Opportunities and Challenges

### Trash capture

Opportunities exist for the use of booms at additional creek locations to help capture trash during Project B1 trash mapping and clean-up activities. Trash booms require environmental permitting and may not be appropriate for all creek locations. The District has provided lessons learned information on booms to SCVURPPP and BASMAA partners.

### Homelessness

Encampments in the creeks are increasing and contributing significant amounts of trash to urban creeks. Several of the Priority B projects are related to clean up of trash and encampments. District staff meets regularly internally as well as with the City of San José to coordinate.

### Volunteer Creek Cleanup Partnership Program

The interest and enthusiasm for volunteer cleanup is very high. Some activities appear to overlap with activities covered in Projects B2, B3, B4, B6 and B7. To achieve cost-effectiveness and avoid duplication, additional coordination among these projects has been initiated to optimize the use of the various funding sources. For additional information on the volunteer program, please see Project B7.

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# Project B3

## Pollution Prevention Partnerships and Grants

This project provides pollution prevention grants to qualified local agencies, nonprofit groups, schools, etc., totaling an average of \$500,000 per cycle. In addition, up to \$200,000 per year goes toward partnerships with municipalities for specific programs to reduce contaminants in surface or groundwater, and reduce emerging contaminants.

Grants could support programs such as public education to prevent pharmaceuticals from entering waterways, technical assistance to help growers protect groundwater, and partnerships to reduce litter and graffiti.

### Benefits

- Helps prevent contaminants such as pharmaceuticals, household hazardous waste and trash from entering our waterways
- Helps meet regulatory requirements as listed under the impaired water bodies listing of the federal Clean Water Act
- Reduces contaminant source loads in groundwater and surface water, and protects local watersheds
- Provides public education to reduce contaminants in our waterways
- Leverages community resources for efficient use of funds

### Key Performance Indicator (15-year Program)

1. Provide 7 grant cycles and 5 partnerships that follow pre-established competitive criteria related to preventing or removing pollution.

**Geographic Area of Benefit:** Countywide

### Status History

Fiscal Year	Status
FY 14	<b>ON TARGET</b>
FY 15	<b>ON TARGET</b>
FY 16	<b>ON TARGET</b>
FY 17	<b>ON TARGET</b>

**Status for FY18:** On Target



S.F. Bay Wildlife Society cleanup event.

### ON TARGET

#### Project B3 FY18 Highlights

- Approved funding for 6 grant projects
- Continued administration of awarded grants and closed 4 grant projects awarded in FY14 and FY16
- Established 1 partnership

### Progress on KPI #1:

- Grant application period opened from November 1, 2017 through January 13, 2018. We received 6 applications. The Board of Directors approved funding for all 6 projects on May 8, 2018.
- Of the 9 grant projects and 3 partnerships awarded in FY14 and FY16, 6 have been completed and closed. Four (4) of those projects were closed in FY18:
  - » California Product Stewardship Council: Secure Pharmaceutical Collection Bin Expansion
  - » South Bay Clean Creeks Coalition: South Bay Creek Cleanup Program
  - » San Francisco Bay Wildlife Society: San Francisco Bay National Wildlife Refuge (NWR) Clean-Up 2016
  - » Santa Clara County Creeks Coalition: Trash Free North Coyote Creek Watershed Stewardship and Engagement Project.
- 1 partnership was established in FY18: Pollution Prevention/Creek Cleanups with the City of San José.

### Financial Information

FY18 project expenditures were 13% of the total annual budget. While the grant awards were approved by the Board in FY18, the agreements will not be executed until FY19; therefore, the funds were not expended in FY18. The funds have been adjusted into the FY19 budget. Additionally, the partnership with the City of San José was established in FY18, but the agreement will be fully executed in FY19; therefore, the funds have also been adjusted.

Financial Summary (\$ Thousands)						
Fiscal Year 2017-2018				15-year Program		
Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
	Actual	Encumbrance	Total			
\$764	\$103	\$0	\$103	13%	\$7,595	29%

### Opportunities and Challenges

#### Secure Pharmaceutical Collection Bin Expansion Project

In 2014, the District awarded a grant to the California Product Stewardship Council to Secure Pharmaceutical Collection Bins to dispose pharmaceutical waste to prevent contaminants from entering the waterways. The bins were slated to be placed at various hospitals, police stations, and pharmacies throughout the county. However, the pharmaceutical companies decided not to work with the grantee and install their own bins to be in compliance with the County Ordinance (NS-517.89). Therefore, the grantee adjusted their scope to use the grant funding for outreach and education to the public on proper disposal of pharmaceutical waste.

### **Staffing and program improvements**

In FY18, the grants program was reorganized under Civic Engagement with regular and temporary staff assigned to the program. A pilot grants management system was implemented in FY18 to provide greater efficiency for the grant administration process. However, the system was not comprehensive enough to meet the demands of the pre- and post- award needs of program; therefore, the District went out to bid for a more comprehensive system. A new vendor was secured in May 2018. The District has started working with the vendor to implement the new system to go live in the Fall 2018. Additionally, a new regular position has been assigned to the program to provide additional support for the administration of the current grantees and the solicitation of new grant projects.

### **Outreach**

With additional staff assigned to the program, there will be more capacity to focus on outreach efforts. In addition to the current communication tools that are used to inform the community about the grants program, such as the monthly ValleyWater e-news and the District blog and social media sites, the District will be expanding outreach efforts by doing presentations in the community, reaching out to various non-profits, and actively engaging with community leaders to identify potential collaborations and partnerships.

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# Project B4

## Good Neighbor Program: Encampment Cleanup

This project supports the District's ongoing coordination with local cities and agencies to clean up large creekside encampments that contaminate waterways and damage District facilities. This cooperative effort includes local police departments, social services, and nonprofit advocacy groups that help provide alternatives to homelessness.

### Benefits

- Reduces trash and other pollutant loads in surface water, including streams, reservoirs and wetlands
- Improves the aesthetics of creeks in neighborhoods and parks
- Coordinates efforts among multiple agencies to create lasting solutions

### Key Performance Indicator (15-year Program)

1. Perform 52 annual cleanups for the duration of the Safe, Clean Water Program to reduce the amount of trash and pollutants entering the streams.

**Geographic Area of Benefit:** Countywide

### Status History

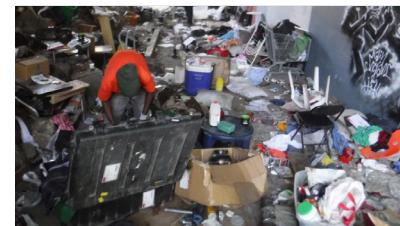
Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ON TARGET

**Status for FY18:** On Target

#### Progress on KPI #1:

- Exceeded the Key Performance Indicator (KPI) of 52 cleanups by cleaning 582 encampment sites in FY18 (Graph B4.1). Removed more than 1,209 tons of trash and debris from encampments (Graph B4.2).

While the District provides encampment cleanup support on District property in cities throughout the county, the majority of these cleanups were performed in coordination with the City of San José as part of an ongoing agreement to complete encampment removal activities along the creeks. In addition, the District participated in the Joint Trash Team along with the City of San José and other



FY18 encampment cleanup site.

**ON TARGET**

#### Project B4 FY18 Highlights

- Cleaned 582 encampment sites and removed more than 1,209 tons of trash and debris from encampments in coordination with the City of San José
- Participated in the Joint Trash Team along with the City of San José and other partner agencies on a monthly basis

partner agencies on a monthly basis to plan and schedule services that are required for cleanup events, such as social services, law enforcement and volunteer support.

## Financial Information

In FY18 the project expended 101% of its adjusted budget, which includes the Board approved reallocation of \$557,000 of surplus funds from the Safe, Clean Water Program. The reallocation was approved through the Change Control Process on May 23, 2018 and was necessary to meet the increased demand for services in FY18. See the Opportunities and Challenges section for additional information regarding the funding for this project.

Financial Summary (\$ Thousands)						
B4. Good Neighbor Program: Encampment Cleanup						
Adjusted Budget	Fiscal Year 2017-2018			15-year Program		
	Actual	Encumbrance	Total	% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
\$1,465	\$1,486	\$0	\$1,486	101%	\$5,871	96%

## Opportunities and Challenges

### Volunteer Creek Cleanup Partnership Program

The interest and enthusiasm for volunteer cleanup is high. Some activities appear to overlap with activities covered in Projects B2, B3, B4, B6, and B7. To achieve cost-effectiveness and avoid duplication, additional coordination among these projects has been initiated to optimize the use of the various funding sources. For additional information on the volunteer program, please see Project B7.

### Homelessness in Santa Clara County

Along with a number of cities and countywide agencies, the District Board has endorsed the Community Plan to End Homelessness in Santa Clara County and the District remains an active partner in implementing the plan.

### Funding

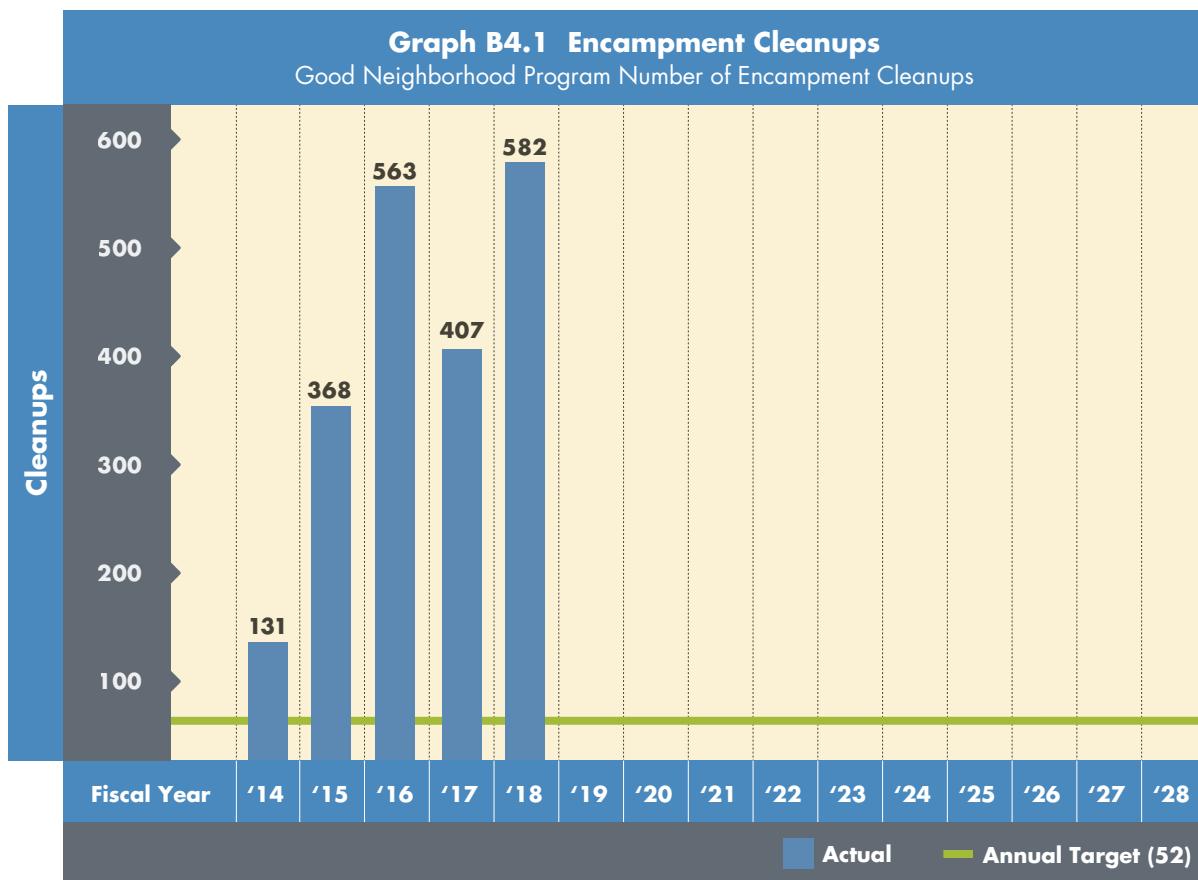
There continues to be an increasing demand for District resources to address encampment cleanups from cities and the community. These additional requests have significantly impacted the project's budget. This project does not have sufficient Safe, Clean Water funding allocated to accomplish the current level of demand for service beyond FY18.

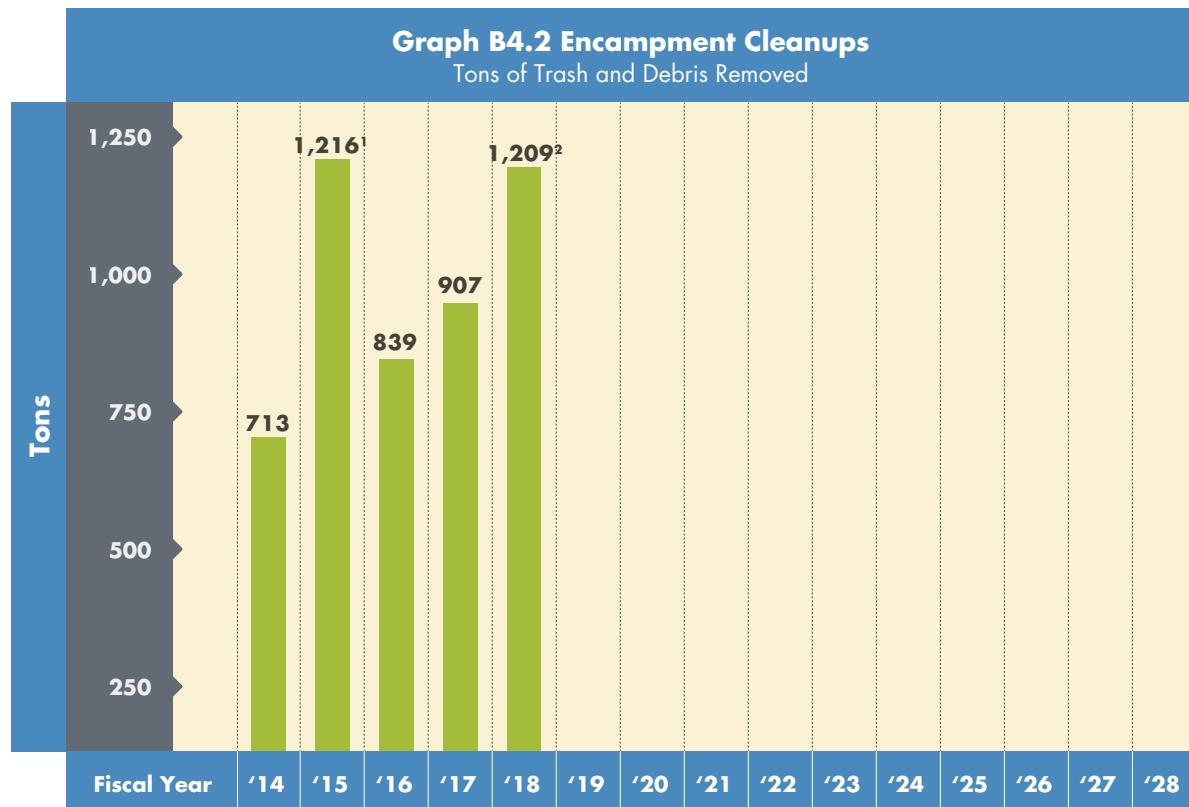
To address this high level of demand and the overall issue of homelessness in the county, the Board formed a Homeless Encampment Ad Hoc Committee in 2016. The Committee is working closely to explore alternative funding sources and methods for addressing the issue of homelessness. On May 15, 2017, the Committee met to hear and discuss homeless encampment issues, and passed a motion to forward the Board the recommendation to approve utilizing a portion of net rental income from properties purchased through Watersheds (Fund 12) to fund the homeless encampment cleanup project. This recommendation would allow for up to 90% of each FY's

net rental income to be utilized to fund Project B4 through FY28. Depending on the net rental income amount, the District will need to pursue additional funding sources or redirection of funding for this project to meet the current level of demand for service.

At the special Board meeting on May 23, 2018, the Board approved the reallocation of approximately \$557,000 (originally estimated to be approximately \$650,000) of surplus funds in the Safe, Clean Water and Natural Flood Protection Program (Fund 26) Reserves to Project B4: Good Neighbor Program - Encampment Cleanup in FY18. The available surplus funds resulted from the Board-approved modification to the total funding for Project A2: Safe, Clean Water Partnerships and Grants (Nitrate Treatment System Rebate Program). Additionally, the Board approved the transfer of 90% (approximately \$750,000) of the FY18 net rental income from properties purchased through the Watershed and Stream Stewardship Fund (Fund 12) to fund the Encampment Cleanup project in FY19. These additional funds will help the District meet the high demand for the Encampment Cleanup project in FY18 and FY19.

Furthermore, the Board directed the Homeless Encampment Ad Hoc Committee to discuss the operational approach options for the Encampment Cleanup project in FYs 20-28, which could include limiting the number of cleanups each year to the KPI target of 52; limiting the number of cleanups each fiscal year based upon the funding available by committing 90% of the net rental income from properties purchased through Fund 12; or aiming to meet the community demand for cleanups through utilizing district resources and through pursuing partnerships with other agencies.





<sup>1</sup>In FY15, the Encampment Cleanup totals spiked as a result of trash and debris removed from combined cleanups in Coyote Creek in December 2014.

<sup>2</sup>In FY18, the Encampment Cleanup totals spiked due to an increase in community demand.

# Project B5

## Hazardous Materials Management and Response

This project allows the District to continue providing a local, toll free number to report hazardous materials spills 24 hours a day, 7 days a week. Emergency staff responds within 2 hours of the initial report, with spill cleanup in District rights-of-way performed in a timely manner. Appropriate agencies are alerted when spills are outside District jurisdiction.

### Benefits

- Prevents and reduces contaminants in surface and groundwater
- Provides a quick, systematic emergency response that reduces negative impacts of hazardous materials spills

### Key Performance Indicator (15-year Program)

1. Respond to 100% of hazardous materials reports requiring urgent on-site inspection in 2 hours or less.

**Geographic Area of Benefit:** Countywide

### Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ON TARGET

**Status for FY18:** On Target

### Progress on KPI #1:

- In FY18, the District received 108 incident calls countywide, of which 52 received an on-site response; 17 were classified as urgent. The remaining 56 calls did not receive on-site responses because they were outside of the District's jurisdiction, were reporting an event that occurred in the past and already mitigated, or were addressed by another District team. The District met 100% of its required 2 hour or less response time for urgent calls, with an average response time of 69 minutes countywide.



Calero Creek diesel cleanup.

**ON TARGET**

### Project B5 FY18 Highlights

- Met 100% of the required 2 hour or less response time for urgent calls, with an average response time of 69 minutes countywide
- Received 108 incident calls countywide, of which 52 received an on-site response; 17 were classified as urgent

## Financial Information

FY18 expenditures totaled 150% of the annual budget. The over expenditure was the result of hazardous waste disposal services and staff resources required to respond to calls. Expenditures under this project can fluctuate widely based on the following:

1. The number of calls received on the Pollution Prevention hotline,
2. The number of calls requiring a field response,
3. A varying amount of time required resolving/mitigating once in the field, and
4. An unspecified amount of waste to be disposed under the Emergency Response Program.

Financial Summary (\$ Thousands)						
Fiscal Year 2017-2018				15-year Program		
Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
	Actual	Encumbrance	Total			
\$19	\$29	\$0	\$29	150%	\$618	21%

## Opportunities and Challenges

### Multiple incidences

Occasionally, multiple incidents occur on the same day and the current Emergency Response Program may potentially have trouble meeting the 2-hour response goal. However, this rarely occurs and has not prevented the District from meeting the KPI.

### Response times

Other challenges to meeting timeliness performance standards include accessing remote locations, mobilizing equipment and supplies (boats and absorbents) for on-water response, or encountering traffic when traveling to various locations in the county. It is also critical that the District's Watershed Emergency Response Program maintain good working relationships with other response agencies and be trained and equipped to continue to respond effectively to a wide array of pollutants and hazardous substances.



Vehicle submerged in Helmsley Pond near Summerpark Court, San José

**Table B5**

Fiscal Year	Total Reports	Total Responses*	On-site Responses Classified as "Urgent"	Countywide Average Response Time
2017 - 2018	108	52	17	69 minutes

\*The remaining 56 calls did not receive on-site responses because they were outside of the District's jurisdiction, were reporting an event that occurred in the past and already mitigated, or were addressed by another District team.

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FY18 graffiti cleanup site.

## ON TARGET

**Project B6 FY18 Highlights**

- Conducted 4 litter cleanup events, which removed 122 tons of debris from 441 sites countywide
- Conducted 4 graffiti cleanup events, which removed 127,009 square feet of graffiti at 1,925 sites throughout the county
- Logged 229 complaints regarding illegal dumping and trash and 49 complaints regarding graffiti

# Project B6

## Good Neighbor Program: Remove Graffiti and Litter

This project allows the District to continue responding to complaints about illegal dumping, trash and graffiti on District property and rights-of-way. Cleanup efforts include graffiti removal from headwalls, concrete embankments, signs, structures and other District assets, as well as maintaining, repairing and installing fences and gates so that District structures and facilities remain safe and clean. The project also includes quarterly cleanups of problem sites to help reduce waterway pollution and keep creeks and riparian areas free of debris.

### Benefits

- Reduces trash and contaminants in local waterways
- Improves the appearance of waterways in neighborhoods and parks by removing trash, graffiti and litter as well as illegally dumped items such as cars, shopping carts, appliances, etc.
- Reduces illegal dumping into or near waterways by repairing and installing fencing on District property
- Provides coordinated response to community complaints about trash and graffiti in neighborhoods

### Key Performance Indicators (15-year Program)

- Conduct 60 cleanup events (4 per year).
- Respond to requests on litter or graffiti cleanup within 5 working days.

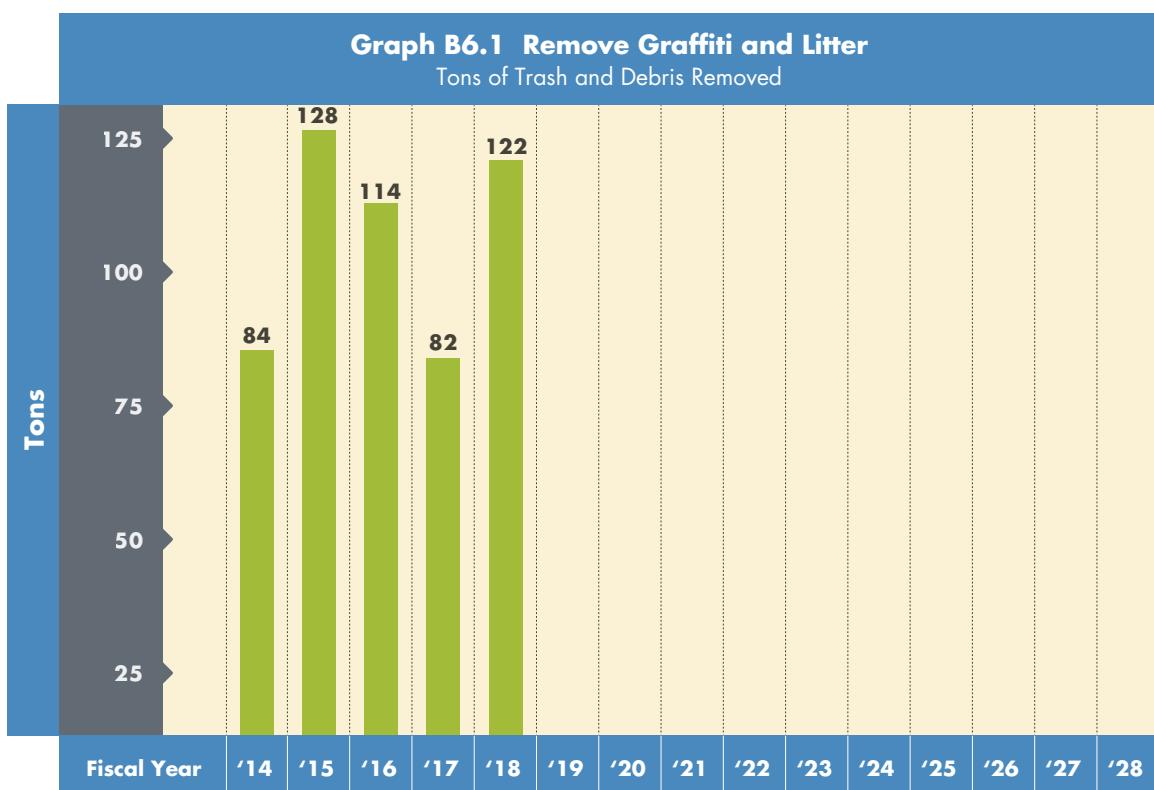
### Geographic Area of Benefit

Countywide

### Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ON TARGET

### Status for FY18: On Target



#### Progress on KPI #1:

- Conducted 4 litter cleanup events (1 per quarter), which consisted of removing trash and debris from sites throughout the county that have been identified as trash hot spots where the District has fee title. In total, 122 tons (1,704 cubic yards) of debris was removed from 441 sites countywide (Graph B6.1).
- Conducted 4 graffiti cleanup events at multiple sites throughout the county (1 per quarter). The quarterly graffiti cleanup events consist of removing graffiti from identified hot spots and from sites based on inspection or citizen complaint. In FY18, a total of 127,009 square feet of graffiti was covered at 1,925 sites throughout the county.

#### Progress on KPI #2:

- Logged 229 complaints regarding illegal dumping and trash and 49 complaints regarding graffiti into Access Valley Water (AVW). All AVW complaints were responded to within 5 days or less (2.5 days on average) regarding scheduling the planned activity. Each complaint must be assessed to determine whether the reported location is on District property. For graffiti complaints on District property, work was completed on average within 24 hours of being reported to the outside contractor.

## Financial Information

Managing the scheduled quarterly cleanup events and responding to 278 complaints resulted in 89% expenditure of the FY18 budget. Staff resources were slightly over budgeted, which resulted in an under expenditure.

Financial Summary (\$ Thousands)						
B6. Good Neighbor Program: Remove Graffiti and Litter				Fiscal Year 2017-2018		
Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
	Actual	Encumbrance	Total			
\$559	\$469	\$28	\$498	89%	\$10,038	24%

## Opportunities and Challenges

### Volunteer Creek Cleanup Partnership Program

The interest and enthusiasm for volunteer cleanup is very high. Some activities appear to overlap with activities covered in Projects B2, B3, B4, B6, and B7. To achieve cost-effectiveness and avoid duplication, additional coordination among these projects has been initiated to optimize the use of the various funding sources. For additional information on the volunteer program, please see Project B7.

### Contractor services

The approach of utilizing the services of a contractor to remove graffiti has proven to be successful for the District. In FY18, the contractor conducted monthly inspections of 5 specific geographic locations with subsequent removal of any graffiti found. Utilizing a computer application for smart phones, the contractor also responded to 1,925 sites resulting in removal of 127,009 square feet of graffiti. On average work was completed in less than 24 hours of being reported. Because of the success of this program, graffiti removal will continue to be addressed by a contractor in FY19.



Graffiti at Montpere Way in Saratoga

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# Project B7

## Support Volunteer Cleanup Efforts and Education

This project provides grants and partnerships for cleanup, education, outreach and watershed stewardship activities. Funding also allows the District to continue supporting volunteer cleanup activities such as National River Cleanup Day, California Coastal Cleanup Day, the Great American Pick Up, and Adopt-A-Creek, as well as Creek Connections Action Group and creekwise education.

### Benefits

- Reduces contaminants entering our waterways and groundwater
- Engages community, and supports watershed stewardship
- Leverages volunteer community resources for efficient use of funds

### Key Performance Indicators (15-year Program)

1. Provide 7 grant cycles and 3 partnerships that follow pre-established competitive criteria related to cleanups, education and outreach, and stewardship activities.
2. Fund District support of annual National River Cleanup Day, California Coastal Cleanup Day, the Great American Pick Up; and fund the Adopt-A-Creek Program.

**Geographic Area of Benefit:** Countywide

### Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ON TARGET

**Status for FY18:** On Target

#### Progress on KPI #1:

- Grant applications were accepted from August 4 to October 27, 2017. The District received a total of 12 applications and 9 were recommended for funding and approved by the Board of Directors on March 13, 2018.
- All 7 grant projects awarded in the previous grant cycle in FY14 have been completed and closed out.
- A Request for Proposal was released on January 17, 2018 soliciting for a



Coastal Cleanup Day site.

**ON TARGET**

#### Project B7 FY18 Highlights

- Awarded funding for 9 grant projects
- Established 1 partnership to support volunteer outreach and cleanup efforts
- Funded 4 countywide volunteer cleanup events

partnership to support volunteer outreach and cleanup efforts. The District received 3 bidders. A review panel assessed all the applications and the partnership was awarded to South Bay Clean Creeks Coalition (SBCCC).

#### Progress on KPI #2:

- Continued funding of countywide volunteer cleanup activities (Graph B7.2):
  - » National River Cleanup Day (May 19, 2018): 1,354 volunteers cleaned approximately 65.24 miles of creeks and shoreline removing approximately 45,268 pounds (approximately 23 tons) of trash and 2,084 pounds (approximately 1 ton) of recyclables. A user-friendly online virtual map (<http://bit.ly/NRCD2018>) that was used last year with cleanup site information was utilized again this year for the cleanup event. This map has made it easier for volunteers to register and has shown to improve volunteer recruitment. It allowed volunteers to easily access and view cleanup site locations from a computer or a mobile device.
  - » Coastal Cleanup Day (September 16, 2017): 2,028 volunteers removed more than 44,545 pounds (approximately 22 tons) of trash and 6,957 pounds (approximately 3.5 tons) of recyclables along 71.32 miles of creeks in Santa Clara Valley.
  - » Great American Litter Pickup (April 21, 2018): The District supported this annual event which focuses on picking up litter from city streets, parks and public areas which helps prevent the trash from ending up in local creeks. The District promoted the event via social media outlets (Facebook, Twitter, etc.).
  - » Adopt-A-Creek (year-round): This program continues to grow amongst various neighborhood and civic groups. Participation in this program is currently at 142 adopted sites (an increase of 7 sites from the previous year) with groups committing to host a minimum of 2 cleanup events per year. The program has made it easier for adoptees to report data via Access Valley Water, the District's online and mobile customer service program.

## Financial Information

In FY18, the project used 34% of the allocated budget. While the grant awards were approved by the Board in FY18, the agreements will not be fully executed until FY19, therefore, the funds were not expended in FY18. Consequently, those funds have been adjusted into the FY19 budget. Additionally, although the partnership with SBCCC was established in FY18, the agreement will not be fully executed until FY19, therefore, the funds have been adjusted into the FY19 budget.

Financial Summary (\$ Thousands)						
B7. Support Volunteer Cleanup Efforts and Education					15-year Program	
Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
	Actual	Encumbrance	Total			
\$321	\$109	\$0	\$109	34%	\$2,430	38%

## Opportunities and Challenges

### Staffing and program improvements

In FY18, the grants program was reorganized under Civic Engagement with regular and temporary staff assigned to the program. A pilot grants management system was implemented in FY18 to provide greater efficiency for the grant administration process. However, the system was not comprehensive enough to meet the demands of the pre- and post- award needs of program, therefore, staff went out to bid for a more comprehensive system. A new vendor was secured in May 2018. Staff has started working with the vendor to implement the new system to go live in the Fall 2018. Additionally, a new regular position has been assigned to the program to provide additional support for the administration of the current grantees and the solicitation of new grant projects.

Staff will continue to implement the improvements following the Board's guidance resulting from the March 2016 Comprehensive Review of the Safe, Clean Water Grants and Partnership Projects Program:

- a. Be responsive to community needs and input;
- b. Make grant application and contracting process easier for applicants. Allow adequate time for applicants to obtain landowner approvals when right of way is needed for project implementation; be flexible in working with applicants on scope and budget; outreach to nonprofit entities that could support the District's goals for the Safe, Clean Water Grants and Partnership Projects Program;
- c. Broaden community engagement in District's grants and partnership projects to help the community feel positive about projects that are being funded by taxpayer dollars; and
- d. Tailor level of control or risk management based on project specifics.

### Grants outreach

With the reorganization of the Grants Program under Civic Engagement in the External Affairs Division, staff is working more closely with other units and programs in the division to ensure that outreach for the grant opportunities is broader and more comprehensive. Staff works with Communications to publish blogs, post social media updates, and submit news releases to share information about grant projects or grant opportunities to the public. Staff also consistently updates the website to ensure the most current information is made available.

Additionally, staff works with Government Relations to notify other agencies, elected officials, and countywide leaders when grant and partnership opportunities are available. During each application period, staff's outreach efforts include the following:

- Send notification to elected officials at all levels, city managers, and executive leaders in the County;
- Send notification to countywide neighborhood associations, community leaders, civic organizations, and local nonprofits;
- Issue press releases
- Notify partner agencies in various collaborations (i.e. Creek Connections Action Group and Santa Clara Valley Urban Runoff Pollution Prevention Program);
- Post notices on District's social media sites, eNews, District website; and
- Host preproposal workshops

Additionally, within the Civic Engagement Unit, other programs have been a resource to outreach and promote the grant opportunities, such as the Education Outreach Program and the Creek Stewardship Program, which coordinates the Adopt-A-Creek program. Volunteers and educational partners are given collateral materials and directed to speak to program staff to learn more about the grant opportunities.

### **Volunteer Creek Cleanup Partnership Program**

The District continues to attend monthly Creek Partners meetings with the City of San José for better coordination on cleanup efforts, and to establish communication with various community organizations.

Internally, the District continues with quarterly meetings to improve coordination among staff working on various pollution prevention priority projects to achieve cost-effectiveness and avoid duplication. Furthermore, Priority B1 Impaired Water Bodies Improvement Project, continues to fund part-time assistance in support of Project B7, the Adopt-A-Creek program, which greatly benefits the interagency urban runoff program.

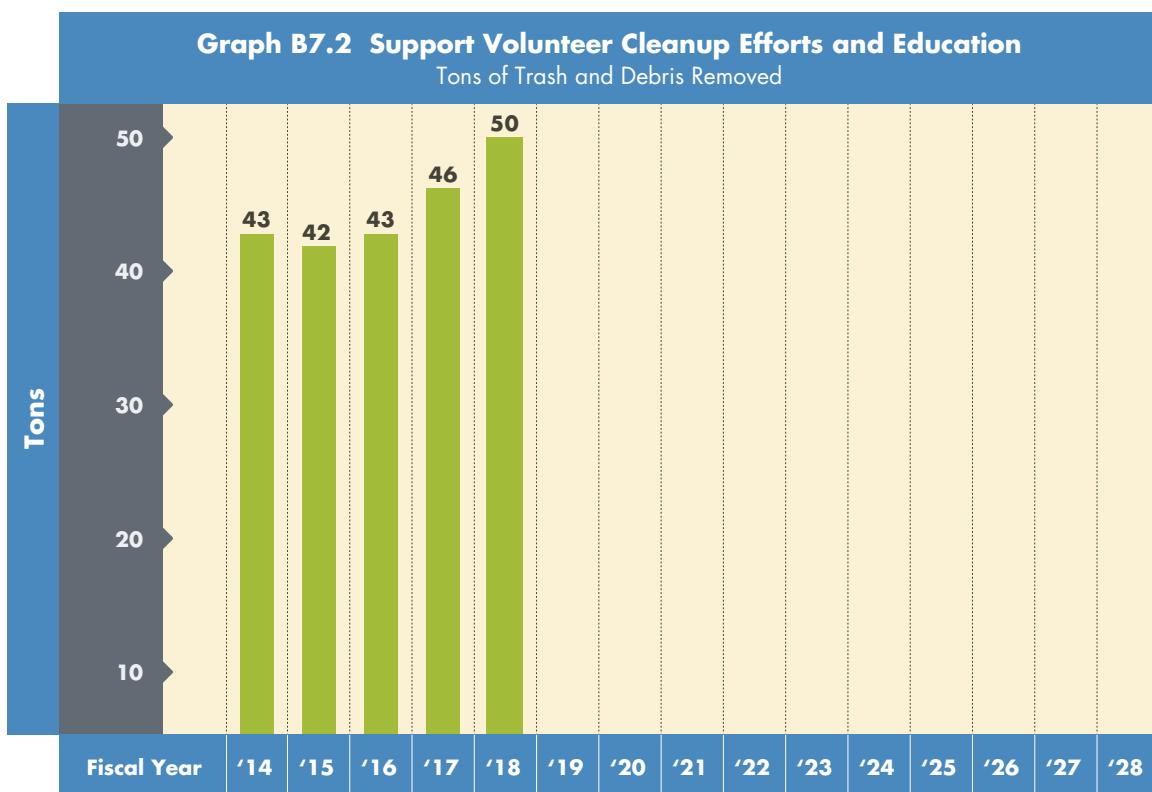
### **Adopt-A-Creek (AAC) Program**

In Santa Clara County, trash in creeks and waterways continues to significantly impact stream water quality and flood risks. To address this, in 1994 the District created the Adopt-A-Creek (AAC) program. The program has experienced successful volunteer participation since it began and has seen a steady increase in the number of adopted sites from 135 in FY17 to 142 in FY18.

Volunteer activities, like the AAC program, engage and actively involve residents in helping to keep trash out of our rivers, streams, and creeks. Along with the other cleanup events, these programs are successful because of the thousands of volunteers that participate.

The District made it easier for the community to volunteer in FY16 by implementing administrative improvements that allowed volunteers to submit applications online, streamlined the renewal process, and increased communication with volunteers by adopting various social media tactics. In FY17, the District launched the online and mobile data reporting via Access Valley Water to report the amount of trash collected. In FY18 the District looked at improving internal processing for AAC applications using the GIS Department. The GIS Department created a map that makes it easier for program staff to identify sections of creek that are owned by the District and adoptable.

As an opportunity for continued improvement of the AAC program, and to further connect with volunteers, the District held the first volunteer recognition event for AAC partners and National River Cleanup Day and Coastal Cleanup Day site coordinators in August 2017. The event served as an opportunity to recognize volunteers and their contributions in maintaining clean and healthy creeks and to help recruit new AAC partners. The next volunteer recognition event is planned for fall 2018.



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FY 2017-18 Annual Report  
**Safe, Clean Water  
and Natural Flood Protection**



**Priority C:**

Protect our water supply from  
earthquakes and natural disasters

**Safe, Clean Water  
and Natural Flood Protection**

# Priority C

## Protect our Water Supply from Earthquakes and Natural Disasters

Projects under Priority C include retrofitting to protect our water supply infrastructure from the impacts of natural disasters, like earthquakes. It also includes emergency flood response enhancements to improve communication between responders and help reduce damages from floods.

**Project C1**

Anderson Dam Seismic Retrofit

**Project C2**

Emergency Response Upgrades



Anderson Dam.

## ON TARGET

**Project C1 FY18 Highlights**

- Completed the first fund transfer in FY16 and the final transfer is scheduled for FY28

# Project C1

## Anderson Dam Seismic Retrofit

Anderson Reservoir is currently limited to about 52% of its capacity due to seismic concerns, costing Santa Clara County valuable drinking water resources. This project covers earthquake retrofitting of Anderson Dam to improve reliability and safety, and returns the reservoir to its original storage capacity.

Anderson Dam creates the county's largest surface water reservoir—Anderson Reservoir—which stores local rainfall runoff and imported water from the Central Valley Project. The reservoir is an important water source for treatment plants and the recharge of the groundwater basin. Besides restoring drinking water supplies, the upgrade also supports compliance with environmental regulations. The District's regular reservoir releases ensure that downstream habitat has healthy flows and temperatures to sustain wildlife.

A breach of Anderson Dam at full capacity could have catastrophic consequences, including inundation of surrounding land more than 30 miles northwest to San Francisco Bay, and more than 40 miles southeast to Monterey Bay.

In December 2016, the Board was informed by the District that findings from the geotechnical and geologic investigations performed during the project's design phase led to the conclusion that a more extensive dam retrofit than had originally been envisioned would have to be performed. Further, the Board was informed that the more extensive retrofit work would double the previous project's estimated cost. The District presented the Board with a water supply cost-benefit analysis that showed the benefits of the more extensive retrofit project significantly outweighed the cost of not proceeding with the retrofit, which would require the District to purchase additional imported water every year to make up for the loss of long-term storage at Anderson Reservoir. Based upon this information and analysis, the Board directed the District to continue work on this critical infrastructure project.

## Benefits

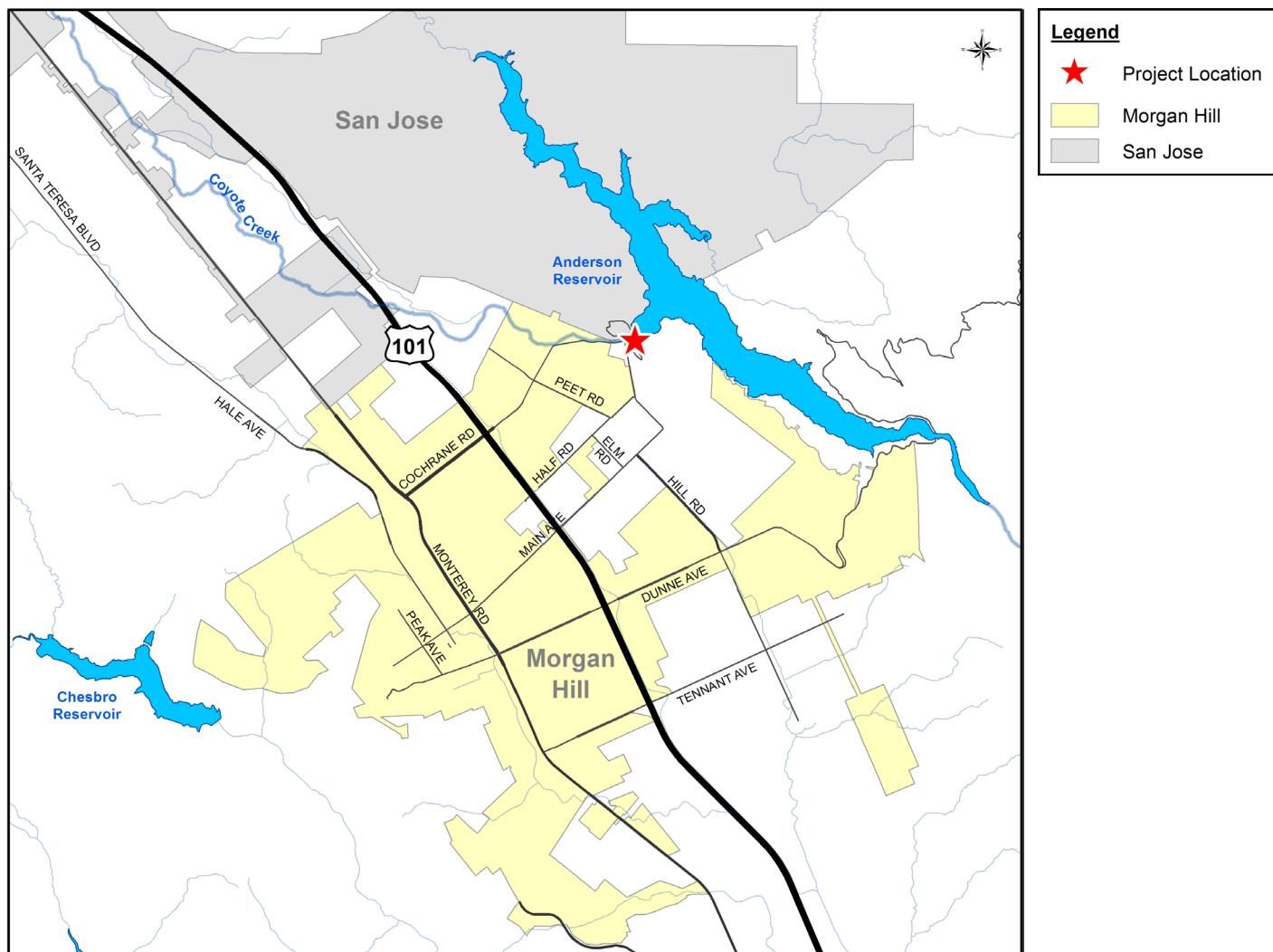
- Brings the dam into compliance with today's seismic standards
- Increases reliability and safety of our area's largest reservoir by protecting it from earthquakes
- Eliminates operational restrictions issued by the state Department of Water Resources Division of Safety of Dams (DSOD) which would restore Anderson Reservoir to its full capacity of approximately 90,373 acre-feet, regaining 48% or about 43,500 acre-feet of water storage for our current and future water supply
- Ensures compliance with environmental laws requiring reservoir releases that maintain appropriate flows and temperatures to support downstream wildlife habitat
- Minimizes the risk of uncontrollable releases from the reservoir which could cause downstream flooding

## Key Performance Indicator (15-year Program)

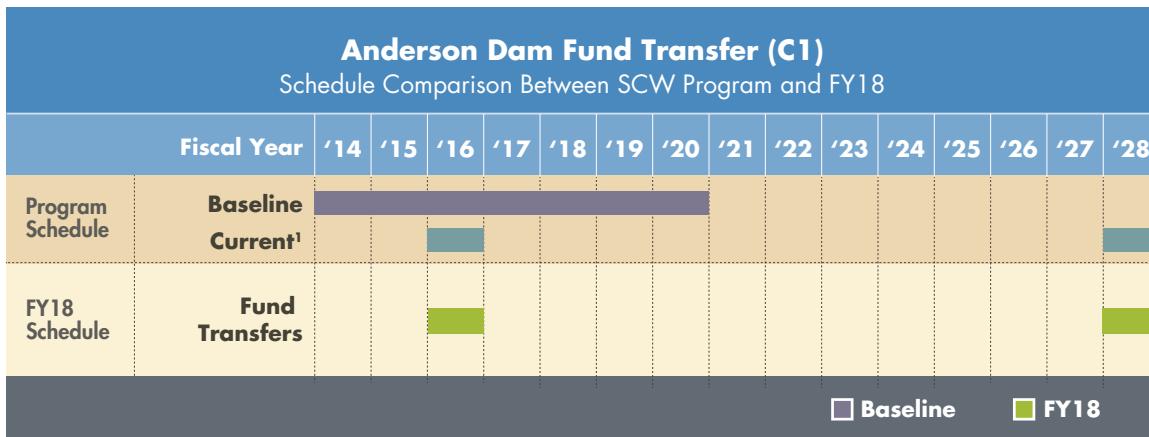
1. Provide portion of funds, up to \$45 million, to help restore full operating reservoir capacity of 90,373 acre-feet.

**Geographic Area of Benefit:** Countywide

## Project Location



## Schedule



<sup>1</sup>Board approved a schedule adjustment through the change control process in FY17.

## Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ADJUSTED

### Status for FY18: On Target

#### Progress on KPI #1:

- The first fund transfer was completed in FY16 and the final transfer is scheduled for FY28.

## Financial Information

The total Safe, Clean Water Program funding level for this project was presented in 2012 dollars at \$45 million; however, this amount is subject to inflation and the adjusted 15-year plan is \$67.1 million. These funds will reimburse the Water Utility Enterprise Fund for the Anderson Dam Seismic Retrofit Project and will be distributed in 2 payments; the first payment of \$14 million was transferred in FY16, and the remainder is scheduled to be transferred in FY28.

## Opportunities and Challenges

### Progress

Project design work continued in FY18, with the 60% design plans completed by June 30, 2018.

At the January 23, 2018 Board meeting, the District reported that the estimated total project cost, accounting for inflation, has increased to \$550 million. This estimate is based on the 30% design and development of construction sequencing. This Project cost is included in the District's FY 2019-2023 Capital Improvement Program (CIP).

At the April 10, 2018 Board meeting, the District presented the Project's environmental and permitting strategy. The environmental document preparation was initiated in FY18 and an initial Environmental Impact Report for internal review was completed in June 2018. The District also initiated informal consultation with key regulatory agencies in April, May and June, 2018. The District will continue engaging with key agencies through FY19 for the purpose of negotiating and securing the necessary permits for Project construction.

## Permits

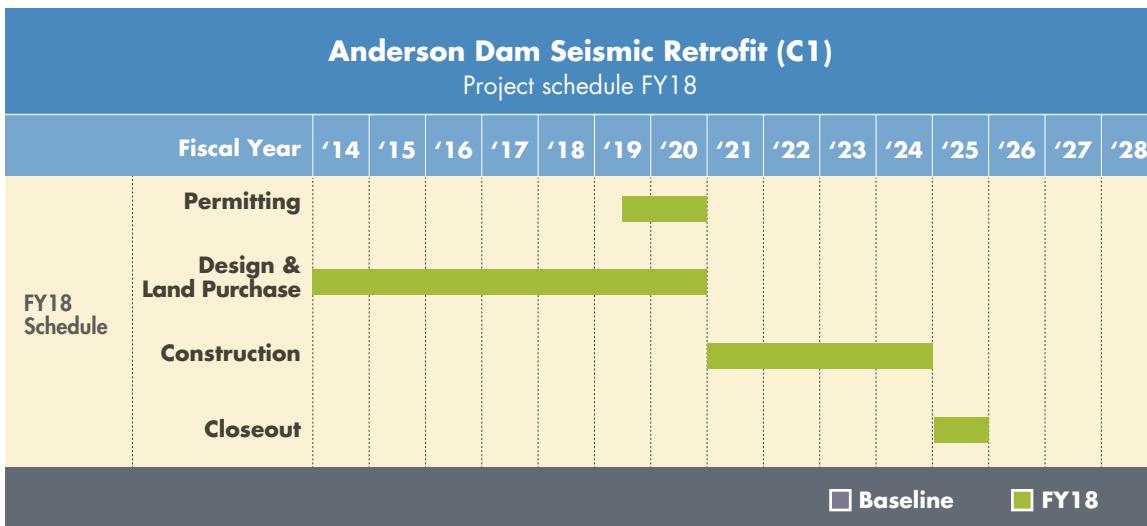
The proposed project is a covered activity under the Santa Clara Valley Habitat Plan, and the Habitat Plan will provide the federal Endangered Species Act and state Natural Community Conservation Planning Act compliance for several special-status species the project may affect, including California tiger salamander, California red-legged frog and Coyote ceanothus. Consistent with Habitat Plan requirements, the District plans to consult with wildlife agencies when project-specific design and construction details are 60% complete.

Additionally, Coyote Creek downstream of Anderson Dam is designated critical habitat for Central California Coast steelhead and essential fish habitat for Chinook salmon. Early coordination with resource agencies indicates potential construction-related water quality concerns, fish passage considerations, and operational effects will require appropriate evaluation.

The Draft Environmental Impact Report, estimated to be released for public review in September 2018, will further evaluate the magnitude of impacts of implementation of the Project. The District will continue to engage natural resource agencies through development of environmental documentation to support natural resource permitting efforts.

## New statutes and regulations

As part of the planned seismic retrofit work, the dam's emergency spillway walls were to be raised to accommodate the Probable Maximum Flood. In February 2017, major winter storms resulted in significant damage and erosion of the Oroville Dam's spillways in northern California. As a result, the Division of Safety of Dams (DSOD) and the Federal Energy Regulatory Commission (FERC) ordered a detailed condition assessment of the Anderson Dam spillway before the next flood season. The Anderson Dam spillway condition assessment was performed in October 2017, and the findings indicate that the existing spillway is in an acceptable, serviceable condition for the interim period before the Project's construction. However, the spillway does not



meet current standards and has the potential for an Oroville-type failure. Staff informed the District's Board in January 2018 that it would be prudent and cost-effective to achieve current spillway construction standards by replacing the spillway during the dam seismic retrofit project. The construction cost estimate for full reconstruction of the spillway is between \$10 million and \$15 million. Spillway reconstruction would be concurrent with the embankment construction and would not extend the Project's construction period.

### **Confidence levels**

#### *Schedule: Moderate confidence*

The more extensive dam retrofit work as defined by the modified project will require additional time to prepare design plans and specifications and the environmental documentation. The current estimated start of construction is 2020.

#### *Funding: High confidence*

The total project cost (current estimate is \$550 million) is in the District's 5-year Capital Improvement Program.

#### *Permits: Moderate confidence*

Anderson Dam is operated under licenses from DSOD and Federal Energy Regulatory Commission (FERC). The project design will require their approval before construction. The permits from these agencies will depend mostly on the technical complexity of the project. DSOD and FERC will review the project at various design stages to facilitate issuance of the permits from the different agencies that will be required for this project, including: United States Army Corps of Engineers (USACE), National Marine Fisheries Service (NMFS), Mine Safety and Health Administration (MSHA), California Department of Fish and Wildlife (CDFW), California Department of Industrial Relations/California Occupational Safety and Health (Cal/OSHA), Regional Water Quality Control Board, State Water Resources Control Board, and the Santa Clara Valley Habitat Plan. The schedule for some of these permits cannot be easily predicted.

#### *Jurisdictional Complexity: Moderate confidence*

The District owns and operates Anderson Dam and Reservoir, which are located within the City of Morgan Hill. Santa Clara County Parks manages the recreational activities at Anderson Reservoir through a lease agreement with the District. The District is working with these various agencies throughout the project.

See Appendix D: *Capital Projects Confidence Levels* for a list of confidence levels for each project by outside agency for funding, regulatory permitting, cities, counties and other agencies.

# Project C2

## Emergency Response Upgrades

This project covers the development of an automated flood warning system that uses real-time rainfall data to predict stream flows and potential flood risk. The system efficiently disseminates information to emergency responders and the public using the web, text, automated calls and other technologies, allowing more time to activate flood-fighting measures and reduce flood damage.

### Benefits

- Enhances interagency response to storm-related emergencies
- Improves the accuracy of flood forecasting services
- Helps municipalities and neighborhoods lessen flood impacts
- Maintains access to technical resources that assist municipalities with floodplain management
- Promotes community awareness of flood risks
- Implements risk reduction strategies consistent with the Federal Emergency Management Agency's (FEMA) Community Rating System as appropriate

### Key Performance Indicator (15-year Program)

1. Map, install, and maintain gauging stations and computer software on 7 flood-prone reaches to generate and disseminate flood warnings.

### Geographic Area of Benefit: Countywide

### Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ON TARGET

### Status for FY18: On Target

#### Progress on KPI #1:

- In FY18, much of the focus was geared towards implementing new software. Although the previous 2016-2017 rainy season yielded satisfactory results using a simplified modeling system, there were many issues with model automation and quality control tools. The District tested a new proprietary software through this fiscal year that integrates modeling



XBand Radar.

### ON TARGET

### Project C2 FY18 Highlights

- Tested a new proprietary software that integrates modeling and automation, and migrated all operational forecast points over to the new model
- Added a pilot forecast point on Upper Penitencia Creek
- Engaged with NOAA to develop a customized rainfall forecast that leverages new radar technologies
- Began developing reservoir models and upgrading the forecast website

and automation. All operational forecast points were migrated over to the new model.

- The new software met all expectations, making operations simpler and easier to debug and quality check. Model runtime failure was reduced significantly from previous years. Much of staff time was spent learning the new software, exploring features, and using this experience to compare with the old system.
- Before the 2017 winter, the District added a pilot forecast point on Upper Penitencia Creek. This point is currently not displayed on the web but is being modeled. It is expected that this point will be live before the winter of 2018.
- Using the new modeling software, the District is moving forward with new hydrologic capabilities to forecast reservoir inflows and potential spill events. Reservoir models are being developed in with hopes of testing as many as possible before the 2018-2019 winter.
- The District has been actively engaged with the National Oceanographic and Atmospheric Administration (NOAA) team at the Earth System's Research Laboratory in Boulder, Colorado, to implement the Advanced Quantitative Precipitation Information (AQPI) System. The direct benefit to this project will be a customized rainfall forecast for the District by NOAA that leverages new radar technologies. Hopefully, this will provide a more accurate precipitation forecast, improving our flood forecasting capabilities.
- In addition, the first steps in upgrading the forecast website were taken. The District reached a point in the automation and modeling to scale to be able to pursue the next major task, and expects to improve the warning and messaging capabilities as well.
- After the 2017 flood in San José, it was determined that the forecast point below Anderson Reservoir, which was originally part of the 5-Year Implementation Plan for FY14-18 for this project, would be ceded to the National Weather Service's California-Nevada River Forecast Center (CNRFC) to avoid confusion. The CNRFC already operates a forecast point in this area.

## Financial Information

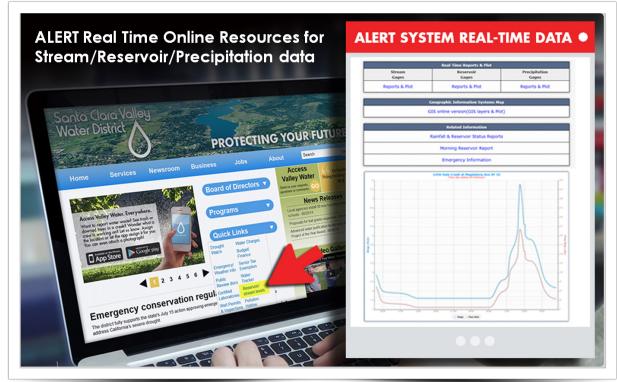
In FY18, the project expenditures were on-target with 98% of the annual budget spent.

Financial Summary (\$ Thousands)						
C2. Emergency Response Upgrades						
Adjusted Budget	Budgetary Actual			% of Budget Spent	15-year Program	
	Actual	Encumbrance	Total		Adjusted 15-year Plan	% of Plan Spent
\$370	\$353	\$10	\$364	98%	\$3,357	45%

## Opportunities and Challenges

### 2017 Flooding Performance

Overall, the simplified models used during the 2017 winter season worked satisfactorily and gave valuable information to decision makers. Models predicted flows well when actual recorded rainfall was used as inputs, as forecasted data remained the biggest source of error. Some watersheds were difficult to predict due to the limitations in the modeling software and needed to be updated manually to respond to observed conditions. This is not ideal and is addressed with the new software.



### Coordination with Project E2: Emergency Response Planning

The flood forecasting products and data collected under Project C2: Emergency Response Upgrades is also being incorporated into Project E2: Emergency Response Planning documents, when applicable, as a tool help inform decision makers. For example, technical mapping and flood-warning baselines produced under Project C2 will be used to update the San Francisquito Creek Flood Emergency Action Plan (EAP) and to complete the Guadalupe River Flood EAP, when fully developed. Project C2 focuses on the development of flood warning system infrastructure to assist flood responders by providing forecasted rainfall and stream flows and potential flooding information. Project E2 focuses on pre-event planning and collaboration with other agencies to develop flood response procedures that clarify roles and responsibilities before a flood event arises.

### New Modeling Software

Switching to the new software was necessary to improve performance and long-term sustainability. However, staff operating the software needed to be re-trained and familiarized with the new system. This will continue to be a growing area for the system, as the stress tests only occur when there is significant rain.

### Rainfall Forecasts

Along with the upcoming AQPI system forecasts, we are seeing improvement in our precipitation products. This is encouraging, as the rainfall forecast is the most sensitive parameter in the model affecting the accuracy of our flood forecasts.

### Reservoir Forecasts

Although not originally part of the KPI, predicting river flows for flooding also predicts river flows for water supply management. This presents a unique opportunity to assist our raw water operations to make the most informed decisions. These decisions can translate to real flood benefits for flood prone areas below reservoirs.

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**Priority D:**  
Restore wildlife habitat  
and provide open space

**Safe, Clean Water**  
and Natural Flood Protection

# Priority D

## Restore Wildlife Habitat and Provide Open Space

The 8 projects under Priority D restore and protect wildlife habitat and provide opportunities for increased access to trails and open space. Funding for this priority pays for control of non-native, invasive plants, revegetation of native species, and maintenance of previously revegetated areas. Other projects include removal of fish barriers, improvement of steelhead habitat and stabilization of eroded creek banks.

To support these and future restoration projects the District will create a comprehensive, updated database on stream conditions countywide. The District and other agencies can then use the new information to make informed decisions on where and how to use restoration dollars so they have the greatest value for wildlife.

### **Project D1**

Management of Revegetation Projects

### **Project D2**

Revitalize Stream, Upland and Wetland Habitat

### **Project D3**

Grants and Partnerships to Restore Wildlife Habitat and Provide Access to Trails

### **Project D4**

Fish Habitat and Passage Improvement

### **Project D5**

Ecological Data Collection and Analysis

### **Project D6**

Creek Restoration and Stabilization

### **Project D7**

Partnerships for the Conservation of Habitat Lands

### **Project D8**

South Bay Salt Ponds Restoration Partnership



Guadalupe River riparian plantings.

ON TARGET

### Project D1 FY18 Highlights

- Maintained 331 acres of revegetation projects at 129 sites countywide

# Project D1

## Management of Revegetation Projects

This project supports District maintenance of at least 300 acres of existing revegetation projects throughout the 5 watersheds, and provides for maintenance of future revegetation sites. Funding for this project ensures that design objectives of all revegetation projects are maintained during the establishment period so that mitigation results in functional habitat that can support wildlife.

### Benefits

- Maintains 300 acres of existing revegetation
- Allows the District to monitor plant survival and habitat functions
- Complies with environmental laws requiring habitat mitigation for flood protection and water supply projects
- Provides for maintenance of future revegetation sites

### Key Performance Indicator (15-year Program)

- Maintain a minimum of 300 acres of revegetation projects annually to meet regulatory requirements and conditions.

**Geographic Area of Benefit:** Countywide

### Status History

Fiscal Year	Status
FY 14	NOT ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ON TARGET

**Status for FY18:** On Target

### Progress on KPI #1:

- In FY18, the District maintained 331 acres of revegetation projects. Maintenance work included invasive weed control, pruning, mowing, and irrigation of 12 newer sites, which require more maintenance, and 117 established sites, which require a lower level of maintenance, throughout all 5 watersheds in Santa Clara County.

## Financial Information

In FY18, the project expended 87% of the annual budget. The District was able to meet its KPI at this low expenditure because lower levels of maintenance were required due to the deferment of all new plantings in FY15 and FY16 in response to the drought and the Phytophthora (plant pathogen) issues. In addition to having to catch up on the deferred plantings, the District anticipates that the regulatory agencies will require new plantings to mitigate for projects in the coming fiscal years, which will result in a significant increase in the required maintenance as they will need regular watering and weed control to reduce plant competition. The District expects to be on track with its financial expenditures in the coming fiscal years.

Financial Summary (\$ Thousands)						
D1. Management of Revegetation Projects						
Fiscal Year 2017-2018				15-year Program		
Adjusted Budget		Budgetary Actual		% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
		Actual	Encumbrance	Total		
\$1,256		\$1,055	\$32	\$1,088	87%	\$22,259
						16%

## Opportunities and Challenges

### Resources

This fiscal year, the KPI was met by supplementing available staff resources with a significant amount of outsourced labor. While this allowed the District to meet its KPI, the use of outsourced labor is not sustainable. To address this, the Board approved 1 new Maintenance Worker I (MWI) position for FY19.

### Phytophthora

In FY16, the District informed the regulatory agencies that due to the drought and Phytophthora (plant pathogen) issues, the District would not be installing new riparian planting sites. Despite this, increased maintenance is required at the existing sites to ensure survival of vegetation. In FY17, the District began installing new riparian planting sites utilizing seeds, cuttings, and container plants grown from nurseries that are following the Phytophthora working group's regional guidelines.



Revegetation at Calabazas Creek

### **New capital project mitigation**

As the Safe, Clean Water capital projects are constructed, and after the initial 3-year plant establishment period, additional acreages of mitigation will become part of Project D1 and will require increased maintenance to meet their 10-year success criteria. This will require funding additional staff resources in the future.

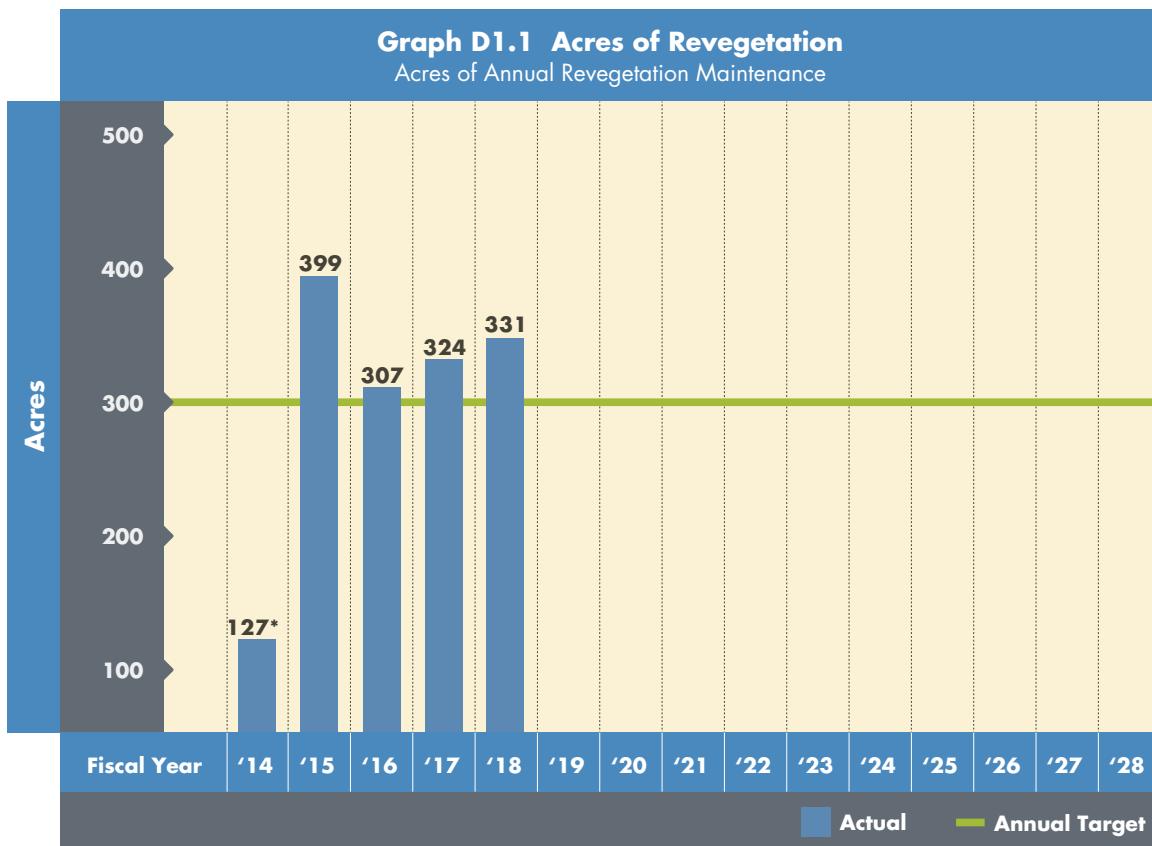
Projections show that the following acres of mitigation will be transitioned into Project D1 as a result of the completion of specific capital projects:

- FY19 – An estimated 5 acres of mitigation from the Upper Guadalupe River Flood Protection Project
- FY20 – An estimated 1.2 acres of mitigation from the Upper Berryessa Flood Protection Project
- FY21 – An estimated 49.13 acres of mitigation from the Lower Silver Creek, San Francisquito Creek and Permanente Creek Flood Protection Projects
- FY22 – An estimated 30.9 acres of mitigation from the Lower Berryessa Creek Flood Protection Project
- FY23 and FY25 – An estimated 70.36 acres of mitigation from the Upper Llagas Creek and Lower Penitencia Creek Flood Protection Projects

This is an increase of 156.59 acres of mitigation which will require significant maintenance for these projects to successfully meet their success criteria. The District plans to use a combination of new staff positions that will be requested in FY21 and contract labor to supplement existing District labor resources to comply with the increased mitigation requirements.

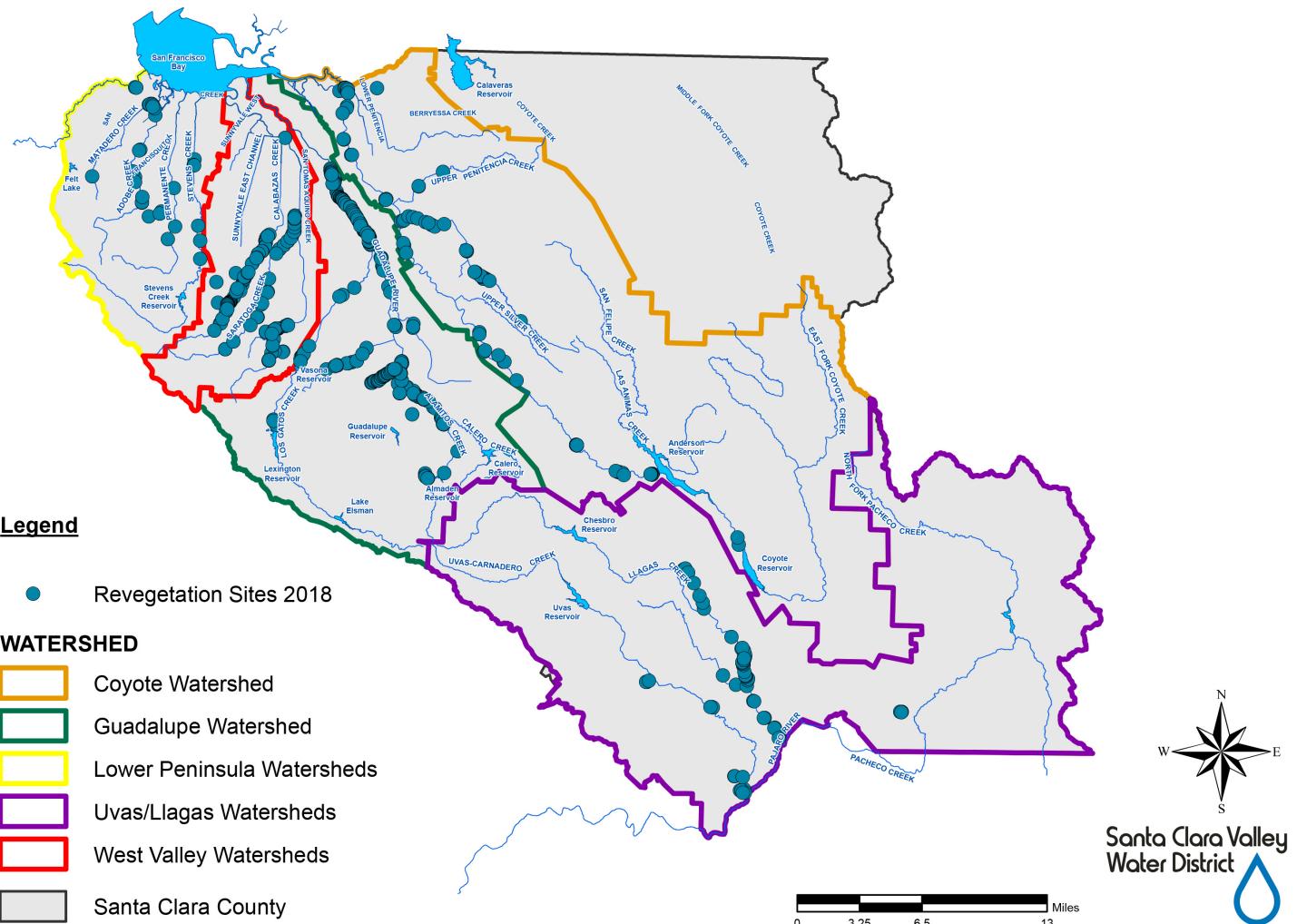
### **New Stream Maintenance Program (SMP2) permits**

The SMP2 permits require an increased level of mitigation. The District plans to use a combination of recently approved staff and additional contract labor to supplement existing District labor resources to comply with the increased mitigation requirements.



\*In FY14, the drought required much more maintenance than planned on new or revegetated plantings and thus impacted the District's ability to meet the annual maintenance target.

## FY18 Revegetation Maintenance: 331Acres



# Project D2

## Revitalize Stream, Upland and Wetland Habitat

This project allows the District to remove non-native, invasive plants and revegetate habitat with native species when needed. Funding also restores degraded habitat between revegetated sites to create a more contiguous habitat corridor for wildlife. This project includes targeted control of especially damaging non-native, invasive plant species such as *Arundo donax*, and education for nearby landowners and other stakeholder groups on the control of harmful species. This project also helps implement the Stream Corridor Priority Plans developed in Project D3.

### Benefits

- Increases viability of native riparian species by reducing competition from non-native, invasive species
- Improves habitat by installing tidal and riparian plant species
- Improves ecological function of existing riparian and wetland habitats to support more diverse wildlife species
- Improves patchy wildlife corridors by increasing connectivity of habitat
- Increases community awareness about the damaging impact that non-native, invasive plants have on local ecosystems

### Key Performance Indicators (15-year Program)

1. Revitalize at least 21 acres, guided by the 5 Stream Corridor Priority Plans, through native plant revegetation and removal of invasive exotic species.
2. Provide funding for revitalization of at least 7 of 21 acres through community partnerships.
3. Develop at least 2 plant palettes for use on revegetation projects to support birds and other wildlife.

### Geographic Area of Benefit: Countywide

### Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ON TARGET

**Status for FY18:** On Target



Coyote Creek *arundo donax* removal.

ON TARGET

### Project D2 FY18 Highlights

- Worked with the City of San José on Stream Maintenance Program invasive vegetation removal, and expand invasive and non-native habitat mapping on Coyote Creek
- Established 3 community partnerships with the target of providing funding for revitalization of at least 7 acres of native habitat.
- Updated all 5 plant palettes
- Updated the project website with links to external resources on native habitats and gardening with natives

### Progress on KPI #1:

- The District exceeded its 5-year Implementation Plan target, controlling approximately 24 acres of native riparian and tidal marsh habitats (approximately 10 acres by District staff under KPI #1 and 14 acres through partnerships under KPI #2):
  - » Removed 2.5 acres of invasive and non-native woody vegetation along the Lower Guadalupe River to help meet U.S. Army Corps of Engineers (USACE) levee and flood protection design conditions near Highway 101 and Montague Expressway; and;
  - » Controlled nearly 8 acres of invasive vegetation along Stevens and Saratoga creeks in coordination with the District's SMP.

Successfully controlling invasive vegetation often requires repeated treatments at infested sites over multiple years. The District is responsible for invasive vegetation control and native habitat revitalization for the 10 acres in KPI #1, which will be managed under SMP.

As in FY17, and until the Stream Corridor Priority Plans (SCPPs) are completed under D3, the District continues to prioritize habitat revitalizations by selecting areas where invasive or non-native vegetation has at least 1 of the following characteristics

- a. Impacts sensitive plant or animal communities, especially habitats for state or federally listed species;
- b. Involves flood protection, where invasive removal may increase hydraulic flow conveyance, or is recommended by USACE for levee stability;
- c. Grows adjacent to, but not within, District mitigation or revegetation sites;
- d. Revitalizes the functionality of riparian and tidal habitat;
- e. Improves wildlife corridors by increasing connectivity of habitat, especially along the Coyote Creek watershed to improve the connectivity between the Santa Cruz Mountains and the Diablo Range; and
- f. Upper watershed habitats, where invasive vegetation has potential to migrate downstream and greater impacts due to proximity to sensitive communities and wildlife corridors.

### Progress on KPI #2:

- In FY18, the District established 3 community partnerships with the target of providing funding for revitalization of at least 7 acres of native habitat. District partners are responsible for native habitat revitalizations on their properties which are on County waterways and have a direct nexus to watershed health. By the end-of-FY18, approximately 14 acres of invasive vegetation was controlled under the D2 partnerships.
  - » City of San José – In FY18, the District focused on a partnership with the City of San José to follow-up on invasive vegetation removal along Mid-Coyote Creek and expand invasive plant and non-native habitat mapping. The mapping and habitat assessments are required for CEQA, the Valley Habitat Plan (VHP), and to obtain the environmental permits to be able to conduct the vegetation management work in Coyote Creek. The primary target of the invasive vegetation removal on mid-Coyote Creek is giant reed. The District is currently performing this work under the SMP; however, the City will take over vegetation management as soon as CEQA filings are certified, VHP requirements are determined, and environmental permits are obtained.

- » California State Coastal Conservancy – This partnership continues systematic control of invasive plants in tidal marsh and ecotone habitats in the South San Francisco Bay, especially invasive cordgrass (*Spartina alterniflora*). As part of the 5 year KPI, approximately 4 acres of invasive smooth cordgrass were treated by extending the Clean, Safe Creeks partnership through 2015.

Midpeninsula Regional Open Space District (Midpen) – The partnership signed at the beginning of FY18 is to revitalize native habitats, protect sensitive upper-watershed species and habitats, and to conduct outreach on habitat revitalizations. Midpen is efficient and highly skilled at invasive vegetation control, and public outreach. In FY18, approximately 10 acres of the Bear Creek Redwoods Open Space Preserve were revitalized (see <https://www.openspace.org/our-work/projects/restoring-bcr>).

- The District continued to work toward revitalizing and improving key wildlife corridors in the Coyote Creek and Pajaro River watersheds by partnering with the Santa Clara County Wildlife Corridors Working Group, which includes: the U. S. Fish and Wildlife Service (USFWS), California Department of Fish and Game (CDFW), Santa Clara County Parks, Santa Clara Valley Transportation Authority (VTA), De Anza College, Santa Clara Valley Habitat Plan (VHP), Caltrans, Peninsula Open Space Trust (POST), Open Space Authority (OSA), The Nature Conservancy (TNC), and Pathways for Wildlife. The IMC recommended increasing emphasis on improving wildlife corridors at a previous annual review.

#### ***Progress on KPI #3: (Completed in FY15)***

- The 2 plant palettes required for Project D2 were created in FY15, meeting KPI #3. In FY16, an additional 3 palettes were developed, 2 of which were in response to an IMC recommendation showing plants that support birds and other wildlife. All 5 palettes were updated and are available on the Project D2 website for use on revegetation projects, and native gardens. The palettes have links to other websites with additional ecological information and wildlife values for each plant species.
  - » Links to external resources on native habitats and gardening with natives were added to the Project D2 website. The District continues to look for new and check existing internet resources, and mobile phone applications that have native planting guides, and plant species identification, such as Calscape, PlantSnap, Audubon, Calflora and National Wildlife Federation.

## Financial Information

In FY18, 87% of the annual budget was expended. This slight under expenditure was due to the emphasis on continuing to establish partnerships and cooperative efforts on wildlife habitat corridors.

Financial Summary (\$ Thousands)						
D2. Revitalize Stream, Upland and Wetland Habitat						
Fiscal Year 2017-2018				15-year Program		
Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
	Actual	Encumbrance	Total			
\$917	\$466	\$335	\$801	87%	\$18,190	10%

## Opportunities and Challenges

### Mapping techniques

As in previous years, opportunities for Project D2 continue to include exploring various Geographic Information Systems (GIS) and remote sensing resources to map areas of dominant vegetation types at river or creek reach scales. There are GIS and map resources at State and County scales, but these are difficult to apply to a watershed, sub-watershed, or reach. California Invasive Plant Council (Cal-IPC) and Calflora are improving their statewide invasive plant detection and mapping systems. Some resource agencies are using this new application, which is available to the public, including a cell phone application, but more data needs to be added to prioritize and select sites for rehabilitation (see <http://www.calflora.org/entry/invasives2.html>). Good quality maps and the acreages of invasive and non-native vegetation cover they provide are essential for filing CEQA documents and environmental permit applications necessary to conduct D2 revitalizations in jurisdictional habitats (creek and river channels, riparian, and wetlands).

### Education and outreach

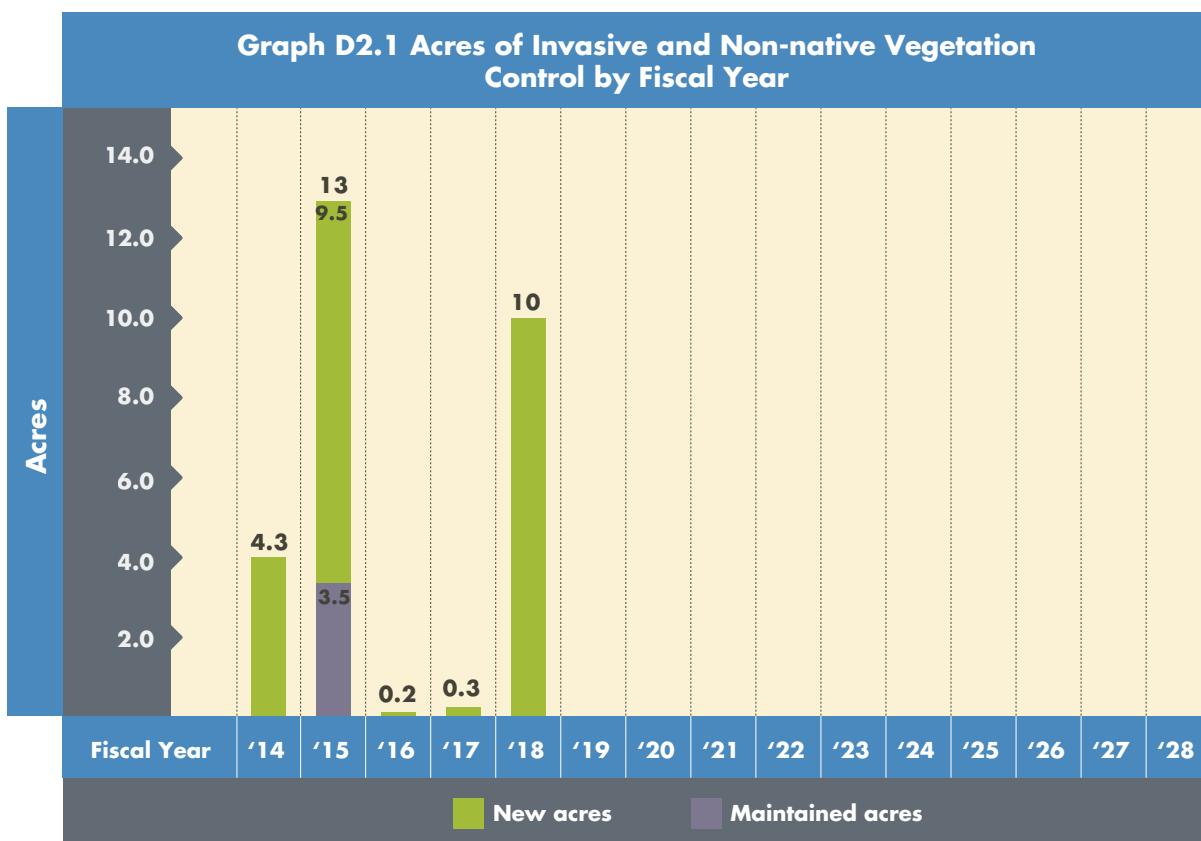
The best sources for invasive plant removal techniques are referenced on the Project D2 website and when stakeholders, inquire we direct them to these resources: the Cal-IPC Weed Workers' Handbook (<http://cal-ipc.org/ip/management/wwh/pdf/18601.pdf>), Invasive Plants of California's Wildlands (<http://cal-ipc.org/ip/management/ipcw/index.php>), and San Francisco Estuary Institute (SFEI) Practical Guidebook to the Control of Invasive Aquatic and Wetland Plants (<http://www.sfei.org/his/>).

The D2 partnership with Midpen is important for increasing public awareness and education. Midpen organizes and participates in community and children oriented events, docent-led activities, outdoor service projects, nature hikes and field tours, posts educational trail signs, operates a nature center and farm, and multimedia nature tours. The District's partnership work in FY18 involved a communications plan and Midpen public affairs team creating a web page about the restoration work happening at Bear Creek Redwoods.

### Water molds (*Phytophthora* spp.)

The District and its consultant, a leading plant pathogen expert, continue to study and plan to remediate mitigation sites infected by water molds (*Phytophthora* spp.). Some infamous examples of water molds include sudden oak death (SOD, *P. ramorum*) and the historic European potato famine. Infection by *Phytophthora* species can lead to root rot, which induces drought-like symptoms from reduced water uptake, and ultimately plant death may occur. Infected plants may not show any initial signs of the disease or stress. The District hosted 2 state-of-the-science symposiums on May 18, 2017 and February 12, 2015. Videos of the lectures are on the Project D2 website, as are other links to *Phytophthora* internet resources to increase awareness and inform the public.

The District continues to implement a plant pathogen testing program, develop best management practices (BMPs) for contractors and nurseries, and participate in the regional Working Group for *Phytophthoras* in Native Habitats ([www.Calphytos.org](http://www.Calphytos.org)). Collaborative efforts include education, outreach, partnerships, and advanced scientific studies in an attempt to better understand and reduce the spread of water molds. The Project D2 website has several links to provide information on water molds.



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# Project D3

## Grants and Partnerships to Restore Wildlife Habitat and Provide Access to Trails

This project provides grants and partnerships for activities such as developing Stream Corridor Priority Plans; creating or enhancing wetland, riparian and tidal marsh habitat; protecting special status species; removing fish migration barriers; installing fish ladders; removing non-native, invasive plant species; and planting native species. The project includes 7 grant cycles, 1 held approximately every other year during the 15-year duration of the Safe, Clean Water Program, as well as funding for partnerships that restore stream and wetland habitat and provide open space access. This project also funds work that provides access to creekside trails or trails that provide a significant link to the creekside trail network, for example, the possible construction of a bridge over Coyote Creek in the Rock Springs neighborhood.

### Benefits

- Enhances creek and bay ecosystems
- Improves fish passage and habitat
- Expands trail and open space access
- Leverages community funding through grants
- Increases collaborations and partnerships for stewardship activities with cities, the County, nonprofit organizations, schools and other stakeholders

### Key Performance Indicators (15-year Program)

1. Develop 5 Stream Corridor Priority Plans to prioritize stream restoration activities.
2. Provide 7 grant cycles and additional partnerships for \$21 million that follow pre-established criteria related to the creation or restoration of wetlands, riparian habitat and favorable stream conditions for fisheries and wildlife, and providing new public access to trails.

### Geographic Area of Benefit: Countywide

### Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ON TARGET



South Valley meadow restoration.

ON TARGET

### Project D3 FY18 Highlights

- Selected 5 watershed creek reaches for the development of Stream Corridor Priority Plans (SCPPs)
- Developed draft SCPP for Stevens Creek downstream of the dam
- Awarded funding for 3 trails grant projects
- Completed the application process for wildlife restoration grant projects and the funding will be awarded in FY19
- Closed 6 grant-funded projects
- Awarded 22 mini-grant projects

## Status for FY18: On Target

### Progress on KPI #1:

- In FY18, 5 watershed creek reaches were selected for the development of Stream Corridor Priority Plans (SCPPs). The creek reaches selected are as follows:
  1. Lower Peninsula Watershed - Stevens Creek
  2. Coyote Watershed - Coyote Creek (candidate reach is approx. Montague to Coyote Narrows)
  3. Guadalupe Watershed - Guadalupe River
  4. Pajaro Watershed - Uvas Creek (downstream of Uvas Reservoir)
  5. West Valley Watershed - Saratoga Creek
- These creeks were selected based on various factors including habitat potential and quality and demonstrated public and volunteer interest. The list of selected creek reaches is subject to change as appropriate.
- The initial SCPP for Stevens Creek downstream of the dam was developed in draft form by the end of FY18. The next SCPP will be developed for the Coyote Creek watershed in FY19.

### Progress on KPI #2:

- Grant applications for trails projects were accepted from August 4 through October 27, 2017. 4 applications were received and 3 were recommended for funding. The Board of Directors approved the funding of all 3 trails grant projects on March 13, 2018.
- Grant applications for wildlife restoration projects were accepted from January 26, 2018 through March 30, 2018. 9 applications were received. Staff will review and make funding recommendations to the Board of Directors for award in FY19.
- From FY14-17, 3 trails grants were awarded and the District continues to administer these projects.
- From FY14-17, 19 wildlife restoration grants were awarded. 6 projects have been completed and closed and 1 grantee (California Native Plant Society) decided to no longer use the grant dollars for their project. The District continues to administer the remaining 12 projects.
- The following 6 grant-funded projects were completed and have been closed in FY18:
  - » McClellan Ranch Preserve Meadow Enhancement Project by Acterra Stewardship
  - » Foothills Park Riparian Enhancement Project by Acterra Stewardship
  - » Coyote Valley Open Space Preserve South Valley Meadow Restoration by Santa Clara Valley Open Space Authority

- » Uvas Creek Steelhead Spawning Habitat by Resource Conservation District of Santa Cruz
- » Coyote Creek Invasive Plant Removal and Revegetation by Working Partnerships
- » Stevens Creek Steelhead Passage Improvement Project by Friends of Stevens Creek Trail
- The California Native Plant Society received a wildlife restoration grant in FY16. They were able to secure other sources of funding for their Nursery Renovation Project; therefore, the project has been closed out and the funds will be returned back into the reserves.
- In FY15, 2 wildlife restoration partnerships were established, and 1 is expected to be closed by the end of FY18. The District will continue to administer the remaining partnership.

## Financial Information

In FY18, only 35% of the annual budget was expended. While both wildlife restoration and trails grants were released in FY18, the agreements will not be executed until FY19; therefore, the funds were not expended in FY18 and have been adjusted into the FY19 budget.

Financial Summary (\$ Thousands)						
D3. Grants and Partnerships to Restore Wildlife Habitat and Provide Access to Trails					15-year Program	
Adjusted Budget	Fiscal Year 2017-2018			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
	Actual	Encumbrance	Total			
\$1,332	\$278	\$182	\$459	35%	\$24,092	21%

## Opportunities and Challenges

### Staffing and program improvements

In FY18, the grants program was reorganized under Civic Engagement with regular and temporary staff assigned to the program. A pilot grants management system was implemented in FY18 to provide greater efficiency for the grant administration process. However, the system was not comprehensive enough to meet the demands of the pre- and post- award needs of program; therefore, staff went out to bid for a more comprehensive system. A new vendor was secured in May 2018. Staff has started working with the vendor to implement the new system to go live in the Fall 2018. Additionally, a new regular position has been assigned to the program to provide additional support for the administration of the current grantees and the solicitation of new grant projects.

Staff will continue to implement the improvements following the Board's guidance resulting from the March 2016 Comprehensive Review of the Safe, Clean Water Grants and Partnership Projects Program:

- a. Be responsive to community needs and input;
- b. Make grant application and contracting process easier for applicants. Allow adequate time for applicants to obtain landowner approvals when right of way is needed for project implementation; be flexible in working with applicants on scope and budget; outreach to nonprofit entities that could support the District's goals for the Safe, Clean Water Grants and Partnership Projects Program;
- c. Broaden community engagement in District's grants and partnership projects to help the community feel positive about projects that are being funded by taxpayer dollars; and
- d. Tailor level of control or risk management based on project specifics.

#### **Pilot Mini-Grant Program**

In August 2017, following Board approval, the District released the pilot Mini-Grants Program under Project D3: Restore Wildlife Habitat and Provide Access to Trails. The Board approved mini-grant funding in the amount of \$200,000, with each mini-grant not-to-exceed \$5,000. The pilot mini-grant program contains the following components:

- i. Mini-Grant Minimum Requirements and Evaluation Criteria
- ii. Submittal, Selection and Award Process
- iii. Application Form
- iv. Evaluation Score Sheet
- v. Outreach Plan

The pilot program is designed to provide seed funding to encourage broader and long-term community engagement in wildlife habitat restoration and watershed stewardship activities in Santa Clara County. The pilot mini-grant is not designed to cover all expenses associated with an activity but rather a portion to kick start stewardship activities. Eligible activities include tangible educational activities and small scale physical improvements.

Since the release of the pilot program in FY18, the District has awarded more than \$106,000 in mini-grant funds to 22 projects. Projects range from restoring native wildlife habitat to community outreach and education around watershed stewardship to engaging seniors on the importance of restoring open space and healthy watersheds.

### Grants outreach

With the reorganization of the Grants Program under Civic Engagement in the External Affairs Division, staff is working more closely with other units and programs in the division to ensure that outreach for the grant opportunities is broader and more comprehensive. Staff works with Communications to publish blogs, post social media updates, and submit news releases to share information about grant projects or grant opportunities to the public. Staff also consistently updates the website to ensure the most current information is made available.

Additionally, staff works with Government Relations to notify other agencies, elected officials, and countywide leaders when grant and partnership opportunities are available. During each application period, staff's outreach efforts include the following:

- Send notification to elected officials at all levels, city managers, and executive leaders in the County;
- Send notification to countywide neighborhood associations, community leaders, civic organizations, and local nonprofits;
- Issue press releases;
- Notify partner agencies in various collaborations (i.e. Creek Connections Action Group and Santa Clara Valley Urban Runoff Pollution Prevention Program);
- Post notices on District's social media sites, eNews, District website; and
- Host preproposal workshops.

Additionally, within the Civic Engagement Unit, other programs have been a resource to outreach and promote the grant opportunities, such as the Education Outreach Program and the Creek Stewardship Program, which coordinates the Adopt-A-Creek program. Volunteers and educational partners are given collateral materials and directed to speak to program staff to learn more about the grant opportunities.

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# Project D4

## Fish Habitat and Passage Improvement

This project helps restore and maintain healthy steelhead trout populations by improving fish passage and habitat. Possible work sites include Alamitos Creek at Lake Almaden and Ogier Ponds in the Coyote watershed, where man-made creek alterations disrupt fish migration. The project also includes studies of steelhead streams throughout the county to determine where improvements are needed to support spawning, rearing and migration. Funding also pays for the development of a program to use large woody debris to create fish habitat.

### Benefits

- Improves spawning and rearing habitat within the Coyote, Guadalupe and other watersheds
- Improves steelhead trout habitat
- Helps provide required mitigation for environmental impacts of reservoir and recharge operations and for countywide Stream Maintenance Program

### Key Performance Indicators (15-year Program)

1. Complete planning and design for 2 creek/lake separations.
2. Construct 1 creek/lake separation project in partnership with local agencies.
3. Use \$6 million for fish passage improvements.
4. Conduct study of all major steelhead streams in the county to identify priority locations for installation of large woody debris and gravel as appropriate.
5. Install large woody debris and/or gravel at a minimum of 5 sites (1 per each of 5 major watersheds).

### Geographic Area of Benefit:

Countywide



Large Woody Debris site.

**ON TARGET**

### Project D4 FY18 Highlights

#### Creek/Lake Separation Projects:

- For Almaden Lake, completed the planning phase and 30% design, and continued working with consultant on the draft EIR
- For Ogier Ponds, completed the feasibility study and Board approved the start of the planning phase, contingent on support from Santa Clara County

#### Fish Passage Improvements:

- For the Bolsa Road Fish Passage Project, continued to develop 60% design for the riffle-pool alternative
- For the Singleton Road Fish Passage Project on Coyote Creek, continued coordination with the City of San José including possible interim improvements

#### Fish Habitat Improvements:

- Completed Phase 1 study of 8 major steelhead streams in the county to identify priority locations for installation of large woody debris and gravel augmentation
- Selected the Los Gatos Creek downstream of Highway 17 for implementation

## Schedule



\*Board approved a schedule adjustment through the change control process in FY17.

## Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ADJUSTED

## Status for FY18: On Target

### Progress on KPI #1:

#### Creek/Lake Separation Site 1: Almaden Lake

- In FY18, the project's planning phase was completed and the project is at 30% design. The environmental consultant, Environmental Science Associates (ESA), is preparing a second internal draft of the Environmental Impact Report (EIR) that incorporates information of the proposed water source for the separated lake. The District is waiting for the next internal draft version of the EIR from ESA to provide to legal for review. Public review of the draft EIR is anticipated to be in late calendar year 2018. To prepare for the public review period of the draft EIR, the District has begun re-engaging with key stakeholders including the San Francisco Bay Regional Water Quality Control Board and City of San José. The project team has also prepared a new banner to display at the park and the project continues to receive a lot of interest from the community.

### Creek/Lake Separation Site 2: Ogier Ponds

- The District and Santa Clara County Parks (SCC Parks) executed a Memorandum of Agreement on March 1, 2016 to prepare a study to investigate the feasibility of separation of Ogier Ponds Quarry Complex from Coyote Creek.
- The results of the feasibility analysis were presented to the District's Board of Directors March 27, 2018. The feasibility study elements included evaluation of the site for stream stewardship, recreation, water supply and flood attenuation. The results of this analysis indicate that removal of the surface hydraulic connection between Coyote Creek and Ogier Ponds is technically feasible and, in doing so, will likely support water-based recreation as identified in the County's Integrated Plan for Coyote Creek Parkway. The site is not viable for managed aquifer recharge, and minimal flood protection benefits would be achieved if the site were used for flood attenuation. However, there can be ecological benefits from separating the creek from the ponds. The Board of Directors agreed to move the Project into the next planning phase (i.e. selection of a preferred project alternative), contingent on support from the Santa Clara County Board of Supervisors and County staff participation as the landowner of the site. The District Board of Directors requested staff to bring back a proposal and budget adjustment in September 2018 in order to proceed with the planning phase.
- Ogier Ponds is considered a "priority barrier owned by others" under Section 6.4.2.1.2(b) of the Fish and Aquatic Habitat Collaborative Effort (FAHCE) Settlement Agreement. This section requires the District to reach out to the County (the owner of Ogier Ponds) and undertake reasonable best efforts to remove or remediate Ogier ponds as a fish passage barrier. This includes providing up to 50% of the funding to remediate Ogier Ponds as a passage barrier. If the project proceeds to the next planning phase, seeking remediation of Ogier Ponds as passage barrier will be consistent the District's commitment under the FAHCE Settlement Agreement.

### **Progress on KPI #2:**

- Currently 2 projects are in the planning phase and the Board has not yet selected which project will receive construction funding from the Safe, Clean Water Program.

### **Progress on KPI #3:**

#### Fish Passage Improvements

- In FY18, the District applied for an encroachment permit with Union Pacific Rail Road (UPRR) to construct a roughened channel to replace and improve the Bolsa Road Fish Passage Project. UPRR disapproved the initial application unless the District modifies the design to minimize excavation near UPRR bridge foundations. Therefore, the District pursued an alternative design (riffle-pool system) that incorporated a multi-objective project involving a geomorphic restoration approach while avoiding retrofitting the existing slab associated with the UPRR bridge; i.e. no excavation near the bridge foundations. Initial coordination with regulators including Valley Habitat Agency, National Marine Fisheries Service (NMFS), California Department of Fish and Wildlife (CDFW) and San Francisco Bay Regional Water Quality Control Board (RWQCB) received very positive feedback on the riffle-pool system. The District continued to develop 60% design for the riffle-pool alternative and construction is estimated for summer 2019.

- Stevens Creek provides habitat for the federally threatened steelhead trout. The District, through sponsorship in the Santa Clara County Urban Pollution Prevention Program, partially funded a limiting factors analysis (LFA) for steelhead in Stevens Creek in 2004. The objectives of the LFA were to identify and fill information gaps related to physical and biological factors controlling population dynamics in Stevens Creek. The focused study addressed 6 factors affecting steelhead populations and notable to this work, a fish barrier assessment. The study found that barriers both partial and complete limit access to a substantial amount of habitat and the effects of these barriers on smolt production depend on the ability of fish to pass barriers (upstream and downstream). In FY18, the District began a study to quantify passage at these suspected barriers for steelhead trout. The 2004 LFA had qualitatively identified 40 structural related fish barriers for steelhead. Through field reconnaissance this number has been reduced to 32. The degree to which these potential barriers impede movements of steelhead in Stevens Creek is largely unknown. This quantitative assessment of fish barriers is intended to fill that data gap. Through detailed analysis, each barrier will be assessed for passibility for both juvenile and adult fish and ranked to the degree of severity to which they impact fish passage. Results of this analysis are anticipated in January 2019.
- The District continues to coordinate with the City of San José on the Singleton Road Fish Passage Project on Coyote Creek. The City has full funding for environmental documents. The City has begun preparation of the requisite documents and is seeking funding for construction. The District and City have also discussed the possibility of interim fish passage improvements at the site and will be developing alternatives in FY19 that may result in an interim fish passage improvement project in advance of the City's long term solution.

#### **Progress on KPI #4:**

##### Fish Habitat Improvements

- The District completed the phase 1 study of 8 major steelhead streams (Alamitos, Guadalupe, Los Gatos, Uvas, Upper Penitencia, Coyote and Stevens creeks, and Guadalupe River) in the county to identify priority locations for installation of large woody debris and gravel augmentation. The report summarizing the study effort has been posted on the Project D4 website.

#### **Progress on KPI #5:**

##### Fish Habitat Improvements

- Out of the Phase 1 study recommended priority locations, the Los Gatos Creek location just downstream of Highway 17 has been selected for construction. Initially planned for construction in FY18, the Stream Maintenance Program (SMP) will not be able to construct this project until FY19 due to difficulties in material and right of way acquisition. This location is outside regulatory floodway and adequate freeboard exists; no significant increases in flood risks due to addition of gravel and large woody debris is anticipated based on the hydraulic analysis conducted.

## Financial Information

In FY18, 48% of the total annual budget was expended.

The Almaden Lake Improvements Project (KPI #1) expended 90% of its annual budget. The project was slightly under expended due to the reallocation of staff resources to another project at the end of FY18 to meet critical deadlines.

The Construct Creek/Lake Separation project (KPI #2) has expended 0% of its FY18 budget because the Board has not yet selected which project will receive construction funding from the Safe, Clean Water Program.

The Fish Passage Improvements project (KPI #3) is under expended at 27% of its annual budget. The under expenditure was due to delay of the start of construction of the Bolsa Road Fish Passage Project resulting from a change in design.

The Fish Habitat Improvement project (KPIs #4 and 5) expended 53% of its annual budget. The under expenditure is due to shifting construction related costs to FY19.

Financial Summary (\$ Thousands)							
D4. Fish Habitat and Passage Improvements						15-year Program	
Project No. and Name	Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
		Actual	Encumbrance	Total			
26044002 Fish Passage Improvement	\$1,638	\$438	\$0	\$438	27%	\$8,219	24%
26042002 Fish Habitat Improvement	\$500	\$261	\$3	\$265	53%	\$5,828	23%
26044001 Almaden Lake Capital Project	\$740	\$668	\$0	\$668	90%	\$2,102	134%
26C40355 Construct Creek/Lake Separation	\$0	\$0	\$0	\$0	0%	\$13,385	0%
<b>Total</b>	<b>\$2,878</b>	<b>\$1,367</b>	<b>\$3</b>	<b>\$1,371</b>	<b>48%</b>	<b>\$29,534</b>	<b>21%</b>

## Opportunities and Challenges

### Resource needs

Fish barrier mitigation and creek/lake separation projects will continue to require a high amount of resources to maintain the level of stakeholder engagement necessary for project success.

### Fish Habitat Improvements

The placement of any additional gravel or LWD structures has the potential to increase water surface elevation in a stream. One of the challenges for considering gravel and LWD additions for habitat improvements is that for channel reaches in a Federal Emergency Management Agency (FEMA)-designated regulatory floodway, any changes to the channel configuration must not increase the water surface elevation beyond existing condition, irrespective of the proximity to structures, or bank elevations. This restriction may make the design and construction of habitat enhancement more difficult, requiring the production of a "No Rise" certification. This certification is often costlier as it will require more detailed hydraulic evaluation and may also require more earthwork to meet the "No Rise" certification standards.

### Confidence levels

#### **Almaden Lake**

*Schedule: High confidence*

The District is on track to complete the design phase, including developing a completed EIR.

*Funding: High confidence*

The Safe, Clean Water funding covers the cost of the planning and design phases.

*Permits: N/A*

The confidence level for permits will be determined if the Board selects the project to move forward with construction.

*Jurisdictional Complexity: Low confidence*

The project has a high level of stakeholder engagement, as such, the project has the potential to encounter continuous issues and interest in its design.

#### **Bolsa Road Fish Passage Project**

*Schedule: Moderate confidence*

The riffle-pool system alternative will eliminate the need for modification of the UPRR bridge and it has received positive feedback from regulatory agencies including Valley Habitat Agency, NMFS, CDFW and RWQCB.

*Funding: High confidence*

Project funding through FY19 has been secured through the Safe, Clean Water Program.

*Permits: High confidence*

Environmental enhancement projects typically receive higher priority for permitting approvals. The District will have to obtain all required permits, after environmental clearance.

*Jurisdictional Complexity: Moderate confidence*

With primary land owner, UPRR, not being impacted by the revised design, obtaining cooperation from channel adjoining owners could be achieved with reasonable terms and conditions.

See Appendix D: *Capital Projects Confidence Levels* for a list of confidence levels for each project by outside agency for funding, regulatory permitting, cities, counties and other agencies.



*Photo 1: Singleton Road Fish Passage Barrier*

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# Project D5

## Ecological Data Collection and Analysis

This project creates a comprehensive watershed database that tracks stream ecosystem conditions to help the District, other County agencies and organizations make informed watershed and asset management decisions. This new information integrates and enhances the District's stewardship actions through a standardized, repeatable and defensible approach that guides, organizes and integrates information on stream conditions.

This ecological monitoring and assessment is conducted on an ongoing basis and is shared with land use agencies, environmental resource groups, and the public to support efficient restoration decisions throughout the county.

### Benefits

- Improves watershed and asset management decisions
- Provides a systematic, scientific guide for decisions and actions to improve stream conditions
- Supports effective design options for capital projects
- Maximizes the impact of restoration dollars with more reliable data on countywide stream conditions

### Key Performance Indicators (15-year Program)

1. Establish new or track existing ecological levels of service for streams in 5 watersheds.
2. Reassess streams in 5 watersheds to determine if ecological levels of service are maintained or improved.

**Geographic Area of Benefit:** Countywide

### Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ON TARGET



District biologists at Saratoga Creek.

**ON TARGET**

### Project D5 FY18 Highlights

- Conducted field work to complete the West Valley watershed assessment
- Established an ESI for 4 of the 5 watersheds as required under this KPI, as well as for 10 rivers and creeks in the watersheds
- Assessed 5 watersheds with results available on EcoAtlas

## Status for FY18: On Target

### Progress on KPI #1: (Completed as of FY18)

- In FY18, the District is conducting field work to complete the West Valley watershed assessment. This is the fifth and final watershed to be assessed for the first time, thus establishing new or baseline ecological levels of service for all 5 District watersheds. The watershed assessment report is scheduled to be completed and available on the Project D5 web page in FY19. Results of the field assessments are available on EcoAtlas (see <https://www.ecoatlas.org/regions/ecoregion/bay-delta>, click on CRAM under the Legends drop down command, then zoom to the desired locations on the map).
- As of FY18, the District has established an ecological service index (ESI) for 4 of the 5 watersheds as required under this KPI, as well as for 10 rivers and creeks in the watersheds (see Figure D5-1 on the Project D5 web page, under Reports & Documents). The assessments include:
  1. Coyote Creek watershed, including Upper Penitencia Creek;
  2. Guadalupe River watershed with a separate ESI for urban and non-urban portions of the watershed;
  3. Pajaro River watershed within Santa Clara County, including Pacheco Uvas and Llagas creeks;
  4. Lower Peninsula watershed, including the parts of San Francisquito Creek within Santa Clara County, Adobe and Stevens creeks.
- The reports for these assessments are available on the Project D5 website (see <http://www.valleywater.org/SCW-D5.aspx>, [News & Updates](#)). Assessment data collected from the watersheds are available on EcoAtlas (see <https://www.ecoatlas.org/regions/ecoregion/bay-delta>).

### Progress on KPI #2:

- 5 watersheds have been assessed with results available on EcoAtlas, 4 of the 5 watershed reports on the Project D5 web page, and West Valley report coming in FY19.

Watershed studies, assessments, or data compiled by others are shown under Reports & Documents on the Project D5 website.

## Financial Information

In FY18, 74% of the annual budget was expended. The FY18 budget included hours, services and supplies to complete the West Valley watershed assessment, which was not able to be fully completed in FY18 as staff resources were shifted to focus on finalizing partnership agreements.

Financial Summary (\$ Thousands)						
D5. Ecological Data Collection and Analysis						
Adjusted Budget	Fiscal Year 2017-2018			15-year Program		
	Actual	Encumbrance	Total	% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
\$770	\$319	\$255	\$574	74%	\$9,020	23%

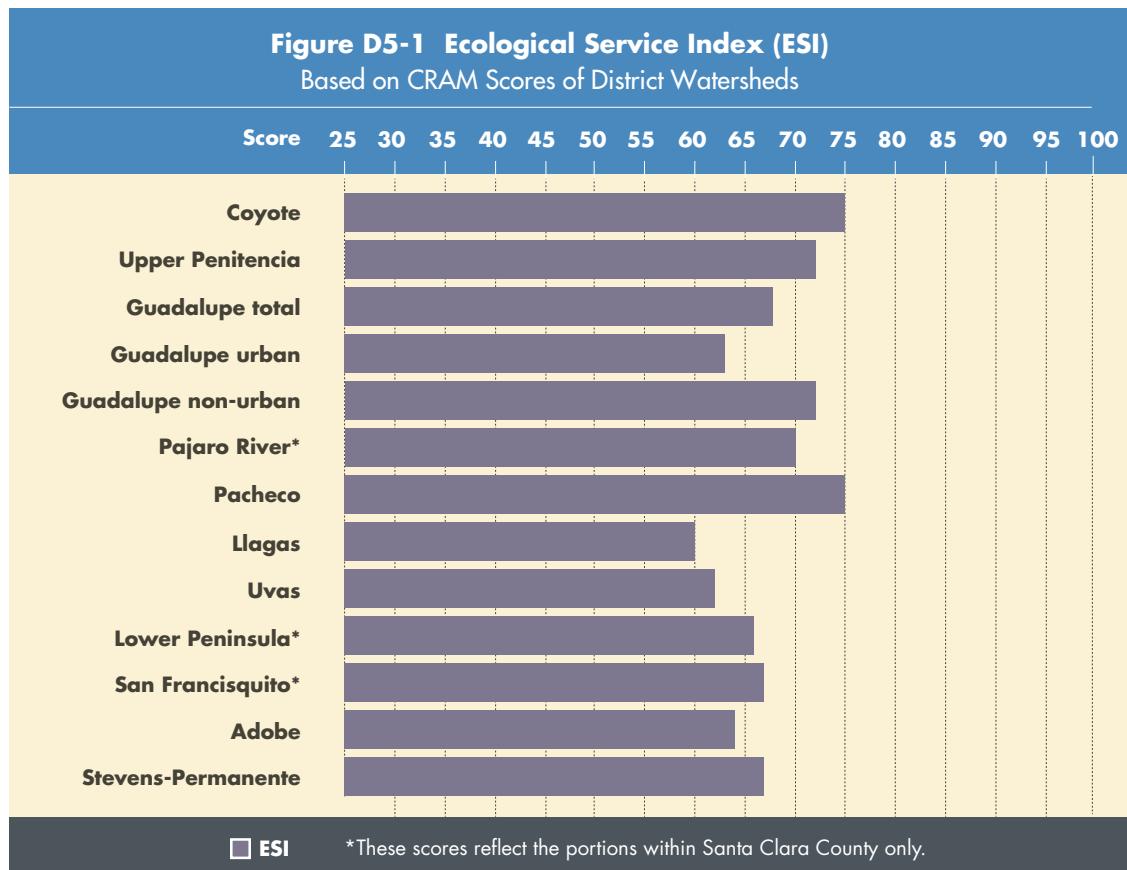
## Opportunities and Challenges

### Watershed approach to environmental permitting, impact assessments, and mitigation

The District is integrating Project D5 into watershed planning, One Water and its related work, and with expert advice from SFEI, has a goal to apply Project D5 results to assist in environmental permitting. The U. S. Army Corps of Engineers (USACE) South Pacific Division issued guidance in 2015 and has standard operating procedures to use the California Rapid Assessment Method (CRAM) for impact assessment and mitigation. Guidance applies to both the USACE San Francisco and Sacramento Districts. The Project D5 watershed assessments continue to be influential to the State Water Resources Control Board's evolving wetland and riparian habitat policy efforts.

### Landowner coordination

As noted in past Safe Clean Water annual reports, the District needs the assistance and cooperation of land owners, resource agencies, environmental organizations and citizen groups to maintain healthy ecosystems. The District owns only approximately 2% of the Lower Peninsula watershed, 3% of the Coyote and Pajaro watersheds, and only 8% of the Guadalupe watershed. The West Valley assessment in FY19 will report the percent of District ownership through this watershed. Most of the District's land is significantly below the headwaters with large tracts adjacent to the reservoirs. The District must receive permission to access and collect data from land owners prior to conducting field work. The process to request and be granted access takes a substantial amount of planning and time. Fortunately, the vast majority of private and public land owners respond positively, allowing District access to conduct the Project D5 assessments.



# Project D6

## Creek Restoration and Stabilization

This project will use geomorphic data to design and construct projects to increase the stability of eroding creek banks and help restore the natural functions of stream channels. Possible work may include the removal of Comer Debris Basin on Calabazas Creek in Saratoga, and activities to reduce and prevent incision and promote sediment balance in Stevens and Uvas creeks.



Rendering of the Hale Creek pilot project's natural channel design.

### ON TARGET

#### Project D6 FY18 Highlights

- For the Hale Creek Enhancement Pilot Project, began working on the 90% design plans and specifications
- Developed a draft report to identify a list of potential projects for the remaining 2 projects to meet this KPI

### Benefits

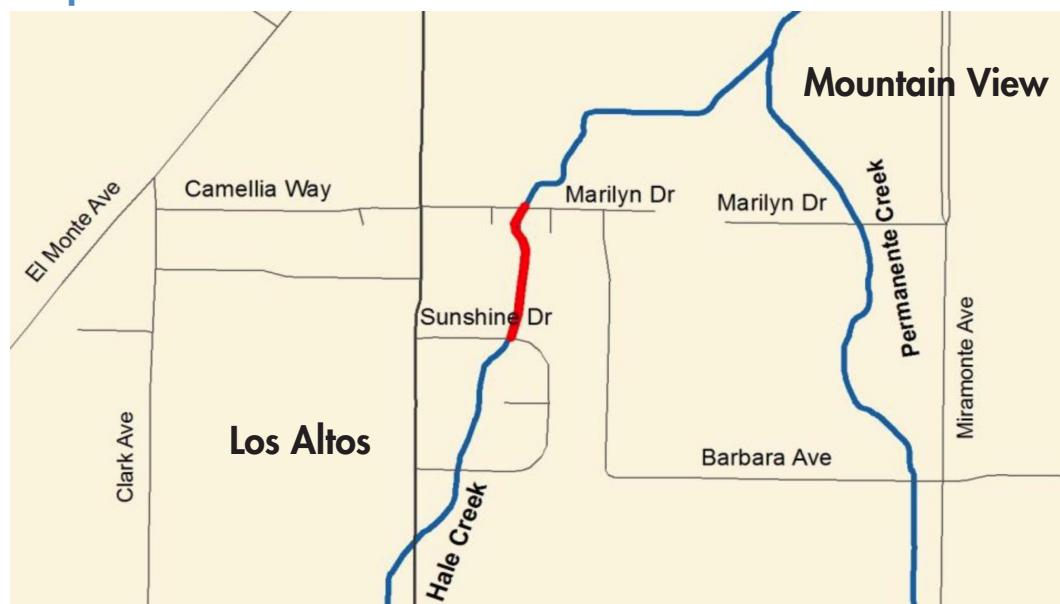
- Uses scientific principles to restore sediment balance and reduce erosion, instability and sedimentation in creeks
- Helps restore stream functions and improves recharge capacity of channels by decreasing sedimentation
- Protects roads from damage caused by eroding channel banks
- Reduces annual maintenance cost for sediment removal

### Key Performance Indicator (15-year Program)

- Construct 3 geomorphic designed projects to restore stability and stream function by preventing incision and promoting sediment balance throughout the watershed.

**Geographic Area of Benefit:** Countywide

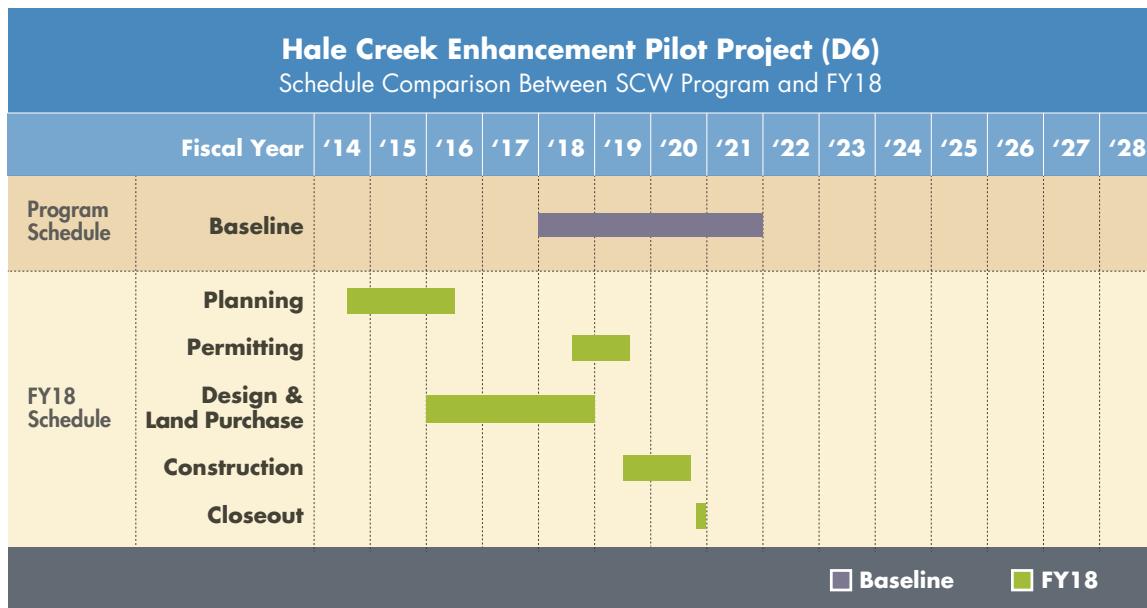
### Project Location



#### Legend

- Hale Creek Project Location

## Schedule



## Status History

Fiscal Year	Status
FY 14	<b>SCHEDULED TO START</b>
FY 15	<b>SCHEDULED TO START</b>
FY 16	<b>ON TARGET</b>
FY 17	<b>ON TARGET</b>

**Status for FY18:** On Target

### Progress on KPI #1:

The first of the geomorphic designed projects is the Hale Creek Enhancement Pilot Project, which includes restoration and stabilization of a 650-foot section of concrete-lined channel on Hale Creek, between Marilyn Drive and North Sunshine Drive on the border of Mountain View and Los Altos. In coordination with the San Francisco Bay Regional Water Quality Control Board (RWQCB), this project has been prioritized and selected for a pilot study to restore geomorphic creek features in a confined urbanized setting. In FY18, the District began working on the 90% plans and specifications as part of the design process. For detailed information about the geomorphology and project design, view the Hale Creek Enhancement Pilot Project planning report online at [https://www.valleywater.org/sites/default/files/Hale\\_Creek\\_Planning\\_Memo\\_022516LN.pdf](https://www.valleywater.org/sites/default/files/Hale_Creek_Planning_Memo_022516LN.pdf).

- At the end of FY18, a draft memo was developed to identify a list of potential projects to meet this KPI. The list will be reviewed and refined in FY19.

## Financial Information

In FY18, the Hale Creek Enhancement Pilot Project expended 23% of its annual budget. The under expenditure is a result of District staff resources being shared with the Permanente Creek Flood Protection Project for support during their construction phase. Work on the Hale Creek Enhancement Pilot Project will continue as resources are available. The construction of the project is scheduled for Summer 2019.

The original Safe, Clean Water Program funding level for Project D6 was presented in 2012 dollars at \$12.8 million; however, this amount is subject to inflation and the adjusted 15-year plan is \$16.7 million. The Program has been designed to collect sufficient revenues to account for project cost increases due to inflation.

Financial Summary (\$ Thousands)						
Fiscal Year 2017-2018				15-year Program		
Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
	Actual	Encumbrance	Total			
\$1,595	\$363	\$0	\$363	23%	\$16,719	6%

## Opportunities and Challenges

### Confidence levels

#### *Hale Creek Enhancement Pilot Project*

*Schedule:* Moderate confidence

This section of Hale Creek is bordered by 7 private residential properties and a church parking lot. The ability to resolve potential encroachments and obtain the necessary temporary easements for construction will be critical for project success. The District has conducted outreach to the project neighbors and continues to work with them as the project progresses.

*Funding:* High confidence

Project funding through FY19 has been secured through the Safe, Clean Water Program.

*Permits:* High confidence

Since the District is coordinating with the San Francisco Bay RWQCB on this project, permit acquisition is expected to be a smooth process for this stream restoration project.

*Jurisdictional Complexity: Moderate confidence*

This project is on the border of Mountain View and Los Altos, and both cities have been supportive of the project. The work is being done on existing District right of way and easements, and additional temporary construction easements will be required to build the project.

See Appendix D: *Capital Projects Confidence Levels* for a list of confidence levels for each project by outside agency for funding, regulatory permitting, cities, counties and other agencies.

# Project D7

## Partnerships for the Conservation of Habitat Lands

Funding from this project helps the community acquire important habitat land to preserve local ecosystems. The project supports implementation of the Valley Habitat Plan, a multi-agency agreement that pools mitigation dollars to purchase large areas of habitat land for conservation.

### Benefits

- Fulfills a portion of the District's acre allocation to the Valley Habitat Plan
- Protects, enhances and restores natural resources in Santa Clara County
- Contributes to the recovery of special status species
- Coordinates regional mitigation projects to create larger, less fragmented conservation lands that are more beneficial for wildlife and the environment
- Provides for endangered species and wetlands mitigation for future water supply and flood protection projects

### Key Performance Indicator (15-year Program)

1. Provide up to \$8 million for the acquisition of property for the conservation of habitat lands.

### Geographic Area of Benefit:

Countywide

### Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ON TARGET

### Status for FY18:

On Target

#### Progress on KPI #1:

- The draft Criteria for the Allocation of Partnership Funding for the Conservation of Habitat Lands for Project D7 were presented to the Board of Directors at the July 11, 2017, board meeting. The Board authorized the Chief Executive Officer to negotiate a partnership agreement with the Valley Habitat Agency (VHA) to support the acquisition and management of preserve lands to support water supply strategies in the District's 2017 Water Supply Master Plan. A draft agreement is scheduled for Board consideration in early FY19; an approval from the board will support allocation of funding.



Coyote Ceanothus Plant.

ON TARGET

### Project D7 FY18 Highlights

- Presented the draft criteria to determine suitable partnerships to the Board and received approval to negotiate a partnership agreement with the VHA to support the acquisition and management of preserve lands to support water supply strategies in the District's 2017 Water Supply Master Plan
- Developed objectives for the allocation of funding for land acquisition to support the purchase of reserve areas

- The Valley Habitat Plan has provided permitting for over 40 District projects, including dam, pipeline, and recharge facility maintenance activities and has streamlined permit acquisition by several months.
- The District has developed objectives for the allocation of funding for land acquisition to support the purchase of reserve areas.

## Financial Information

This project has been working with partner agencies to establish criteria to identify partnerships. Safe, Clean Water funds were not budgeted or expended in FY18.

## Opportunities and Challenges

### Valley Habitat Plan

The Valley Habitat Plan provides 50-year permits, issued in July 2013, for incidental take of endangered species to the following 'co-permittees', the District, Santa Clara County, and the cities of San José, Gilroy, and Morgan Hill, for public and private projects.

The Habitat Plan sets fees to compensate for impacts to species resulting from permitted projects. The funds are used by the VHA to acquire preserve areas which are managed to meet the Habitat Plan conservation strategy developed to meet the requirements specified by the federal Endangered Species Act (ESA), the Natural Communities Conservation Plan per the California Natural Conservation Planning Act (NCCP) and the California Endangered Species Act (CESA).

The VHA was established in May 2013, to implement the Habitat Plan under a Joint Powers Authority between Santa Clara County and the cities of San José, Gilroy, Morgan Hill, and the District.

To fulfill plan requirements, the VHA has been evaluating lands for acquisition as preserve areas, and is looking to find partners. The Anderson Dam Seismic Retrofit is a high priority project that is covered by the Habitat Permit. When the retrofit was evaluated for anticipated impacts, a key issue was the presence of the federally-listed endangered Coyote Ceanothus, a white-flowered shrub that is only found in three locations in Santa Clara County. The largest population of Coyote Ceanothus grows at Anderson Reservoir and will be impacted by the removal of the dam which will result in removal of a large population of the plants growing on and near the dam. As a result, the Habitat Permit requires that a new population of plants be created, or protected through a direct purchase of land or through a conservation easement. The criteria for funding partnerships with the VHA are based on this and other elements in the Valley Habitat Plan.

### Process development

The District developed draft criteria to allocate funds for land acquisition/partnerships and benefits identified in this project. The partnership funding selection process will be approved in early FY19 for funding recommendations within the fiscal year. The draft criteria was presented to the Board at the July 11, 2017, board meeting and is posted on the District website (<https://scvwd.legistar.com/LegislationDetail.aspx?ID=3096687&GUID=C9FA8867-2F26-4588-88D2-5720E7A1EDB4&FullText=1#.WzWZulqnxFE.email>).

# Project D8

## South Bay Salt Ponds Restoration Partnership

This project reuses local sediment from streams flowing into San Francisco Bay to create and rehabilitate habitat in the South Bay Salt Ponds Restoration. The District reuses sediment that has to be removed from streams to maintain their capacity to carry floodwaters. In partnership with the U.S. Fish and Wildlife Service (FWS), clean sediment is applied to appropriate locations to improve the success of the South Bay Salt Ponds Restoration effort.

### Benefits

- Accelerates progress of an important tidal wetland restoration project
- Reduces disposal costs for sediment that has been removed from local channels to maintain flood carrying capacity
- Increases space availability in local landfills

### Key Performance Indicators (15-year Program)

1. Establish agreement with FWS to reuse sediment at locations to improve the success of Salt Pond restoration activities.
2. Construct site improvements up to \$4 million to allow for transportation and placement of future sediment.

### Geographic Area of Benefit:

Countywide

### Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ADJUSTED

### Status for FY18:

On Target

**Progress on KPI #1:** (Completed in FY14)

### Progress on KPI #2:

- No site improvements were needed to transport and place sediment in FY18; however, in February 2018, the Stream Maintenance Program (SMP) crew added 2,800 cubic yards of the soil from the existing stockpile to the 10:1 slope at Pond A8 to address the landfill's concern over localized erosion of the slope.



Levee slope repair at Pond A8.

**ON TARGET**

### Project D8 FY18 Highlights

- No site improvements were needed to transport and place sediment
- Added 2,800 cubic yards of soil to Pond A8 to address the localized erosion of the levee slope

## Financial Information

In FY18, the project was under expended at 12% of its annual budget. Labor hours were charged to manage the project, however, no site improvements were needed in FY18 to transport sediment.

Financial Summary (\$ Thousands)						
Fiscal Year 2017-2018				15-year Program		
Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
	Actual	Encumbrance	Total			
\$315	\$38	\$0	\$38	12%	\$4,415	6%

## Opportunities and Challenges

### Coordination with Project E1.2: Sediment Removal for Capacity

To the extent possible, the District coordinates its sediment removal activities, funded in part by Sub-Project E1.2, with Project D8: South Bay Salt Ponds Restoration Partnership. More specifically, removed sediment that meets specific re-use criteria is delivered to the U.S. Fish and Wildlife Service (USFWS)-owned Pond A8 to provide suitable substrate (e.g. dirt, gravel, sand, etc.) on which marsh vegetation can grow. In FY18, Pond A8 was not available for sediment placement as USFWS continued to secure the required permits. The District instead delivered removed sediment to appropriate landfills. The District continues to coordinate with USFWS to maximize opportunities for future sediment placement at Pond A8.

### Habitat improvement

This project provides an important opportunity to assist with the South Bay Salt Pond Restoration Program. The sediment is being used to construct a broad, gentle slope that will increase marshland acreage that absorbs energy during storm surges, while providing habitat for many wetland species. After the slope is constructed, the District will partner with San Francisco Bay Bird Observatory to revegetate the site with diverse, native species.

### Erosion protection

Erosion resulting from wind induced wave action has occurred along the toe of the landfill located at the southwest corner of Pond A8, which is owned by FWS. However, the erosion was on an adjacent property that the landfill is located on. In FY17 the Coastal Conservancy (the agency that oversees the management of the South Bay Salt Pond Restoration Program), the FWS and the District worked together with the landfill owner's consultant, Crawford Consulting, to develop and implement a program to repair the toe of the landfill. It will be important to continue to monitor the site to ensure the erosion pattern is addressed if it repeats.

### New site development

In partnership with USFWS, the District will continue to explore opportunities in developing new access paths to beneficial locations in other ponds.



**Priority E:**  
Provide flood protection to homes,  
businesses, schools and highways

Safe, Clean Water  
and Natural Flood Protection

# Priority E

## Provide Flood Protection to Homes, Businesses, Schools and Highways

Flood protection measures under Priority E include capital construction projects, studies of flood prone areas, maintenance of existing flood protection channels and improvements to emergency planning for flood response.

Flood protection capital projects are prioritized to protect the largest number of people, homes and businesses, as well as safeguard the highways, streets, public transportation and business centers that people depend on for their livelihoods. At every opportunity, the District takes a multi-benefit approach to flood protection projects, which includes incorporating water quality, water supply, environmental stewardship, and recreational enhancement benefits.

All the construction projects under Priority E are undertaken in partnership with the federal government, and will require federal funding in addition to local funding to complete the preferred scope. Should federal funding become scarce, a reduced scope would be implemented, as described in the individual project summaries.

Whenever possible, the District also leverages funds from the state, local municipalities and other stakeholders.

**Project E1:** Vegetation Control and Sediment Removal for Flood Protection

**Project E2:** Emergency Response Planning

**Project E3:** Flood Risk Reduction Studies

**Project E4:** Upper Penitencia Creek Flood Protection  
Coyote Creek to Dorel Drive – San José

**Project E5:** San Francisquito Creek Flood Protection  
San Francisco Bay to Middlefield Road – Palo Alto

**Project E6:** Upper Llagas Creek Flood Protection  
Buena Vista Avenue to Wright Avenue – Morgan Hill,  
San Martin, Gilroy

**Project E7:** San Francisco Bay Shoreline Protection  
Milpitas, Mountain View, Palo Alto, San José,  
Santa Clara and Sunnyvale

**Project E8:** Upper Guadalupe River Flood Protection  
Highway 280 to Blossom Hill Road – San José



Vegetation control for capacity on Golf Creek.

### ON TARGET

#### Project E1 FY18 Highlights

- Maintained 92.1% of improved channels at design capacity
- Completed 470 acres of in-stream vegetation management on 168 miles of streams countywide
- Completed 12 sediment removal projects, removing 34,714 cubic yards of sediment to maintain design capacity
- Completed 3,476 acres of upland vegetation management

## Project E1

### Vegetation Control and Sediment Removal for Flood Protection

This project supports the District's ongoing vegetation control and sediment removal activities that reduce flood risk by maintaining design flow conveyance capacity of flood protection projects. These activities also provide access for maintenance personnel and equipment. The project includes: controlling in-stream vegetation growth, removing sediment at appropriate intervals, removing trees, and performing weed abatement and pruning to provide maintenance access and establish firebreaks. Before carrying out maintenance activities, District personnel perform biological pre-construction surveys to minimize environmental impacts. Allocations for Project E1 also helps fund future maintenance of flood protection projects completed under the Safe, Clean Water program.

This project is comprised of 4 sub-projects that support the District's ongoing vegetation control and sediment removal activities. These sub-projects are:

- E1.1 Vegetation Control for Capacity
- E1.2 Sediment Removal for Capacity
- E1.3 Maintenance of Newly Improved Creeks
- E1.4 Vegetation Management for Access

### Benefits

- Ensures that existing flood protection projects continue to provide maximum flood protection
- Provides safe access for maintenance of creek channels
- Reduces fire risk along creeks and maintains compliance with fire codes
- Improves water quality

### Key Performance Indicators (15-year Program)

1. Maintain 90% of improved channels at design capacity.
2. Provide vegetation management for 6,120 acres along levee and maintenance roads.

### Geographic Area of Benefit: Countywide

## Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ON TARGET

**Status for FY18:** On Target

### Progress on KPI #1:

- In FY18, 92.1% of improved channels were maintained at design capacity. Improved channels are those channels where the District has fee or easement land rights and which have been modified for flood protection purposes. This percentage is based upon identification of sediment and vegetation that compromise the flow conveyance capacity of channels. This identification occurs through routine maintenance inspections, following operations and maintenance manuals, and review of as-built plans and specifications.

Updated maintenance guidelines, including levels of service, continue to be developed to provide improved thresholds for sediment removal and vegetation management. These updated guidelines are on track to be completed by 2023 and will better inform the inspection and maintenance process for the District's flood protection assets.

#### E1.1 Vegetation Control for Capacity

Completed 470 acres of in-stream vegetation management to reduce flood risk on 168 miles of streams throughout the county using an integrated combination of mechanical, hand labor and herbicide methods (Graph E1.1).

#### E1.2 Sediment Removal for Capacity

Completed 12 sediment removal projects, removing 34,714 cubic yards (CY) of sediment to maintain design capacity (Graph E1.2). The Safe, Clean Water Program funds 14% of this work. Below is a table showing the quantities of sediment removed from each watershed/creek:

Watershed	Creek	Sediments removed (CY)
Lower Peninsula	Stevens Creek	700
West Valley	Calabazas Creek	15,628
Guadalupe	Ross Creek (3 projects)	132
Coyote	Thompson Creek	6,667
Coyote	Berryessa Creek	976
Coyote	Lower Silver Creek (4 projects)	8,954
Pajaro	Jones Creek	1,657
<b>TOTAL:</b>		<b>34,714</b>

### E1.3 Maintenance of Newly Improved Creeks

Sub-Project E1.3 Maintenance of Newly Improved Creeks has \$19.1 million identified in the original 15-year plan, as shown in the financial summary, to ensure funding is available for future maintenance work. This item is unique because the \$19.1 million is a placeholder, set aside in anticipation of future maintenance work that will be required. As Safe, Clean Water flood protection capital improvement projects are completed and become “newly improved creeks,” these projects move into the maintenance phase. As maintenance work is identified for these newly improved creeks, the District will allocate the placeholder dollars to the appropriate maintenance activities. In general, vegetation management and sediment removal are the primary activities that comprise maintenance of newly improved creeks for flood protection.

#### **Progress on KPI #2:**

### E1.4 Vegetation Management for Access

- Completed 3,476 acres of upland vegetation management to maintain access and provide fire protection using an integrated combination of mechanical, hand labor and herbicide methods. Of this total acreage, 15% of the completed work was funded by Safe, Clean Water for a total of 521.4 acres towards the 15-year goal of 6,120 acres. (Graph E1.4)
- During the first 5 years of the Safe, Clean Water Program, the District managed a cumulative total of 2,307 acres of vegetation, compared to a 5-year target of 2,040 acres.

## Financial Information

### E1.1 Vegetation Control for Capacity

In FY18, this project expended 47% of its annual budget. The under expenditure occurred because staff resources were reallocated to focus on invasive plant removal on Coyote Creek per board direction, resulting in fewer labor and contractor hours being charged than were budgeted.

Financial Summary (\$ Thousands)						
E1.1. Vegetation Control for Capacity						
Adjusted Budget	Fiscal Year 2017-2018			% of Budget Spent	15-year Program	
	Actual	Encumbrance	Total		Adjusted 15-year Plan	% of Plan Spent
\$1,908	\$898	\$0	\$898	47%	\$24,571	21%

## E1.2 Sediment Removal for Capacity

The project spent 76% of the annual budget for sediment removal at 12 sites in FY18. The FY18 budget was originally set to match the level of service that was delivered in FY17; however, this level of service was found to be unsustainable due to the demand for staff resources on other projects in FY18. The District anticipates that it will continue to be able to meet KPI #1 throughout the duration of the Safe, Clean Water Program.

Financial Summary (\$ Thousands)						
E1.2. Sediment Removal for Capacity						
Adjusted Budget	Fiscal Year 2017-2018			15-year Program		
	Budgetary Actual	% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent		
\$864	\$658	\$1	\$659	76%	\$9,848	26%

<sup>1</sup>The total amount is different than the sum of the actual and encumbrance amounts due to rounding.

## E1.3 Maintenance of Newly Improved Creeks

N/A – “Newly improved creeks” are those creeks for which either a Safe, Clean Water flood protection capital improvement project or a Clean, Safe Creeks (CSC) flood protection capital improvement project have been completed and turned over to the District’s Watersheds Operations and Maintenance Division (Watersheds O&M). One CSC flood protection capital improvement project – Calabazas Creek Flood Protection, Miller Avenue to Wardell Road – has been completed and turned over to Watersheds O&M; however, as no maintenance work was conducted on newly improved creeks in FY18, no expenditures have been made from the \$19.1 million identified in the original 15-year plan. These funds will remain set aside for this sub-project.

## E1.4 Vegetation Management for Access

The project was over expended at 139% of annual budget. The over expenditure occurred because the extremely wet winter led to extreme weed growth and weed abatement activities had to be significantly increased to meet fire code compliance countywide.

Financial Summary (\$ Thousands)						
E1.4. Vegetation Management for Access						
Adjusted Budget	Fiscal Year 2017-2018			15-year Program		
	Budgetary Actual	% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent		
\$371	\$513	\$4	\$517	139%	\$6,156	33%

## Opportunities and Challenges

### Coordination with Project D8: South Bay Salt Ponds Restoration Partnership

To the extent possible, the District coordinates its sediment removal activities, funded in part by Sub-Project E1.2, with Project D8: South Bay Salt Ponds Restoration Partnership. More specifically, removed sediment that meets specific re-use criteria is delivered to the U.S. Fish and Wildlife Service (USFWS)-owned Pond A8 to provide suitable substrate (e.g. dirt, gravel, sand, etc.) on which marsh vegetation can grow. In FY18, Pond A8 was not available for sediment placement as USFWS continues to secure the required permits. The District instead delivered removed sediment to appropriate landfills. The District continues to coordinate with USFWS to maximize opportunities for future sediment placement at Pond A8.

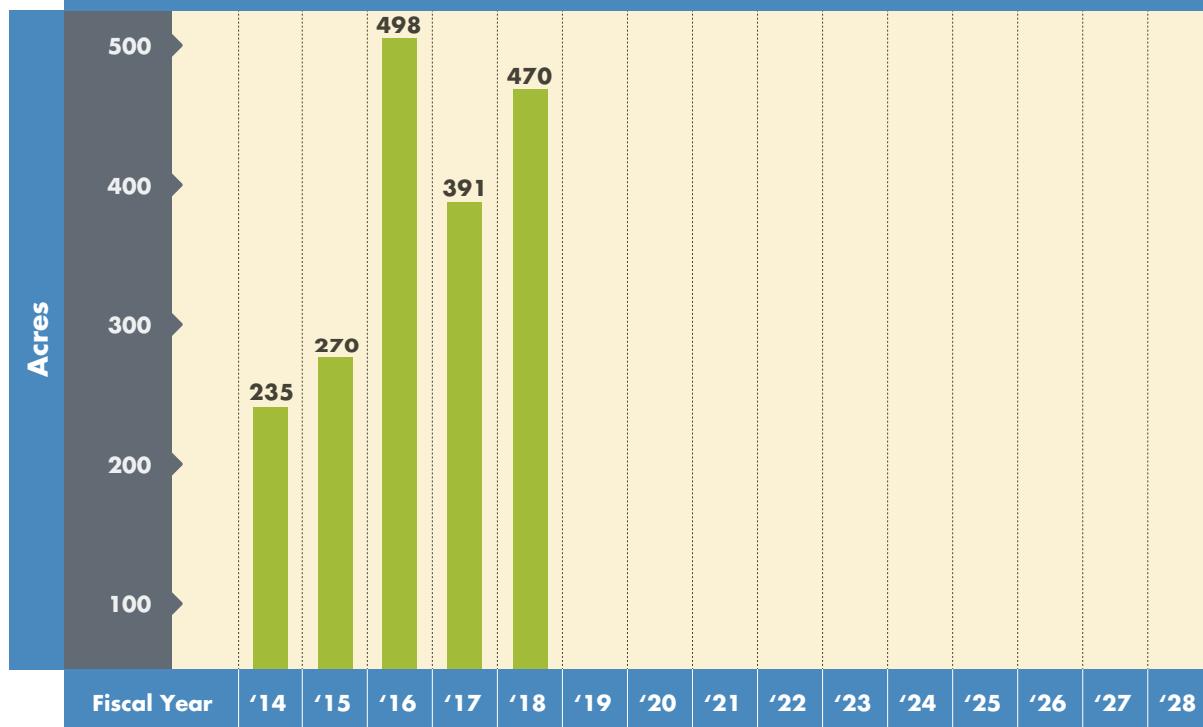
### Restoring flow conveyance capacity

Sediment removal activities were performed at 12 sites along 7 creeks during the FY18 summer SMP season (generally, June 15 through October 15, 2017). Nearly 35,000 cubic yards of sediment were removed to restore flood conveyance capacity. Sediment removal helped keep these reaches of creek flowing adequately during the following winter season to minimize flooding.

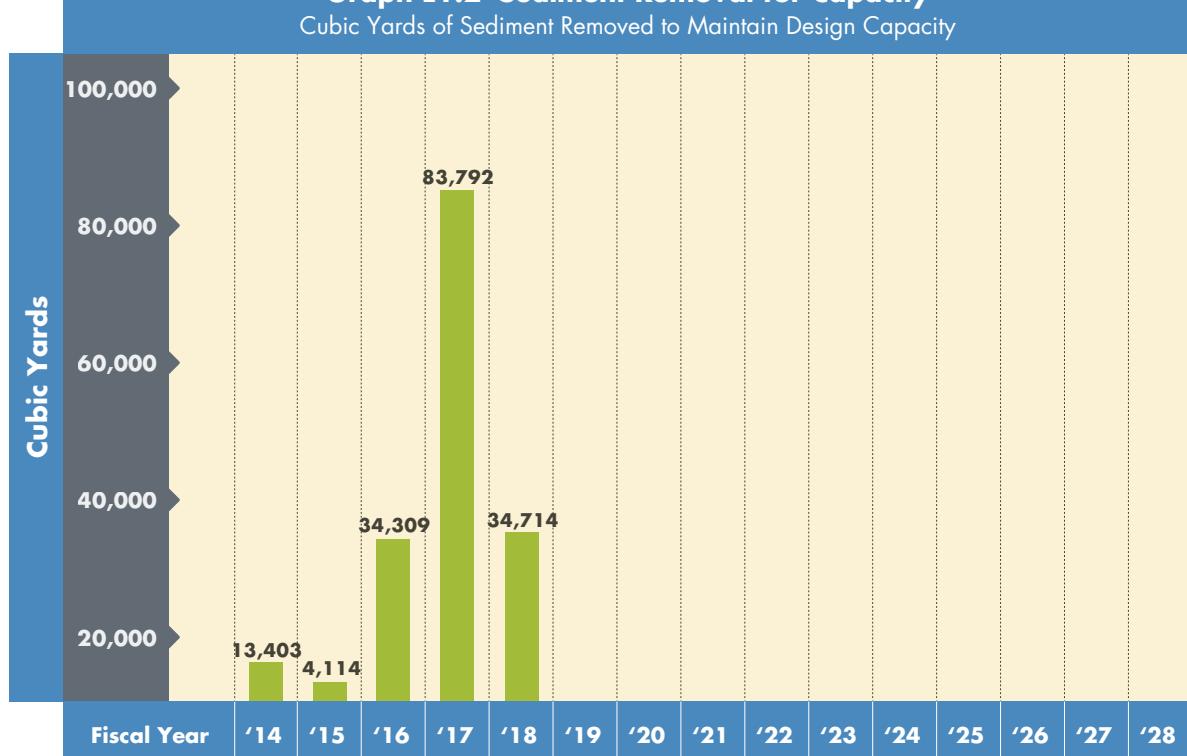
### Regulatory agencies' permit approvals

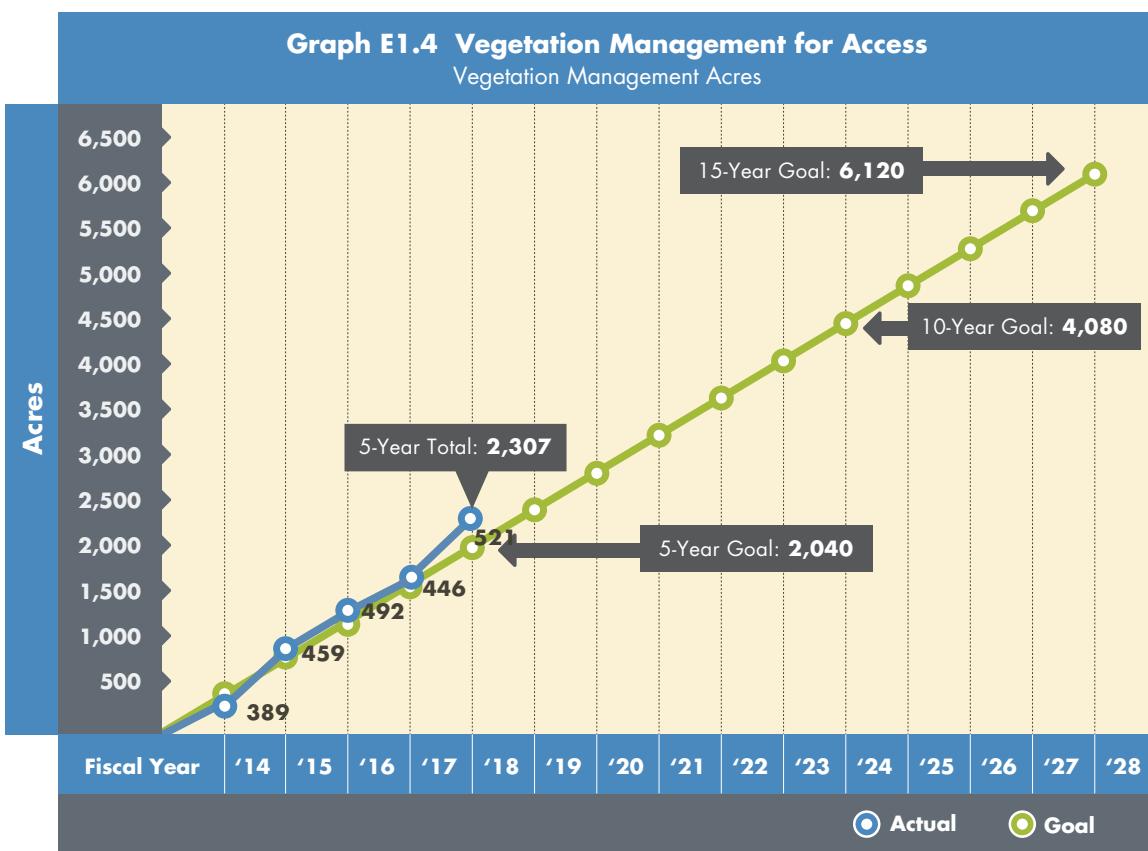
Obtaining regulatory agencies' permit approvals continues to be a challenge for the District, affecting both the ability and cost to perform routine stream maintenance work. The District continues to coordinate with regulatory agencies on mutually acceptable mitigation to offset impacts associated with sediment removal, vegetation management, and other stream maintenance activities.

**Graph E1.1 Vegetation Control for Capacity**  
Acres of In-Stream Vegetation Management Removed to Maintain Design Capacity



**Graph E1.2 Sediment Removal for Capacity**  
Cubic Yards of Sediment Removed to Maintain Design Capacity





# Project E2

## Emergency Response Planning

This project allows the District to work with local municipalities to clearly identify roles and responsibilities for floodplain management and flood emergency management and increase awareness of the District's flood response procedures. The project supports countywide emergency response and preparedness activities, develops communication procedures and disseminates web-based flood forecasting information developed under Project C2, Emergency Response Upgrades. Collaborators also develop formal, site-specific flood response procedures or action plans (flood-fighting strategies), and coordinate outreach throughout the county so that the public receives uniform flood warning messages.

This project is comprised of 2 sub-projects that support the District's ongoing emergency response planning. Refer to Appendix B in the 5-Year Implementation Plan for project descriptions. These sub-projects are:

E2.1 Coordination with Local Municipalities on Flood Communication

E2.2 Flood-Fighting Action Plans

### Benefits

- Reduces flood damage
- Provides effective coordinated response to storm-related emergencies
- Improves community awareness about flood risks

### Key Performance Indicators (15-year Program)

1. Coordinate with agencies to incorporate District-endorsed flood emergency procedures into their Emergency Operations Center plans.
2. Complete 5 flood-fighting action plans (1 per major watershed).

**Geographic Area of Benefit:** Countywide

### Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ON TARGET



*Emergency response planning meeting with the District and City of San José.*

### ON TARGET

#### Project E2 FY18 Highlights

- Continued engagement with the emergency management community by attending monthly meetings and hosting the annual Winter Preparedness workshop for local agencies
- Completed a Joint Emergency Action Multi-Agency Coordination Plan for Coyote Creek in partnership with the City of San José
- Began a Joint Emergency Action Plan for Guadalupe River, Ross and Canoas Creek

## Status for FY18: On Target

### Progress on KPI #1:

#### E2.1 Coordination with Local Municipalities on Flood Communication

City of San José – The District worked in partnership with the City of San José to develop a Joint Emergency Action Multi-Agency Coordination Plan from April to November 2017. The Action Plan development included monthly management meetings and 6 task teams. It guides both agencies on decision-making, coordination and communications. Additionally, both agencies hosted a series of winter resource fairs for targeted neighborhoods where the public learned about: sandbagging via demonstrations; the District's new web page (<https://gis.valleywater.org/SCVWDFloodWatch/>) that provides information on water levels for Anderson Reservoir and the opportunity for the public to sign up for AlertSCC. AlertSCC is a mass notification system that is used to send emergency information and instructions to anyone who lives or works in Santa Clara County.

- Local agencies in Santa Clara County – In October 2017, the District hosted its annual Winter Preparedness workshop where local agencies attend to see presentations on: Joint District/City San José Emergency Action Plan; District Office of Emergency Services (OES) activities; flood forecasting and warning system; District Reservoir Operations; District Watersheds Field Operations; sandbag operations and National Weather Service weather outlook.
- Emergency Managers Association – The District OES continues its engagement with the emergency management community by attending the monthly meetings of the Emergency Managers Association (EMA). These meetings cover such topics as: storm response, operational coordination and cost recovery process, and mitigation to name a few. EMA attendees include representatives from agencies such as: Santa Clara County OES, Office of Education, City of Gilroy, Morgan Hill, healthcare institutions and private sector businesses.

### Progress on KPI #2:

#### E2.2 Flood-Fighting Action Plans

In FY18, the District completed 1 flood-fighting action plan and began more. To date, a total of 2 flood-fighting action plans in 2 of the major watersheds have been completed. This project met the targets identified in the 5-Year Implementation Plan for FY14-18.

- Coyote Creek Joint Emergency Action Multi-Agency Coordination Plan (Guadalupe watershed) – In the wake of the February 2017 Coyote Creek flood, the City of San José and the District formed a joint effort authored by the San José City Council and District Board of Directors. In November 2017, a Joint Emergency Action Multi-Agency Coordination Plan (Action Plan) was approved by the San José City Council and the District Board of Directors. The Action Plan outlines flood strategies and actions for both agencies to coordinate, and guides each agency with decision-making, coordination and communications for the 4 condition levels defined: Preparedness, Monitoring, Watch and Warning.
- Guadalupe River, Ross and Canoas Creek Joint Emergency Action Plan (Guadalupe watershed) – In late

FY18, the District hired RGS consulting to address flood emergency response for the Guadalupe River and 2 tributaries, Ross and Canoas Creek. The Canoas Creek draft will be updated to reflect the lessons from the FY17 Coyote Creek flooding. Subsequently, the Ross Creek procedure will also benefit from the lessons learned. These procedures will be added as appendices to the Coyote Creek Joint Emergency Action Multi-Agency Coordination Plan.

- San Francisquito Creek Emergency Action Plan (Lower Peninsula watershed) – This flood-fighting action plan was completed in FY17 and the District continues to update it as needed. In May 2018, the District met with the City of Palo Alto to discuss the process for stakeholder input for the San Francisquito Creek Emergency Action Plan. In early FY19, the District expects to meet with the City of Palo Alto and the San Francisquito Creek Multi-Agency Coordination members to ensure the benefits of agency coordination is best reflected in what would be an updated District San Francisquito EAP.

## Financial Information

In FY18, 59% of the annual budget was expended. The under expenditure is due to the reallocation of staff resources to another unit. Staff resources have been reassigned to the project and the District remains on track to deliver the KPIs.

Financial Summary (\$ Thousands)						
Fiscal Year 2017-2018					15-year Program	
Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
	Actual	Encumbrance	Total			
\$416	\$172	\$75	\$247	59%	\$3,891	20%

## Opportunities and Challenges

### Coordination with Project C2: Emergency Response Upgrades

This flood forecasting products and data collected under Project C2: Emergency Response Upgrades is also being incorporated into the Project E2: Emergency Response Planning documents, when applicable, as a tool help inform decision makers. For example, technical mapping and flood-warning baselines produced under Project C2 will be used to update the San Francisquito Creek Flood Emergency Action Plan (EAP) and to complete the Guadalupe River Flood EAP, when fully developed. Project C2 focuses on the development of flood warning system infrastructure to assist flood responders by providing forecasted rainfall and stream flows and potential flooding information. Project E2 focuses on pre-event planning and collaboration with other agencies to develop flood response procedures that clarify roles and responsibilities before a flood event arises.

### Community Rating System scores

Project E2 offers an opportunity to meet certain Community Rating System (CRS) criteria and thereby potentially increase CRS scores throughout the county for those cities that participate in the CRS program. For example, if under the Project E2 program a Flood Warning & Response System were implemented and if EAPs were developed for the District's levees and dam programs, a higher CRS rating could be achieved.

Similarly, a focus on specific CRS guidelines in the development of EAPs through collaborating with municipalities may yield additional benefits. For example, CRS points could be gained for a flood warning and response system that includes flood threat recognition, emergency warning dissemination, flood response operations and critical facilities planning. Increasing CRS point scores can translate to reduced flood insurance rates within each participating community.

# Project E3

## Flood Risk Reduction Studies

This project develops engineering studies to understand the actual flood risk in high priority flood-prone areas and develops options for managing the flood risks.

Studies will focus on the following reaches:

- Alamitos Creek upstream of Almaden Lake in San José
- Rock Springs neighborhood along Coyote Creek in San José
- Calera Creek near Milpitas High School to Interstate 680 in Milpitas
- Tributaries to Lower Silver Creek (Ruby, Norwood, Quimby and Fowler creeks) in San José
- Ross Creek in San Jose, from Guadalupe River to Blossom Hill Road
- Adobe and Barron Creeks in Palo Alto, between Highway 101 and Middlefield Rd.

The study includes hydrology, hydraulics, geotechnical and remapping work of the floodplain areas. If appropriate, updated maps will be submitted to Federal Emergency Management Agency (FEMA) to provide a more accurate reflection of the floodplain.

## Flooding History and Project Background

In 1997, the Rock Springs neighborhood suffered severe flood damages to approximately 25 low-income apartment buildings. A subsequent study investigated the flooding problem and offered possible solutions.

Alamitos and Calera Creeks were modified with levees and floodwalls about 30 years ago, but their designs do not meet current FEMA guidelines which were published after the projects were built. Both the Alamitos and Calera neighborhoods are mapped as regulatory floodplains. In 2012, FEMA released new draft technical guidance for mapping floodplains behind levees; these new guidelines may significantly reduce the size of the regulatory floodplains for Alamitos and Calera Creeks, but a study is needed to qualify for updated regulatory mapping.

Every winter, thousands of households, schools and businesses in San José are susceptible to flood damage in the Lower Silver Creek watershed. While the District is improving the flood carrying capacity of Lower Silver Creek itself, the smaller tributaries continue to pose a flood risk. Project E3 would map and quantify these flood risks and identify possible solutions that may also provide environmental or recreational benefits.



High water marker on Alamitos Creek.

### ON TARGET

#### Project E3 FY18 Highlights

- Updated the hydraulic model for Coyote Creek with data collected from the February 21, 2017 storm event
- Identified an additional study for Ross Creek to be completed by FY22
- Completed a study on Adobe and Barron creeks, identifying alternatives for providing tidal flood protection
- For Alamitos Creek, updated the hydraulic model and 100-year floodplain map with data collected from the February 21, 2017 flood event, and completed parcel counts within the updated floodplain

## Benefits

- Provides more accurate mapping of areas at risk of flooding
- May add or remove parcels from the FEMA regulatory floodplain, based on updated mapping standards
- Information can be integrated into flood warning program to provide advance, real-time warnings of impending flood events
- Provides technical basis for developing future flood protection plans, and for potential funding partnerships

## Key Performance Indicators (15-year Program)

1. Complete engineering studies on 7 creek reaches to address 1% flood risk.
2. Update floodplain maps on a minimum of 2 creek reaches in accordance with new FEMA standards.

## Geographic Area of Benefit: Countywide

## Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ON TARGET

## Status for FY18: On Target

### Progress on KPI #1:

- In FY18, the 2-dimensional hydraulic model for Coyote Creek (including the Rock Springs area) was calibrated with flow data and high-water marks collected by both the District and the City of San José for the February 21, 2017 storm event. The calibrated model was run for different flow conditions to create a series of maps representing the potential floodplains (based on 2017 creek conditions) for different stages observed at the Madrone gage, at intervals of about 1 ft. The updated model will also be used as the basis for designing future flood protection elements for Coyote Creek.
- The work originally planned for the Rock Springs Neighborhood Feasibility Study as part of Project E3 was added to the Mid Coyote Creek Flood Protection Project when the Board approved an extension of the project boundary to include Rock Springs Neighborhood in 2017. This work is being replaced with additional studies on Adobe, Barron, and Ross Creeks.
- The District plans to complete the studies for the remaining reaches by FY22.

### Progress on KPI #2:

- The Alamitos Creek hydraulic model was calibrated with high water marks collected by the District for the February 21, 2017 storm event. The calibrated model was used to develop an updated 100-year floodplain map. The District is in the process of completing parcel counts within the updated floodplain and is planning to share the updated maps and results with the City of San José in FY19. The updated 100-year map will also be made available on the Project E3 website upon completion.

## Financial Information

In FY18, the project expenditures were on target at 98% of its annual budget.

Financial Summary (\$ Thousands)						
Fiscal Year 2017-2018					15-year Program	
Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
	Actual	Encumbrance	Total			
\$664	\$570	\$81	\$652	98%	\$9,374	36%

## Opportunities and Challenges

### Floodplain maps

The Alamitos Creek and Coyote Creek (Rock Springs neighborhood) studies presented an opportunity for the District to use new software (HEC-RAS 5.0) to generate state of the art, 2-dimensional floodplain maps. The maps are available to the public on the project's webpage: <https://www.valleywater.org/project-updates/creek-river-projects/flood-risk-reduction-studies>.

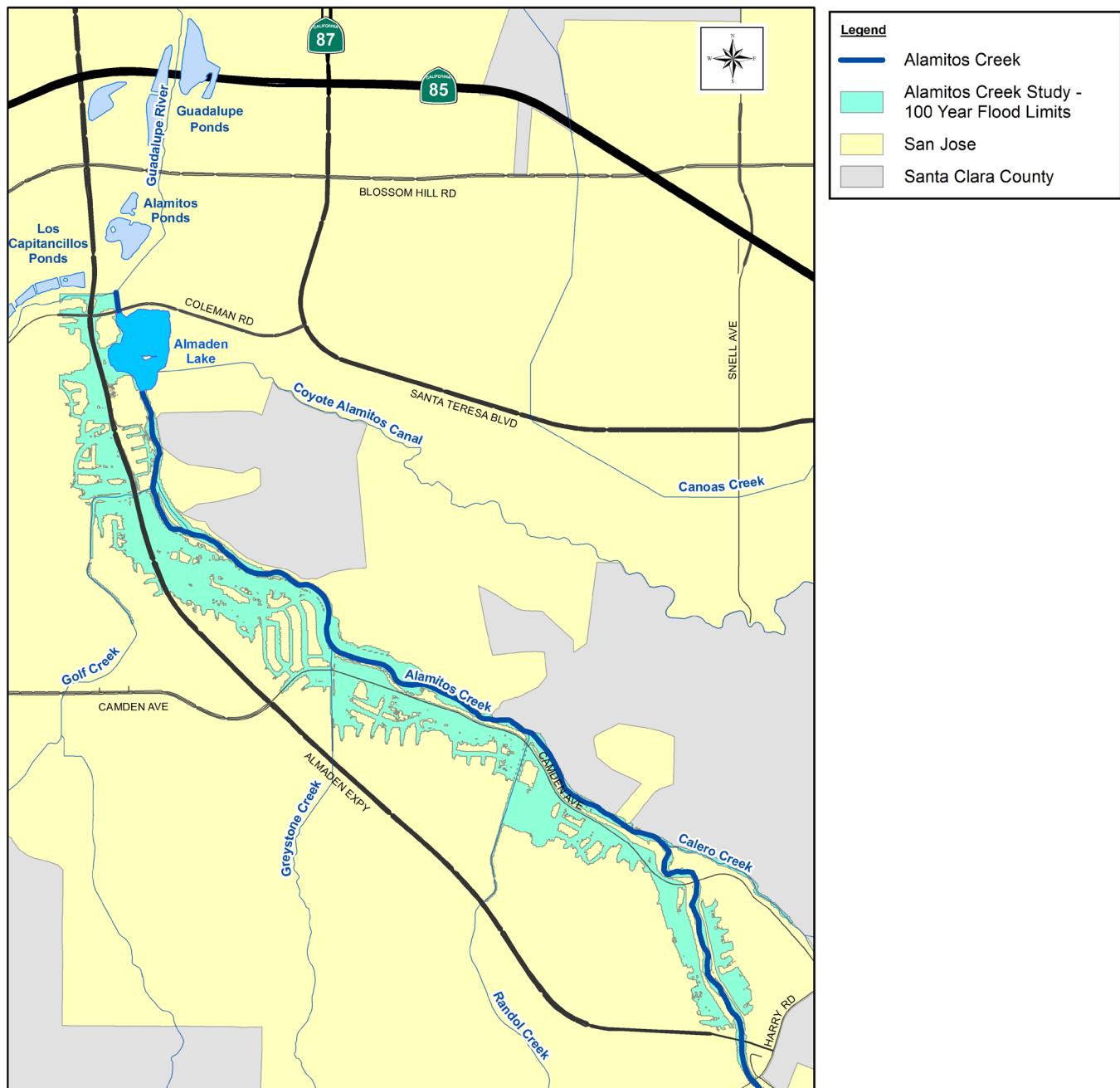
The series of maps of the Coyote Creek floodplain for various storm conditions have been folded into the Joint Emergency Action Plan for Coyote Creek and will be used in the District's emergency operations.

The updated floodplain maps for both creeks have been provided to the cities. Even if not used to modify the FEMA floodplain, which is used for setting insurance rates, the information is valuable as a planning tool for new development. The information can also be used to help homeowners decide whether to purchase flood insurance, especially if they are not mapped on the FEMA floodplain.

Figure 1 below shows a simplified version of the Coyote Creek (Rock Springs neighborhood) study map.



Figure 2 below shows a simplified version of the Alamitos Creek study map.



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# Project E4

## Upper Penitencia Creek Flood Protection Coyote Creek to Dorel Drive – San José

Preferred project: A federal-state-local partnership

This project continues a partnership with the U.S. Army Corps of Engineers (USACE) to plan, design and construct improvements along 4.2 miles of Upper Penitencia Creek from the confluence with Coyote Creek to Dorel Drive. Part of the project will protect the area around the Bay Area Rapid Transit's Berryessa station near King Road, which would otherwise be subject to flooding.

The natural creek channel will be preserved while adjacent existing open space and parkland will remain as recreational areas, only rarely taking the role as a temporary floodplain so that floodwaters do not enter surrounding neighborhoods and commercial areas. Proposed construction measures may include modified floodplains, levees, flood walls, bypass channels, and fish passage improvements. Existing District water supply facilities may also be modified to protect habitat and improve water supply reliability.

The \$41.9 million (\$48.9 million in inflated dollars) in local funding from Safe, Clean Water allows the District to move ahead with the planning, design and construction of the project.

### Flooding History and Project Background

Upper Penitencia is a major tributary of Coyote Creek, flowing westerly from Alum Rock Park through the residential neighborhoods of Berryessa and Alum Rock in San José. More than 5,000 homes, schools and businesses are located in this floodplain, including many high-tech and commercial industries supporting the greater Silicon Valley.

With the capacity to carry less than a 10-year event, Upper Penitencia Creek has spilled its banks at least 7 times since the District began preparing flood reports in 1967. Damaging flood events occurred in 1978, 1980, 1982, 1983, 1986, 1995, and 1998, impacting many homes, businesses and surface streets.

Potential damages from a 1% (or 100-year) flood event are estimated at \$455 million (in 2004 dollars, according to a USACE economic analysis), with average annual damages estimated at \$30.5 million for the full reach from the Coyote Creek confluence to Dorel Drive.

The preferred project would build on a 1981 tri-party agreement between the District, the City of San José, and Santa Clara County to preserve open land and provide flood protection along the Upper Penitencia Creek corridor. As a result



Upper Penitencia Creek along Commodore Park.

#### ON TARGET

#### Project E4 FY18 Highlights

- Continued work on the project's planning study, focusing on a multi-purpose project
- Continued development and verification of a hydraulic model of the floodplain using a state-of-the-art model
- Partnered with SFEI to develop a full range of alternatives with input from experts and project partners, and work on a Landscape Concepts Vision Report using the Flood Control 2.0 style

of the agreement, 78 acres have been permanently preserved as Penitencia Creek County Park and Penitencia Creek Trail. A 4-mile, intermittent trail follows Upper Penitencia Creek from 700-acre Alum Rock Regional Park to its confluence with Coyote Creek. In addition to much-needed flood protection, this project will help provide the opportunity for the City of San José and Santa Clara County to complete the long-planned trail and linear park.

## Benefits

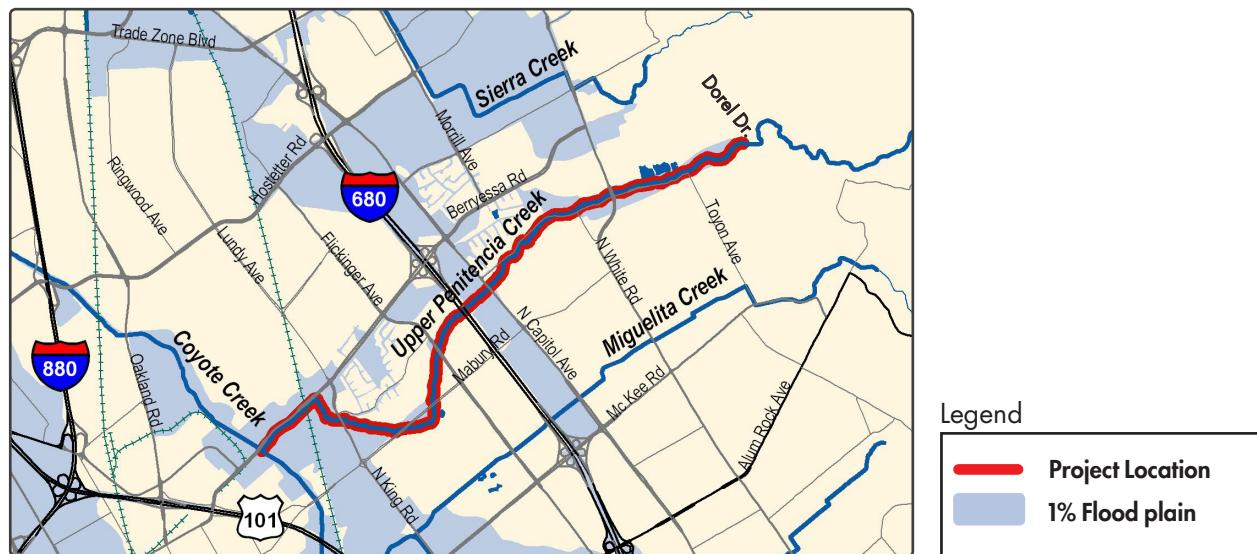
- Preferred project provides 1% flood protection to approximately 5,000 homes, schools and businesses. Locally funded-only project provides 1% flood protection to the proposed rapid transit station and areas downstream from King Road
- Reduces sedimentation and maintenance requirements
- Improves water quality in Coyote Creek
- Provides opportunities for recreation improvements consistent with the City of San José and Santa Clara County Park master plans

## Key Performance Indicators (15-year Program)

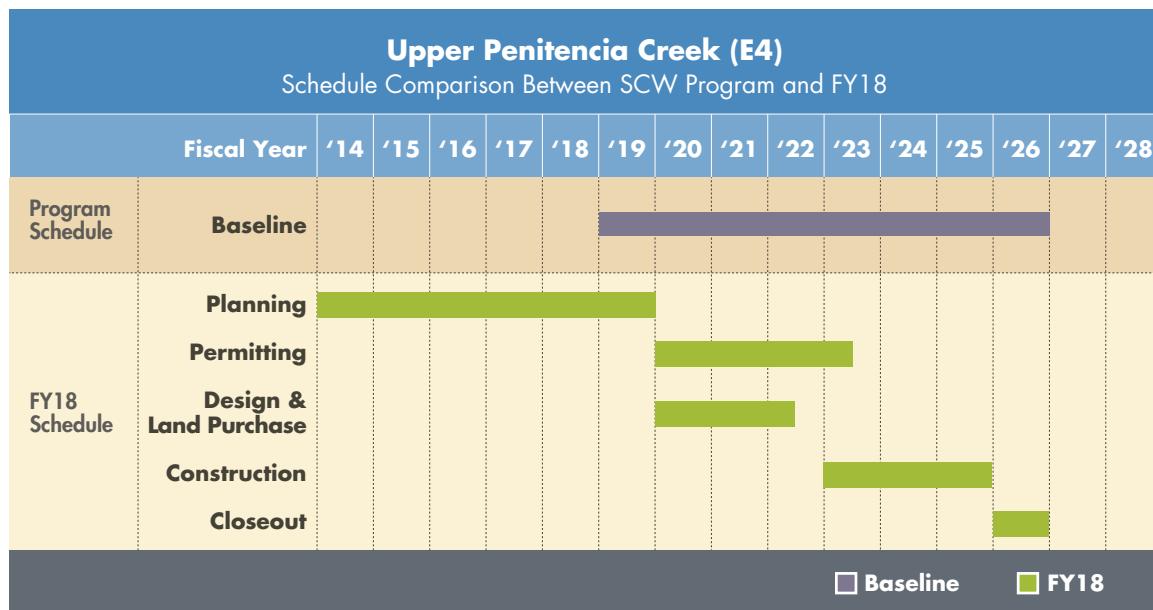
1. Preferred project with federal and local funding: Construct a flood protection project to provide 1% flood protection to 5,000 homes, businesses and public buildings.
2. With local funding only: Acquire all necessary rights-of-way and construct a 1% flood protection project from Coyote Creek confluence to King Road.

**Geographic Area of Benefit:** San José and Milpitas

## Project Location



## Schedule



## Status History

Fiscal Year	Status
FY 14	ADJUSTED
FY 15	ADJUSTED
FY 16	ADJUSTED
FY 17	ON TARGET

### Status for FY18: On Target

#### Progress on KPI #1 and #2 (combined):

- In FY18, the District continued work on the project's planning study, focusing on a multi-purpose project that would provide long-term benefits for flood protection, fish and wildlife, riparian vegetation, water supply, and recreation. Some of the highlights over the year included:
  - » Further development and verification of a hydraulic model of the floodplain using HEC-RAS, a state-of-the-art 2-D numerical model, to determine the flood problem under various flood frequency events.
  - » Partnered with the San Francisco Estuary Institute (SFEI) to develop a full range of alternatives in line with the Integrated Water Resources planning efforts (One Water) and to streamline the planning process for completion by the end of FY19.
  - » Continued to work with SFEI on a Landscape Concepts Vision Report using the Flood Control 2.0 style.

- » Continued to collect input on the updated landscape concepts from SFEI and the science HUB. Additionally, the District held a series of 3 charrettes, 2 with internal District experts and 1 with partners (the City of San José and the County of Santa Clara), to further develop landscape concepts.

The Capital Improvement Program (CIP) committee recommended to modify the Upper Penitencia Creek project to the planning phase only and reallocate the remaining funds to allow the District to complete flood risk reduction along 9 miles of Coyote Creek from Montague Expressway to Tully Road. However, the Board decided to take “no action” on the proposed modification to the Upper Penitencia Creek project and decided to reevaluate both projects after the planning study report for each project is completed or substantially advanced, which is expected in FY19.

## Financial Information

This project expended 0% of its Safe, Clean Water budget in FY18. The ongoing planning effort continues to be supported by the District’s Watershed and Stream Stewardship fund through FY18. In FY19, the project will begin using its Safe, Clean Water funds to complete the planning study.

## Opportunities and Challenges

### Water supply

There are a number of water supply facilities along the project reaches, including groundwater percolation ponds. Project alternatives should not reduce recharge operations in the watershed and should look for the opportunity to improve water supply functions.

### Ecosystem restoration

The natural corridor at Upper Penitencia Creek is considered to be among the best remaining habitat areas in the Santa Clara Valley between Coyote Creek and the Diablo Range. Habitat in Upper Penitencia Creek could support several special-status species, including steelhead trout, California red-legged frog, California tiger salamander and Western pond turtle. The upstream portion of the project area contains valuable and relatively undisturbed native California sycamore alluvial woodland.

### Recreation

There are several parks and open spaces along the creek, as well as the Penitencia Creek trail. These recreational features are well-used by the community, and there are opportunities for this project to work jointly with its partners to improve these resources.

## Inundation maps

In response to an Independent Monitoring Committee (IMC) recommendation, the inundation maps were added to the project webpage to show the approximately 9,000 parcels that will receive flood protection from this project (<https://www.valleywater.org/project-updates/creek-river-projects/upper-penitencia-creek-flood-protection>).

## Confidence levels

### *Schedule: Moderate confidence*

The project is on track to meet the Safe, Clean Water schedule. The District will complete a full watershed planning study by the end of FY19.

### *Funding: Moderate confidence*

In FY14-18, the District aggressively pursued federal funding for the project. The U.S. Army Corps of Engineers (USACE) scope of the project was limited to a single-purpose flood risk reduction project, while the community and environmental regulatory agencies advocated for a multi-purpose project. In support of a multi-purpose project, the District decided to move forward with a local funding only project aimed at meeting multiple beneficial goals including water quality and providing opportunities for recreation improvements and habitat restoration.

### *Permits: Moderate confidence*

The resource agencies have been brought in very early in the planning process, and will continue to be engaged during planning and design. This will help to shape a true watershed project with associated ecosystem restoration measures and facilitate the acquisition of regulatory permits for project construction.

### *Jurisdictional Complexity: Moderate confidence*

There are a variety of opinions among the resource agencies as to the most suitable features to incorporate into the project. The project is entirely within the City of San José. A tri-party agreement between the City of San José, Santa Clara County and the District to jointly use mutual resources along the creek for recreation, flood protection, and water supply purposes aligns the local jurisdictions well with the project.

See Appendix D: *Capital Projects Confidence Levels* for a list of confidence levels for each project by outside agency for funding, regulatory permitting, cities, counties and other agencies.

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Sheet pile installation work.

ADJUSTED

### Project E5 FY18 Highlights

- For the local-state funding only project for S.F. Bay to Highway 101, continued construction which is scheduled to be completed in FY19
- For the federal-state-local partnership for upstream of Highway 101, USACE allocated funding to complete the feasibility study
- For the local-state funding only project for upstream of Highway 101, continued to work on the 95% design document for channel constrictions upstream of Highway 101, continued work on the draft EIR, and resumed design for the Pope/Chaucer Street Bridge project

## Project E5

### San Francisquito Creek Flood Protection San Francisco Bay to Middlefield Road – Palo Alto

The project is sponsored by the San Francisquito Creek Joint Powers Authority (SFCJPA), of which the District is a member agency, in partnership with the U.S. Army Corps of Engineers (USACE). The project builds on the planning and design tasks initiated as part of the Clean, Safe Creeks plan.

#### Preferred project: A federal-state-local partnership

This project will complete construction of setback levees and floodwalls from San Francisco Bay to Highway 101 to provide 1% (or 100-year) flood protection and ecosystem benefits. Upstream of Highway 101 the project will provide 1% flood protection, ecosystem protection, and recreational benefits.

The work upstream of Highway 101 will remedy channel constrictions and modify bridges at Newell Road and Pope/Chaucer Street, and include; a combination of: modified bridges at University Avenue and Middlefield Road; upstream detention; under-ground bypass channels; and floodwalls.

#### Local-state-funding-only project:

The local-state-funding-only project will be the same as the preferred project downstream of Highway 101; but upstream of Highway 101, the project will remedy channel constrictions and modify bridges at Newell Road and Pope/Chaucer Street to allow the channel to contain flood waters equal to the channel's capacity of 7,000 cubic feet per second, approximately a 30-year event. Allowing this level of water to flow through the channel will protect approximately 3,000 parcels in Palo Alto from a flood event close to the February 1998 flood, the largest on record. Currently the channel can only convey a 15-year flood event.

If sufficient funding becomes available, a 1% flood protection project upstream of Highway 101, including some combination of: modifications to the University Avenue and Middlefield Road bridges; upstream detention; underground bypass channels; and floodwalls, could be built.

## Flooding History and Project Background

San Francisquito Creek is one of the last continuous riparian corridors on the San Francisco Peninsula, and is also home to 1 of the few remaining viable steelhead trout runs. The creek can cause severe flood damage with very little warning and has overflowed 7 times since 1910.

During the February 1998 El Niño event, record flooding caused an estimated \$28 million in damages in Palo Alto, East Palo Alto and Menlo Park. More than 1,100 homes were flooded in Palo Alto, and Highway 101 was closed, as were numerous other roadways. The largest flood on record prior to 1998 occurred in December of 1955 when the creek overtopped its banks in several locations, inundating about 1,200 acres of commercial and residential property. Damages were estimated at nearly \$2 million in 1956 dollars. Total damages from a 1% flood event are estimated at \$300 million in Santa Clara and San Mateo Counties, as calculated by the USACE in 2011.

## Benefits

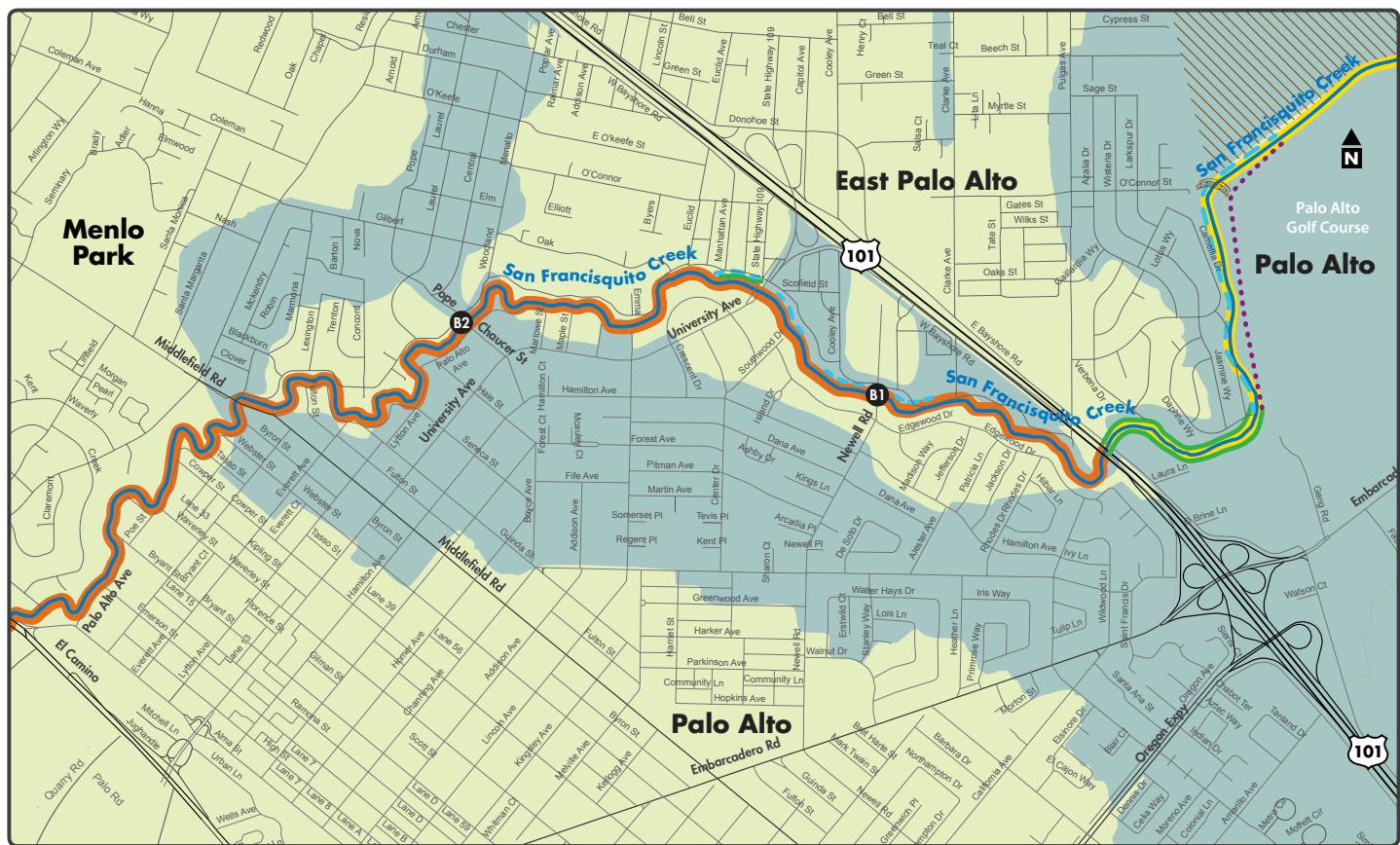
- Provides 1% flood protection for approximately 3,000 homes and businesses in Palo Alto
- Reduces bank erosion and sedimentation-related impacts along San Francisquito Creek
- Provides new or improved habitats for endangered species
- Improves water quality
- Enhances recreational opportunities for the community
- Leverages dollars via cost-shares and grants from the state Department of Water Resources and the California Department of Transportation

## Key Performance Indicators (15-year Program)

1. Preferred project with federal, state and local funding: Protect more than 3,000 parcels by providing 1% flood protection.
2. With state and local funding only: Protect approximately 3,000 parcels from flooding (100-year protection downstream of Highway 101, and approximately 30-year protection upstream of Highway 101).

## Geographic Area of Benefit: Palo Alto

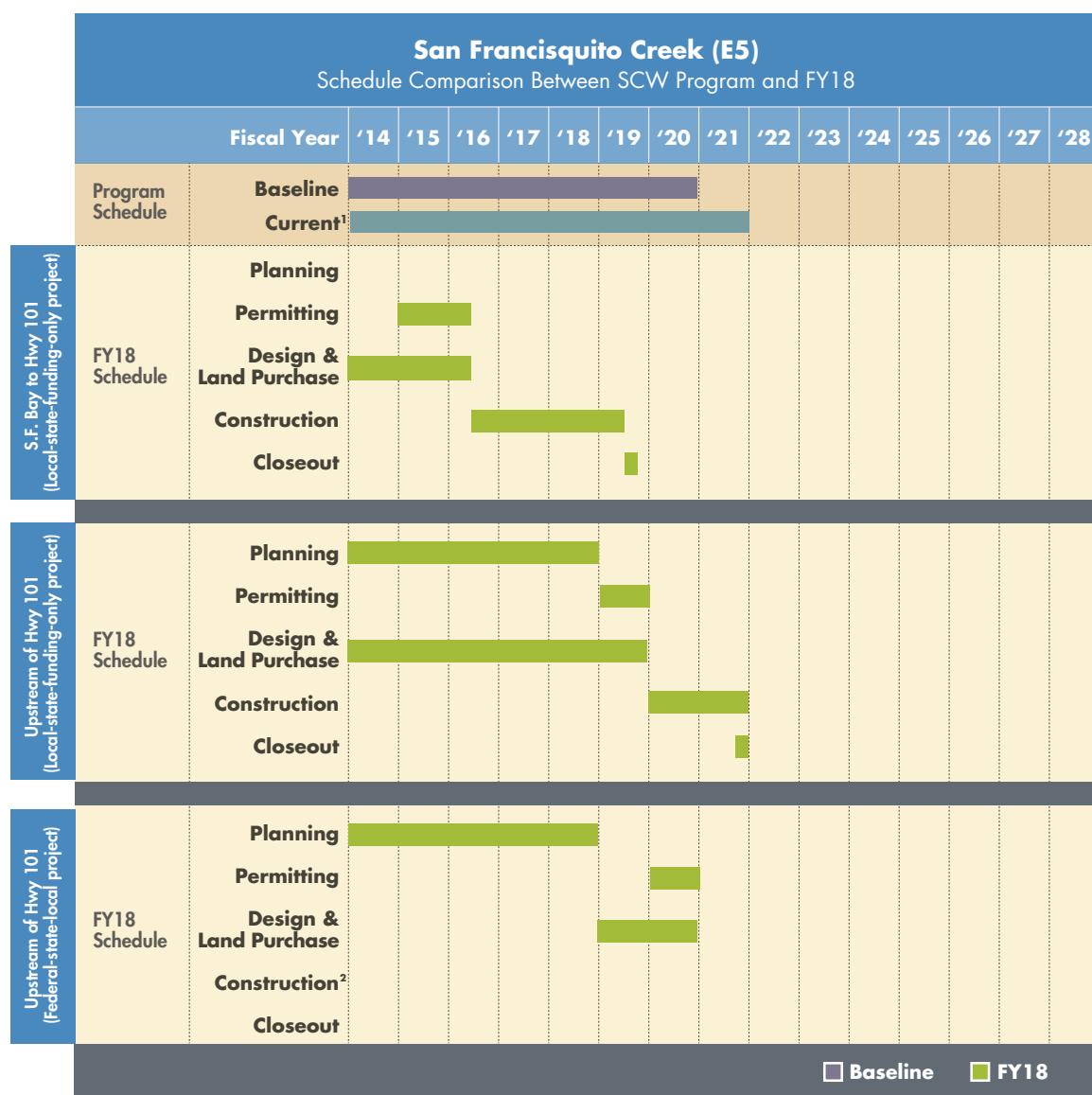
## Project Location



### LEGEND

SF Bay to 101 Project Limits Downstream in yellow	New Floodwalls	Friendship Bridge	<b>Bridge Modification Projects</b>
101 to El Camino Project Limits Upstream in orange	Widened Channel	100-year FEMA Floodzone	<b>Current:</b> <b>B1</b> Newell Rd (Palo Alto) <b>B2</b> Pope/Chaucer St (SCVWD)

## Schedule



<sup>1</sup>Board approved a schedule adjustment through the change control process in FY18.

<sup>2</sup>There is no schedule for construction at this time because USACE is currently only authorized to complete the feasibility study. The project will not be eligible to receive federal funding for construction until both the feasibility study and design are complete.

## Status History

Fiscal Year	Status
FY 14	MODIFIED
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ON TARGET

**Status for FY18:** Adjusted (schedule adjustment)

**Progress on KPI #1 and #2 (combined):**

### S.F. Bay to Highway 101 Project

*Local-state-funding only - design and construction of 1% flood protection project*

- Continued construction, which included installing approximately 4,000 feet of floodwall; excavating sediment and degrading the existing levee from East Bayshore Road to Geng Road; reducing the height (degrading) of approximately 600 feet of levee on the East Palo Alto side of the creek to create a connection between the creek and the Faber Marsh during high flows; and completing approximately 800 feet of the new offset levee on the Palo Alto side of the creek. Construction is scheduled to be completed in FY19.

### Upstream of Highway 101 Project

*Federal, state and local funding - planning and design of 1% flood protection project*

On June 12, 2018, USACE allocated \$646,500 for the project. The funding will be used to complete the feasibility study, which USACE has begun and is incorporating the Locally Preferred Plan. USACE will continue working on the following deliverables in FY19:

- Preparing Tentatively Selected Plan
- Completing Draft Feasibility Report

*Local-state-funding-only - construction of approximately 30-year flood protection project*

### Channel constrictions

- Continue to work on the 95% design document for channel constrictions upstream of Highway 101. The design document is being coordinated with the SFCJPA and expected to be completed in March 2019.
- The SFCJPA has obtained an environmental consultant to prepare the Environmental Impact Report (EIR) and the draft EIR is scheduled to be released in fall 2018.

### Newell Road Bridge

- The City of Palo Alto is responsible for planning, permitting, design, and construction of the Newell Road Bridge Replacement project. The planning, permitting and design phases are primarily funded by a Caltrans grant. The District is contributing the required local cost share for the grant. The planning phase will be complete upon the certification of the Newell Road Bridge Environmental Impact Report, which is estimated to be completed in Summer 2018. The design is scheduled to be completed by July 2019. Construction is set to begin in the Spring 2020 and will be completed by the end of 2020.

### Pope/Chaucer Street Bridge

- Pope/Chaucer Street Bridge design has resumed and is expected to be completed in 2019. Construction is expected to begin in the summer of 2020 and be completed by the end of 2021.

## Financial Information

In FY18, 88% of the total annual budget was expended and the project remains on target. The slight under expenditure was due to a budget adjustment of nearly \$3 million for the export of contaminated soil, which will not fully completed and paid for until early FY19.

Financial Summary (\$ Thousands)							
Fiscal Year 2017-2018						15-year Program	
Project No. and Name	Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
		Actual	Encumbrance	Total			
26284001 Planning and Design (Highway 101 to Searsville Dam)	\$453	\$105	\$241	\$346	76%	\$8,909	53%
26284002 Construction (SF Bay to Highway 101 and Upstream Elements)	\$9,876	\$2,225	\$6,500	\$8,725	88%	\$48,672	82%
<b>Total</b>	<b>\$10,329</b>	<b>\$2,331</b>	<b>\$6,741</b>	<b>\$9,072</b>	<b>88%</b>	<b>\$57,581</b>	<b>78%</b>

## Opportunities and Challenges

### Schedule adjustment

The Board approved a schedule adjustment on April 10, 2018. The original project schedule for the San Francisquito Creek Flood Protection Project indicated a start date of FY14 and an estimated completion date of FY20 for both the preferred project and the local-state-funding-only project. Both scenarios include 2 reaches, from the San Francisco Bay to Highway 101 and upstream of Highway 101. The reach from the San Francisco Bay to Highway 101 is the same for both funding scenarios and is on target to complete construction in FY19. The reach upstream of Highway 101 for the local-state-funding-only project requires additional time to prepare a draft Environmental Impact Report (EIR) that incorporates community feedback. This additional time impacts the subsequent phases for permitting and construction; therefore the Board approved adjusting the project completion date to FY21.

### Confidence levels

#### **S.F. Bay to Highway 101 Project**

##### *Schedule: High confidence*

Despite recent findings of the presence of the endangered Ridgway's Rail (Rail) within a portion of the project area, the construction schedule remains on track for completion within the Safe, Clean Water Program deadline. The District and the SFCJPA worked diligently to come up with a proposed amendment to the biological opinion to allow the contractor to begin work sooner in the Rail buffer zone and thereby have longer time to construct the remaining work in that area. The devised approach minimized noise impacts to the Rail through use of low impact construction equipment and proposed a phased construction approach to defer the impacts as late as possible in the season. The modified construction implementation will allow the contractor to complete construction in FY19 and will not impact the Rail into another construction season.

##### *Funding: Moderate confidence*

There are a few potential claims by the contractor that could impact the funding to complete the construction of the project. The most significant potential claim is the additional costs of off-hauling all unsuitable materials (unsuitable soil). To resolve the claim, the District and the contractor hired a Dispute Resolution Board (DRB) which recommended that the contractor be compensated for the additional costs of importing soil and for off-hauling all unsuitable soil. While the contractor was able to minimize the costs related to importing soil, the District and SFCJPA member agencies have had to work closely together to offset the costs of off-hauling unsuitable soil. In order to avoid impeding Project construction, both the cities of Palo Alto and East Palo Alto agreed to permanently place a portion of the clean, unsuitable soil on-site and temporarily stockpile the remaining unsuitable soil. The Water District's contribution to solving this problem is to off-haul the contaminated, unsuitable soil that cannot be permanently or temporarily stored on-site. The District and SFCJPA member agencies are working together to mitigate costs associated with the other smaller claims.

##### *Permits: High confidence*

All resource agency permissions have been acquired.

*Jurisdictional Complexity: High confidence*

The jurisdictional complexity of this project is unparalleled among Safe, Clean Water projects, as this project requires cooperation with the SFCJPA and its member agencies, which include the District, the cities of Palo Alto, East Palo Alto and Menlo Park and the San Mateo County Flood Control District. Despite this, the District has high confidence that the jurisdictions will continue to work together to accomplish the common goal of providing flood protection along San Francisquito Creek.

***Upstream of Highway 101 Project****Schedule: Moderate confidence*

Prior to constructing the local-state-funding-only project, the USACE feasibility study must be completed and state and federal regulatory permits must be secured.

*Funding: Low confidence*

While some funding has been secured for constructing the local-state-funding-only project elements (which include remedying channel constrictions and modifications to Newell Road Bridge and Pope/Chaucer Street Bridge), there is a funding shortfall due to increasing construction costs and currently unknown design elements. In FY18, the USACE allocated \$646,500 to complete the feasibility study. Upon completion of the USACE feasibility study, the SFCJPA will seek federal funding for the 1% flood protection project upstream of Highway 101. In addition, the District continues to seek grant funding in partnership with the SFCJPA.

*Permits: Moderate confidence*

The District does not expect any significant challenges with the acquisition of the regulatory permits for this phase of the project and is moderately confident it will receive the permits necessary to complete construction of the local-state-funding-only project by the Safe, Clean Water Program's identified completion date. The SFCJPA has conducted stakeholder meetings with regulators to address their concerns and incorporate their comments in the draft EIR to facilitate the permitting process.

*Jurisdictional Complexity: High confidence*

The jurisdictional complexity of this project is unparalleled among Safe, Clean Water projects, as this project requires cooperation with the SFCJPA and its member agencies, which include the District, the cities of Palo Alto, East Palo Alto and Menlo Park and the San Mateo County Flood Control District. In addition, there are key project stakeholders, including USACE and Stanford University's Searsville Dam Project. Despite this, the District has high confidence that the jurisdictions will continue to work together to accomplish the common goal of providing flood protection along San Francisquito Creek.

See Appendix D: *Capital Projects Confidence Levels* for a list of confidence levels for each project by outside agency for funding, regulatory permitting, cities, counties and other agencies.



Upper Llagas Creek flooding.

## ON TARGET

**Project E6 FY18 Highlights**

- For Phase 1, continued to work on the last 2 real estate acquisitions required
- For Phase 2, continued to work on 100% design, which is scheduled to be completed in December 2018, and continued to work on the remaining real estate acquisitions required
- For the compensatory mitigation, continued to work with Santa Clara County Parks and Recreation on acquisition of the site and execute a Conservation Easement with the USACE

# Project E6

## Upper Llagas Creek Flood Protection Project Buena Vista Avenue to Wright Avenue – Morgan Hill, San Martin, Gilroy

Preferred project: A federal-state-local partnership

This project continues a Clean, Safe Creeks project in partnership with the U.S. Army Corps of Engineers (USACE) and the state to plan, design, and construct improvements along 13.9 miles of channel. The project extends from Buena Vista Avenue to Wright Avenue, including West Little Llagas Creek in downtown Morgan Hill. The federally authorized preferred project protects the urban area of Morgan Hill from a 1% (or 100-year) flood, and reduces the frequency of flooding in surrounding areas. Construction includes channel modifications and replacement of road crossings. The District continues to work with Congress to aggressively pursue federal funds to bring this project to full fruition. In 2012, project limits were extended 2,700 feet upstream to Llagas Road to address public concerns.

## Flooding History and Project Background

The area sustained damage in 1937, 1955, 1958, 1962, 1963, 1969, 1982, 1986, 1996, 1997, 1998, 2002, 2004, 2008, 2009, and 2011. In 2009, many businesses and residences in downtown Morgan Hill were flooded under 1 foot of water. The project builds on the planning, design and property acquisition initiated under the Clean, Safe Creeks plan of 2000.

## Benefits

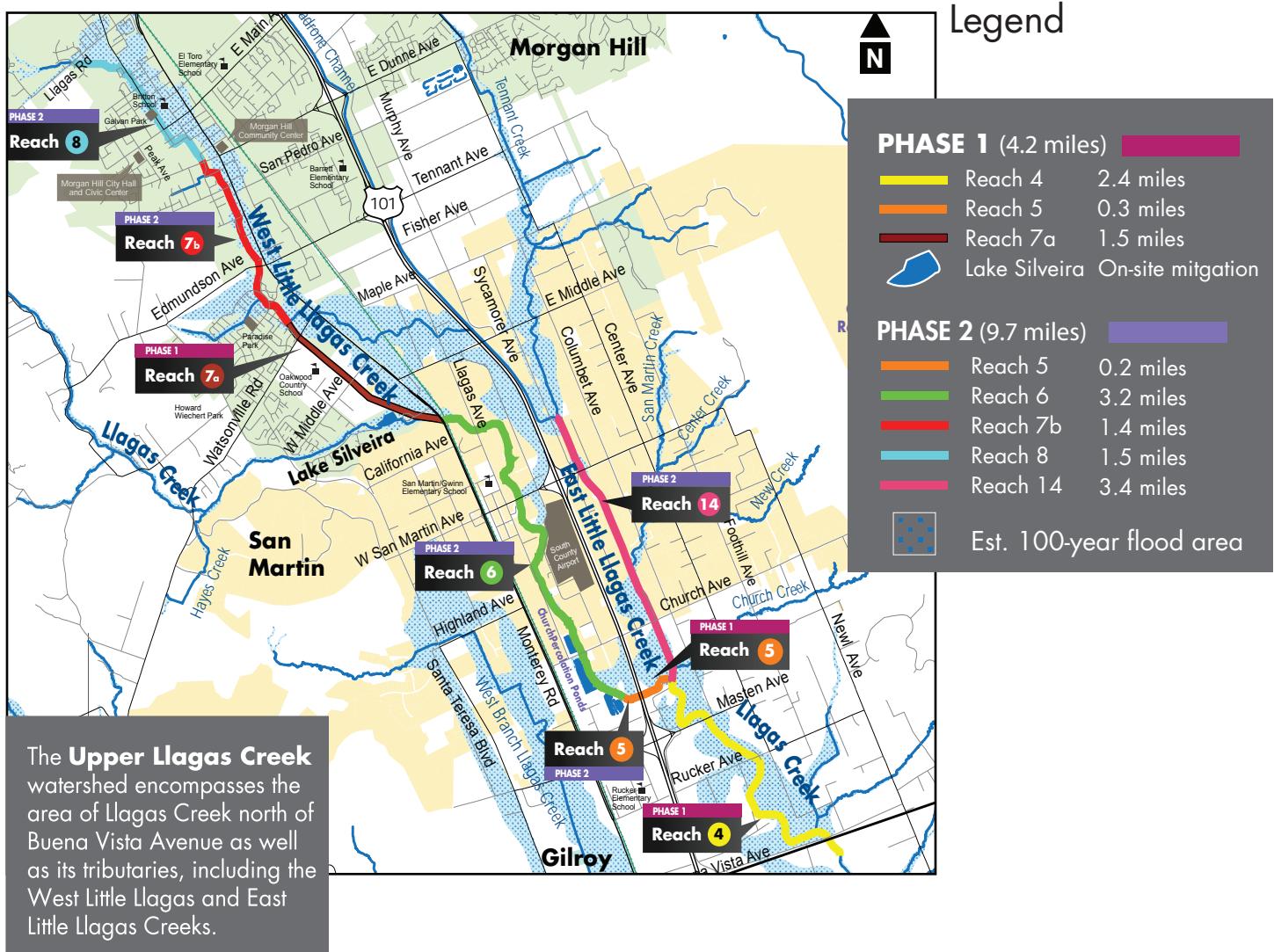
- Preferred project provides 1% flood capacity for 4 miles of channel in downtown Morgan Hill, protecting approximately 1,100 homes and 500 businesses
- Preferred project provides 10-year flood protection to approximately 1,300 agricultural acres in Morgan Hill, Gilroy and San Martin
- Locally-funded-only project provides 1% flood protection for a limited number of homes and businesses in Morgan Hill
- Improves stream habitat and fisheries
- Creates additional wetlands
- Improves stream water quality
- Identifies opportunities to integrate recreation improvements with the City of Morgan Hill and others as appropriate

## Key Performance Indicators (15-year Program)

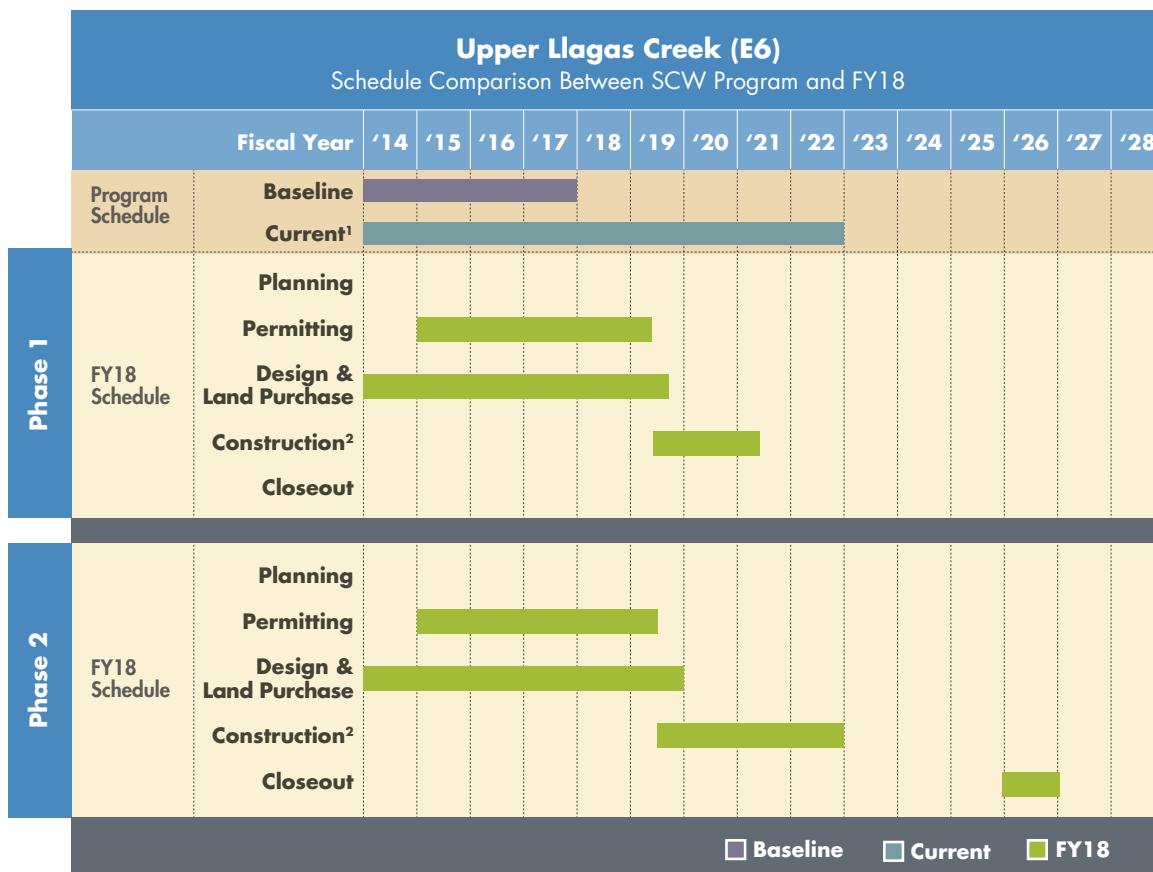
1. Preferred project with federal and local funding: Provide flood protection to 1,100 homes, 500 businesses, and 1,300 agricultural acres, while improving stream habitat.
2. With local funding only: Provide 100-year flood protection for Reach 7 only (up to W. Dunne Avenue in Morgan Hill). A limited number of homes and businesses will be protected.

**Geographic Area of Benefit:** Morgan Hill, San Martin and Gilroy

## Project Location



## Schedule



<sup>1</sup> Board approved schedule adjustments through the change control processes in FY16 and FY17. Additional schedule adjustment will be requested for Board approval in FY19.

<sup>2</sup> Construction also includes a 3-year revegetation establishment period, not shown.

## Status History

Fiscal Year	Status
FY 14	<b>ON TARGET</b>
FY 15	<b>ADJUSTED</b>
FY 16	<b>ADJUSTED</b>
FY 17	<b>ADJUSTED</b>

**Status for FY18:** On Target

***Progress on KPI #1 and #2 (combined):***

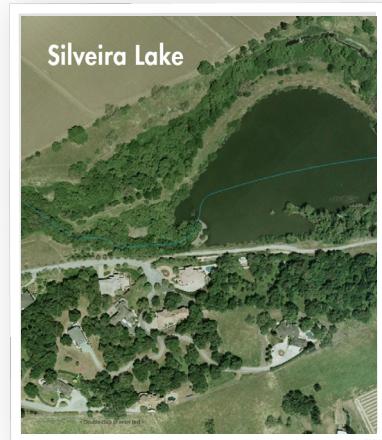
Phase 1 – Reaches 4, 5 (portion), and 7A (Buena Vista Avenue to Highway 101 in San Martin and from Monterey Road to Watsonville Road in Morgan Hill)

- The Phase 1 design work was completed in FY15.
- To date, 39 of 41 properties necessary for Phase 1 construction have been acquired. The remaining 2 parcels have reached settlement and are pending escrow. The District continues to work on these last 2 acquisitions to close escrow and record these 2 remaining deeds required to advertise, award, and construct the Phase 1 flood protection improvements.
- It is currently estimated that Phase 1 construction will begin in FY19, with completion of the Phase 1 flood protection improvements by FY21.

Phase 2 – Reaches 5 (portion), 6, 7B, 8 and 14 (Highway 101 to Monterey Road in San Martin, from Watsonville Road to Llagas Road in Morgan Hill, and from Sycamore Avenue to approximately Highway 101 in San Martin)

- 100% Phase 2 design submittal is scheduled for completion in December 2018.
- To date, 64 permanent rights of way of the 105 (76 permanent/29 temporary construction easements) necessary acquisitions for Phase 2 construction have been acquired. Environmental site assessments, appraisals, offers and acquisitions are underway for the remaining properties needed for Phase 2.
- Phase 2 construction will require an additional estimated \$46 million from state subventions, federal, and/or Safe, Clean Water funding to complete construction. Phase 2 construction is currently estimated to begin in late FY19 and be completed by FY22.

Upon completion of Phase 2, the project will provide flood protection to 1,100 homes, 500 businesses and 1,300 agricultural acres, while improving stream habitat.



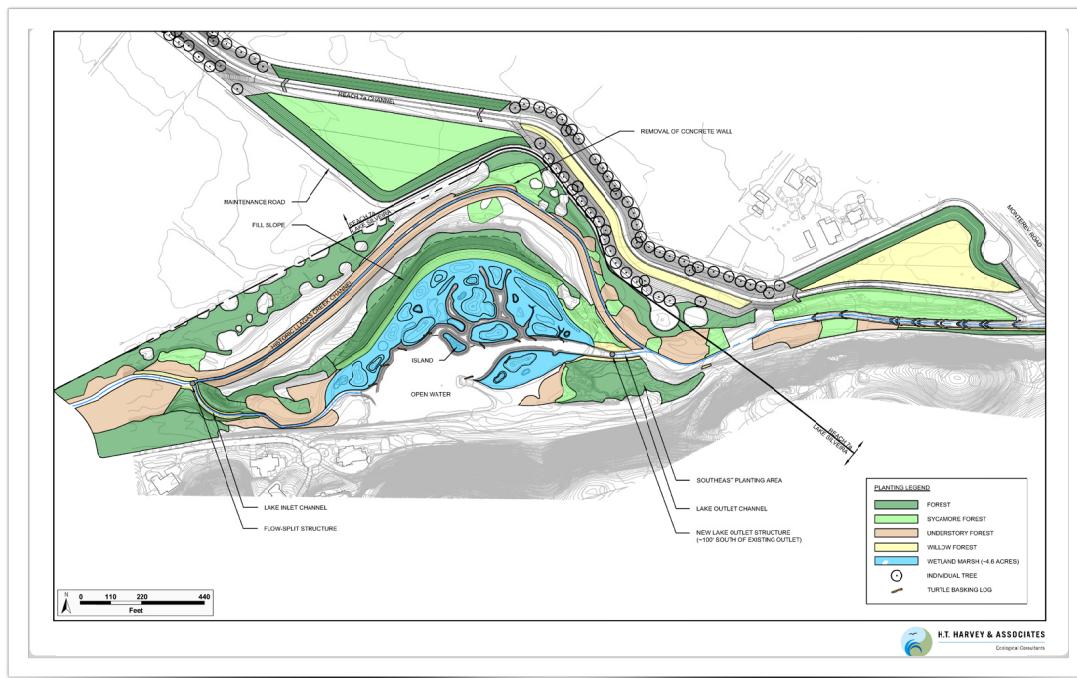
Silveira Lake

**Phase 1 and Phase 2 Combined**

- FEMA accepted the Conditional Letter of Map Revision (CLOMR) package on October 19, 2016. After the project has been constructed, the District will prepare a Letter of Map Revision (LOMR) to FEMA to initiate and facilitate a revision to the flood maps.
- The District will continue work with Santa Clara County Parks and Recreation on acquisition of approximately 2,000 linear feet of stream channel and present-day Lake Silveira to implement the compensatory mitigation recommended by the U.S. Fish and Wildlife Service (USFWS). The design plans for the lake are completed and construction of this mitigation element is planned during Phase 1 of construction.
- Project construction is subject to receipt of permits from state and federal regulatory agencies.

- The project was approved and the Final Environmental Impact Report (Final EIR) was certified by the District Board on June 10, 2014.
- The District will utilize the results of the California Rapid Assessment Method (CRAM) analysis to provide an assessment of the pre- and post-project environmental condition within the project reaches including the compensatory mitigation site, Lake Silveira (see Figure 1). The analysis will also provide an assessment of the performance/success of the revegetation sites, and to demonstrate compliance with regulatory performance criteria and requisite targets. A draft report was completed and received by the District in May 2016 for review. The final pre-project environmental condition report was completed in March 2017.

Figure 1 below provides a proposed design for the compensatory mitigation element at Lake Silveira:



## Financial Information

In FY18, 36% of the total annual budget was expended. The real estate acquisitions project (KPIs #1 and #2) expended 85% of its FY18 budget. Funds were not fully expended in FY18 due to ongoing negotiations to acquire the required properties for the project. The construction project (KPIs #1 and #2) had 5% expenditure in FY18 for tasks related to future construction. Construction funding for Phase 1 is budgeted in this project and due to delays in real estate transactions and permitting, construction did not begin in FY18. The design project (KPIs #1 and #2) expended 55% of its FY18 budget.

Financial Summary (\$ Thousands)							
E6. Upper Llagas Creek							
Fiscal Year 2017-2018							15-year Program
Project No. and Name	Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
		Actual	Encumbrance	Total			
26174051 Real Estate Acquisitions	\$12,064	\$10,196	\$6	\$10,202	85%	\$72,072	39%
26174052 Construction	\$20,019	\$1,052	\$33	\$1,085	5%	\$47,931	13%
26174054 Design	\$2,034	\$27	\$1,087	\$1,114	55%	\$5,329	197%
<b>Total</b>	<b>\$34,117</b>	<b>\$11,275</b>	<b>\$1,126</b>	<b>\$12,400</b>	<b>36%</b>	<b>\$125,331</b>	<b>35%</b>

## Opportunities and Challenges

### Environmental Impact Statement

The USACE is expected to issue the Final EIS in late July 2018, following receipt of final Biological Opinion (BO) from USFWS (Draft received March 2018) and a final BO from National Marine Fisheries Service (NMFS) (Final Received February 2018). The USACE must complete the Final EIS, publish the Record of Decision, and issue a 404 permit to enable construction to proceed.

### Confidence levels

Although Phase 1 and Phase 2 will be constructed independently, the projects are being permitted together; therefore, the confidence levels information represents both phases.

#### *Schedule: Moderate confidence*

Along with permitting, the greatest factor affecting the schedule is the remaining property acquisitions. Approximately 146 property acquisitions (Phase 1: 41 parcels; Phase 2: 105 (76 permanent/29 temporary construction) parcels) are required for the project. As of May 2018, 39 of the 41 parcels have been acquired for Phase 1. The 2 remaining parcels have reached a negotiated settlement with close of escrow pending.

The District must obtain the necessary rights of way and permits to advertise the project for construction. The major onsite mitigation element for this project is Lake Silveira, which is currently owned by Santa Clara County Parks and Recreation (County Parks). The District, County Parks, and the City of Morgan Hill have finalized a Purchase and Sale Agreement for the acquisition of the Lake Silveira property.

The District is moderately confident that property acquisitions will be completed, allowing the project to be advertised in calendar year 2018.

*Funding: Moderate confidence*

While construction of Phase 1 is fully funded through the Safe, Clean Water Program, Phase 2 construction must also be completed to achieve KPI #1. Currently, Phase 2 construction will require an additional estimated \$46 million from state subventions, federal, and/or Safe, Clean Water funding to complete construction. With a total estimated construction cost of \$131 million (Phase 1 - \$46 million, Phase 2 - \$85 million), project completion will be difficult to achieve with available local funding. The District will continue to explore and pursue federal funding opportunities. Completion of just Phase 1 construction will not provide 1% flood protection to the City of Morgan Hill.

*Permits: Moderate confidence*

The District must incorporate regulatory agency permit requirements into the Final Construction Documents before the construction contract can be bid and awarded. At this time, the District has a moderate confidence level that the USACE will issue their permit in August 2018.

To date, the District has received 2 of the 3 permits required prior to advertisement for construction. The California Department of Fish and Wildlife (CDFW) issued the final Streambed Alteration Agreement on January 11, 2017. On July 27, 2017, the Central Coast Regional Water Quality Control Board (RWQCB) issued their permit for the project. Lastly, USACE must complete the Final EIS, publish the Record of Decision, and issue a 404 permit to enable construction to proceed. The District has been consulting with the various resource agencies through the various design submittals (30%, 60%, and 90%) for more than 5 years. Comments from the regulatory agencies received to date have been addressed and are reflected in the project design documents.

*Jurisdictional Complexity: Moderate confidence*

Given the size and complexity of this project, multiple agencies and entities have jurisdictional influence on its progression. These agencies include USACE, City of Morgan Hill, Santa Clara County Parks and Recreation, and County of Santa Clara Roads and Airports.

See Appendix D: *Capital Projects Confidence Levels* for a list of confidence levels for each project by outside agency for funding, regulatory permitting, cities, counties and other agencies.

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Chicago Marsh - S.F. Bay Shoreline.

## ON TARGET

**Project E7 FY18 Highlights**

- For EIAs 4 and 5, continued to coordinate with the SBSPRP and pursue a partnership with the City of Mountain View
- For EIA 10, continued to coordinate with the SBSPRP on the planning effort and to explore the re-routing of San Tomas and Calabazas Creeks into Pond A8
- For Reach 1 of EIA 11, contributed \$900,000 as part of the local share, secured 2 of 4 permits, completed 90% design, began rights-of-way acquisition, began coordination with dirt brokers, and conducted a public meeting
- Awarded a reimbursable grant for \$4.4 million from the San Francisco Bay's Restoration Authority Measure AA 2018 grant funds

# Project E7

## San Francisco Bay Shoreline Protection Milpitas, Mountain View, Palo Alto, San José, Santa Clara and Sunnyvale

This project is a partnership with the California State Coastal Conservancy, the U.S. Army Corps of Engineers (USACE), and regional stakeholders to provide tidal flood protection, restore and enhance tidal marsh and related habitats, and provide recreational and public access opportunities. Initial construction for flood protection is planned for Economic Impact Area (EIA) 11, which is the urban area of North San José and the community of Alviso.

This project relies on federal participation from USACE to review and approve the plans. Without federal participation, the District cannot implement additional planning, design and construction due to limited available funding. The proposed Safe, Clean Water funding provides the District's cost share to complete the planning study for EIAs 1-10, and provides a portion of the District's cost share toward design and construction of flood protection improvements in the North San José area (EIA 11), in and near Alviso.

## Flooding History and Project Background

This project stems from the 2003 acquisition of thousands of acres of former South Bay salt production ponds, purchased for restoration with combined public and private funding. The South Bay Shoreline Protection Project is an important component of the South Bay Salt Ponds Restoration Project, a large, multi-agency effort to restore 16,500 acres of tidal wetlands which involves all South Bay cities that meet the San Francisco Bay. Without incorporating flood protection measures, proposed recreational use and environmental restoration is likely to reduce the effectiveness of existing shoreline levees formerly maintained for salt production. Project E7 would upgrade levees to protect Silicon Valley's "Golden Triangle," bounded by Highways 101, 237 and 880, and extending north into the Baylands of Milpitas. Multiple flood events since the mid-1990s have damaged business operations in this area, now home to major high-tech corporations including Intel, Google, Yahoo, Cisco, and others. The project would also protect Alviso neighborhoods, as well as important infrastructure such as airports and sewage treatment plants.

The existing multi-agency partnerships for the South Bay Salt Ponds Restoration project and the San Francisco Bay Shoreline Study ensure that all goals for this largest wetland restoration on the West Coast will be incorporated. The Safe, Clean Water measure provides a share of the total funding needed for planning

and design phases for the full shoreline project area. It also provides the funding needed to purchase lands, easements and rights-of-way as necessary to construct improvements in EIA 11, and a share of the construction costs for that portion of the project.

## Benefits

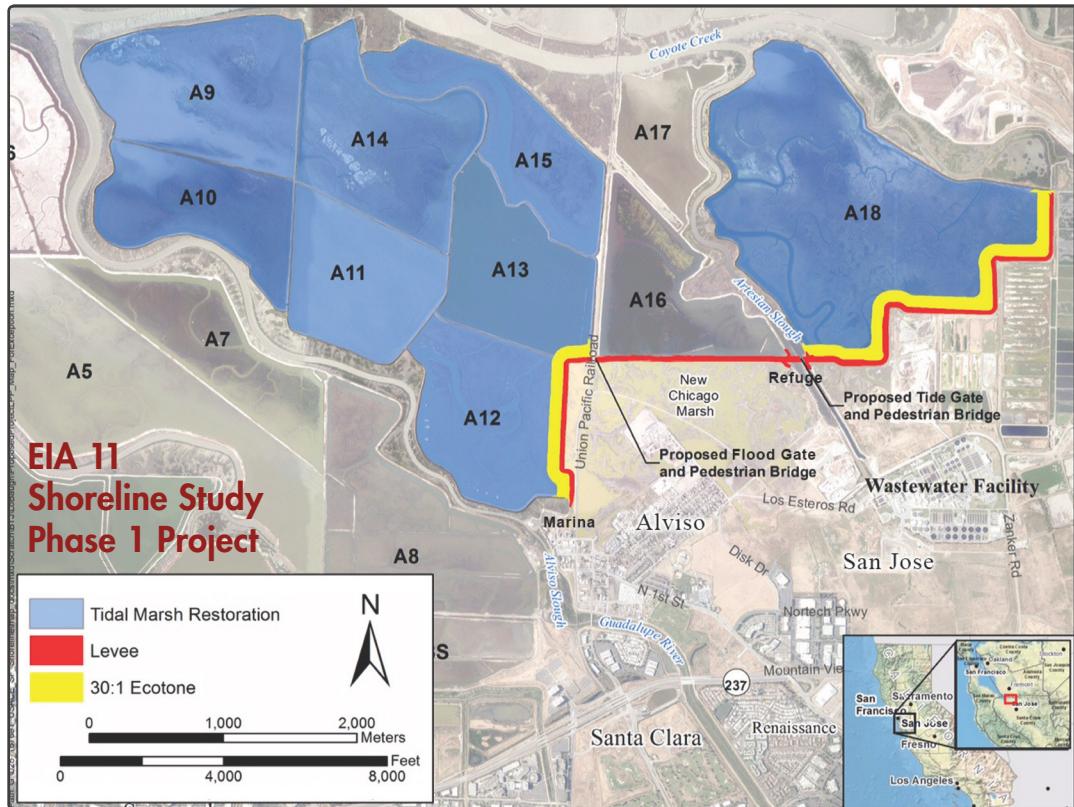
- Protects more than 1,000 residential structures and 100 non-residential structures (EIA 11)
- Provides planning and design to protect nearly 4,700 acres and more than 5,000 structures, including roads, highways, parks, airports and sewage treatment plants in all of Santa Clara County
- Allows for the restoration of 2,900 acres of tidal marsh and related habitats (EIA 11)
- Provides educational, recreational and public access opportunities

## Key Performance Indicators (15-year Program)

1. Provide portion of the local share of funding for planning and design phases for the former salt production ponds and Santa Clara County shoreline area.
2. Provide portion of the local share of funding toward estimated cost of initial project phase (EIA 11).

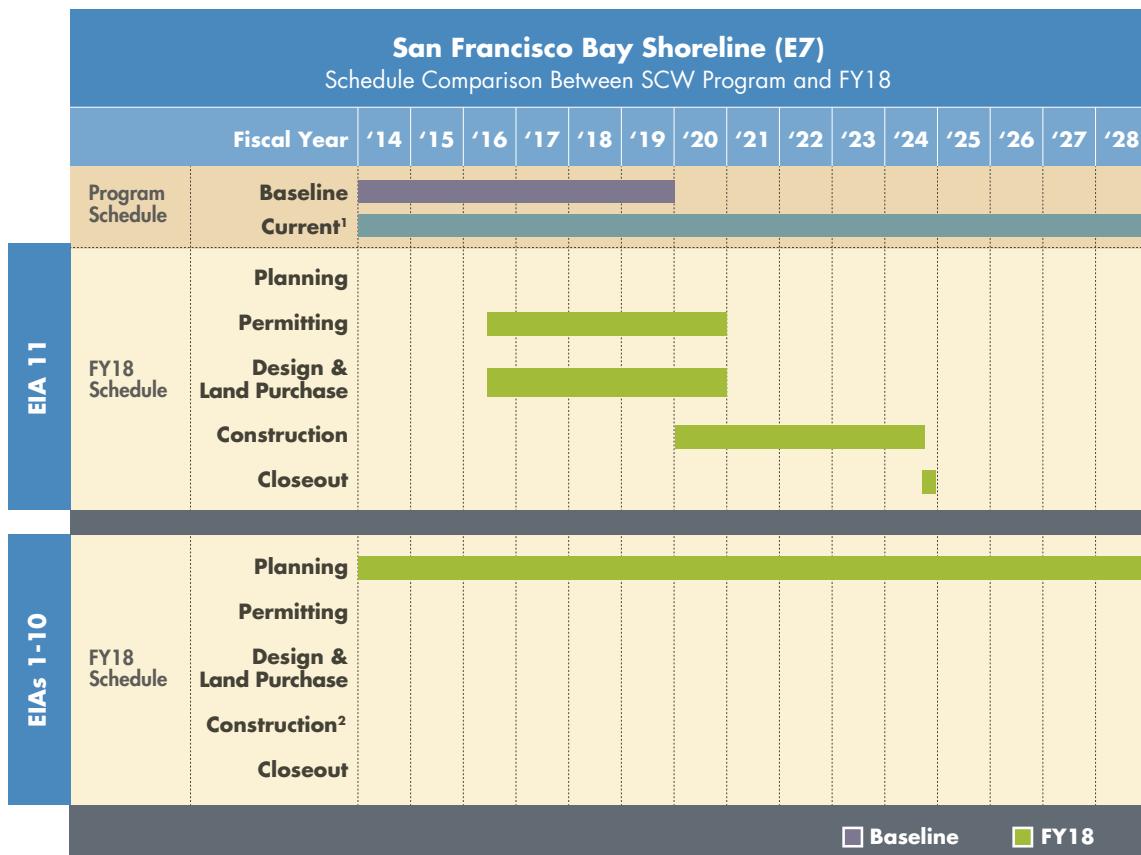
**Geographic Area of Benefit:** Milpitas, Mountain View, Palo Alto, San José, Santa Clara and Sunnyvale

## Project Location





## Schedule



<sup>1</sup>Board approved a schedule adjustment through the change control process in FY17.

<sup>2</sup>Construction phases are not funded by the Safe, Clean Water Program.

## Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ADJUSTED

### Status for FY18: On Target

#### Progress on KPI #1:

##### San Francisco Bay Shoreline Protection – San Francisquito Creek to Guadalupe River (EIAs 1-10)

- The USACE still has not received federal funds to support District partnership efforts. Therefore, no local share of funding nor in-kind labor has been provided to the USACE. However, the District has continued to coordinate with the South Bay Salt Pond Restoration Phase 2 Project (SBSPRP) for the Mountain View, EIAs 4 and 5, flood risk management levee. Discussions are continuing on partnering with the City of Mountain View and the District for EIAs 4 and 5. The District is also coordinating planning effort with the SBSPRP for EIA 10, including exploring the re-routing of San Tomas and Calabazas creeks into Pond A8. Lastly, the District engaged with the Resilient by Design team on the South Bay Town project for the shoreline area between East Palo Alto to Sunnyvale.

#### Progress on KPI #2:

##### San Francisco Bay Shoreline Protection – Urban area of North San José/Alviso/San Jose-Santa Clara Regional Wastewater Facility (EIA 11)

- As described in the KPI, the initial project phase under partnership with the USACE is for Economic Impact Area 11 (EIA 11). In FY18, the District contributed \$900,000 toward the EIA 11 project as part of the local share.
- For EIA 11, the project partners continued permitting coordination efforts with the Regional Water Quality Control Board (RWQCB) and the Bay Conservation Development Commission (BCDC) and successfully secured the RWQCB water quality certification permit in December 2017 and the BCDC consistency determination in January 2018 for Reach 1 construction. Reach 1 design progressed to 90% and project partners began coordination with key property owners along Reach 1 including the Alviso Marina County Parks and Union Pacific Railroad staff. The District real estate efforts include securing the necessary rights of way for Reach 1 construction and pre-construction activities.
- In preparation for upcoming pre-construction activities, the District also began coordination with dirt brokers and the project partners conducted a public meeting with the community in June of 2018. The Reach 1 levee will extend from the Alviso Marina to the Union Pacific Railroad, with construction anticipated to begin in June 2019.
- Lastly, the District submitted an application for the San Francisco Bay's Restoration Authority Measure AA 2018 grant funds and was awarded a reimbursable grant for \$4.4 million towards the project's design and construction efforts.

## Financial Information

In FY18, 14% of the total annual budget was expended. The San Francisco Bay Shoreline Protection, EIAs 1-10 project (KPI #1) expended 45% of its FY18 budget. This was due to the USACE not receiving funds to hold a workshop for the next study phase; therefore, only minimal funds were expended to collaborate on the SBSPRP effort for EIAs 4, 5, and 10 and the Resilient by Design effort.

The San Francisco Bay Shoreline Protection, EIA 11 project (KPI #2) expended only 11% of its FY18 budget because the FY18 budget included funds to begin construction in summer 2018. Construction efforts have been delayed to summer 2019. In FY18, the District provided a \$900,000 cash contribution to the USACE as the District's cost-share for Reach 1 design and permitting efforts. The District also contributed in-kind labor on the design, permitting, and pre-construction activities of the project.

Financial Summary (\$ Thousands)							
Fiscal Year 2017-2018						15-year Program	
Project No. and Name	Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
		Actual	Encumbrance	Total			
26444002 EIAs 1-10	\$432	\$195	\$0	\$195	45%	\$2,657	75%
26444001 EIA 11	\$5,977	\$681	\$0	\$681	11%	\$22,288	11%
<b>Total</b>	<b>\$6,409</b>	<b>\$876</b>	<b>\$0</b>	<b>\$876</b>	<b>14%</b>	<b>\$24,945</b>	<b>18%</b>

## Opportunities and Challenges

### Confidence levels

#### **San Francisco Bay Shoreline Protection – San Francisquito Creek to Guadalupe River (EIAs 1-10)**

*Schedule: Low confidence*

The USACE is still awaiting funding to conduct a workshop to determine the next USACE study phase. USACE continues to not receive funding to conduct a Charrette and it is unknown when they may receive funding in this fiscal climate. For this reason, the District has moved forward on studying EIAs 4 and 5, and EIA 10 with the SBSPP effort. The District will continue to prepare for a USACE Charrette, working with the SBSPP effort as well as engaging with local agencies to keep planning efforts moving forward.

*Funding: Low confidence*

In the current federal fiscal climate, it is unknown when the USACE will receive federal funding to support the next study phase effort for EIAs 1-10. For this reason, the District continues to collaborate on the SBSPRP effort and explore other ways to complete the planning of EIAs 1-10.

Permits: N/A

KPI #1 efforts do not require permits.

*Jurisdictional Complexity: Low confidence*

In developing the preliminary coastal flood protection levee alignment, the District worked with the cities of Palo Alto, Mountain View, Sunnyvale, and San José; along with the National Aeronautics and Space Administration's (NASA) Ames Research, United States Fish and Wildlife Service, California State Coastal Conservancy (SCC), Midpeninsula Regional Open Space District and USACE. This is an ongoing challenge because it requires extensive regional coordination for a significant coastal flood protection project with an estimated price tag of nearly \$800 million. Currently Safe, Clean Water provides approximately \$5 million for a portion of the local share of funding to support only planning efforts.

***San Francisco Bay Shoreline Protection – Urban area of North San Jose/Alviso/San Jose-Santa Clara Regional Wastewater Facility (EIA 11)***

*Schedule: Moderate confidence*

While the feasibility study for EIA 11 was completed in December 2015, because of the need to coordinate with the Union Pacific Railroad, as well as the risk of not receiving timely continued federal funding, our confidence level is moderate.

*Funding: Moderate confidence*

KPI #2 is to provide the local cost share of design and partial construction; however, it is not sufficient to cover the total local cost share of construction for EIA 11 (\$177 million of which \$45 million is the District's local cost share and \$58 million is the SCC local cost share). The District will need to supplement its local share by annually applying for the San Francisco Bay Restoration Authority Measure AA funds as well as seeking funds from partnering agencies and grants. In April 2018, the District was successful in the first Measure AA grant round and was awarded a reimbursable grant for \$4.4 million for EIA 11.

*Permits: Moderate confidence*

The District's confidence regarding permits is moderate due to complexities of receiving permits. The project partners collaborated with the San Francisco Bay RWQCB and BCDC throughout calendar year 2017 and successfully received the required regulatory permits to construct Reach 1 of EIA 11. Collaboration will continue through 2019 to negotiate permits for Reaches 2 and 3.

*Jurisdictional Complexity: Moderate confidence*

The confidence level is moderate due to the complexity involved in working with the City of San José (moderate), County Marina Parks (moderate), US Fish and Wildlife Service (moderate) the San José-Santa Clara Regional Wastewater Facility (moderate) and the Union Pacific Railroad (low).

See Appendix D: *Capital Projects Confidence Levels* for a list of confidence levels for each project by outside agency for funding, regulatory permitting, cities, counties and other agencies.



Upper Guadalupe River Reach 12.

## ON TARGET

**Project E8 FY18 Highlights**

- For Reach 6, reassessed the gravel augmentation project due to changes in the creek conditions after the rainy events
- For Reaches 7 and 8, USACE completed 65% design
- For Reach 9, continued to acquire the rights of way in accordance with the USACE
- For Reach 10B and 12, USACE completed the mitigation planting work

# Project E8

## Upper Guadalupe River Flood Protection Highway 280 to Blossom Hill Road – San José

### Preferred project: A federal-state-local partnership

This federally authorized project continues a Clean, Safe Creeks project in partnership with the U.S. Army Corps of Engineers (USACE) to plan, design and construct improvements along 5.5 miles of channel extending from Interstate 280 to Blossom Hill Road. Improvements include channel widening, construction of floodwalls and levees, replacement of road crossings and planting of streamside vegetation. Reducing flood frequency and bank erosion will improve water quality, while planned mitigation measures will give fish access to an additional 12 miles of habitat within and upstream of the project reach.

### Flooding History and Project Background

Damaging flood events occurred in 1982, 1983, 1986, 1995 and 1998. Severe flooding in 1995 damaged more than 150 homes in the Gardner, Willow Glen, and South San José residential districts, and shut down Highway 87 and the parallel light rail line – both major commuter thoroughfares. Freeway and light rail flooding occurred again in 1998.

The Upper Guadalupe River Flood Protection project was authorized construction by the USACE in 1999 and received local funding in 2000, followed by the start of construction in 2008. Fish passage, erosion protection and other components were constructed earlier.

To increase the level of flood protection while keeping the preferred project viable, the local-only plan funded by Clean, Safe Creeks was modified by the District Board in March 2012 to provide a basis to advance the full federal project as soon as funds become available. The plan is now to acquire all necessary rights-of-way and relocate bridges and utilities in preparation for the full, preferred project. The modified plan also includes design and construction for both Reach 6 (Interstate 280 to the Union Pacific Railroad crossing) and Reach 12 (Branham Lane to Blossom Hill Road).

### Benefits

- Preferred project will construct 1% (or 100-year) flood conveyance capacity for 5.5 miles of channel in San José, protecting approximately 6,280 homes, 320 businesses and 10 schools/institutions
- Local funding only constructs improvements to 4,100 linear feet to convey 1% flow
- Improves stream habitat values and fisheries

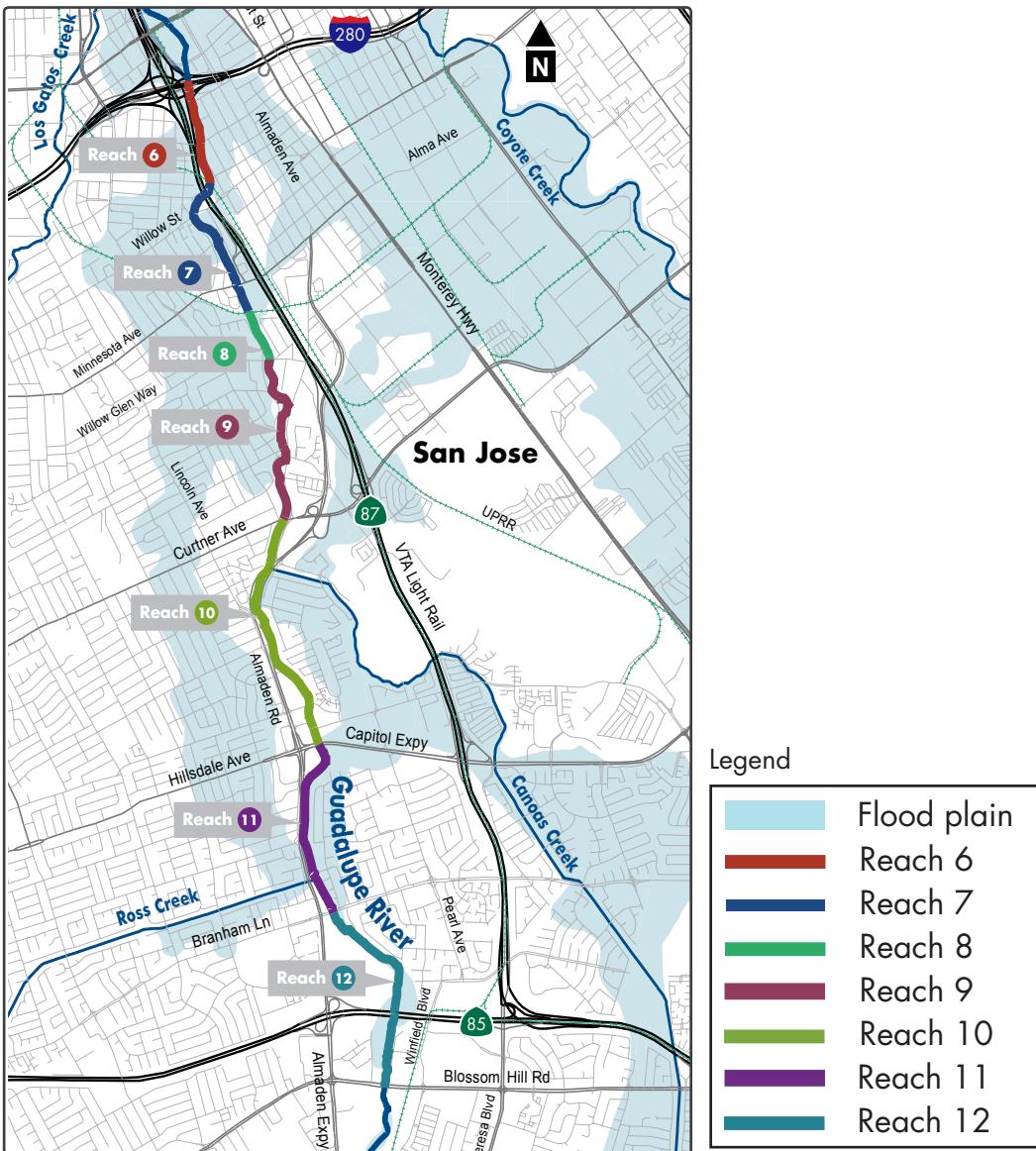
- Improves stream water quality
- Allows for creekside trail access

## Key Performance Indicators (15-year Program)

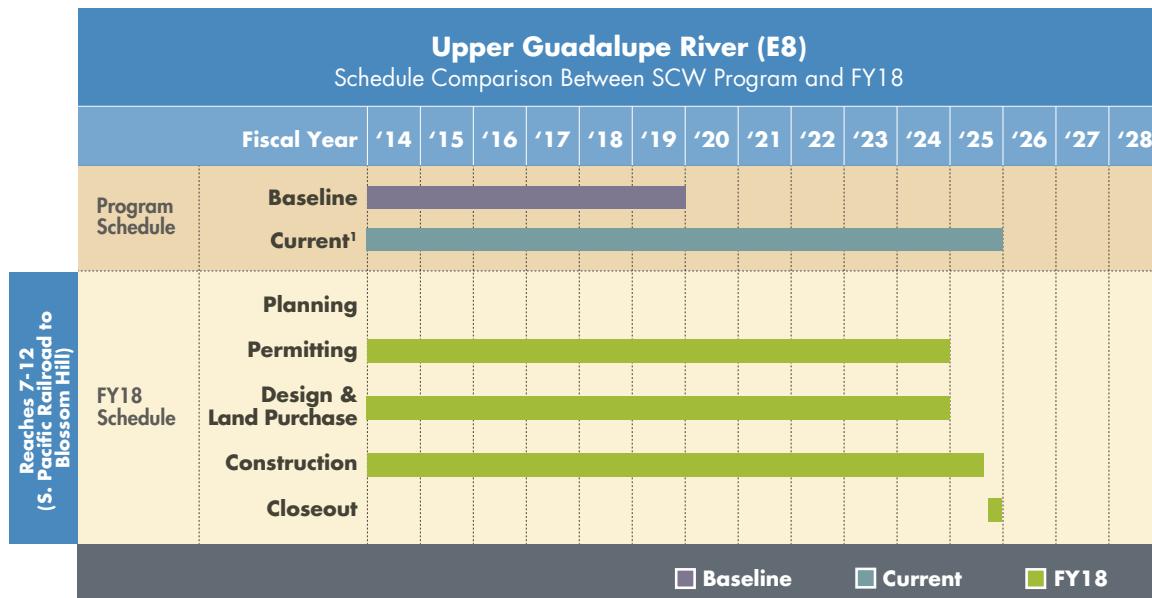
1. Preferred project with federal and local funding: Construct a flood protection project to provide 1% flood protection to 6,280 homes, 320 businesses and 10 schools and institutions.
2. With local funding only: Construct flood protection improvements along 4,100 feet of Guadalupe River between Southern Pacific Railroad (SPRR) crossing, downstream of Willow Street, to Union Pacific Railroad (UPRR) crossing, downstream of Padres Drive. Flood damage will be reduced; however, protection from the 1% flood is not provided until completion of the entire Upper Guadalupe River Project.

**Geographic Area of Benefit:** San José

## Project Location



## Schedule



<sup>1</sup> Board approved a schedule adjustment through the change control process in FY16.

## Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ADJUSTED
FY 17	ON TARGET

### Status for FY18: On Target

#### Progress on KPI #1 and #2 (combined):

Reach 6 (from Interstate 280 to the UPRR bridge crossing downstream of Willow Street)

- The District committed to complete a gravel augmentation project on this reach. The regulatory agencies suggested to reassess the gravel augmentation project in summer 2017 due to changes in the creek conditions after the rainy events. The District expects to receive permits by FY19 and to complete construction on the gravel augmentation project by FY20.

Reaches 7 and 8 (from the UPRR bridge crossing downstream of Willow Street to Willow Glen Way)

- USACE completed 65% design documentation for Reaches 7 and 8, and the remaining design work has been postponed until federal funding is available.
- Construction contract for Reaches 7 and 8 is scheduled to be awarded by USACE in May 2020 pending availability of funds.
- The District is on track to acquire rights-of-way for the project in accordance with USACE construction schedule.

Reach 9 (from Willow Glen Way to Curtner Avenue)

- The District is acquiring the rights of way for the project in accordance with the USACE. USACE is currently focusing on updating the total project costs and determine the path for future federal funding.

Reach 10A (from Curtner Avenue to Almaden Expressway)

- USACE is currently focusing on updating the total project costs and determine the path for future federal funding.

Reach 10B (from Curtner Avenue to Capitol Expressway)

- USACE awarded the contract for the mitigation planting work in October 2016.
- Mitigation planting work was completed in March 2018 by USACE.

Reach 10C (from Koch Lane to Capital Expressway)

- USACE is currently focusing on updating the total project costs and determine the path for future federal funding.

Reach 11 (from Capitol Expressway to Brahnam Lane)

- No changes in design since 2001. USACE is currently focusing on updating the total project costs and determine the path for future federal funding.

Reach 12 (from Branham Lane to Blossom Hill Road)

- USACE awarded the contract for the mitigation planting work in October 2016.
- Mitigation planting work was completed in March 2018 by USACE.

## Financial Information

In FY18, 91% of the total annual budget was expended.

The Reach 6 (I-280 to Southern Pacific Railroad) project (KPIs #1 and #2) expended 15% of its FY18 budget. This was to finalize the gravel augmentation design and environmental document. The District anticipates performing this work in summer 2019, pending the results of the channel assessment.

The Reaches 7-12 (Southern Pacific Railroad to Blossom Hill Road) project (KPIs #1 and #2) expended 94% of its FY18 budget. On May 31, 2018, the District acquired the Elk's Lodge property as part of the project real estate transactions to prepare for the construction within Reach 7. The acquisition was originally planned in FY19; however, the owner and District agreed to the terms sooner than anticipated so the acquisition was accelerated and completed in FY18. Even with this accelerated acquisition, the under-expenditure in FY18 was due to not acquiring all of the right-of-way for Reaches 7 and 8 in FY18 as scheduled, because of additional necessary discussions with the property owners, the Joint Power Boards (JPB), Caltrans, and City of San José about riparian setback requirements, amounts of land needed, and property values. The District continues to work with the City of San José, Caltrans, JPB, and property owners to complete acquiring the necessary rights of way for Reaches 7 and 8 in FY18-19.

Financial Summary (\$ Thousands)							
Fiscal Year 2017-2018						15-year Program	
Project No. and Name	Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
		Actual	Encumbrance	Total			
26154002 Reach 6 (I-280 to S. Pacific Railroad)	\$926	\$113	\$24	\$137	15%	\$2,759	55%
26154003 Reaches 7-12 (S. Pacific Railroad to Blossom Hill)	\$23,994	\$22,459	\$35	\$22,494	94%	\$91,490	35%
<b>Total</b>	<b>\$24,920</b>	<b>\$22,573</b>	<b>\$59</b>	<b>\$22,631</b>	<b>91%</b>	<b>\$94,249</b>	<b>36%</b>

## Opportunities and Challenges

### Confidence levels

#### **Reach 6 (I-280 to S. Pacific Railroad) Project**

*Schedule: Moderate confidence*

The schedule could be affected due to the results of the assessment for the gravel augmentation work.

*Funding: High confidence*

This project is fully funded by the Safe, Clean Water Program.

*Permits: Moderate confidence*

The District is working on acquiring state and federal regulatory permits for gravel augmentation placement.

*Jurisdictional Complexity: High confidence*

The District has jurisdiction over this reach and all the design elements.

**Reaches 7-12 (S. Pacific Railroad to Blossom Hill) Project**

*Schedule: Low confidence*

The schedule has been affected due to absence of federal funding over the last 2 years that has delayed design and construction efforts for Reaches 7 & 8.

*Funding: Low confidence*

Federal funding appropriation continues to be the main challenge for this project. The project did not receive federal funds in FY18 for design and construction of all elements of Reaches 7 and 8. The USACE will be evaluating the total project costs over the 2018 calendar year. The District will need to continue working with USACE leadership and federal elected officials to encourage federal appropriations for construction of Reaches 7 and 8 and to complete the remaining reaches of the project.

*Permits: Moderate confidence*

For Reaches 7 and 8, USACE will acquire all the required permits to construct 2 vehicular bridges, 2 rail road bridges, and a bypass channel. In reaches 10B and 12, USACE was responsible to acquire the permits for the mitigation planting. In Reaches 9 and 11, no permits are required now.

*Jurisdictional Complexity: Low confidence*

As a local sponsor, the District is responsible to acquire all the right-of-way and relocation of utilities. Even after the District acquires easements or joint use agreements for the project from Caltrans, the Joint Power Board/Caltrain and the City of San José, these agencies will continue to have jurisdiction over the Upper Guadalupe Flood Control Project.

See Appendix D: *Capital Projects Confidence Levels* for a list of confidence levels for each project by outside agency for funding, regulatory permitting, cities, counties and other agencies.



# Other Capital Flood Protection Projects and Clean, Safe Creeks Grants Projects

## **Permanente Creek Flood Protection**

San Francisco Bay to Foothill Expressway – Mountain View

## **Sunnyvale East and Sunnyvale West Channels Flood Protection**

San Francisco Bay to Inverness Way and Almanor Avenue – Sunnyvale

## **Berryessa Creek Flood Protection**

Calaveras Boulevard to Interstate 680 – Milpitas and San José

## **Coyote Creek Flood Protection**

Montague Expressway to Tully Road – San José

## **Calabazas Creek Flood Protection**

Miller Avenue to Wardell Road

## **Clean, Safe Creeks Grants Projects**



Rancho San Antonio detention basin construction.

### ON TARGET

#### Project FY18 Highlights

- Continued construction of the Rancho San Antonio and McKelvey Park detention sites
- Began construction of the Channel Improvements

## Permanente Creek Flood Protection

This project will provide flood protection for thousands of homes and businesses in Mountain View and Los Altos, create recreational opportunities and enhance the environment. The project spans 10.6 miles of Permanente Creek, from San Francisco Bay's southwest shoreline through Mountain View to Foothill Expressway in Los Altos. The project uses a natural flood protection approach to prevent potential flooding damages in excess of \$48 million (1999 value). The project includes multiple elements: channel improvements; flood detention area and recreational improvements at City of Mountain View's McKelvey Park; and flood detention areas, recreational improvements and enhanced habitat at County of Santa Clara's Rancho San Antonio Park.

### Benefits

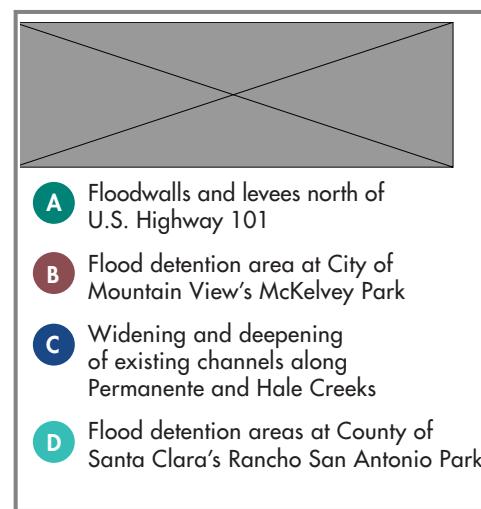
- Provides flood protection to a minimum of 1,664 parcels (1,378 homes, 160 businesses and 4 schools/institutions) downstream of El Camino Real from a 1% (or 100-year) flood
- Prevent flooding of Middlefield Road and Central Expressway
- Minimize the future cost for maintenance
- Provide opportunities for environmental enhancements and trail extension

### Key Performance Indicator (5-year Implementation Plan)

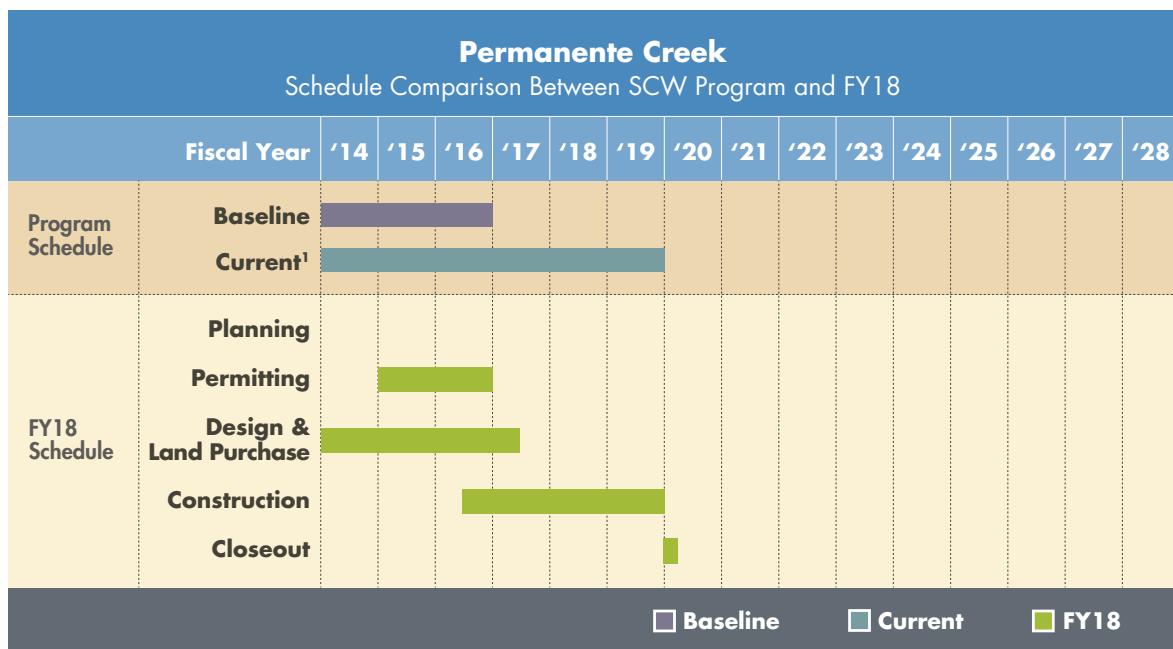
1. Provide flood protection to 1,664 parcels downstream of El Camino Real, including Middlefield Road and Central Expressway.

### Geographic Area of Benefit: Mountain View and Los Altos

## Project Location



## Schedule



<sup>1</sup> Board approved a schedule adjustment through the change control process in FY16.

## Status History

Fiscal Year	Status
FY 14	ADJUSTED
FY 15	ADJUSTED
FY 16	ADJUSTED
FY 17	ON TARGET

## Status for FY18: On Target

### Progress on KPI #1:

- Continued construction of the Rancho San Antonio detention site, with completion scheduled for spring 2019.
- Continued construction of the McKelvey Park detention site, with completion scheduled for spring 2019.
- Began Channel Improvements construction in July 2017, with completion scheduled for December 2018.

## Financial Information

The project was on target with 103% of the FY18 budget expended.

Financial Summary (\$ Thousands)						
Fiscal Year 2017-2018				15-year Program		
Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
	Actual	Encumbrance	Total			
\$16,905	\$5,959	\$11,390	\$17,349	103%	\$71,643	93%

## Opportunities and Challenges

### Confidence levels

#### *Schedule: Moderate confidence*

Construction is expected to last for another year, with completion scheduled for Spring 2019. The McKelvey Park detention basin and channel improvements is occurring in heavily urbanized areas and the District will continue to coordinate closely with the cities of Mountain View and Los Altos, other affected utilities, and adjacent homeowners during construction. However, there were some delays due to the PG&E utility relocation work. The Rancho San Antonio detention basin is being constructed at an undeveloped area of a county park. An unexpected archaeological discovery has currently halted the construction at the site. Other challenges at the Rancho San Antonio detention basin include the presence of the threatened California red-legged frogs and nesting birds at the project site.

#### *Funding: High confidence*

The adjusted Safe, Clean Water 15-year project allocation, including FY18 encumbered balance, is \$73.7 million. The project expended 103% of the FY18 budget. Additional \$5.6 million has been included in the FY19 budget to complete this project.

#### *Permits: Moderate confidence*

Although all of the required permits were acquired prior to the start of construction, the unexpected archaeological discovery at Rancho San Antonio has required the re-authorization of the USACE permit. Construction cannot restart there until USACE completes a consultation with the State Historic Preservation Office and renews the permit.

*Jurisdictional Complexity: High confidence*

The McKelvey Park detention basin is being constructed on City of Mountain View property and the Rancho San Antonio detention basin is being constructed on Santa Clara County Parks property that is currently managed by Midpeninsula Regional Open Space District. Despite the high jurisdictional complexity, the confidence level is high due to close coordination with all the stakeholders.

See *Appendix D: Capital Projects Confidence Levels* for a list of confidence levels for each project by outside agency for funding, regulatory permitting, cities, counties and other agencies.

# Sunnyvale East and Sunnyvale West Channels Flood Protection Projects

## San Francisco Bay to Inverness Way and Almanor Avenue – Sunnyvale

In the early stages of the project design process, the District project team decided to join both improvement projects into a single flood protection project with a single Environmental Impact Report (EIR) to reduce construction costs and minimize construction coordination issues between the 2 channels.

The West Channel extends approximately 3 miles and upgrades existing channel capacity to provide 1% (or 100-year) riverine flood protection for 47 acres of highly valuable industrial lands, including the Onizuka Air Force Base. The East Channel extends approximately 6.4 miles and upgrades existing channel capacity to provide 1% riverine flood protection for 1,618 parcels. Both projects decrease channel turbidity and sediment by repairing erosion sites, thereby improving water quality.

### Benefits

- Provides 1% flood capacity for approximately 6.5 miles of channel along Sunnyvale East and approximately 3 miles of channel along Sunnyvale West within the City of Sunnyvale, protecting 1,618 properties (Sunnyvale East) and 47 acres (11 properties) of industrial land (Sunnyvale West)
- Improves stream water quality, by providing erosion control measures to decrease sediment and turbidity
- Identifies opportunities to integrate recreation improvements with the City of Sunnyvale and others as appropriate

### Key Performance Indicator (5-year Implementation Plan)

1. Provide riverine flood protection for 1,618 properties and 47 acres (11 parcels) of industrial land, while improving stream water quality and providing for recreational opportunities.

### Geographic Area of Benefit: Sunnyvale



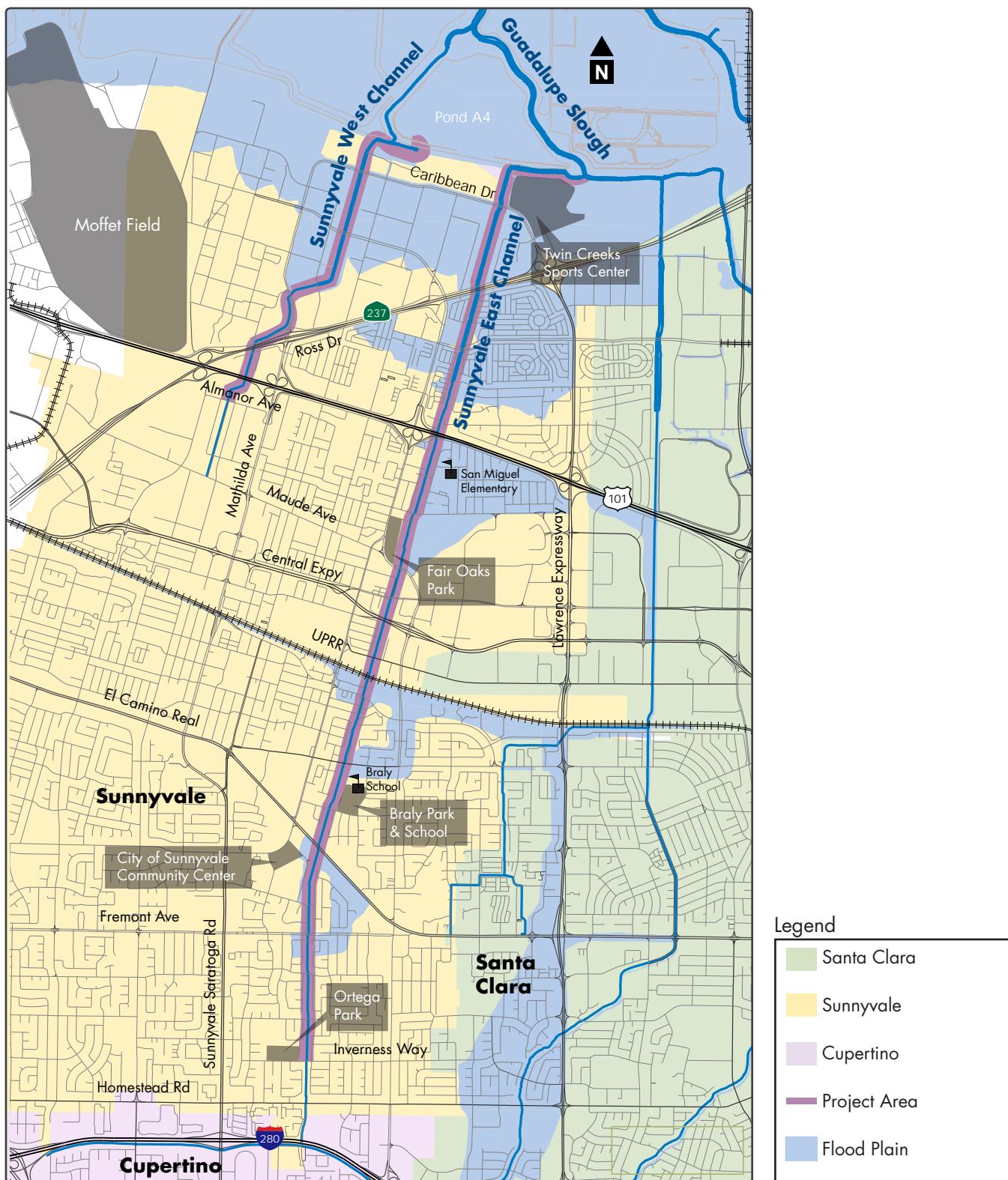
Sunnyvale East Channel (looking south).

**ADJUSTED**

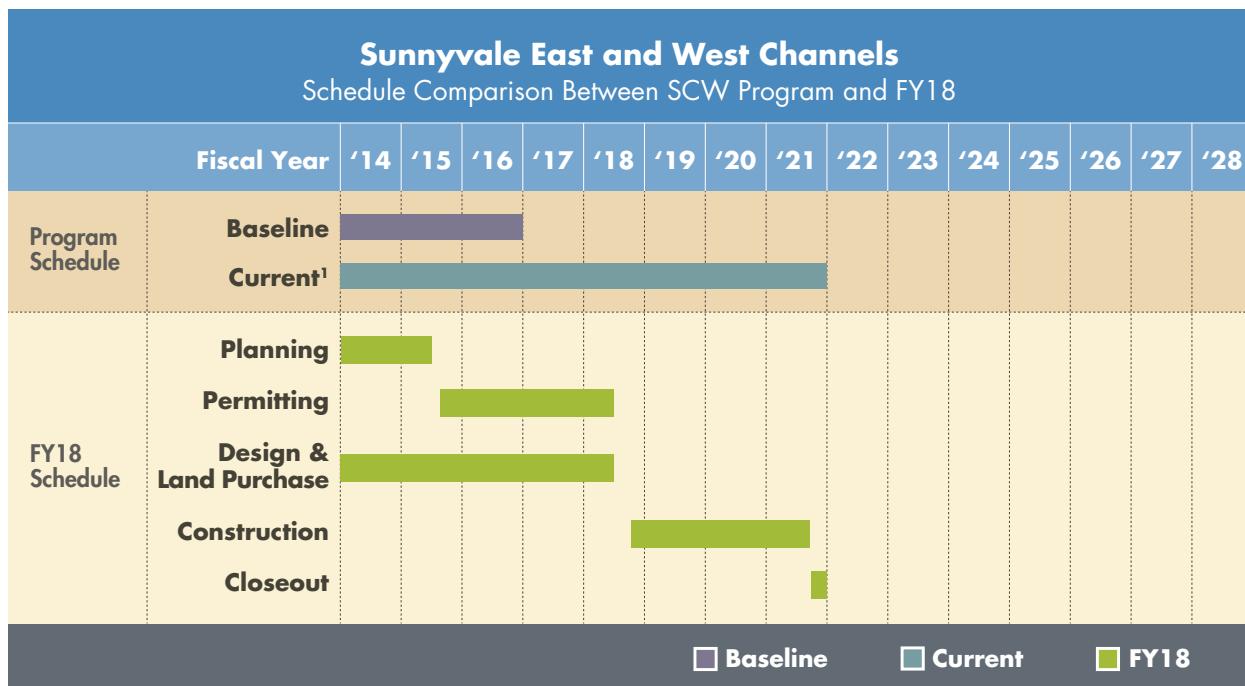
### Project FY18 Highlights

- Board approved schedule adjustment to incorporate a design change (see Opportunities and Challenges)
- Continued work on the 100% design, which is expected to be completed by December 2018
- Continued work on acquiring real estate and temporary construction easements, which are anticipated to be completed by December 2018
- Submitted all the required permit applications in June 2017 and currently in negotiations to acquire the necessary permits

## Project Location



## Schedule



<sup>1</sup>Board approved schedule adjustments through the change control process in FY16 and FY18.

## Status History

Fiscal Year	Status
FY 14	ADJUSTED
FY 15	ADJUSTED
FY 16	ADJUSTED
FY 17	ON TARGET

**Status for FY18:** Adjusted (schedule adjustment)

### Progress on KPI #1:

- 100% design is underway and is expected to be completed by December 2018.
- To date, 5 permanent rights of way, 4 temporary staging area easements, all necessary for project construction, have been acquired. The District continues to work on acquiring a parcel or leasing agreement from the adjacent properties owner for construction staging, as well as temporary construction easements from Santa Clara County and San Francisco Public Utilities Commission (SFPUC). All leasing agreement acquisitions are anticipated to be final by December 2018.
- The District submitted all the required permit applications in June 2017 to the various state and federal regulatory agencies and is currently in negotiations with these agencies to acquire the necessary permits. These activities are expected to be finalized by December 2018, which would allow project construction to begin in 2019 and be complete in 2020.

- On April 24, 2018, the District's Board of Directors approved a Memorandum of Understanding (MOU) with Google, LLC to form a partnership and to eventually negotiate a cost-sharing agreement after Google has complied with CEQA, with the City of Sunnyvale acting as the lead agency for CEQA. Google has acquired property on both sides of a segment of the Sunnyvale West Channel upstream of Caribbean Drive. Google, LLC is proposing a design change along an approximately 1,100 linear feet of the Sunnyvale West Channel as part of their proposed site development for Google to construct a wider channel with in-channel mitigation opportunities by constructing larger setback levees without floodwalls, to enhance public access, and to possibly accelerate receipt of regulatory permits, while maintaining the District's project objectives. The District's project has been delayed due to the additional time needed to incorporate potential design changes as a result of this Google MOU and continuing negotiations with the various regulatory agencies.
- The Board approved schedule adjustments for this project through the Change Control Process in FY16 and FY18.

## Financial Information

The FY18 budget included funding for construction; however, due to delays in determining suitable and appropriate project mitigation for submission in the permit applications, on-going negotiations with the various Resource Agencies to secure permits, and incorporating the Google proposed design changes, start of construction has been delayed, so the construction funding was unspent. As a result, the total project expenditures were 17% of the annual budget.

Financial Summary (\$ Thousands)						
Fiscal Year 2017-2018				15-year Program		
Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
	Actual	Encumbrance	Total			
\$4,820	\$814	\$0	\$814	17%	\$60,030	12%

## Opportunities and Challenges

### Schedule adjustment

On April 10, 2018, the Board approved a schedule adjustment for this project, extending the project completion date to FY21 to allow the additional time needed to incorporate a potential design change as a result of the District/Google MOU partnership, and to continue negotiations as partners with the various regulatory agencies. The project schedule was previously adjusted in FY16 to extend the estimated completion date to FY18 due to delays in acquiring rights of way and for exploring on-site and off-site mitigation opportunities necessary for the regulatory permits applications.

## **Confidence levels**

### *Schedule: Moderate confidence*

The District continues to work on acquiring the temporary rights of way acquisitions needed for construction and executing the necessary relocation agreements with the various utility owners. These activities are expected to be finalized in early 2019, which would allow project construction to begin in mid-2019. The design is 100% complete except for incorporation of the pending permit conditions into the construction documents. Permanent rights of way required for the project have been acquired.

### *Sunnyvale East Channel*

The most significant schedule challenge is timely completion of construction to replace the existing Caribbean Drive Bridge with a new triple cell box culvert. The District had previously requested the City of Sunnyvale to consider allowing a complete closure of Caribbean Drive to avoid a 2-year construction window, expensive detours, lane closure, public safety and other concerns that are involved with a partial closure. The City of Sunnyvale elected to require the District to complete the construction with a partial closure of Caribbean Drive, thus requiring a 2-year construction window.

### *Sunnyvale West Channel*

The most significant schedule challenge is to coordinate the construction of the Carl Road box culvert with the City of Sunnyvale Water Pollution Control Plant (WPCP), as the existing Carl Road crossing serves as their only access to portions of the WPCP facilities out in the lower San Francisco Bay region. In addition, the existing Carl Road box culvert has several gravity extraction conduits to existing adjacent landfills that are required to remain in service 24 hours/7 days a week. Finding resolutions to these WPCP challenges are ongoing.

In addition, the District is working and coordinating with Google on their proposed enhancement efforts along an approximately 1,100 linear feet of the Sunnyvale West Channel as part of their proposed site development for Google to construct a wider channel with in-channel mitigation opportunities by constructing larger setback levees without floodwalls. Google will need to dedicate the right of way necessary to the District for the proposed wider channel.

### *Funding (combined): High confidence*

This project is fully funded by the Safe, Clean Water Program. The potential District/Google cost sharing agreement would have the District agree to contribute to the Google project the estimated amount the District would have spent if Google had not proposed their Project. Therefore, this District/Google cost-sharing would not result in any additional construction costs for the District's Project.



*Sunnyvale West, looking south at Carl Road*

*Permits (combined): Moderate confidence*

The most significant overall challenge faced by the project is securing the necessary regulatory agency permits in a timely manner to proceed with construction. The District submitted all the required permit applications in June 2017 to the various state and federal regulatory agencies, and is currently in negotiations with these agencies to acquire the necessary permits. Google is expected to submit their required permit applications to the required resource agencies by November 2018, which may possibly help accelerate receipt of regulatory permits for the project.

Upon receipt of the various regulatory agency permits, permit conditions and requirements will have to be incorporated into the Final Construction Documents before the project can be advertised for construction.

The Sunnyvale East and West Channels were man-made storm drain systems constructed by the District in the 1950's and 1960's. Both channels have no naturally occurring headwaters, resulting in extremely limited existing channel vegetation; the project's environmental impacts are expected to be minimal. The District's recent discussions with Regional Board indicate there are some significant differences of opinion regarding the existing beneficial uses of Sunnyvale East and West Channels. The District is actively working with the Regional Board to attempt to resolve these differences.

*Jurisdictional Complexity (combined): High confidence*

The entire project is within the limits of the City of Sunnyvale (City). The District has coordinated the planning and design efforts by forwarding to the city the 30%, 60%, and 90% design submittals for review and comment. The District has worked with the City to purchase the necessary project rights of way, including temporary staging areas. The District and City have also executed a cost sharing agreement for the construction of public trails as part of the project, and have executed a Joint Use Trail Agreement.

See Appendix D: *Capital Projects Confidence Levels* for a list of confidence levels for each project by outside agency for funding, regulatory permitting, cities, counties and other agencies.



Completed Trestle Bridge along Upper Berryessa Creek.

**COMPLETED**

### Project FY18 Highlights

- Completed construction of Phase 3 of the Montague Expressway bridge replacement
- Provided the necessary support to USACE including engineering support and inter-agency coordination during construction

## Berryessa Creek Flood Protection

### Calaveras Boulevard to Interstate 680

This project is a partnership with the U.S. Army Corps of Engineers (USACE) to plan, design and construct flood improvements to protect homes in Milpitas and San José, as well as Silicon Valley's commercial district, from a 1% (100-year) flood flow. The Bay Area Rapid Transit (BART) 10-mile extension project spans from Warm Springs Station in Fremont to the North San José Berryessa area. The new Milpitas Station is underground and is located in the Berryessa Creek floodplain. The Berryessa Creek project's completion is critical to the BART extension's planned operations.

### Benefits

- Protects up to 1,662 businesses and homes in Milpitas and San José from a 1% flood, saving potential damages in excess of \$527 million
- Provides protection for more than 30 miles of streets including Highway 237 and Montague Expressway

### Key Performance Indicators (5-year Implementation Plan)

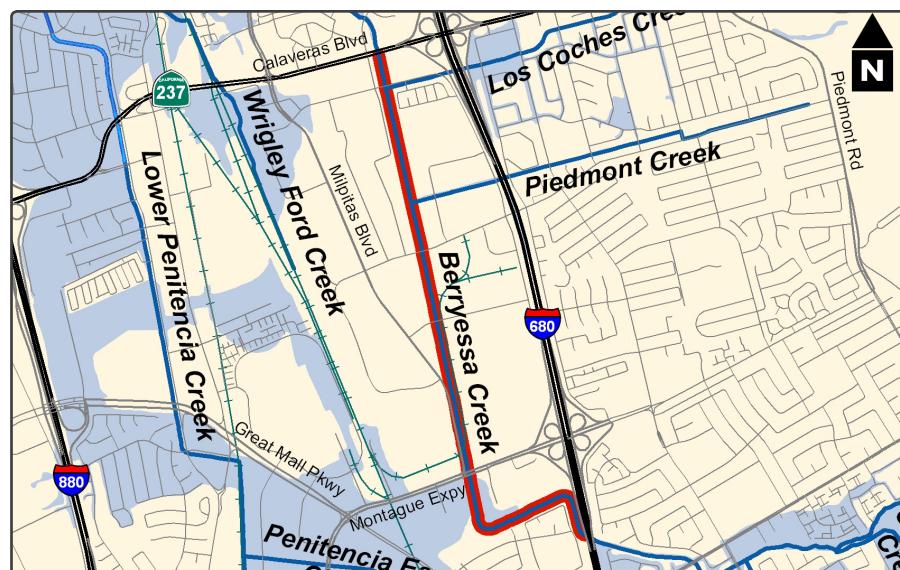
- Local and federal funding flood damage reduction for 1,662 parcels, including 1,420 homes, 170 businesses, and 5 schools/institutions.
- Using local funds only, a reduced project would extend from the confluence with Lower Penitencia upstream to Montague Expressway, modifying 2 miles of channel and protecting approximately 100 parcels.

### Geographic Area of Benefit: Milpitas and San José

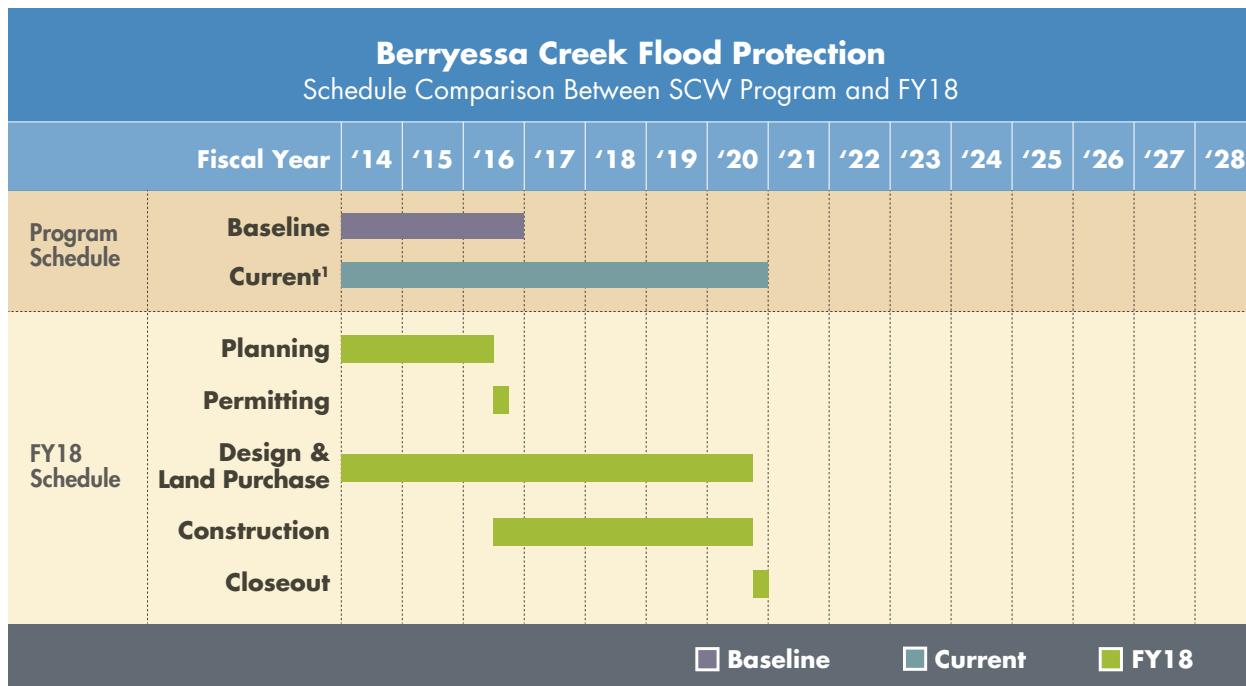
### Project Location

#### Legend

<span style="color:red">—</span>	Project Location
<span style="background-color:#668dce;"></span>	1% Flood plain



## Schedule



<sup>1</sup>Board approved a schedule adjustment through the change control process in FY16.

## Status History

Fiscal Year	Status
FY 14	ADJUSTED
FY 15	ON TARGET
FY 16	ADJUSTED
FY 17	ON TARGET

**Status for FY18:** Completed

**Progress on KPI #1 and #2 (combined):**

- This project was completed in FY18, upon the finalization of Phase 3 construction of the Montague Expressway bridge replacement in June 2018.

The District provided the necessary support to USACE including engineering support and coordination with the City of Milpitas, San Francisco Bay Regional Water Quality Control Board (RWQCB), and Union Pacific Railroad (UPRR) during construction phase in FY18.

## Financial Information

In FY18, this project expended 31% of its total annual budget. The channel construction was completed in December 2017 and the project balance is still being finalized and reconciled with the project partners and agreement obligations. The District and the USACE will finalize the project's check and balances by the end of 2018.

Financial Summary (\$ Thousands)							
Fiscal Year 2017-2018						15-year Program	
Project No. and Name	Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
		Actual	Encumbrance	Total			
26174041 Design and Construction	\$2,232	\$1,078	\$7	\$1,085	49%	\$24,322	60%
26174042 Real Estate Acquisitions	\$1,350	\$18	\$0	\$18	1%	\$29,554	56%
<b>Total</b>	<b>\$3,582</b>	<b>\$1,096</b>	<b>\$7</b>	<b>\$1,103</b>	<b>31%</b>	<b>\$53,876</b>	<b>58%</b>

## Opportunities and Challenges

The original Clean, Safe Creeks Plan for flood protection along Berryessa Creek stretched from Lower Penitencia Creek to Old Piedmont Road, protecting 1,814 parcels. After USACE completed its benefit-to-cost assessment it was found that the federal criterion was not met for the reach that lies upstream of Interstate 680. The portion of the project that was constructed under the Safe, Clean Water Program is the preferred project with local and federal funding (KPI #1), as depicted by the project map. The remainder of the original Clean, Safe Creeks Plan project elements are being constructed by the District with local funding only through the Watershed Stream Stewardship Fund. The portion of Berryessa Creek between Lower Penitencia Creek and Calaveras Boulevard is being constructed in 2 phases. Phase 1 was completed in December 2016 which spans between Lower Penitencia Creek and just downstream of North Abel Street. Phase 2 is under construction, which spans between North Abel Street and Calaveras Boulevard, is anticipated to be complete by December 2018.

### Confidence levels

*Schedule: High confidence*

USACE began construction in late September 2016 and completed the channel construction work in December 2017 to coordinate with the Milpitas BART station opening schedule for late 2017.

The potential presence of underground hazardous materials and cultural resources such as Native American human remains burial, and the trestle bridge replacement work performed by UPRR was a concern during construction. However, all the obstacles were overcome, and the project was completed on time.

*Funding: High confidence*

The project is fully funded by the Safe, Clean Water Program.

*Permits: High confidence*

The San Francisco Bay RWQCB issued a Section 401 water quality certification for project construction in March 2016 and USACE's construction was ongoing. In April 2017, the RWQCB adopted an order issuing waste discharge requirements which include new mitigation for construction impacts. However, the channel construction was completed on time, and no necessary steps were taken.

*Jurisdictional Complexity: High confidence*

Coordination effort with the City of Milpitas was extensive during the construction phase of the project.

See Appendix D: *Capital Projects Confidence Levels* for a list of confidence levels for each project by outside agency for funding, regulatory permitting, cities, counties and other agencies.



*Construction of short-term improvements at the Rock Springs neighborhood.*

### ON TARGET

#### Project FY18 Highlights

- For the preferred project, signed a Memorandum of Agreement with USACE to conduct a Feasibility Study with as-needed technical help from the USACE, paid by the District
- For the local funding only project, constructed the short-term flood relief solutions for the Rock Springs neighborhood

## Coyote Creek Flood Protection

### Montague Expressway to Tully Road – San José

The project is located in the central portion of the Coyote Watershed and extends approximately 9 miles between Montague Expressway and Tully Road in San José.

#### Preferred project: A federal-state-local partnership

The primary project objective is to reduce the risk of flooding to homes, schools, businesses, and highways in the Coyote Creek floodplain for floods up to the level of flooding that occurred on February 21, 2017, approximately a 20 to 25 year flood event, and includes planning, design, and project construction. Alternative funding sources, including federal funding, state grants, and additional local funding sources, are being explored and will need to be secured for full construction of the project.

#### Local funding only project:

The local funding only option includes identifying short-term flood relief solutions that are permittable and do not exacerbate flooding elsewhere, with implementation to begin prior to the 2017-2018 winter season. In addition, under the local funding only option, the District will complete the planning and design phases of the preferred project, and identify prioritized elements of the project for construction with the remaining local funds.

## Flooding History and Project Background

Flooding has occurred many times within the Coyote Creek Watershed, including along portions of Coyote Creek in 1911, 1917, 1931, 1958, 1969, 1982, 1983, 1997, 1998, and 2017. The largest flow recorded on Coyote Creek was 25,000 cubic feet per second in 1911, prior to construction of the current 2 water-supply reservoirs in the upper watershed. The worst flooding in the project reach since Anderson Reservoir was constructed in 1950, occurred in February 2017. Coyote Creek overtopped its banks at several locations between Montague Expressway and Tully Road. Businesses and hundreds of homes were inundated by creek waters for many hours. Highway 101 near Watson Park and various local streets were closed due to flooding, and thousands of residents had to be evacuated and sheltered.

The Coyote Creek Project is located in the central portion of the Coyote Watershed on the mainstem of Coyote Creek, within the City of San José. The original project reach extended approximately 6.1 miles between Montague Expressway and Highway 280; however, the project reach was extended approximately 2.9 miles upstream to Tully Road in 2017 to include the Rock Springs neighborhood and incorporate the areas impacted by the February 21,

2017 flood event. In addition to the primary objective of reducing the risk of flooding to homes, schools, businesses, and highways from Coyote Creek flood events, the project may evaluate opportunities to improve fisheries, stream habitat values, and public access.

## Benefits

- Implements short-term flood relief solutions
- Provides flood risk reduction for approximately 1,000 parcels from the level of flooding that occurred on February 21, 2017, approximately a 20 to 25 year flood event, when the entire project from Montague Expressway to Tully Road is constructed
- Improves water quality, enhances stream habitat and provides for recreational opportunities
- Incorporates revegetation and aesthetic elements of the Coyote Creek park chain in the project

## Key Performance Indicators (5-year Implementation Plan)

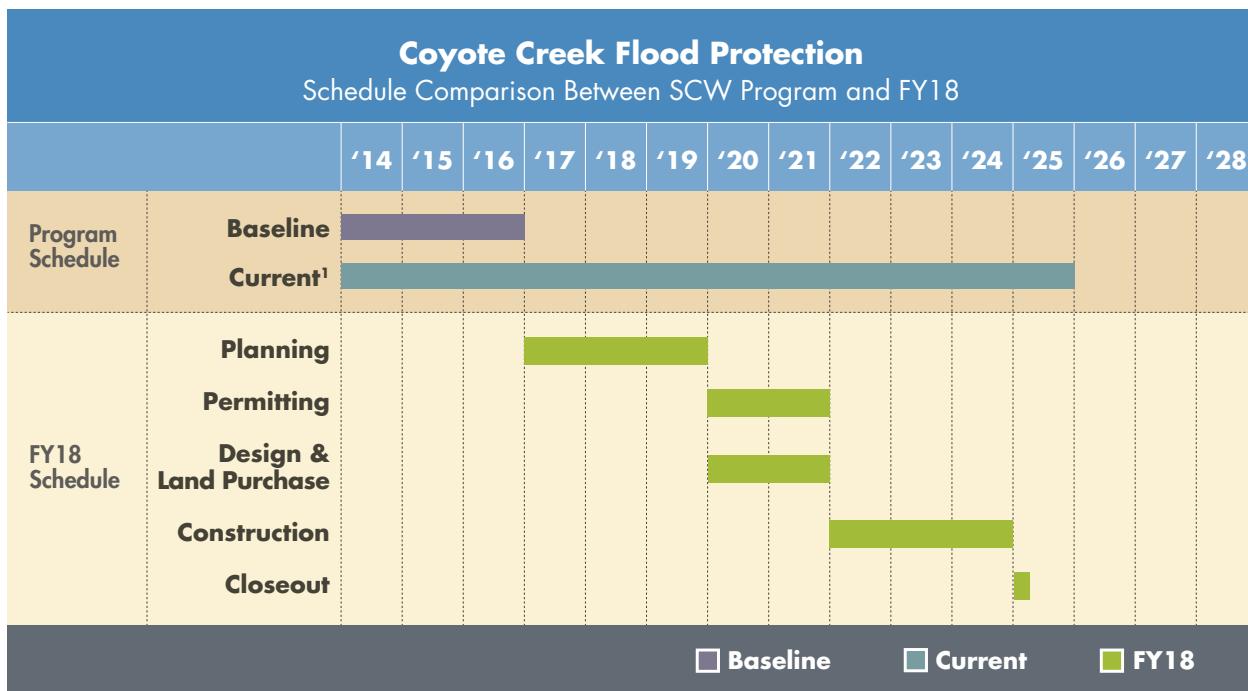
1. Preferred project with federal, state, and local funding: Secure alternative funding sources to construct a flood protection project that provides flood risk reduction from floods up to the level of flooding that occurred on February 21, 2017, approximately a 20 to 25 year flood event, between Montague Expressway and Tully Road.
2. With local funding only: (a) Identify short-term flood relief solutions and begin implementation prior to the 2017-2018 winter season; (b) Complete the planning and design phases of the preferred project; and (c) With any remaining funds, identify and construct prioritized elements of the preferred project.

## Geographic Area of Benefit: San José

## Project Location



## Schedule



<sup>1</sup>Board approved a schedule adjustment through the change control process in FY16.

## Status History

Fiscal Year	Status
FY 14	<b>ADJUSTED</b>
FY 15	<b>NOT ON TARGET</b>
FY 16	<b>ADJUSTED</b>
FY 17	<b>MODIFIED</b>

## Status for FY18: On Target

### Progress on KPI #1:

- On May 21, 2018, the District signed a Memorandum of Agreement with the U.S. Army Corps of Engineers (USACE), which allows the District to conduct a Feasibility Study with as-needed technical help from the USACE, paid by the District. This Feasibility Study is the first step in pursuing federal and state funding for a preferred project.
- In June 2018, the District released an Request for Proposals (RFP) for a consultant to create a Scope of Work for the USACE Feasibility Study.

### Progress on KPI #2:

- The Rock Springs short-term flood relief solution was designed and began construction prior to the 2017-2018

winter season. The main flood components were completed by January 2018, with construction close-out occurring in March 2018.

- Through a unique partnership with the City of San José, invasive vegetation, such as the giant reed (arundo donax), was removed from District and City property in parts of the creek that experienced the most flooding.
- The levee adjacent to the South Bay Mobile Home Park was repaired to fix the damage caused by the February 2017 flooding.
- The District installed or repaired several visual gage stations along bridges and road crossings to create better flood identification and communication for future storm events.
- The Problem Definition Report for the local project is in progress, and will be completed by September 2018.

## Financial Information

In FY18, the project expended 100% of its total annual budget. The original FY18 budget was over-spent due to the design and construction of the Rock Springs Temporary Flood Barrier project, which was not foreseen when the FY18 budget was created. A budget adjustment of \$99,972 was approved on June 11, 2018 which allowed the project to continue operations for the rest of the fiscal year.

Financial Summary (\$ Thousands)						
Coyote Creek Flood Protection Study and Partial Construction						
Fiscal Year 2017-2018				15-year Program		
Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
\$1,365	Actual	Encumbrance	Total	100%	\$34,038	6%
\$1,359	\$4	\$1,363				

## Opportunities and Challenges

### Partnership opportunities

There are many opportunities that are being evaluated for the Coyote Creek project. Alternative funding sources, including federal funding, state grants, and additional local funding sources, are being explored and will need to be secured for full construction of the project. The local funding only option can be accomplished with the \$25.8 million remaining for the project and includes identifying short-term flood relief solutions that are permissible and do not exacerbate flooding elsewhere, with implementation to begin prior to the 2017-2018 winter season. The project reach has several parks that may be useable for flood storage, as well as well-established public trails along certain parts of the creek.

## Location challenges

There are several challenges that the project may experience. Empirical evidence from the 2002 to 2013 planning cycle indicates that the residential community does not want to be disturbed, and is not in favor of creek widening. It also indicates that the regulatory development of the Least Environmentally Damaging Practicable Alternative (LEDPA) analysis favors integrated water resources management, as opposed to a single focus project (such as flood protection). Another challenge is that the District has limited and sporadic property rights within the project limits along the creek, and ongoing maintenance costs are relatively small. Project implementation may include acquisition of continuous right of way for construction and future operations and maintenance.

## Confidence levels

### *Schedule: High confidence*

Based on the adjusted schedule with a target completion date of FY25, the District should be able to complete the local funding only option (KPI #2).

### *Funding: Moderate confidence*

The Safe, Clean Water Program should fully fund the local funding only project's planning and design phases, and identification of prioritized elements of the project for construction. To complete the preferred project, the District will need to secure additional funding. Alternative funding sources, including federal funding, state grants, and additional local funding sources, are being explored and will need to be secured for full construction of the preferred project.

### *Permits: Moderate confidence*

Permitting will depend on the alternative selected. The project need is apparent from the recent flooding and resource agencies will be consulted early in the project formulation process to expedite permitting.

### *Jurisdictional Complexity: High confidence*

All local agencies, the City of San José and County of Santa Clara, are fully cooperating due to the significance of the need for the project.

See Appendix D: *Capital Projects Confidence Levels* for a list of confidence levels for each project by outside agency for funding, regulatory permitting, cities, counties and other agencies.



Project completion celebration.

COMPLETED

**Project FY14 Highlights**

- Provided flood damage reduction for 2,483 parcels that included: 2,270 homes, 90 businesses, and 7 schools/institutions.

# Calabazas Creek Flood Protection

## Miller Avenue to Wardell Road

The project's objective was to provide 1% (or 100-year) flood protection to 2,483 parcels in the Calabazas Creek watershed between Miller Avenue and Wardell Road. A long detention basin parallel to the creek was built to capture high storm flows, preventing the creek from overtopping its banks in a 1% flood.

The District repaired 14 severely eroding banks, using as little "hardscape" as possible. The project incorporated environmental stewardship principles to reduce erosion with vegetation to enhance habitat for wildlife. The District reduced the cost of the project by collaborating with the City of San José, which rebuilt a bicycle motocross (BMX) park at Calabazas Park.

On November 20, 2012, the District and the cities of Saratoga, San José, and Cupertino received notification from the Federal Emergency Management Agency (FEMA) that the Letter of Map Revision (LOMR) submittal for the Calabazas Creek Flood Protection Project had been approved resulting in a revision of the Flood Insurance Rate Map for the requested area upstream of Miller Avenue. The project objectives have been met.

## Benefits

- Provide flood protection on Calabazas Creek from Miller Avenue to Wardell Road
- Protect 2,483 parcels from 1% flooding
- Provide erosion protection measures to improve stream quality
- Identify environmental restoration and enhancement and recreational enhancements, where opportunities exist

## Key Performance Indicator (Completed)

1. Flood damage reduction for 2,483 parcels that include: 2,270 homes, 90 businesses, and 7 schools/institutions.

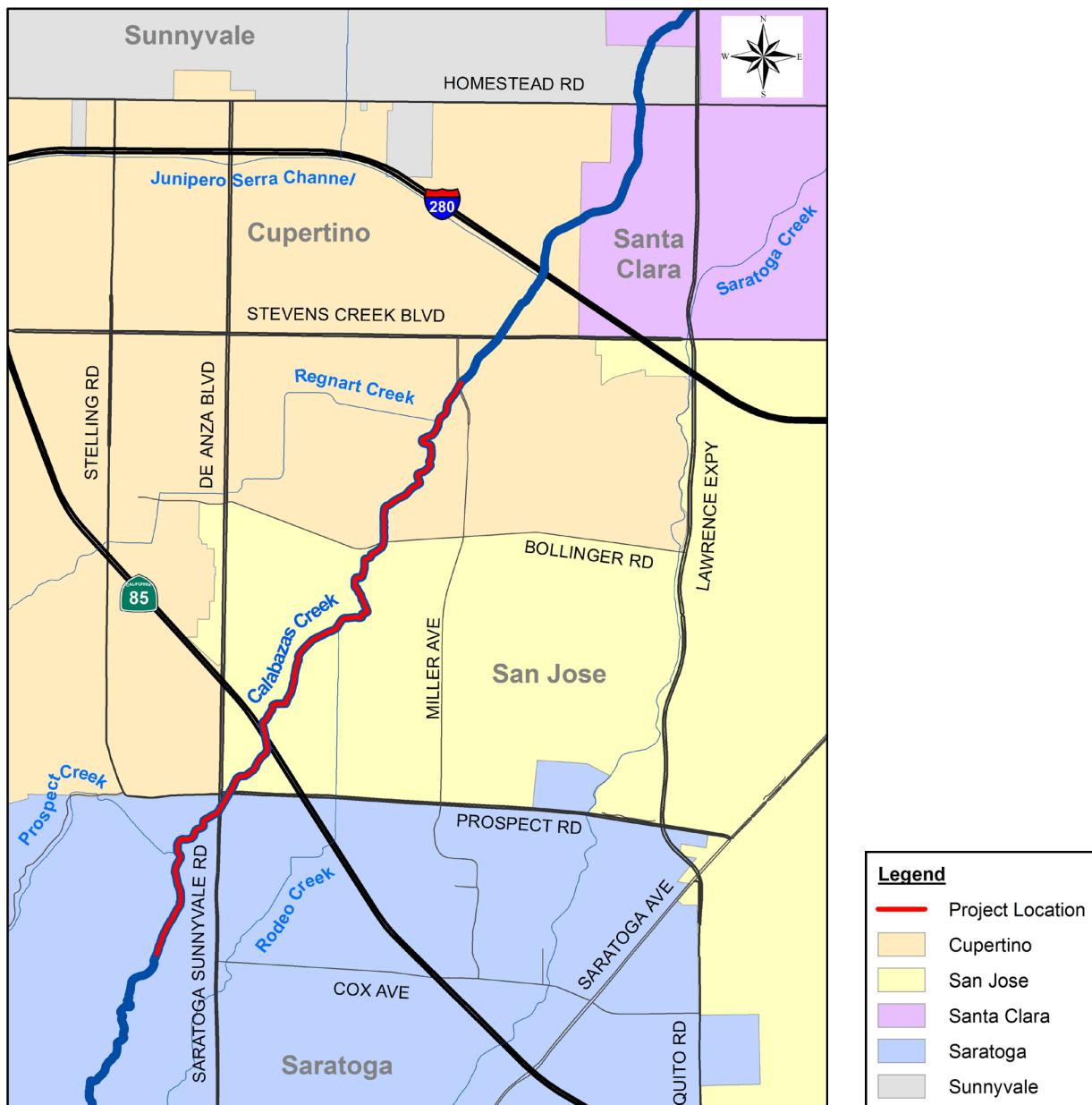
## Geographic Area of Benefit: Saratoga, San José and Cupertino

**Project Status:** Completed in FY14

## Status History

Fiscal Year	Status
FY 14	<b>COMPLETED</b>
FY 15	<b>COMPLETED</b>
FY 16	<b>COMPLETED</b>
FY 17	<b>COMPLETED</b>

## Project Location





Penitencia Creek Trail.

ADJUSTED

**Project FY18 Highlights**

- Board approved schedule adjustment to accommodate the no-cost time extensions approved for 2 grant projects to be completed in FY19 (see Opportunities and Challenges)
- Continued to manage the 3 remaining open grant projects; 1 project is complete and is expected to close in early FY19

## Clean, Safe Creeks Grants Projects

The Clean, Safe Creeks (CSC) Program awarded grants in 3 categories to encourage community involvement in protecting and enhancing the environment. The District awarded grants for 45 projects under the Clean, Safe Creeks Program between FY10 and FY13. As reported in the FY13 Clean, Safe Creeks report, all KPIs have been met as per the executed agreements. However, some grant projects have yet to be completed.

### Benefits

These grant agreements address:

- CSC Outcome 2.1: Pollution prevention
- CSC Outcome 3.2: Healthy creek and bay ecosystems are protected, enhanced or restored as determined appropriate by the Board
- CSC Outcome 4.1: There are additional open spaces, trails and parks along creeks and in the watersheds when reasonable and appropriate

### Key Performance Indicators (5-year Implementation Plan)

1. CSC 2.1: Reduce urban runoff pollutants in south county cities.
2. CSC 3.2: Creation of additional wetlands, riparian habitat and favorable stream conditions for fisheries and wildlife. (Equivalent of 100 acres of tidal or riparian habitat created or restored).
3. CSC 4.1: Community partnership to identify and provide public access to 70 miles of open space or trails along creeks.

### Geographic Area of Benefit: Countywide

### Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ON TARGET

**Status for FY18:** Adjusted (schedule adjustment)

**Progress on KPI #1 - #3 (combined):**

- As of the end of FY18, 19 of the 22 Clean Safe Creeks (CSC) grant projects have been closed. Of the remaining 3 open projects, 1 project is complete and is expected to close in early FY19. 2 projects received no-cost time extensions for an additional 12-months to complete construction and are expected to be completed in FY19.

The list of projects and their current status, is included in the Clean Safe Creeks (CSC) Grant Table below.

## CSC Grant Table

No.	Grantee Organization	Project Name	Grant Amount Total	Project Start Date	Project End Date	Status
1	City of Saratoga	Village Creek Trail Planning	\$39,000	7/1/2011	7/25/2015	Closed
2	Acterra	Adobe Creek Restoration: Redwood Grove to Shoup Park	\$46,365	6/28/2011	12/30/2015	Closed
3	City of Cupertino	Stevens Creek Corridor Park and Restoration Project, Phase 2	\$285,000	6/28/2011	12/30/2015	Closed
4	City of Cupertino	Stevens Creek Corridor Park and Restoration, Phase 2	\$565,000	6/28/2011	12/30/2015	Closed
5	City of San Jose	Penitencia Creek Trail, Reach 1	\$300,000	6/15/2010	12/30/2017	Closed
6	City of San Jose	Three Creeks Trail – Trestle and Interim Improvements	\$450,000	6/28/2011	12/30/2017	Extended
7	City of Santa Clara- Parks & Recreation Department	City of Santa Clara – Ulistac Natural Area Environmental Enhancement	\$106,976	6/28/2011	12/30/2015	Closed
8	City of Saratoga	Village Creek Trail, Phase 1	\$27,000	6/28/2011	12/30/2015	Cancelled
9	SCVWD with: CA Wildlife Fndn, S.F. Estuary Invasive Spartina Project and the USFWS Don Edwards S.F. Bay National Wildlife Refuge	Invasive Spartina Monitoring & Control in South Bay Marshes & Creeks	\$75,000	6/28/2011	12/30/2015	Closed
10	Town of Los Altos Hills	Adobe Creek Restoration Project at Edith Park	\$83,960	9/27/2011	12/30/2015	Closed
11	Town of Los Gatos	Creekside Sports Park Pedestrian Bridge	\$300,000	6/28/2011	12/30/2015	Cancelled
12	Trout Unlimited	Little Arthur Creek Streamflow Stewardship Implementation Project	\$220,500	6/28/2011	12/30/2017	Completed

## CSC Grant Table

No.	Grantee Organization	Project Name	Grant Amount Total	Project Start Date	Project End Date	Status
13	West Valley College	Tennis Court Wetland Enhancement Project	\$109,000	6/28/2011	12/30/2015	Closed
14	West Valley College	Vasona Creek Enhancement Project: Bridge #3 Replacement and Channel Stabilization	\$200,000	6/28/2011	12/30/2015	Closed
15	West Valley College	Vasona Creek Native Vegetation Enhancement Project	\$180,000	6/28/2011	12/30/2015	Closed
16	Acterra	San Francisquito Creek	\$80,000	10/19/2013	6/30/2016	Closed
17	City of Gilroy	Ronan Channel Trail – Interim Project, Phase 1	\$190,000	1/29/2014	12/31/2017	Extended
18	City of Los Altos	Adobe Creek Restoration at Redwood Grove – Phase 2	\$90,000	12/27/2013	6/30/2016	Closed
19	City of San Jose	Los Alamitos Creek – Coleman Road Under-Crossing	\$62,727	1/8/2014	12/31/2017	Closed
20	Downtown Streets Team	Coyote Creek Encampment Cleanup	\$197,848	1/8/2014	6/30/2016	Closed
21	Save the Bay	Palo Alto Baylands Tidal Marsh Transition Zone Restoration	\$75,000	12/27/2013	6/30/2016	Closed
22	Town of Los Altos Hills	O'Keefe Preserve Purissima Creek Habitat Restoration Project	\$98,425	10/19/2013	6/30/2016	Closed

**Closed:** Project completed – Final project report provided and invoice paid.

**Completed:** Project completed – Final project report and invoice pending.

**In-Progress:** Project on schedule for completion by end date.

**Cancelled:** Project cancelled by grantee.

**Extended:** Project schedule or scope is being amended.

## Financial Information

In FY18, project expenditures were 110% of the total annual budget. While there were no new grant allocations under this project because the funding was already encumbered, not enough labor hours were budgeted for FY18 to account for staff administration of the remaining CSC grant projects. Therefore, the project expenditures were slightly over the budgeted allocations.

Financial Summary (\$ Thousands)						
Fiscal Year 2017-2018				15-year Program		
Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
	Actual	Encumbrance	Total			
<b>\$72</b>	<b>\$79</b>	<b>\$0</b>	<b>\$79</b>	<b>110%</b>	<b>\$2,864</b>	<b>124%</b>

## Opportunities and Challenges

### Schedule adjustment

The Board approved a schedule adjustment for this project on May 23, 2018. During the Clean, Safe Creeks tenure, 22 projects were awarded grants. Pursuant to the grant agreements, all were to have been completed by the end of FY18, however, 2 agreements were amended to extend their terms until the end of calendar year 2018. To allow staff to manage and close-out these 2 extended grant agreements, the Board approved adjusting the Clean, Safe Creeks Grants Project completion date from FY18 to FY19.

### Grant extensions

The City of San José received an extension for the Three Creeks Trail – Trestle and Interim Improvements project due to delays regarding the suitability of the Environmental Impact Report (EIR). The \$450,000 grant is for construction of a clear-span bridge trestle and an interim trail near Los Gatos Creek. The initial agreement, which was scheduled to expire on December 30, 2015, had earlier been extended to expire on December 31, 2017, but was amended again to expire on December 31, 2018. The City has secured their permits from the US Army Corps of Engineers and the San Francisco Bay Regional Water Quality Control Board. However, they are awaiting other permits to begin construction.

The City of Gilroy received a \$190,000 grant for the Ronan Channel Trail – Interim Project, Phase 1. The project was set to expire on June 30, 2016; however, due to staff turnover and subsequent understaffing that has slowed down the project, the project received an extension to December 31, 2017. In FY18, the City reported ongoing staff turnover and challenges in securing permits, therefore, the City was approved for another extension. The agreement is now set to expire on December 31, 2018.

# Appendices

## Appendix A

Financial Information **A-1, A-2, & A-3**

## Appendix B

Inflation Assumptions **B-1**

## Appendix C

Cumulative Partnerships and Grants Information for Projects A2, B3, B7 and D3 **C-1**

## Appendix D

Capital Project Confidence Levels **D-1**

## Appendix E

Cumulative Trash Removal Data for Projects B1-B4, B6 and B7 **E-1**

## Appendix F

Schedule Comparison for Flood Protection Projects **F-1**

## Appendix G

Projects by Organizational Structure **G-1**

## Appendix H

Projects by District Mission Area **H-1**

## Appendix I

Countywide Map of Projects **I-1**

## Appendix J

Glossary **J-1**

## Appendix A: Annual Financial Summary Fiscal Year 2017-2018 (\$ Thousands)

	Adopted Budget	Budget Adjustment	Adjusted Budget	Budgetary Actual Total			% Received
Revenue				42,488	1,296	12,674	100% 78% 66%
Special Tax	42,511		42,511				
Interest	1,670		1,670				
Other	19,158		19,158				
Subtotal	<b>63,339</b>		<b>63,339</b>				<b>89%</b>
<b>Transfers and Refunding Proceeds</b>	11,378		11,378				—
<b>Total Funding Sources</b>	<b>74,717</b>		<b>74,717</b>				<b>76%</b>
Costs	Adopted Budget	Budget Adjustment <sup>1</sup>	Adjusted Budget	Budgetary Actual			% of Budget Spent
				Actual	Encumbrance	Total	
Priority A: Ensure a safe, reliable water supply							
A1 Main Avenue and Madrone Pipelines Restoration	14,617	(467)	14,150	5,960	7,552	13,511	95%
A2 Safe, Clean Water Partnerships and Grants	158	—	158	37	130	167	105%
A3 Pipeline Reliability Project	—	—	—	—	—	—	—
Subtotal	<b>14,775</b>	(467)	<b>14,308</b>	<b>5,996</b>	<b>7,682</b>	<b>13,678</b>	<b>96%</b>
Priority B: Reduce toxins, hazards and contaminants in our waterways							
B1 Impaired Water Bodies improvements	1,486	—	1,486	1,148	455	1,604	108%
B2 Interagency Urban Runoff Program	699	—	699	754	—	754	108%
B3 <sup>1</sup> Pollution Prevention Partnerships and Grants	764	—	764	103	—	103	13%
B4 Good Neighbor Program: Encampment Cleanup	908	557	1,465	1,486	—	1,486	101%
B5 Hazardous Materials Management and Response	19	—	19	29	—	29	150%
B6 Good Neighbor Program: Remove Graffiti and Litter	559	—	559	469	28	498	89%
B7 <sup>3</sup> Support Volunteer Cleanup Efforts and Education	211	110	321	109	—	109	34%
Subtotal	<b>4,647</b>	<b>667</b>	<b>5,314</b>	<b>4,098</b>	<b>484</b>	<b>4,582</b>	<b>86%</b>
Priority C: Protect our water supply from earthquakes and natural disasters							
C1 Anderson Dam Seismic Retrofit	—	—	—	—	—	—	—
C2 Emergency Response Upgrades	370	—	370	353	10	364	98%
Subtotal	<b>370</b>	—	<b>370</b>	<b>353</b>	<b>10</b>	<b>364</b>	<b>98%</b>
Priority D: Restore wildlife habitat and provide open space							
D1 Management of Revegetation Projects	1,256	—	1,256	1,055	32	1,088	87%
D2 Revitalize Riparian, Upland and Wetland Habitat	917	—	917	466	335	801	87%
D3 <sup>1</sup> Grants and Partnerships to Restore Wildlife Habitat and Provide Access to Trails	—	—	—	—	—	—	—
D4 Fish Habitat and Passage Improvements	1,442	(110)	1,332	278	182	459	35%
D5 Ecological Data Collection and Analysis	1,378	1,500	2,878	1,367	3	1,371	48%
D6 Creek Restoration and Stabilization	770	—	770	319	255	574	74%
D7 Partnerships for the Conservation of Habitat Lands	1,306	290	1,595	363	—	363	23%
D8 South Bay Salt Ponds Restoration Partnership	—	—	—	—	—	—	—
Subtotal	<b>13</b>	<b>303</b>	<b>315</b>	<b>38</b>	<b>—</b>	<b>38</b>	<b>12%</b>
Subtotal	<b>7,081</b>	<b>1,982</b>	<b>9,064</b>	<b>3,886</b>	<b>807</b>	<b>4,694</b>	<b>52%</b>
Priority E: Provide flood protection to homes, business, schools, and highways							
E1.1 Vegetation Control for Capacity	1,908	—	1,908	898	—	898	47%
E1.2 Sediment Removal	864	—	864	658	1	659	76%
E1.3 Maintenance of Newly Improved Creeks	—	—	—	—	—	—	—
E1.4 Vegetation Management for Access	371	—	371	513	4	517	139%
E2.1 Coordination with Local Municipalities on Flood Communication	321	95	416	172	75	247	59%
E2.2 Flood-Fighting Action Plans	—	—	—	—	—	—	—
E3 Flood Risk Reduction Studies	664	—	664	570	81	652	98%
E4 Upper Penitencia Creek	—	—	—	—	—	—	—
E5 San Francisquito Creek	7,338	2,991	10,329	2,331	6,741	9,072	88%
E6 Upper Llagas Creek	1,148	32,969	34,117	11,275	1,126	12,400	36%
E7 San Francisco Bay Shoreline Protection	—	6,409	6,409	876	—	876	14%
E8 Upper Guadalupe River	6,544	18,376	24,920	22,573	59	22,631	91%
Subtotal	<b>19,158</b>	<b>60,840</b>	<b>79,998</b>	<b>39,866</b>	<b>8,086</b>	<b>47,952</b>	<b>60%</b>
Subtotal	<b>16,906</b>	<b>(1)</b>	<b>16,905</b>	<b>5,959</b>	<b>11,390</b>	<b>17,349</b>	<b>103%</b>
Subtotal	<b>4,820</b>	<b>—</b>	<b>4,820</b>	<b>814</b>	<b>—</b>	<b>814</b>	<b>17%</b>
Subtotal	<b>—</b>	<b>3,582</b>	<b>3,582</b>	<b>1,096</b>	<b>7</b>	<b>1,103</b>	<b>31%</b>
Subtotal	<b>—</b>	<b>1,365</b>	<b>1,365</b>	<b>1,359</b>	<b>4</b>	<b>1,363</b>	<b>100%</b>
Subtotal	<b>72</b>	<b>—</b>	<b>72</b>	<b>79</b>	<b>—</b>	<b>79</b>	<b>110%</b>
Subtotal	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>
Subtotal	<b>21,798</b>	<b>4,946</b>	<b>26,744</b>	<b>9,306</b>	<b>11,401</b>	<b>20,708</b>	<b>77%</b>
Subtotal of All Outcome Costs	<b>67,828</b>	<b>67,969</b>	<b>135,797</b>	<b>63,507</b>	<b>28,471</b>	<b>91,978</b>	<b>68%</b>
SCW Planning and Development	3,218	(95)	3,123	3,010	4	3,014	97%
Debt Proceeds	(35,500)	—	(35,500)	(33,457)	—	(33,457)	—
Debt Service	2,417	—	2,417	437	—	437	18%
Management and Maintenance of Acquired Properties	163	—	163	109	—	109	66%
<b>Total Program Cost</b>	<b>\$38,127</b>	<b>\$67,874</b>	<b>\$106,001</b>	<b>\$33,605</b>	<b>\$28,475</b>	<b>\$62,081</b>	<b>59%</b>
<b>Net Increase/(Decrease) to Reserves</b>	<b>36,590</b>		<b>31,284</b>			<b>(5,623)</b>	

<sup>1</sup> Includes carryforward of unspent prior year capital budget.

# Appendix A: Cumulative Financial Summary Fiscal Year 2013-2018 (\$ Thousands)

	15-year Plan	FY13 Enc Bal & Cap Project Reserve	Board <sup>1</sup> Approved	Adjusted 15-year Plan	Program-To-Date Actual Total			% Received	Current 15-year Forecast
<b>Revenue</b>									
Special Tax	722,739			722,739				199,074	28%
Interest	11,676			11,676				6,947	45%
Other	79,714			79,714				24,098	30%
<b>Total</b>	<b>814,129</b>			<b>814,129</b>				<b>230,119</b>	<b>28%</b>
<b>Beginning CSC Reserves Transfers and Refunding Proceeds</b>	115,623	80,474		196,097				178,074	178,074
<b>Total Funding Sources</b>	<b>929,752</b>	<b>80,474</b>	–	<b>1,010,226</b>				<b>431,269</b>	<b>1,029,263</b>
	15-year Plan	FY13 Enc Bal & Cap Project Reserve	Board <sup>1</sup> Approved	Adjusted 15-year Plan	Program-To-Date Actual			% of Adj. Plan Spent	Current 15-year Forecast <sup>3</sup>
					Actual	Encumbrance	Total		15-year Forecast/above (below) 15-year Plan
<b>Priority A: Ensure a safe, reliable water supply</b>									
A1 Main Avenue and Madrone Pipelines Restoration <sup>2</sup>	8,303	–	9,400	17,703	8,750	7,552	16,301	92%	17,703
A2 Safe, Clean Water Partnerships and Grants	2,360	–	(557)	1,803	750	313	1,063	60%	1,759
A3 Pipeline Reliability Project	12,923	–	(1,334)	11,589	–	–	–	–	11,589
<b>Subtotal</b>	<b>23,586</b>	–	<b>7,509</b>	<b>31,095</b>	<b>9,500</b>	<b>7,864</b>	<b>17,364</b>	<b>56%</b>	<b>31,051</b> <b>(44)</b>
<b>Priority B: Reduce toxins, hazards and contaminants in our waterways</b>									
B1 Impaired Water Bodies Improvements	26,982	445	–	27,427	5,812	681	6,493	24%	25,359
B2 Interagency Urban Runoff Program	12,641	–	–	12,641	3,257	–	3,257	26%	11,777
B3 Pollution Prevention Partnerships and Grants	7,595	–	–	7,595	1,472	700	2,172	29%	7,712
B4 Good Neighbor Program: Encampment Cleanup	5,209	105	557	5,871	5,608	–	5,608	96%	6,016
B5 Hazardous Materials Management and Response	618	–	–	618	130	1	131	21%	514
B6 Good Neighbor Program: Remove Graffiti and Litter	10,036	2	–	10,038	2,369	28	2,398	24%	9,337
B7 Support Volunteer Cleanup Efforts and Education	2,430	–	–	2,430	928	–	928	38%	2,611
<b>Subtotal</b>	<b>65,511</b>	<b>552</b>	<b>557</b>	<b>66,620</b>	<b>19,576</b>	<b>1,410</b>	<b>20,987</b>	<b>32%</b>	<b>63,326</b> <b>(3,294)</b>
<b>Priority C: Protect our water supply from earthquakes and natural disasters</b>									
C1 Anderson Dam Seismic Retrofit	67,053	–	–	67,053	14,000	–	14,000	21%	66,053
C2 Emergency Response Upgrades	3,357	–	–	3,357	1,517	10	1,527	45%	3,400
<b>Subtotal</b>	<b>70,410</b>	–	–	<b>70,410</b>	<b>15,517</b>	<b>10</b>	<b>15,527</b>	<b>22%</b>	<b>69,453</b> <b>(957)</b>
<b>Priority D: Restore wildlife habitat and provide open space</b>									
D1 Management of Vegetation Projects	22,259	–	–	22,259	3,485	38	3,523	16%	18,028
D2 Revitalize Stream, Upland and Wetland Habitat	18,190	–	–	18,190	1,458	335	1,793	10%	19,150
D3 Grants and Partnerships to Restore Wildlife Habitat and Provide Access to Trails	24,092	–	–	24,092	3,028	2,144	5,172	21%	24,422
D4 Fish Habitat and Passage Improvements	29,176	358	–	29,534	5,782	374	6,157	21%	42,512
D5 Ecological Data Collection and Analysis	9,020	–	–	9,020	1,574	502	2,076	23%	9,181
D6 Creek Restoration and Stabilization	16,719	–	–	16,719	1,015	–	1,015	6%	16,719
D7 Partnerships for the Conservation of Habitat Lands	10,524	–	–	10,524	–	–	–	–	8,000
D8 South Bay Salt Ponds Restoration Partnership	4,694	–	(280)	4,415	270	–	270	6%	4,414
<b>Subtotal</b>	<b>134,673</b>	<b>358</b>	<b>(280)</b>	<b>134,752</b>	<b>16,613</b>	<b>3,394</b>	<b>20,007</b>	<b>15%</b>	<b>142,426</b> <b>7,674</b>
<b>Priority E: Provide flood protection to homes, business, schools, and highways</b>									
E1.1 Vegetation Control for Capacity	24,560	11	–	24,571	5,150	2	5,152	21%	28,866
E1.2 Sediment Removal	9,832	16	–	9,848	2,563	1	2,564	26%	13,495
E1.3 Maintenance of Newly Improved Creeks	19,051	–	–	19,051	–	–	–	–	19,051
E1.4 Vegetation Management for Access	6,156	–	–	6,156	2,034	4	2,038	33%	6,572
E2.1 Coordination with Local Municipalities on Flood Communication	2,530	–	–	2,530	697	75	772	30%	3,207
E2.2 Flood-Fighting Action Plans	1,361	–	–	1,361	–	–	–	–	(1,361)
E3 Flood Risk Reduction Studies	9,374	–	–	9,374	3,250	162	3,411	36%	7,705
E4 Upper Penitencia Creek	59,413	–	(11,256)	48,157	–	–	–	–	48,157
E5 San Francisquito Creek	47,740	2,907	6,934	57,581	32,255	12,429	44,684	78%	57,581
E6 Upper Llagas Creek	84,098	6,784	34,449	125,331	39,606	4,823	44,429	35%	125,331
E7 San Francisco Bay Shoreline Protection	22,288	–	2,657	24,945	4,344	145	4,489	18%	24,973
E8 Upper Guadalupe River	69,112	39,382	(14,245)	94,249	30,106	3,854	33,960	36%	94,249
<b>Subtotal</b>	<b>355,515</b>	<b>49,100</b>	<b>18,539</b>	<b>423,154</b>	<b>120,004</b>	<b>21,495</b>	<b>141,499</b>	<b>33%</b>	<b>429,187</b> <b>6,032</b>
<b>Clean, Safe Creeks Capital Flood Protection Projects</b>									
Permanente Creek Flood Protection	22,111	9,398	40,134	71,643	42,320	24,136	66,457	93%	71,643
Sunnyvale East and West Channels Flood Protection	82,249	4,463	(26,682)	60,030	6,381	918	7,299	12%	60,292
Berryessa Creek Flood Protection	25,288	6,757	21,830	53,876	27,467	3,879	31,346	58%	53,876
Coyote Creek Flood Protection	18,663	5,757	9,618	34,038	2,100	4	2,104	6%	34,038
CSC Environmental Enhancement and Open Space Grant <sup>3</sup>	–	2,864	–	2,864	2,802	752	3,554	124%	4,116
Calabazas Creek Miller to Wardell	–	1,223	–	1,223	66	–	66	5%	159
<b>Subtotal</b>	<b>148,311</b>	<b>30,462</b>	<b>44,900</b>	<b>223,673</b>	<b>81,136</b>	<b>29,691</b>	<b>110,826</b>	<b>50%</b>	<b>224,124</b> <b>450</b>
<b>Subtotal of All Outcome Costs</b>	<b>798,007</b>	<b>80,472</b>	<b>71,226</b>	<b>949,705</b>	<b>262,345</b>	<b>63,865</b>	<b>326,210</b>	<b>34%</b>	<b>959,566</b> <b>9,861</b>
SCW Planning and Development	31,999	2	–	32,002	10,775	4	10,779	34%	33,302
Cost of Financing	43,119	–	–	43,119	–	–	–	0%	30,077
Debt Proceeds <sup>4</sup>	–	–	–	–	(43,619)	–	(43,619)	0%	–
Debt Service	–	–	–	–	471	–	471	0%	–
Management and Maintenance of Acquired Properties	–	–	–	–	532	–	532	0%	–
Overhead Adjustment	–	–	–	–	283	–	283	0%	–
Market Valuation Reserve	–	–	–	–	–	–	–	0%	–
Currently Authorized Projects <sup>5</sup>	–	–	–	–	–	–	105,500	0%	–
Operating and Capital Reserve	56,627	–	(71,226)	(14,599)	–	–	31,112	0%	12,525
<b>Total Program Cost</b>	<b>\$929,753</b>	<b>\$80,474</b>	<b>\$0</b>	<b>\$1,010,227</b>	<b>\$230,787</b>	<b>\$63,869</b>	<b>\$431,269</b>	<b>43%</b>	<b>\$1,035,470</b> <b>\$25,243</b>

<sup>1</sup> Board approved adjustments include changes to Safe Clean Water capital projects based on the Board approved FY19 CIP.

<sup>2</sup> Cost of the project is \$17.7M. The Water Utility fund will pay \$11.4M via transfer; net cost to Safe Clean Water is \$6.3M.

<sup>3</sup> The \$4.1M Current 15-yr Forecast includes CSC encumbrance carry forward, plus additional cost to administer remaining CSC grants.

<sup>4</sup> The \$43.6M are proceeds from the 2012 and 2017 debt refundings (\$10.2M) and Commercial Paper issuance in 2018 (\$33.3M).

<sup>5</sup> The \$106M currently authorized projects reserve represents previously budgeted capital dollars that were unspent due to project delays and will be carried forward and spent in a future year.

## Appendix A: Other Revenue (\$ Thousands)

**Table A-3.1** Other Revenue — Original Forecast

Other Revenue Sources	Project Numbers	Original Forecast
<b>Capital Reimbursements</b>		
<b>State Subventions</b>		
E6 — Upper Llagas Creek (Buena Vista Rd. to Wright Ave.)	26174051s	\$30,000
E8 — Upper Guadalupe River (I-280 to Blossom Hill Rd.)	26154001s	\$33,044
CSC — Berryessa Creek (Calaveras Blvd. to I-680)	26174041s	\$12,841
<b>City of Morgan Hill</b>		
E6 — Upper Llagas Creek (Buena Vista Rd. to Wright Ave.)	26174051s	\$780
	<b>Sub-Total</b>	<b>\$76,665</b>
<b>Rental Income</b>		
Fund 26	-	\$3,049
	<b>Sub-Total</b>	<b>\$3,049</b>
	<b>Combined Total</b>	<b>\$79,714</b>

## Appendix A: Other Revenue (\$ Thousands)

**Table A-3.2** Other Revenue Comparison — Actuals Program to Date (FY14-18) vs. Forecast (FY19-28)

Other Revenue Sources	Project Numbers	Actuals Program to Date (FY14-18)	Forecast (FY19-28)
<b>Capital Reimbursements</b>			
<b>State Subventions</b>			
E6 - Upper Llagas Creek (Buena Vista Rd. to Wright Ave.)	26174051s	\$6,439	\$27,924
E8 - Upper Guadalupe River (I-280 to Blossom Hill Rd.)	26154001s	\$3,628	\$20,885
CSC - Berryessa Creek (Calaveras Blvd. to I-680)	26174041s	-	\$4,384
<b>Department of Water Resources Prop. 1E Grant</b> CSC - Berryessa Creek (Calaveras Blvd. to I-680)	26174041s	\$7,304	\$2,397
<b>Department of Water Resources Prop. 84 Grant</b> E7 - San Francisco Bay Shoreline	26444001s	\$178	\$242
<b>City of Morgan Hill</b> E6 - Upper Llagas Creek (Buena Vista Rd. to Wright Ave.)	26174051s	\$1,141	-
<b>City of Mountain View</b> Permanente Creek	26244001s	\$642	\$355
<b>Cost Share Agreements</b>			
<b>Guadalupe River Coordinated Mercury Monitoring Plan</b> B1 - Impaired Water Bodies Improvement	26752043s	\$6	-
<b>San Francisquito Creek Joint Powers Authority</b> E5 - San Francisquito Creek	26284002s	\$3,206	\$1,314
	<b>Sub-Total</b>	<b>\$22,544</b>	<b>\$57,501</b>
<b>Rental Income</b>			
Fund 26		\$1,458	-
	<b>Sub-Total</b>	<b>\$1,458</b>	<b>-</b>
<b>Other</b>			
Fund 26		\$96	-
	<b>Sub-Total</b>	<b>\$96</b>	<b>-</b>
	<b>Combined Total</b>	<b>\$24,098</b>	<b>\$57,501</b>
	<b>Grand Total</b>	<b>\$81,599</b>	

## Appendix B: Inflation Assumptions

	Actual FY14	Actual FY15	Actual FY16	Actual FY17	Actual FY18	Budget FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28
<b>COLA Increase %</b>	1.5%	2.0%	3.0%	3.0%	3.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	2.0%	2.0%
<b>Step Increase %</b>	0.2%	0.3%	0.3%	0.5%	0.3%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
<b>Benefits Rate</b>	52.7%	50.5%	49.6%	53.3%	52.7%	53%	55%	57.3%	58.9%	61.5%	63.4%	65.1%	66.8%	68.6%	70.6%
<b>Supplies &amp; Svcs Inflation*</b>	3.0%	2.3%	2.7%	3.5%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
<b>Construction Cost Inflation**</b>	4.9%	2.3%	3.5%	1.5%	3.0%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.0%	3.0%	3.0%

\*Actual supplies and services inflation based on the San Francisco-Oakland-San Jose Consumer Price Index for all urban consumers as of June 2018

\*\* Actual construction cost inflation based on Engineering News Record results for the San Francisco Bay Area

## Appendix C: Cumulative Partnerships and Grants Information for Projects A2, B3, B7 and D3

SCW Project Number	Grant Cycle FY	Grantee/Community Partner	Project Name	Description of Project	Amount Awarded	Total Project Cost	Status	Measurable Outcomes
A2	2014	City of Palo Alto	Business Water Use Reports	Research water use among small to medium businesses in the hospitality and food service industries in the Palo Alto service area, how best to communicate with these businesses about their water use, and what benchmarking information is available. Develop and pilot Business Water Reports that use behavioral science, data analytics and targeting, and informative graphics to communicate water use and spur conservation among businesses receiving Water Use Reports.	\$45,000	\$0	Cancelled	
A2	2014	City of Palo Alto	Real-Time Water Use Monitoring - Optimal Utility Management Through Visibility to Water Consumption	Provide customers with the information and tools to monitor their own water use in real-time, thereby empowering them to actively manage water use at their facilities and address leaks or other anomalies in water use before encountering potential financial, mechanical, structural problems or liability risks. Selected Vendor will provide setup, configuration, analytics, real-time data service, weekly and monthly reports, real-time alerts, ongoing software support, updates and maintenance. Vendor will work with CPAU staff to calibrate the sensing devices for each meter whenever necessary, including when and if meters are evaluated for testing, repair and replacement through the CPAU meter auditing program. Vendor will facilitate training for the customer and CPAU staff, as needed, on use of the software monitoring platform. Vendor will assist CPAU staff with the final data evaluation to document program results.	\$30,000	\$0	Cancelled	
A2	2014	Our City Forest	Innovative Nursery Irrigation	Design and install a prototype of an innovative water-conserving irrigation system in an educational garden.	\$30,000	\$5,291	Cancelled	
A2	2014	First 5 Santa Clara County	Water Hydration Stations	Install 50 hydration stations in local schools to help the schools be in compliance with SB1413 and the Healthy Hunger-Free Kids Act.	\$250,000	\$250,000	Completed June 30, 2018	<ul style="list-style-type: none"> <li>All grants have been awarded, but First 5 is still in contract with the schools to purchase the stations.</li> <li>The District conducted a survey to assess the impact of the Water to Go stations at the schools. Of the 37 schools that have already installed their stations, 16 completed the survey.</li> <li>Participants were asked about the overall success of the program and 75% said the Water to Go stations have been very successful at their schools and 25% believe it has been somewhat successful.</li> </ul>
A2	2015	Bevilacqua-Knight, Inc.	Employee Rewards for Water and Energy Savings Program	Partnering with large corporate employers in Santa Clara County for outreach to educate employees on water efficiency and conservation in their homes through an employee rewards program.	\$50,000	\$64,324	Closed June 2017	<ul style="list-style-type: none"> <li>Ran a 3-month campaign which engaged 431 employees from eBay, VMware and BKi (4% of eligible employees at eBay, 8% at VMware, and 76% at BKi)</li> <li>Participants logged 59 projects and 3,590 actions that cumulatively were estimated to save over 1.3 million gallons of water a year</li> <li>97% of VMware participants and 95% of eBay participants thought the challenge was a helpful way to learn about ways to save water</li> <li>Almost 90% of participants from VMware and eBay believed it was very important that their company provided opportunities to live a sustainable lifestyle at home and work</li> </ul>
A2	2015	San Jose Water Company	Advanced Metering Infrastructure (AMI) Residential Pilot Program	Evaluate advance metering infrastructure (AMI) system for single family residential customers - Willow Glen area. Evaluate conservation benefits of AMI cellular network technical system. Transmit data via existing cell network. Provide real time data and leak detection to customers and utility staff.	\$50,000	\$120,015	Extended to June 2018	

## Appendix C: Cumulative Partnerships and Grants Information for Projects A2, B3, B7 and D3 continued

A2	2015	San Jose Water Company	Advanced Metering Residential Pilot Program	Research to evaluate water saving potential from using new class - advanced water meters (ultrasonic E-Series from Badger Meter Inc.) for single family residential customers in the San Jose Water Company service area - Willow Glen.	\$50,000	\$107,844	Extended to June 2018	
A2	2015	City of Morgan Hill	Experimental Turf Irrigation Technology Evaluation at Morgan Hill Aquatics Center	Test KISS, a new lawn irrigation technology system, on two lawn areas near swimming pool on Morgan Hill facility. This pilot project will be designed specifically to test the technology with experimental and control areas of turf.	\$48,500	\$64,900	Closed December 2017	<ul style="list-style-type: none"> <li>City of Morgan Hill did not experience water savings with the KISS system. Using a different species of grass in a different soil type or climate may conclude with a more positive result</li> <li>Conclusion is that the system is appropriate only at sites that are very closely managed by a small number of people and in a low traffic area.</li> </ul>
A2	2015	Deal Closet LLC DBA Bay Area Fresh	Low Cost Hydroponics for Cost Effective Growth of Leafy Vegetables	Study efficiency of using farm wastewater for commercial growth of leafy vegetable crops through a hydroponic system in Santa Clara County. Using a method that captures wastewater from commercial Nutrient Film Technique (NFT) hydroponic system and recycles it into another hydroponic method, a method that requires no pumps or additional nutrients beyond those initially applied (Kratky's method).	\$25,000	\$42,144	Closed June 2017	<ul style="list-style-type: none"> <li>Conducted 4 experiments to find out if recycling hydroponic wastewater statistically impacts the growth of food crops</li> <li>Results showed that there was really no effect at all between using recycled wastewater and using fresh water, and it's unlikely additional experiments would produce a result as extreme or more extreme than the one from this sample.</li> <li>Plant sizes were in favor of using the Kratky system over the NFT system. The NFT plants were smaller and slower growing, but had tighter clustering of sizes.</li> <li>This project demonstrated that the Kratky method outdoors outperforms NFT in all cases tested except in the case of heavily reused wastewater.</li> </ul>
A2	2016	City of Mountain View	Advanced Metering Infrastructure Feasibility Study and Pilot	Evaluate available Advanced Metering Infrastructure (AMI) systems and their ability to optimize meter reading efficiency, increase customer service, and promote water-use efficiency within Mountain View.	\$50,000	\$175,000	Extended to December 2018	
A2	2016	Purissima Hills Water District	Residential Advanced Metering Program	Test the efficacy of advanced metering infrastructure (AMI) in reducing water use amongst Purissima Hills Water District Customers.	\$50,000	\$99,200	Closed June 2018	<ul style="list-style-type: none"> <li>Purissima Hills Water District installed 400 Beacon endpoints and registers and compared water usage by Beacon to the Orion AMR.</li> <li>Conclusion was that there was significant water savings by customers with Beacon meters over those with Orion meters</li> </ul>
A2	2016	Veloctron LLC	Micro Streams Faucet Adapter	Install micrometer sensors in businesses in Santa Clara County to determine water use and detect leaks to help save water.	\$30,000	\$40,000	Closed June 2018	The 0.1 Gallon Per Minute (GPM) micro-stream faucet adapter developed by Veloctron was proven to be capable of providing satisfactory sensation and efficiency for common washing activities with significantly lower water consumption.
A2	2017	Fisher Nickel, Inc.	Dipper Well Replacement	Measure existing dipper well(s) water use and verify the savings potential through a replacement with best available technologies in a real-world food service setting.	\$37,500	\$50,000	In progress	
A2	2017	Ecology Action	Every Drop Counts - Investigation of Water Savings from Indoor, Non-Potable Rainwater Harvesting Systems	Partner with residential, commercial, and institutional property owners to construct and monitor water use and water quality of rooftop rainwater harvesting systems for indoor, non-potable uses such as toilet flushing and clothes washing.	\$49,940	\$97,765	In progress	

## Appendix C: Cumulative Partnerships and Grants Information for Projects A2, B3, B7 and D3 continued

<b>A2</b>	<b>2018</b>	<b>Purissima Hills Water District</b>	<b>Residential Advanced Metering Program</b>	Purchase and install 600 advanced metering devices to demonstrate that Advanced Metering Infrastructure (AMI) is an efficient tool to achieve sustained water savings in Purissima Hills Water District (PHWD) service area. This follow-on program will provide the funds to substantially complete the AMI program throughout the PHWD system.	<b>\$50,000</b>	<b>\$163,969</b>	<b>In progress</b>	
<b>A2</b>	<b>2018</b>	<b>Trust for Conservation Innovation DBA Multiplier</b>	<b>Beyond Leak Detection</b>	The purpose of this pilot study is to characterize the typical water savings – both from leak detection and water conservation behavior – that household experience following installation of a next-generation leak detection device. The study will evaluate two devices found to have design features well-suited to encouraging water conservation.	<b>\$50,000</b>	<b>\$66,667</b>	<b>In progress</b>	
<b>A2</b>	<b>2018</b>	<b>PS Creations LLC</b>	<b>PlateScrape</b>	The PlateScrape is a device built to pre-sanitize plates more efficiently and is estimated to use over 75% less water than current spray off methods. The goal of the project is to pilot test the new technology to determine water and/or energy savings.	<b>\$30,192</b>	<b>\$60,392</b>	<b>In progress</b>	
				<b>A2 Sub-Total</b>	<b>\$926,132</b>	<b>\$1,407,511</b>		

<b>B3</b>	<b>2014</b>	<b>San Jose Parks Foundation</b>	<b>Trash Free Coyote Creek Cleanup and Surveillance Project</b>	The goal is to create a trash free zone in the Coyote Creek riparian corridor between Tully Road and Hellyer Park (including the park) so as to reduce trash and pollution and their associated impacts on water quality and fishery beneficial uses.	<b>\$26,783</b>	<b>\$80,760</b>	<b>Closed Sept. 30, 2015</b>	<ul style="list-style-type: none"> <li>14 cleanups</li> <li>Over 80,000 pounds trash removed</li> <li>1,296 volunteers participated in a 3-hour event</li> <li>Monthly coordination meetings with Park Rangers, Environmental Services and the Water District</li> </ul>
<b>B3</b>	<b>2014</b>	<b>California Product Stewardship Council</b>	<b>Secure Pharmaceutical Collection Bin Expansion</b>	The project will prevent pharmaceutical waste from contaminating waterways by establishing 50 new convenient and secure pharmaceutical collection bins in pharmacies, hospitals and police stations in Santa Clara County that will be distributed to increase convenience to all county residents.	<b>\$206,417</b>	<b>\$276,352</b>	<b>Completed June 30, 2017</b>	<ul style="list-style-type: none"> <li>29 collection sites installed in local pharmacies and a few fire and police departments.</li> <li>Over a ton-and-a-half (3,280 pounds) of prescription medication has been collected from the bins; some sites were emptied every week.</li> <li>Produced a video to educate county residents about the consequences of improper medicine disposal as well as the appropriate disposal method.</li> </ul>
<b>B3</b>	<b>2014</b>	<b>West Valley College</b>	<b>West Valley College Parking Lot 2 Stormwater Pollution Reduction Project</b>	Implement West Valley College Stormwater Pollution Reduction Plan through installation of stormwater improvements within Parking Lot 2. Stormwater planters will be constructed in the northern sections of the existing parking lot landscape islands and in the northeastern corner of the parking lot. The planters will treat runoff from the parking lot asphalt, concrete, and interior landscaping areas. After treatment the stormwater will discharge to existing storm laterals off of Allendale Avenue.	<b>\$200,000</b>	<b>\$1,052,054</b>	<b>Extended to June 30, 2020</b>	
<b>B3</b>	<b>2014</b>	<b>County of Santa Clara</b>	<b>Green Business Program</b>	The District continues to partner with the Santa Clara County (County) Green Business Program and provides funding for Green Business certifications to promote the awareness and increase the number of certifications and re-certifications.	<b>\$240,000</b>	<b>\$240,000</b>	<b>Completed June 30, 2016</b>	<p>The partnership funded the certification of a maximum 75 business over the 3-year period. During this period, the County of Santa Clara's Green Business Program achieved the following:</p> <ul style="list-style-type: none"> <li>90 business certified/recertified in FY14</li> <li>75 businesses certified/recertified in FY15</li> <li>103 businesses certified/recertified in FY16</li> <li>An advertisement campaign in FY16 geared towards reducing urban runoff from businesses. The campaign included videos, media ads, events, website, etc.</li> </ul> <p>Over the 3-year period, the program achieved the following results:</p> <ul style="list-style-type: none"> <li>584,357 milligrams mercury reduced</li> <li>740,875,831 pounds solid waste diverted from the landfill</li> <li>955,408,254 pounds/tons Greenhouse Gas Emissions reduced</li> <li>7,075 gallons fuel saved</li> <li>530,483 gallons grease recycled</li> <li>137,936,466 gallons water saved</li> <li>410,335,999 kWh energy saved</li> </ul>
<b>B3</b>	<b>2015</b>	<b>City of San José</b>	<b>San José Watershed Community Stewardship &amp; Engagement Project</b>	The work will provide community engagement, outreach and education to engage the homeless population, and provide trash cleanup in both Coyote Creek and Guadalupe River. The work will be conducted in socio-economically diverse neighborhoods along 2 different watersheds.	<b>\$546,250</b>	<b>\$1,090,000</b>	<b>Closed June 30, 2018</b>	Awaiting final report.
<b>B3</b>	<b>2015</b>	<b>Silicon Valley Senior Services</b>	<b>Environmental Assist Pharmaceutical Pick- Up (EAPP) Program</b>	EAPP's dedicated volunteers in conjunction with local police/sheriff departments help decrease the amount of pharmaceuticals in our drinking water by assisting seniors and the disabled for safe pick-up of pharmaceutical waste; and providing information and education to Santa Clara County residents about safe disposal.	<b>\$90,525</b>	<b>\$152,185</b>	<b>Cancelled</b>	

## Appendix C: Cumulative Partnerships and Grants Information for Projects A2, B3, B7 and D3 continued

B3	2016	West Valley College	West Valley College North Walk Storm Water Quality Improvements	Treat runoff from 6 acres in the North Walk and Parking Lot 6 sub-watersheds. The project includes the installation of storm water planters, rain gardens and bio-swales to promote infiltration and provide water quality treatment.	\$71,068	\$648,301	In progress	
B3	2016	South Bay Clean Creeks Coalition	South Bay Creek Cleanup Program	The SBC3 Program recruits volunteers through trail & park tabling, canvassing adjacent neighborhoods. These volunteers can participate in TEAM 222 Clean Up program which conducts clean ups every other month at multiple sites, including corporate events; and work on citizen monitoring network.	\$60,000	\$80,000	Closed June 30, 2017	<ul style="list-style-type: none"> <li>14 Cleanups</li> <li>9.9 tons of trash collected</li> <li>442 Volunteers; 946 volunteer hours</li> <li>9 community presentations</li> <li>Developed outreach materials, including art work and video about spawning Chinook Salmon</li> <li>Conducted social media outreach</li> <li>The Coalition won the Governor's Environmental and Economic Leadership Award</li> </ul>
B3	2016	San Francisco Bay Wildlife Society	Don Edwards San Francisco Bay NWR Clean-Up 2016	Collaborate with San Jose Conservation Center and Volunteers from Don Edwards San Francisco Bay NWR to remove trash from south San Francisco Bay tidal marshlands, mudflats and adjacent uplands in Santa Clara County. Integrate Litterati™ a social media technology, to create a litter database for long-term trash reduction and provide an interpretive display for education and outreach.	\$35,391	\$73,390	Closed December 31, 2017	<p>The project accomplished the following:</p> <ul style="list-style-type: none"> <li>Removed 6280.6 lbs (3.14 tons) of trash during 45 days of Litterati cleanups accomplished by 438 people</li> <li>In addition to the Litterati cleanups, 4,403 people were reached through 5 outreach events in Santa Clara County</li> <li>Documented 13,002 photos with the Litterati app of every piece of trash collected and disposed of properly</li> <li>Cleaned 79.95 linear miles of refuge land and cleaned 100% of each first priority location, including Pond A-8, Pond A-17, Pond A-5/A-7, and Pond A-16</li> <li>Removed 509 bags of trash and cleaned 50% of a second priority area at Pond A-15</li> <li>Provided 14 presentations about trash prevention and Litterati to community organizations and volunteer groups</li> </ul>
B3	2016	Santa Clara County Creeks Coalition	Trash Free North Coyote Creek Watershed Stewardship and Engagement Project	Conduct 12 volunteer trash cleanups and outreach activities, conduct outreach activities, recruit over 700 volunteers from business and community organizations and implement a docent-led walks program along 5 miles of north Coyote Creek from Tasman Drive to Jackson Street.	\$89,399	\$142,239	Closed January 10, 2018	<ul style="list-style-type: none"> <li>Conducted 24 cleanup events and removed over 30 tons of trash from the banks of Coyote Creek in north San Jose.</li> <li>Recruited over 800 volunteers to assist with trash removal and learn about pollution prevention and ecological restoration of the creek.</li> <li>Delivered 13 presentations to community organizations and attended 12 community events to inform the public about Coyote Creek and opportunities to be stewards of the creek.</li> <li>Implemented a docent training program and led 10 public nature walks along Coyote Creek.</li> <li>Documented changes in creek encampments along Coyote Creek, between Watson Park and Tasman Drive.</li> </ul>
B3	2016	Acterra Stewardship	Greening Urban Watersheds	Over a 3-year period, provide designs for 4 rain barrels, 2 cisterns and 4 bio-retention/rain garden projects; coordinate 12 hands-on workshops to install rain barrels/gardens on city properties, and conduct 21 community creek cleanup events along 3 creeks; remove 13,000 pounds of trash from 4 miles of riparian corridors.	\$93,617	\$189,261	In progress	
B3	2016	Regents of the University of California	Effective Storage and Composting of Livestock Manures	Over a 4.5-month period, establish demonstration sites at 4 locations at McClellan Ranch, Emma Prusch and Martial Cottle Parks and the South County Airport. Outreach to livestock owners for proper manure storage and safe composting. The work will minimize pathogens from manures from entering storm water and creeks by demonstrating effective and safe composting.	\$60,000	\$213,845	In progress	
B3	2016	County of Santa Clara	Pollution Prevention and Zero Waste Project	Implement the Green Business Program, a third-party verified compliance-based program addressing surface water quality, storm water protection, pollution prevention and education. The program identifies pollution sources and provides ways to reduce use of toxic materials, and implement storm water protection practices. The program benefits water quality by avoiding impacts of improper management and air deposition on water.	\$200,000	\$690,000	In progress	
B3	2018	Loma Prieta RCD	Reducing Pollutant Source Loads	Loma Prieta Resource Conservation District (LPRCD) in Santa Clara County in partnership with the University of California Cooperative Extension (UCCE) and the United States Department of Agriculture Natural Resources Conservation Service (USDA NRCS) will provide four-prong outreach and assistance to limited resource socially disadvantaged Chinese-speaking farmers in Santa Clara County. Each prong of our approach will generate specific outputs and anticipated outcomes, which will be assessed with performance measure outcomes.	\$70,636	\$121,436	In progress	
B3	2018	Downtown Street Team - Sunnyvale	El Camino Clean Up	Prevent litter from entering the water ways along El Camino Real, between Mary Ave and Wolfe Rd. by having volunteers daily picking up litter in the gutters and provide outreach by passing out pocket ashtrays to smokers and providing literature and education to the community.	\$122,280	\$190,828	In progress	

## Appendix C: Cumulative Partnerships and Grants Information for Projects A2, B3, B7 and D3 continued

B3	2018	Downtown Street Team - Penitencia	Penitencia Creeks Team	Downtown Streets Team (DST) will work to improve water quality through reducing homelessness and the associated impacts of trash and debris on Penitencia Creek. DST will directly impact water quality by recruiting and organizing program participants living within the Project Area, along the Penitencia Creek, to clean the Penitencia Creek riparian corridor of debris and trash. DST will also conduct peer to peer outreach to assist other individuals outside the program to transition to housing and to communicate water quality concerns and encourage environmentally responsible behavior in the homeless population.	\$122,280	\$196,816	In progress	
B3	2018	Valley Transportation Authority (VTA)	Keep Santa Clara Valley Beautiful	Keep Santa Clara Valley Beautiful project will develop a focused comprehensive countywide program to reduce litter on Santa Clara County's freeways and contaminants from entering in nearby underground watersheds and creeks. The proposed project will include the following key elements: <ul style="list-style-type: none"><li>Partnering with a national subject matter expert in the community environment preservation field, who will deliver a customized litter prevention program, develop a marketing campaign, and provide technical training for local staff and community leaders.</li><li>Procurement and installation of litter enforcement signs at "hot spot" locations.</li><li>Organizing two to three local volunteer litter clean-up events and one litter prevention summit.</li></ul> The primary objective of the Keep Santa Clara Valley Beautiful project is to implement a sustainable countywide litter prevention program with measurable benefits that facilitates positive, meaningful and lasting community behavior change.	\$84,500	\$105,625	In progress	
B3	2018	Grassroots Ecology	Westwind Barn Stormwater Infiltration Project	Grassroots Ecology will bring together volunteers and community partners to increase stormwater infiltration at Westwind Community Barn in the upper Adobe Creek watershed. A set of horse paddocks was recently disassembled in a seasonally wet area of the property, and horses are still stabled at the barn located immediately above Moody Creek in Los Altos Hills. The newly decommissioned paddock area presents an opportunity to enhance stormwater infiltration and water pollution filtration above Moody Creek. Through the proposed project, Grassroots Ecology will install a series of berms and contour plantings to slow and treat surface runoff as it approaches the creek, and densely plant low-lying areas to further slow and sink runoff. Volunteers will help create berms using nuisance vegetation removed from the project site, install strategically placed native plants along the contour and in topographic low points, and monitor progress by collecting data on water quality above and below the project site.	\$70,606	\$118,219	In progress	
B3	2018	City of Milpitas	Contaminant Overflow and Backflow Prevention Project	The funds from the B3 grant will provide the City of Milpitas with the opportunity to expand the City's Contaminant Overflow and Backflow Prevention Project. During the Project, the City will install additional SmartCovers to equip the City with high-tech devices that will alarm City Employees of any possible contaminants in waterways. The Contaminant Overflow and Backflow Prevention Program has, and will continue to, enrich the community with knowledge of the City waterways and City techniques to prevent contaminated overflow, or backflow, into City and nearby, creeks.	\$30,745	\$85,383	In progress	
				<b>B3 Sub-Total</b>	<b>\$2,420,497</b>	<b>\$5,746,694</b>		

B7	2014	Acterra	Acterra Lower Peninsula Healthy Creeks Project	The Acterra Lower Peninsula Healthy Creeks Project brings together the resources and talents of nonprofit organizations, academic institutions, municipalities, government agencies, and the general public to provide a variety of hands-on creek stewardship activities and watershed education events designed to attract participants of all ages.	\$68,600	\$179,910	Closed Sept. 30, 2016	<ul style="list-style-type: none"> <li>4,225 participants (1,305 volunteers and 2,920 education participants)</li> <li>24 volunteer water quality monitoring events on Stevens, San Francisquito (and its tributaries), Matadero, Barron, and Adobe Creeks. 17 events on Permanente Creek.</li> <li>High quality data for 23 water monitoring sites and 7 benthic macroinvertebrate sites</li> <li>14.75 miles of riparian areas cleared of trash.</li> <li>18,180 pounds of trash collected</li> <li>10 World Water Monitoring Challenge events</li> <li>8 quarterly Watershed Forums</li> <li>10 newsletters</li> </ul>
B7	2014	Environmental Volunteers	Education for Clean Water	The Education for Clean Water Project will leverage the Environmental Volunteers' skilled and committed base of volunteer docents to deliver hands-on, Citizen Science based Water Resources education to school classrooms and the general public.	\$25,092	\$30,271	Closed June 30, 2015	<p>Conducted education activities in the Palo Alto Baylands Nature Preserve, utilizing the EcoCenter facility and the ecologically rich marshland surrounding it:</p> <ul style="list-style-type: none"> <li>Developed and produced site resource guide</li> <li>35 volunteer docents trained in new curriculum</li> <li>12 local elementary school classrooms (over 300 students) participated in field study excursions</li> <li>818 community members participated in clean water education program, including art show featuring thematic works by local school children; earth day event; Girls-in-Science forum; and drop in visitors at the EcoCenter</li> <li>Citizen science data collection and data-sharing through Field Scope, a citizen science data sharing project</li> <li>Youth Leadership Board developed a new website promoting wise water use</li> </ul>

## Appendix C: Cumulative Partnerships and Grants Information for Projects A2, B3, B7 and D3 continued

B7	2014	Clean Water Fund	ReThink Disposable: Preventing Riparian Trash at the Source	This is the continuation and expansion of a public-private partnership project involving Clean Water Fund (the project lead), and local government. The project (originally Taking out the Trash, but renamed ReThink Disposable), is currently a partnership with the cities of Oakland, San José, South San Francisco, San Francisco, the County of San Mateo, and Stop Waste of Alameda County.	\$82,133	\$174,036	Completed Dec. 31, 2016			<ul style="list-style-type: none"> <li>Successful Coordination with the cities of San Jose, Cupertino and Sunnyvale.</li> <li>91 food businesses and 8 institutions received promotional materials to participate in the free ReThink Disposable audit and technical assistance.</li> <li>8 presentations to various business associations and corporations in the county to promote the program to the target food business.</li> <li>12 food businesses and 1 institution successfully completed the ReThink Disposable audit yielding the following ANNUAL impact numbers:           <ul style="list-style-type: none"> <li>1,424,038 pieces of disposable food ware items eliminated</li> <li>24,265 pounds of waste prevented</li> <li>\$5,963 average cost savings after payback period was met</li> </ul> </li> <li>4 creek cleanups with 127 volunteers removing almost 4,000 pieces of trash and debris (mainly plastics) from "hot spots" on Calabazas and Coyote Creeks.</li> <li>Engaged almost 30,000 residents in the County with the new ReThink Disposable Source Reduction Pledge.</li> <li>Hosted 1 ReThink Disposable Free Community Workshop and Training with almost 60 attendees from watershed and creek groups, teachers, and local government staff.</li> <li>Coordinated with the Green Business Program on outreach and adoption of waste prevention best management practices for food businesses</li> <li>Developed a new public education tabling pop-up display</li> <li>San Jose's Hauler, Republic, promoted ReThink Disposable in a feature article in their quarterly newsletter mailed to 30,000 accounts.</li> <li>The successful results from the Santa Clara Valley Water District grant in the three pilot cities led to two new contracts with the City of Palo Alto and the Santa Clara Recycling and Waste Reduction Commission totaling \$230,000 over the next three years. This will fund 60-80 more ReThink Disposable certified food businesses and 3-5 institutions in the county.</li> <li>CWF's ReThink Disposable wins the 2015 Governor's Award for Environmental and Economic Leadership and the 2016 California Resource Recovery Association's Excellence in Waste Prevention Award.</li> </ul>
B7	2014	City of Sunnyvale	Schools Goin' Green	The cities of Sunnyvale and Cupertino are proposing to partner locally with 2-3 middle schools and 2 high schools, through their service organizations or environmental clubs, to clean up litter on and around their school campuses and neighborhoods and to implement student-led campaigns to change the littering behavior of fellow students.	\$32,250	\$47,448	Closed June 30, 2016			<p>6 schools participated in the effort to clean up litter on and around their school campuses and neighborhoods and to implement student-led campaigns to change the littering behavior of fellow students. 5 of the 6 schools also established ongoing campus Green Teams.</p> <p>Among the major outcomes:</p> <ul style="list-style-type: none"> <li>3,421 youth participated in project events</li> <li>98 cleanups over the course of the project</li> <li>Over 4,189 pounds of litter collected</li> <li>All teams participated in the City's Students Living Green App Challenge in April 2016</li> <li>Youth designed a logo for Schools Goin' Green</li> </ul> <p>The project was identified as an outstanding stormwater project by the California Stormwater Quality Association (CASQA).</p>

## Appendix C: Cumulative Partnerships and Grants Information for Projects A2, B3, B7 and D3 continued

B7	2014	Girl Scouts of Northern America	Girl Scouts Go Green in Santa Clara County	To implement an environmental outreach and education program focusing on the Priority B7 theme to "provide education and outreach for reducing pharmaceutical waste and other pollutants in our waterways (showing a benefit through awareness and engagement)."	\$44,116	\$56,205	Closed July 31, 2016	<p>The 10-week afterschool environmental stewardship program was held at 18 partner sites in Santa Clara County in which:</p> <ul style="list-style-type: none"> <li>487 girls participated</li> <li>At least 4-8 hours were spent on hands-on environmental learning.</li> <li>At least 4-6 hours were spent on environmentally-focused field trip.</li> <li>At each partner site girls engaged in two community action projects.</li> <li>More than 7,500 community members were reached through each of the girl-led community action projects.</li> </ul> <p>By the end of the program:</p> <ul style="list-style-type: none"> <li>82% of participating girls were able to name two or more actions they can personally take to prevent waste or pollutants from entering waterways, as measured by the post-program surveys.</li> <li>97% of participants were able to explain why mercury and pharmaceuticals are harmful when they enter our waterways, as measured by instructor observation.</li> <li>80% of participating girls reported that they could have a job that helps the environment, as measured by post-program surveys.</li> <li>91% of girls showed increased interest level in learning about environmental science, as measured by post-program surveys.</li> </ul>
B7	2014	Save the Bay	Clean Bay Project	The project will build on the strong track record of supporting municipalities and community groups to eliminate significant components of plastic trash in storm water and reduce highly toxic tobacco litter in the San Francisco Bay to benefit water quality and public health.	\$60,000	\$241,243	Closed June 30, 2016	<ul style="list-style-type: none"> <li>Over 2,200 pounds of micro-trash debris removed in Santa Clara County, specifically at Coyote Creek, through community-based restoration and trash removal projects; volunteers also assisted STB scientists with habitat restoration by cultivating native plants and removing non-native plants.</li> <li>Successfully advocated for the San Francisco Bay Regional Water Quality Board adopting a much stronger Municipal Regional Stormwater Permit in November 2016. The permit now includes additional trash reduction milestones and monitoring requirements, such as 70% trash reduction by 2017; 80% by 2018.</li> <li>Analyzed data from the 2015 annual reports submitted by cities, counties, and districts holding stormwater permits and using the information to support Santa Clara cities accelerate their progress towards the goal of Zero Trash by 2022.</li> <li>Created a Monitoring and Education Tool for Plastic Bag Ban Ordinances (and recently added one for Styrofoam bans). It is a database of all ordinances in the San Francisco Bay Area, from Morgan Hill in the South Bay to Cloverdale on 101 North. The database is accessed through a map interface so that one can click on a community and get a popup with information about specific ordinances or progress made toward adoption of ordinances.</li> <li>Carried out "Zero Trash, Zero Excuse" public education campaign</li> <li>San Jose's comprehensive ordinance to ban Styrofoam has now been replicated in most Santa Clara County cities.</li> <li>Successfully advocated Sunnyvale adopting and strengthening its smoking ordinance, which places the city on a path to reduce tobacco litter and second hand smoke.</li> </ul>
B7	2014	San Jose Parks Foundation	Trash Free Coyote Creek Education and Outreach Project	The "Trash Free Coyote Creek Education and Outreach Project" is (1) to reach out to neighborhood and civic groups, trail users and businesses to educate them about the potential for cleaning up and keeping the Coyote Creek clean through volunteer cleanups and (2) to enlist their participation in creek cleanups and weekly creek inspections to create a Trash Free Coyote Creek.	\$42,199	\$59,339	Closed Sept. 30, 2015	<ul style="list-style-type: none"> <li>150 people attend a day-long Coyote Creek Howl conference held at San Jose State University</li> <li>9 informative brochures produced on topics such as birds, plants, geology of Coyote Creek</li> <li>32 presentations to community organizations</li> <li>1-2 email newsletters a month to about 1,000</li> </ul>

## Appendix C: Cumulative Partnerships and Grants Information for Projects A2, B3, B7 and D3 continued

<b>B7</b>	<b>2018</b>	<b>Guadalupe River Park Conservancy</b>	<b>Guadalupe Watershed Education Campaign</b>	Project will enhance awareness of the biodiversity nurtured by Guadalupe River through programs for K-12 students, the annual Water Festival for 5thgrade students, activation of a 180-gallon aquarium, and the creation of a mural underneath the Coleman Ave. bridge.	<b>\$28,409</b>	<b>\$47,450</b>	<b>In progress</b>	
<b>B7</b>	<b>2018</b>	<b>Breathe California of the Bay Area</b>	<b>Youth for a Cool Earth (Y4CE)</b>	Youth for a Cool Earth (Y4CE) empowers youth to become environmental leaders and advocates to their peers, school, family, and community to do the same. The unique feature of the Y4CE program is that it is youth-determined and youth-directed. Will target marginalized/low-income youth.	<b>\$35,000</b>	<b>\$47,023</b>	<b>In progress</b>	
<b>B7</b>	<b>2018</b>	<b>Gilroy Compassion Center</b>	<b>South County Creeks Team</b>	Gilroy Compassion Center will partner with Downtown Streets Team, local jurisdictions, and other organizations to provide year-round outreach to homeless individuals living at target hot spots along South County Creeks. The outreach teams will provide information, encouragement, and incentives for homeless individuals to keep toxic materials, garbage, and waste out of the waterways.	<b>\$15,000</b>	<b>\$40,973</b>	<b>In progress</b>	
<b>B7</b>	<b>2018</b>	<b>City of Campbell</b>	<b>Los Gatos Creek Trail Interpretive Signage and Receptacle Expansion</b>	Project proposes to install ten environmental outreach stations along the Los Gatos Creek Trail, which parallels Los Gatos Creek and related percolation ponds. The stations, spaced along approximately 5.7 miles of the trail, would include educational interpretive signs with environmental stewardship messages related to trash and general health of riparian corridors.	<b>\$33,731</b>	<b>\$80,563</b>	<b>In progress</b>	
<b>B7</b>	<b>2018</b>	<b>South Bay Clean Creeks Coalition</b>	<b>Friends of Coyote Creek Watershed North Coyote Creek Stewardship Project</b>	Project continues to be pointing Volunteers at Stream Cleanups addressing the ongoing trash loads in our Riparian Corridor and Creek created Homeless encampments and storm run-off. Our Program conducts monthly cleanups with the goal of restoring stretches to trash free levels.	<b>\$35,000</b>	<b>\$46,655</b>	<b>In progress</b>	
<b>B7</b>	<b>2018</b>	<b>Girl Scouts of Northern CA</b>	<b>Green By Nature in SC County</b>	Project will provide all the elements of a successful meaningful watershed educational experience for students attending Title 1 schools and living in under-resourced neighborhoods in Santa Clara County using the Don't Waste that Watershed series curriculum	<b>\$16,951</b>	<b>\$23,384</b>	<b>In progress</b>	
<b>B7</b>	<b>2018</b>	<b>Grassroots Ecology</b>	<b>Stevens Creek Monitoring &amp; Education Project</b>	Project will engage the local community in stewardship and hands-on learning. Project will provide creek-based volunteer and educational opportunities for all ages. Over the proposed three-year grant period, the project will engage 750 or more individuals and approximately 15 organizations including schools, colleges, nonprofits, and community groups.	<b>\$34,460</b>	<b>\$69,900</b>	<b>In progress</b>	
<b>B7</b>	<b>2018</b>	<b>Save the Bay</b>	<b>Zero Trash Campaign</b>	Project will evaluate annual trash reduction reports, educate and inform residents on the results of those reports, and provide particular feedback to two priority cities. We will implement effective outreach and communications strategy to increase and shape priority Santa Clara County communities' understanding of storm water pollution threats and opportunities. We also will engage 4,000 adults, teens, and children in wetland habitat restoration and/or trash cleanup projects.	<b>\$15,000</b>	<b>\$122,051</b>	<b>In progress</b>	
<b>B7</b>	<b>2018</b>	<b>South Bay Clean Creeks Coalition</b>	<b>Los Gatos Creek TEAM 222</b>	Project continues to be pointing Volunteers at Stream Cleanups addressing the on-going trash loads in our Riparian Corridors and Creek created by Homeless encampments and storm run-off. Our TEAM 222 Program conducts multiple events every other month on the second Saturday along stretches of Los Gatos Creek.	<b>\$15,000</b>	<b>\$19,995</b>	<b>In progress</b>	
				<b>B7 Sub-Total</b>	<b>\$582,941</b>	<b>\$1,286,446</b>		

<b>D3</b>	<b>2014</b>	<b>Resource Conservation District of Santa Cruz County</b>	<b>Uvas Creek Steelhead Spawning Habitat</b>	Improve in-stream habitat in multiple locations along a 3.7 mile reach 1 below Uvas Dam.	<b>\$446,755</b>	<b>\$592,905</b>	<b>Completed November 30, 2017</b>	<ul style="list-style-type: none"> <li>Removed and disposed of approximately 175 acacia trees (a non-native, evergreen species which create creek habitat limitations) on 2 project sites. The project sites were continually monitored to assess acacia regrowth and the need for active revegetation.</li> <li>About 1,800 linear feet of riparian habitat was restored.</li> <li>Conducted 3 educational outreach to provide educational information for landowners, demonstrate riparian restoration efforts, and garner local support for continued efforts on Uvas Creek.</li> </ul>
<b>D3</b>	<b>2014</b>	<b>Acterra</b>	<b>McClellan Ranch Preserve Meadow Enhancement Project</b>	A collaborative volunteer-based project to remove invasive plants and establish "island" of native plants within a riparian meadow adjacent to Stevens Creek.	<b>\$164,200</b>	<b>\$426,452</b>	<b>Completed June 30, 2017</b>	<ul style="list-style-type: none"> <li>3 years of vegetation survey data showing a decrease in invasive plant population, including Italian thistle.</li> <li>Close to 12,000 native plants installed covering more than 1 acre of the meadow</li> <li>Increased habitat value and diversity as result of planting over 30 different types of native plants. This has led to increased native wildlife (more native insects, birds, and pollinators have been seen).</li> <li>More than 3,500 community members engaged through 352 volunteer events; contributing 7,427 volunteer hours.</li> </ul>

## Appendix C: Cumulative Partnerships and Grants Information for Projects A2, B3, B7 and D3 continued

D3	2014	Santa Clara County Open Space Authority	Coyote Valley Open Preserve South Valley Meadow Restoration Project	To restore the hydrologic function and habitat value to an 8.5 acre seasonal wet meadow and riparian complex by restoring more than 800 yards of altered drainages, reseeding approximately 4.5 acres with a climate-smart native plant palette, and providing an extension of connected lowland California Tiger Salamander habitat into Coyote Valley.	\$256,576	\$579,386	Completed June 30, 2017	<ul style="list-style-type: none"> <li>8.5-acre seasonal wet meadow and riparian complex recontoured and planted with perennial grasses and native plant species</li> <li>0.1-acre pond created on-site</li> <li>900 feet of incised channel raised and widened</li> <li>7 granite rock weir grade control structures placed</li> <li>1 loose rock head cut repair structure placed</li> <li>Roughly 20% of 50-acre watershed drainage reconnected to wet meadow valley floor</li> </ul>
D3	2014	Acterra	Foothills Park Riparian Enhancement Project	To monitor, restore and enrich wildlife habitat along the Park's 4 miles of riparian corridors in the upper San Francisquito watershed, including Los Trancos Creek and Buckeye Creek.	\$126,300	\$293,753	Completed June 30, 2017	<ul style="list-style-type: none"> <li>More than 1,300 community members engaged through 94 volunteer events; contributing 4,380 volunteer hours</li> <li>4 miles of creek monitored during 21 sediment monitoring days</li> <li>4 miles of creekside vegetation surveyed for pre and post project comparison</li> <li>2,755 linear feet of invasives removed</li> <li>1025 native plants installed</li> <li>Over 24 native species planted</li> <li>200 willow cutting installed</li> <li>Increased native plant species richness along Los Trancos and Buckeye Creeks</li> <li>Decreased invasive plant populations including target noxious weeds</li> </ul>
D3	2014	West Valley College	Vasona Creek at West Valley College: Stream Stabilization and Habitat Enhancement Phase 2	Restore 400 linear feet of Vasona Creek within West Valley College Campus in order to eliminate gully erosion, protect heritage trees, and restore hydrology.	\$300,000	\$421,732	Closed Nov. 15, 2016	<ul style="list-style-type: none"> <li>740 linear feet of severely eroded and deeply cut channel reconstructed</li> <li>0.2 acres of native riparian vegetation seeded and planted</li> <li>432 native plants installed, including 85 willows alongside channel</li> <li>36 Dusky Footed Woodrat nests protected in construction area, 15 nests relocated</li> <li>10-year Monitoring, Maintenance and Reporting Plan</li> <li>Created an active college administration/faculty "Stream Team" integrating project into curriculum</li> <li>Created a natural outdoor "classroom" and living laboratory in newly restored creek corridor</li> <li>Raised student and public awareness of environmental issues and restoration</li> <li>Extensive public engagement with community workshops, and volunteer efforts</li> </ul>
D3	2015	County of Santa Clara	Calero County Park Oak Cove & North Shore Trails	Construct approximately 5 miles natural-surface multi-use trails adjacent to Calero Reservoir.	\$200,000	\$344,687	Extended June 30, 2019	
D3	2015	Santa Clara County Open Space Authority	Outdoor Learning Center and Creek Side Valley Loop Trail	Construct an Outdoor Learning Center within the 348-acre Coyote Valley Open Space Reserve, to serve as an outdoor classroom, a meeting location for educational and interpretive programs. This project also incorporated a 0.6 miles of ADA accessible trail.	\$200,000	\$541,780	Extended June 30, 2019	
D3	2015	West Valley College	Vasona Creek Trail	The project will provide 0.33 miles of new ADA accessible trails within the West Valley College Campus.	\$171,000	\$465,725	Extended June 30, 2019	
D3	2015	San Francisco Bay Bird Observatory	Active Vegetation Management at Levees around South Bay Salt Pond	The partnership will create transitional and upland habitats and provide the habitat structure needed by several federally listed species and state Species of Special Concern. Creating native plant communities on a 15-acre site will require 2 years of preparation and 4 years of phased implementation, maintenance, and monitoring. The project supports multiple Safe, Clean Water Program projects. It restores wildlife habitat; strengthens the South Bay Salt Ponds Restoration Partnership and revitalizes wetland habitat. The work also builds upon the strong existing partnership between the District and the U.S. Fish and Wildlife Service to improve habitat on salt pond levees.	\$690,000	\$1,327,106	In progress	

## Appendix C: Cumulative Partnerships and Grants Information for Projects A2, B3, B7 and D3 continued

D3	2015	Trout Unlimited	Lower Uvas-Carnaderos Creek Agricultural Wet Fort Alternative Design	This partnership will result in the design of a free span bridge and the abandonment of the existing bridge. This would eliminate the fish migration barrier and improve water quality and riparian conditions. The District's contribution will provide a matching fund for a state grant application.	\$24,450	\$107,115	Closed May 31, 2018	This is a Planning/Design Project which resulted in the 100% design (civil, geotechnical, structural) of a free span bridge across Carnadero Creek which when constructed, will allow for the abandonment of an existing agricultural "wet ford" and the abandonment of several hundred feet of existing dirt farm roads and accompanying access easement along the riparian corridor on lands owned by Santa Clara Valley Water District. The bridge has the potential to provide improved habitat and migration conditions for threatened Steelhead Trout.
D3	2016	West Valley College	West Valley College Wildcat Creek Native Vegetation Enhancement	Remove approximately 2 acres of invasive, non-native vegetation within the WVC campus and re-vegetate the area with native species, propagated from a collection of native vegetation planted on campus during past native re-vegetation efforts on campus.	\$165,000	\$247,707	In progress	
D3	2016	Acterra	Arastradero Creek Watershed Enhancement	Install 2,000 linear feet of swale-and-berm structures on contour in the basin feeding Arastradero Creek, and low step structures to raise the groundwater table; remove invasive plant species along 1,000 linear feet of Arastradero Creek and plant a diversity of native species in their place to increase native vegetation and support wildlife.	\$107,561	\$217,566	In progress	
D3	2016	Acterra	Byrne Preserve Riparian Enhancement	Restore a degraded tributary to Moody Creek located in Byrne Preserve. The work includes community engagement and education, monitoring of vegetation and channel geometry, invasive plant removal, and native plant re-vegetation.	\$136,469	\$240,056	In progress	
D3	2016	Midpeninsula Regional Open Space District	Hendrys Creek Restoration Project	Enhance 3/4 miles of the watershed through removing 14 in-stream structures; invasive plants from 4.44 acres of canyon; and by installing 0.33 acres of watershed specific, contract grown riparian and upland plants along the impacted creek banks and former road; and seeding 1.5 acres with native grasses, acorns and buckeye seeds on the former building pads, and improving the road located along the creek and tributaries.	\$484,650	\$762,546	In progress	
D3	2016	Loma Prieta Resource Conservation District	Sycamore Alluvial Woodland Restoration Phase II—Feasibility	This project includes a propagation study designed to test techniques to produce California sycamore seedlings vegetatively for use in a pilot restoration project. Study results will be shared through a high-quality PowerPoint presentation and distributed to all interested parties in the broader restoration and nursery community.	\$79,953	\$127,705	In progress	
D3	2016	Working Partnerships	Coyote Creek Invasive Plant Removal and Revegetation	Prepare a plan for a project to remove invasive plants from the Coyote Creek Watershed and re-vegetate areas of the creek with native plants. The project will hire homeless individuals or formerly homeless individuals in transition housing to do the work.	\$24,750	\$33,000	Closed February 20, 2018	<ul style="list-style-type: none"> <li>Identified and completed mapping of invasive plant species in 6 acres of private land along Coyote Creek.</li> <li>Secured the California Conservation Corps as the employer of record to manage recruitment, selection, and social support for a crew of 10 formerly homeless or disadvantaged youth.</li> <li>Developed a training and volunteer program, project cost estimate, and schedule to complete the work over a 5-year period.</li> <li>Performed a biological assessment on the potential impacts of the project.</li> </ul>
D3	2016	City of Mountain View	Permanente Creek Watershed Enhancement Project	Project will involve the removal of trash and non-native invasive plants along 2,350 linear feet of Permanente Creek. 1,000 local watershed plants will be revegetated along the creek providing habitat enhancement for multiple riparian species, special emphasis will be placed on enhancing habitat for 2 special status species: burrowing owl (foraging habitat) and the San Francisco common yellowthroat (nesting and foraging habitat). This project will provide a unique educational opportunity for the local community, businesses and several educational establishments who will volunteer on this project along with Santa Clara Valley Audubon Society and Acterra.	\$43,920	\$64,582	In progress	
D3	2016	Save The Bay	Palo Alto Baylands Tidal Lagoon Transition Zone Habitat Restoration Project	Save The Bay will restore and enhance 1.25 acres of high value tidal marsh transition zone habitat at this site immediately adjacent to existing tidal salt marsh in the Palo Alto Baylands Nature Preserve. It will create or improve crucial habitat that provides connectivity and refugia for waterfowl, shorebirds, and other species such as the federally-endangered Ridgway's Rail and salt marsh harvest mouse. Our project is ready to implement and will increase the adaptive capacity and resilience of tidal marsh species by enhancing the plant community and wildlife habitat both now and in light of future predicted sea level rise scenarios.	\$95,868	\$235,335	In progress	
D3	2016	City of Santa Clara	Ulistac Restoration 2016 Project	Ulistac Natural Area is a 40 open space preserve bordering Guadalupe Creek. Ulistac Restoration 2016 Project will improve trails and ramp access to the levee, restore 1.2 acres of riparian habitat along the Guadalupe River and enhance 1.26 acres of Live Oak Woodland habitat through removal of invasive non-native plants and trees, planting of native species, and documentation of native tree survival. Grant matching funds (25%) will be provided through City of Santa Clara CIP fund #3179 (\$25,000) and volunteer labor donation (6450 hours, or \$77,400 equivalent), in cooperation with Ulistac Natural Area Restoration & Education Project, Inc. and partnership with Santa Clara University Department of Environmental Studies and Sciences and Santa Clara Audubon Society. (Authorized by City Resolution #16-8301.)	\$165,249	\$374,533	In progress	

## Appendix C: Cumulative Partnerships and Grants Information for Projects A2, B3, B7 and D3 continued

D3	2016	Friends of Stevens Creek Trail	Stevens Creek Steelhead Passage Improvement Project	Conduct a Phase 1 study plan to (1) analyze alternatives and identify a preferred alternative for improving fish passage and (2) develop alternatives and identify a preferred alternative to improve fish migration at project sites.	\$52,162	\$75,332	Completed December 7, 2017	<ul style="list-style-type: none"> <li>Identified potential engineering solutions to eight fish passage impediments</li> <li>Provided hydraulic analysis, conceptual drawings, and estimated costs for projects at the selected locations</li> <li>Conducted two workshops to present the purpose of the study and the proposed solutions with stakeholders and community members</li> </ul>
D3	2016	San Francisco Bay Bird Observatory	Establishing Forster's Tern Nesting Colonies for the South Bay Salt Pond Restoration Project Using Innovative Technologies	This project will deploy and maintain 300 decoys and 6 electronic call systems during the 2017 and 2018 breeding seasons (March-August) to attract birds to nest. Findings will be shared with the Don Edwards San Francisco Bay National Wildlife Refuge and the South Bay Salt Pond (SBSP) Restoration Project's outreach program; through Project's website, newsletter, and presentations at stakeholder meetings. Using innovative technologies, this project aims to re-establish a healthy nesting population of at-risk Forster's terns in Alviso Pond A16 on the Don Edwards San Francisco Bay National Wildlife Refuge. Benefits of this project include attraction of 50 or more Forster's tern breeding pairs to Alviso Pond A16 and establishment of nesting colonies with nest success rates of 60% or more.	\$217,032	\$294,074	Completed April 30, 2018	<p>During the project, SFBBO deployed 300 Forster's tern decoys and six electronic call systems on six islands in Pond A16 during the 2017 breeding season. Bird surveys were conducted between March and August 2017 to evaluate bird response and the results of the project suggest that implementation of decoys and electronic call systems was successful in attracting Forster's terns in Alviso Pond A16.</p> <ul style="list-style-type: none"> <li>197% increase in the number of Forster's terns in the pond in May 2017 compared to similar results recorded in May of 2016</li> <li>More Forster's terns were observed around island with decoys and electronic call systems compared to islands without them, an approximately 6:1 ratio</li> <li>8 Educational outreach activities were completed: development of a project website, 1 educational video, 3 public presentations, 1 publication of popular article, 2 visits with local elementary school students</li> </ul>
D3	2016	City of San José	Evergreen Creek Corridor Restoration	The City will correct the poor placement of outlets in the sedimentation basin above the project sites and restore vegetation. District funded work will focus on removing 6.2 acres of non-native landscape; establishing irrigation and planting native plants along Quimby Creek and Upper Fowler Creek.	\$191,041	\$502,039	In progress	
D3	2016	Children's Discovery Museum of San Jose	Bill's Backyard: Bridge to Nature	CDM is developing a 27,500 square foot outdoor space named Bill's Backyard: Bridge to Nature. It will feature a tree structure to climb up, a hillside to roll down with tunnels to crawl through, a dig pit to shovel in, a dry creek bed to explore that mimics the adjacent Guadalupe River, and areas to build with natural materials like willows, reeds and grasses. Families will also have the chance to see demonstration projects and sustainability solutions up-close, providing xeriscape ideas to consider for use in their own backyards, such as permeable hardscape, drought-tolerant and native plants, rain gardens to retain surface water, water collection systems and solar panels. The District funds will support the work for eliminating all grass and plant native plants for increased biodiversity in the riparian environment and attract beneficial insects, migratory birds, small mammals and even Monarch butterflies.	\$142,771	\$404,240	In progress	
D3	2016	Santa Clara Valley Chapter of the California Native Plant Society	Plant Pathogen Training and Education at CNPS Nursery	Develop instructional/training videos to educate nursery professionals in pathogen control Best management practices (BMPs); promote safe use of California native plants through outreach and education events hosted by the California Native Plant Society (CNPS) throughout Santa Clara Valley Watersheds, and provide a demonstration and training sites at CNPS Nursery in Hidden Villa, Los Altos Hills, to implement plant pathogen control BMPs onsite, to share successes and lessons with other nurseries, and train volunteers and the larger community in pathogen control best practices.	\$50,574	\$83,505	Cancelled	
D3	2016	Campus Community Association	Metcalf Ponds Parkway Lakes Steelhead Habitat and Passage Improvement Project	Conduct a planning study to evaluate alternatives to improve steelhead trout habitat and passage in the Metcalf Ponds reaches of Coyote Creek by separating the creek from the ponds, revegetating the restored creek with native riparian vegetation, and configuring the channel to optimize its habitat value while preserving the ponds' water management functions of the water district.	\$31,684	\$42,278	In progress	
D3	2018	City of Morgan Hill	West Little Llagas Creek Interpretive Wildlife Trail Project	The project proposes to construct a two-mile trail that will extend from Watsonville Road south and around the southeastern end of Lake Silveira near Monterey Road and California Avenue. It will also connect to the existing trail system that runs north, thus creating a continuous, uninterrupted pedestrian and bicycle pathway from the Lake Silveira Park area to Morgan Hill's downtown core. Trail users will have access to a unique interpretive experience of local wildlife and wetlands.	\$200,000	\$998,800	In progress	
D3	2018	Midpeninsula Regional Open Space District	Webb Creek Bridge	Project proposes to construct a new bridge over Webb Creek in Bear Creek Redwoods Open Space Preserve as part of a multi-phased plan to open the preserve for public access. The bridge will open approximately four miles of trails and facilitate a future regional multi-use trail connection between the Lexington Basin and Skyline, as well as ensure emergency service access is possible throughout the preserve.	\$149,500	\$316,650	In progress	
D3	2018	West Valley College	West Valley College Vasona Creek Trail Phase 2	The project proposes to complete the design and construction of Phase 2 of the Vasona Creek Trail providing access to over 20 acres of recently restored riparian corridor on the West Valley College campus.	\$221,500	\$655,214	In progress	
				D3 Sub-Total	\$5,138,965	\$10,775,803		
				Combined Total	\$9,068,535	\$19,216,454		

Note: The grantees are responsible for ensuring their projects comply with CEQA and the District is a reviewer of the CEQA documents prepared by the grantees.

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# Safe, Clean Water and Natural Flood Protection Program

## Appendix D: Capital Projects Confidence Levels (Re: Outside Agencies) Fiscal Year 2016-2017

Partners and Outside Agencies	A1 Main and Madrone Avenue Pipelines Restoration	A3 Pipeline Reliability Project (Scheduled to Start)	C1 Anderson Dam Seismic Retrofit	D4 Fish Habitat and Passage Improvement		D6 Creek Restoration and Stabilization	E4 Upper Penitencia Creek Flood Protection	E5 San Francisquito Creek Flood Protection		E6 Upper Llagas Creek Flood Protection	E7 San Francisco Bay Shoreline Study		E8 Upper Guadalupe River Flood Protection		Permanente Creek Flood Protection	Sunnyvale East/West Channels Flood Protection	Berryessa Creek Flood Protection	Coyote Creek Flood Protection
				Almaden Lake	Bolsa Road			S.F. Bay to 101	Upstream of 101		EIA 1-10	EIA 11	Reach 6	Reaches 7-12				
<b>Additional Funding Sources</b>																		
U.S. Army Corps of Engineers (Funding)				M		H		L		M	L	L	L	L		H		M
State Grants						H		M										M
San Francisco Bay Restoration Authority (Measure AA)											H	H						
Other									M	M								
<b>Regulatory Permitting</b>																		
U.S. Army Corps of Engineers (Permits)				M		H	H	M	H	M	M			H	H	H	M	H
California Department of Fish and Wildlife	M			M		H	H	M	H	M	H			H	M	H	M	M
California Department of Industrial Relations/CA Occupational Safety				M														
Department of Water Resources Division of Safety Dams				M														
Federal Energy Regulatory Commission				M														
Mine Safety and Health Administration				M														
National Marine Fisheries Service				M		H		M	H	M	M			H	M		M	M
San Francisco Bay Regional Water Quality Control Board	M			M			H	M	H	M			M	M	M	H	L	L
Central Coast Regional Water Quality Control Board						H					H							
San Francisco Bay Conservation and Development Commission									H	M			M				M	
San Francisco Bay Conservation and Development Commission	M			M														
United States Fish and Wildlife Service	M			M		H		M	H	M	L		H	M	M	H	M	M
Valley Habitat Plan	H			H		H		M			M							M
<b>Cities</b>																		
Cupertino																H		
East Palo Alto									H	H								

Partners and Outside Agencies	A1 Main and Madrone Avenue Pipelines Restoration	A3 Pipeline Reliability Project (Scheduled to Start)	C1 Anderson Dam Seismic Retrofit	D4 Fish Habitat and Passage Improvement		D6 Creek Restoration and Stabilization	E4 Upper Penitencia Creek Flood Protection	E5 San Francisquito Creek Flood Protection		E6 Upper Llagas Creek Flood Protection	E7 San Francisco Bay Shoreline Study		E8 Upper Guadalupe River Flood Protection		Permanente Creek Flood Protection	Sunnyvale East/West Channels Flood Protection	Berryessa Creek Flood Protection	Coyote Creek Flood Protection
				Almaden Lake	Bolsa Road			S.F. Bay to 101	Upstream of 101		EIA 1-10	EIA 11	Reach 6	Reaches 7-12				
Gilroy					H													
Los Altos						H										H		
Menlo Park										H								
Milpitas																	H	
Morgan Hill	H		M							H								
Mountain View						H					H				H			
Palo Alto										H	H			M				
San Jose				H			H						M	M	M	L		H
Saratoga																		
Sunnyvale											M					H		
<b>Counties</b>																		
Santa Clara County	H		M		M		H	H	H	M				L	H	H	H	H
San Mateo County								H	H									
<b>Other Agencies</b>																		
California Department of Transportation (Caltrans)								H	H	M				L		H		
California State Coastal Conservancy											H	H						
Gate of Heaven Cemetery (Diocese of San Jose)															H			
Department of Water Resources								H	H	M								
Federal Emergency Management Agency									M	M						M		
Peninsula Corridor Joint Power Boards (Caltrain)														M				
Midpeninsula Regional Open Space District											M				H			
NASA Moffett Field											L							
PG&E	H					M	M	M	M	M	H		L	M	M	M		
San Francisquito Creek Joint Powers Authority								H	H		M							
San Mateo County Flood Control District								H	H									
Union Pacific Railroad					L					M		L		L	H		H	
State Office of Historical Preservation					M										M		H	
Santa Clara Valley Transportation Authority (VTA)																H		

**Note:** Empty cells are not applicable to that project.

## Appendix E: Cumulative Trash Removal Data for Projects B1-B4, B6 and B7

### E-1: Estimated volume of trash removed by project for Projects B1, B2, B4, B6 and B7<sup>1</sup>

Project	Estimated amount of trash and debris removed in Tons and Cubic Yards (CY) <sup>2</sup>									
	FY14		FY15		FY16		FY17		FY18	
	Est. Tons	Est. CY	Est. Tons	Est. CY	Est. Tons	Est. CY	Est. Tons	Est. CY	Est. Tons	Est. CY
B1: Impaired Water Bodies Improvement (KPI #3: Trash accumulation point mapping and removal) <sup>3</sup>	n/a		n/a		7.8	78	0	0	5.4	54
B2: Interagency Urban Runoff Program (KPI#1: Trash booms) <sup>4</sup>	0.3	3	0.35	3.5	1.05	10.5	1.5	15	1.28	12.75
B2: Interagency Urban Runoff Program (Hot spot cleanup)	2	17	0	0	10	99	0.3	3	6.45	64.5
B4: Good Neighbor Program: Encampment Cleanup <sup>5</sup>	713	9,982	1,216	17,024	839	11,746	907	12,698	1,209	16,923
B6: Good Neighbor Program: Remove Graffiti and Litter	84	1,174	128	1,793	114	1,589	82	1,148	122	1,704
B7: Volunteer Cleanup Efforts and Education (KPI #2: Cleanup day events) <sup>6</sup>	43	430	42	416	43	427	46	460	60	600
<b>Estimated Totals</b>	<b>842</b>	<b>11,606</b>	<b>1,386</b>	<b>19,237</b>	<b>1,015</b>	<b>13,950</b>	<b>1,037</b>	<b>14,324</b>	<b>1,404</b>	<b>19,358</b>

<sup>1</sup>Grants and partnership trash removal information for Projects B3 and B7 are included in Table E-4.

<sup>2</sup>Some estimates may have slightly varied from past annual reports due to a refinement of the conversion from cubic yards to tons; and/or data that was processed after the previous report was developed.

<sup>3</sup>The trash accumulation point mapping started in FY16. Due to high flows during the winter of FY17, re-mapping was delayed and conducted in May and June 2017. Trash identified as part of this mapping effort will be cleaned in FY18.

<sup>4</sup>The San Francisco Bay Regional Water Quality Control Board has requested that all stormwater permittees report trash in volume rather than weight.

Volume is a more meaningful measure of the trash present because it is not affected by the weight of wet vs. dry trash. For Projects B1 and B2, volume is visually estimated in the field and likely includes some vegetation and debris. Where data was only collected in weight, a conversion was used based on a solid waste calculator estimating 10 cubic yards per ton. Prior conversions were not consistent; as a result, the numbers in this table may not match previously reported numbers.

<sup>5</sup>Tons were converted to cubic yards using an estimate of 14 cubic yards per ton, which is based on a comparison with industry standard conversions and a watershed field operations field experiment and analysis. Project B4 and B6 quantities are based on landfill weights measured in tons.

<sup>6</sup>Project B7 grants and partnerships (KPI #1) and Adopt-A-Creek Program (KPI #2) are not included. Grants and partnerships information is included in Table E-4. Data is currently not available for the Adopt-A-Creek Program because the trash is removed by volunteers who do not consistently measure or report their results. Volunteers use number of bags and approximate weights to estimate pounds. Using pounds simplifies measurement for volunteers and is consistent with the efforts of other jurisdictions implementing Coastal Clean Up and National River Clean Up days. Pounds were converted to tons (2,000 pounds = 1 US ton). Tons were then converted to cubic yards using an estimate of 10 cubic yards per ton. For Project B7 cleanup day even totals, the Safe, Clean Water Program funds 55% of this project.

### E-2: Estimated volume of trash removed by watershed for Projects B1, B2, B4, and B6<sup>1</sup>

San Francisco Bay Watersheds	Estimated cubic yards (CY) of trash and debris removed <sup>2</sup>				
	FY14	FY15	FY16	FY17	FY18
Lower Peninsula	94	273	284	206	207
West Valley	84	683	334	156	448
Guadalupe	2,310	1,525	2,366	2,420	3,724
Coyote	8,254	15,328	9,189	9,234	11,561
Pajaro	416	1,075	1,283	1,835	2,818
<b>Estimated Totals</b>	<b>11,158</b>	<b>18,883</b>	<b>13,456</b>	<b>13,851</b>	<b>18,759</b>

<sup>1</sup>Watershed information is not reported for Projects B3 and B7.

<sup>2</sup>Some estimates may have slightly varied from past annual reports due to a refinement of the conversion from tons to cubic yards and the timing of collecting the annual estimates.

### E-3: Estimated cost of trash removal activities for Projects B4, B6, and B7<sup>1</sup>

Project	Estimated costs for trash removal				
	FY14	FY15	FY16	FY17	FY18
B4: Good Neighbor Program: Encampment Cleanup	\$786,085	\$1,341,166	\$929,727	\$1,018,873	\$1,485,693
B6: Good Neighbor Program: Remove Graffiti and Litter <sup>2</sup>	\$130,881	\$189,675	\$198,269	\$144,733	\$219,078
B7: Volunteer Cleanup Efforts and Education <sup>3</sup>	\$117,523	\$104,106	\$97,228	\$94,173	\$109,446
<b>Estimated Totals</b>	<b>\$1,034,489</b>	<b>\$1,634,947</b>	<b>\$1,225,224</b>	<b>\$1,257,779</b>	<b>\$1,814,217</b>

<sup>1</sup>Cost information for trash removal activities are not available for Projects B1 and B2 because project budgets are tracked as a whole and not by specific KPI. Grants and partnership cost information for Projects B3 and B7 are included in Table E-4.

<sup>2</sup>The Project B6 estimated totals were revised based upon the FY18 audited financials and revised Maximo reporting calculations.

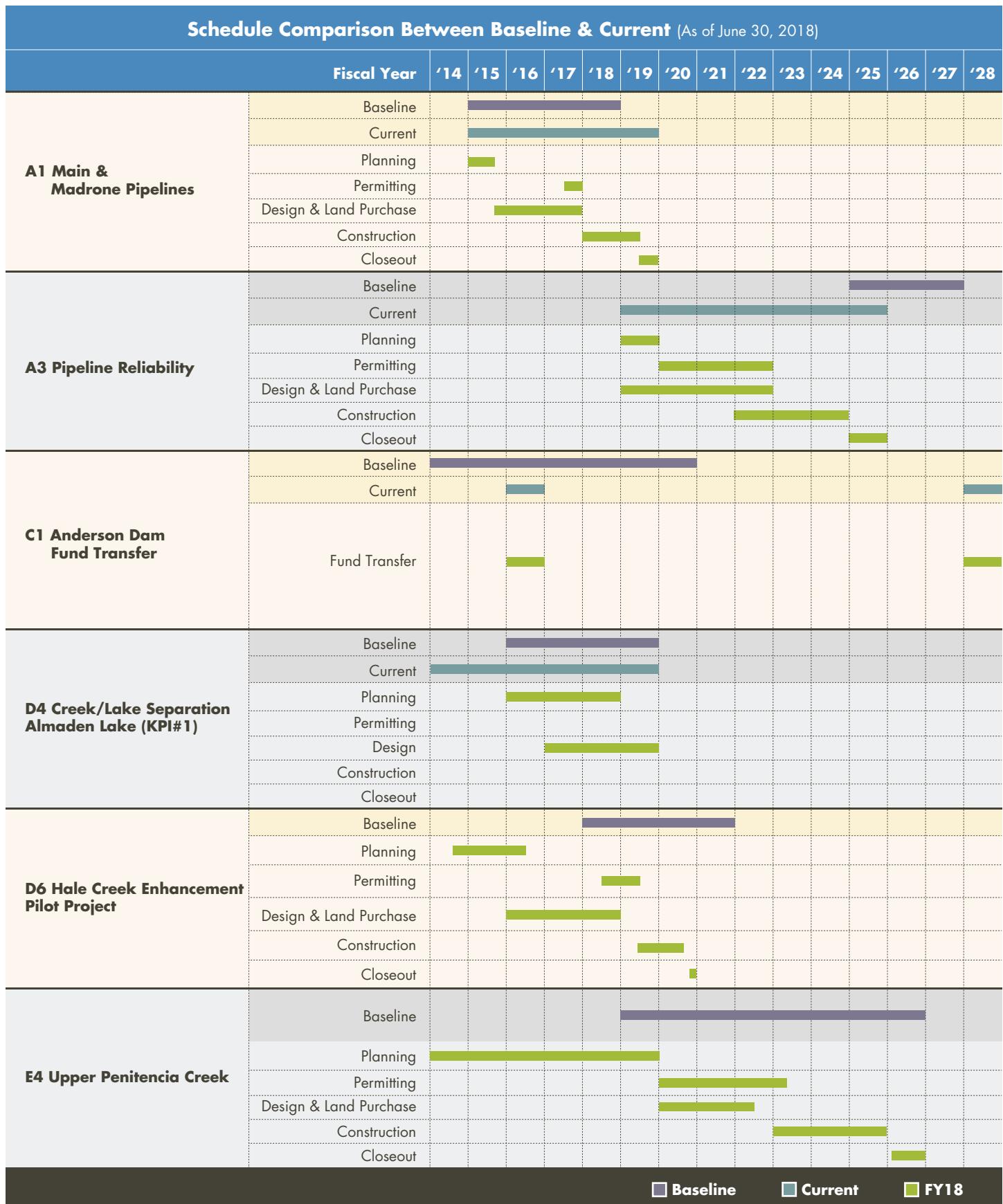
<sup>3</sup>The Project B7 Adopt-a-Creek and Cleanup Day event estimated costs have been further refined to reflect additional support from other units in the District. The Project B7 grant information is included in Table E-4.

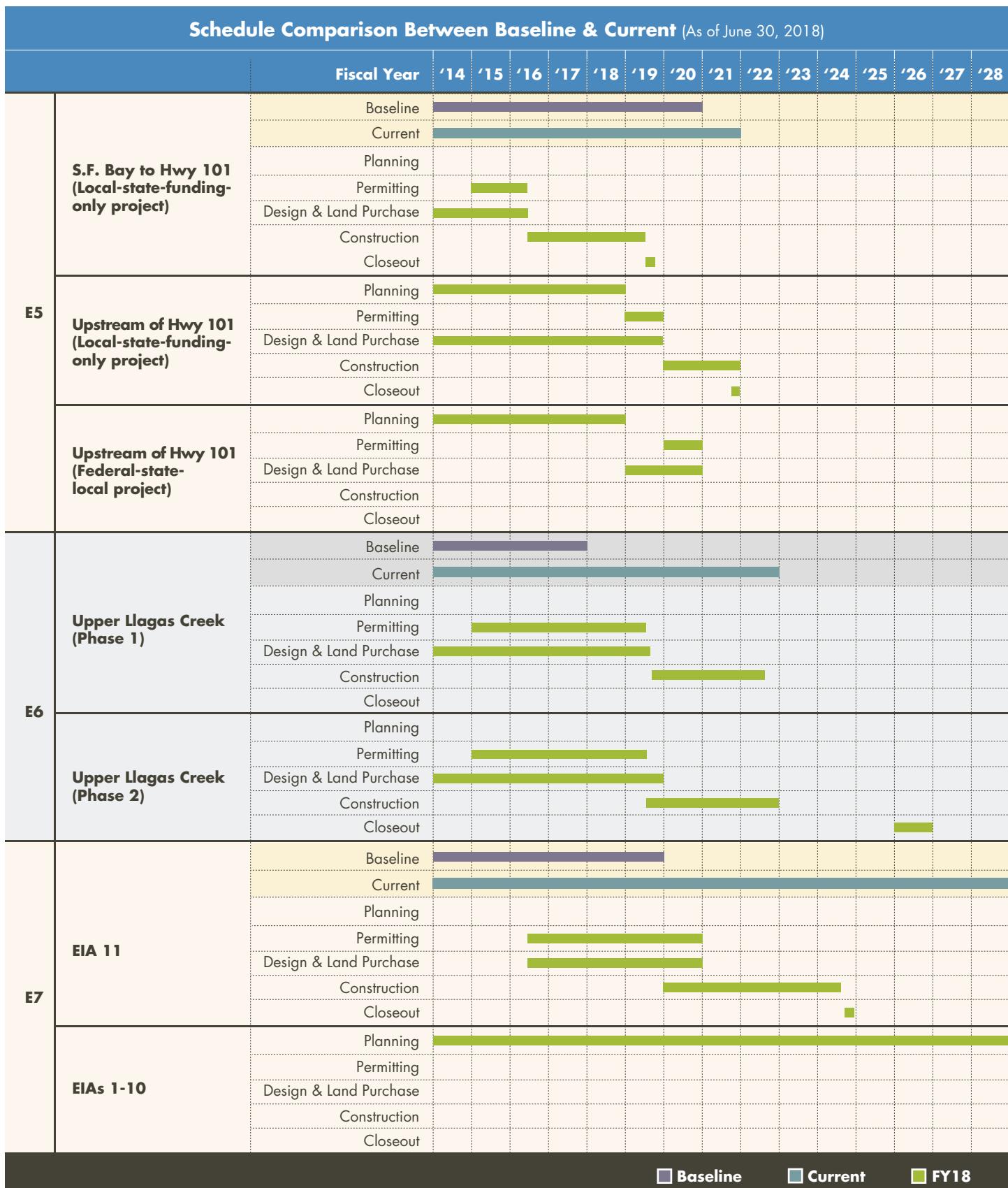
### E-4: Trash removal information from partnerships and grants for Projects B3 and B7

Estimated amount of trash and debris removed in Pounds, Tons, and Cubic Yards (CY) <sup>1</sup>									
Project	Grant Cycle	Grantee/community partner	Grant Project Name	Amount Awarded	Total Project Cost	Status	Estimated Amount of Trash Removed		
							Pounds	Tons	CY
Pollution Prevention Partnerships and Grants (B3)	FY14	San Jose Parks Foundation	Trash Free Coyote Creek Cleanup and Surveillance Project	\$26,783	\$80,760	Closed (9/30/15)	80,000	41	410
	FY16	South Bay Clean Creeks Coalition	South Bay Creek Cleanup Program	\$60,000	\$80,000	Completed (6/30/17)	9,800	10	100
	FY14	California Product Stewardship Council	Secure Pharmaceutical Collection Bin Expansion	\$206,417	\$276,352	Completed (6/30/17)	8,929	4.5	45
	FY16	San Francisco Bay Wildlife Society	San Francisco Bay National Wildlife Refuge (NWR) Clean-Up 2016	\$35,391	\$73,390	Completed (12/31/17)	6,280	3.1	31
	FY16	Santa Clara County Creeks Coalition	Trash Free North Coyote Creek Watershed Stewardship and Engagement Project	\$89,596	\$148,849	Completed (1/10/18)	60,000	30	300
Support Volunteer Cleanup Efforts and Education (B7)	FY14	Acterra	Acterra Lower Peninsula Healthy Creeks Project	\$68,600	\$179,910	Closed (9/30/16)	18,180	9	n/a
		Clean Water Fund	ReThink Disposable: Preventing Riparian Trash at the Source	\$82,133	\$174,036	Completed (12/31/16)	24,265	12.1	121
		City of Sunnyvale	Schools Goin' Green	\$32,250	\$47,448	Closed (6/30/16)	4,189	2	n/a
		Save the Bay	Clean Bay Project	\$60,000	\$241,243	Closed (6/30/16)	2,200	1	n/a
<b>Estimated Total<sup>1</sup></b>							<b>112.7 tons</b>		

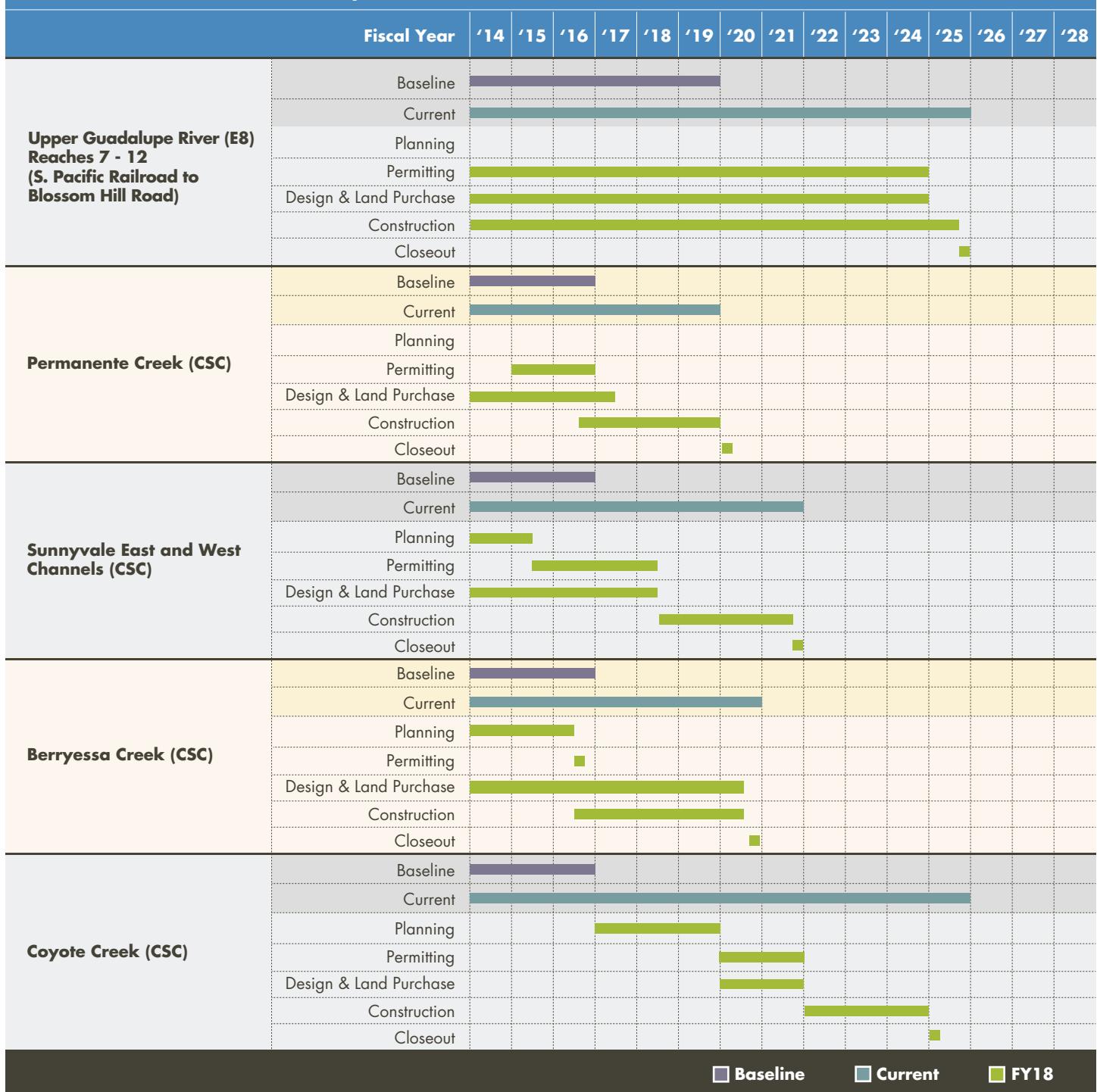
<sup>1</sup>Estimated total is only shown in tons because that is the one measurement that is used for each project.

## Appendix F: Schedule Comparison for Flood Protection Projects



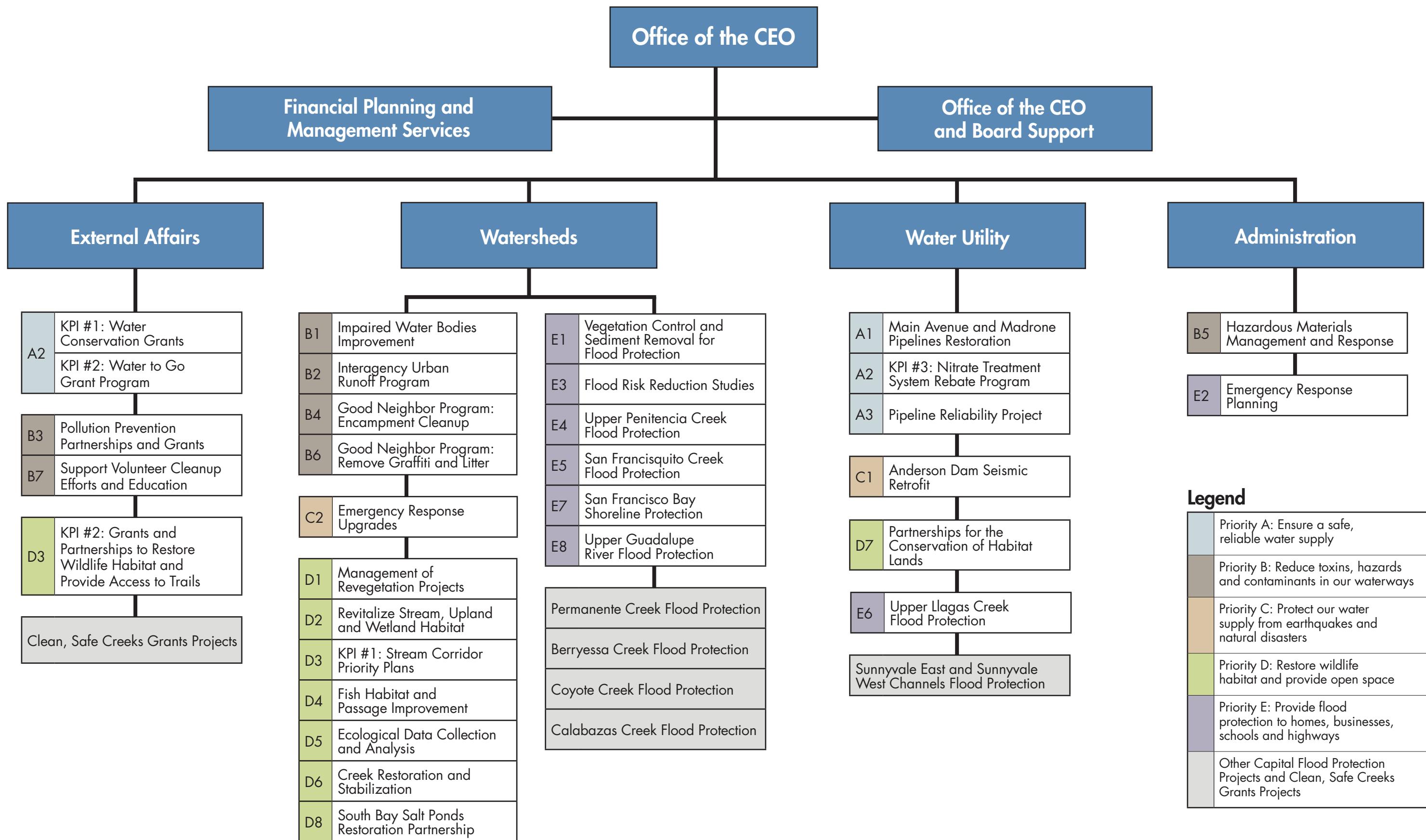


## Schedule Comparison Between Baseline & Current (As of June 30, 2018)



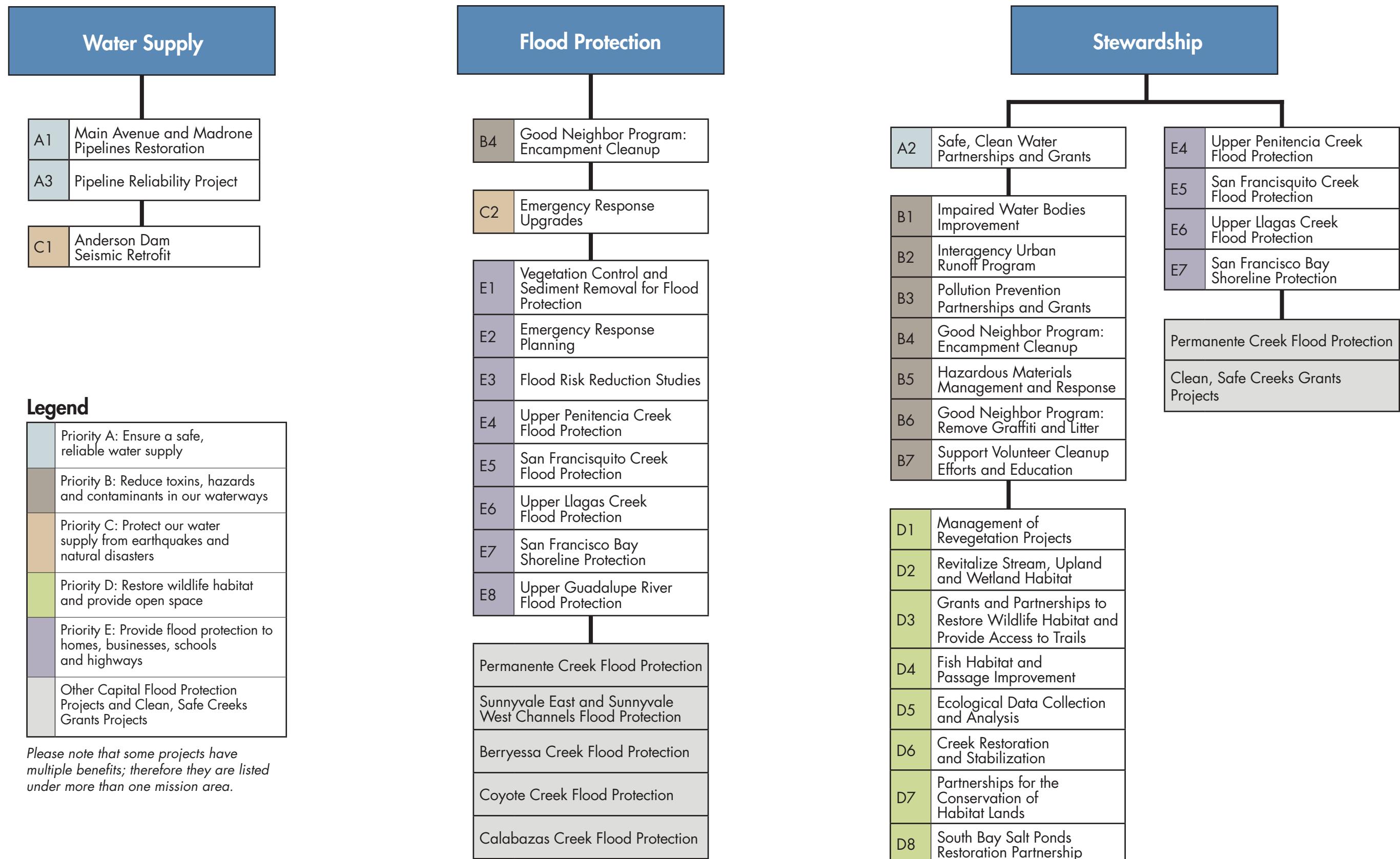
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# Appendix G: Projects by Organization Structure



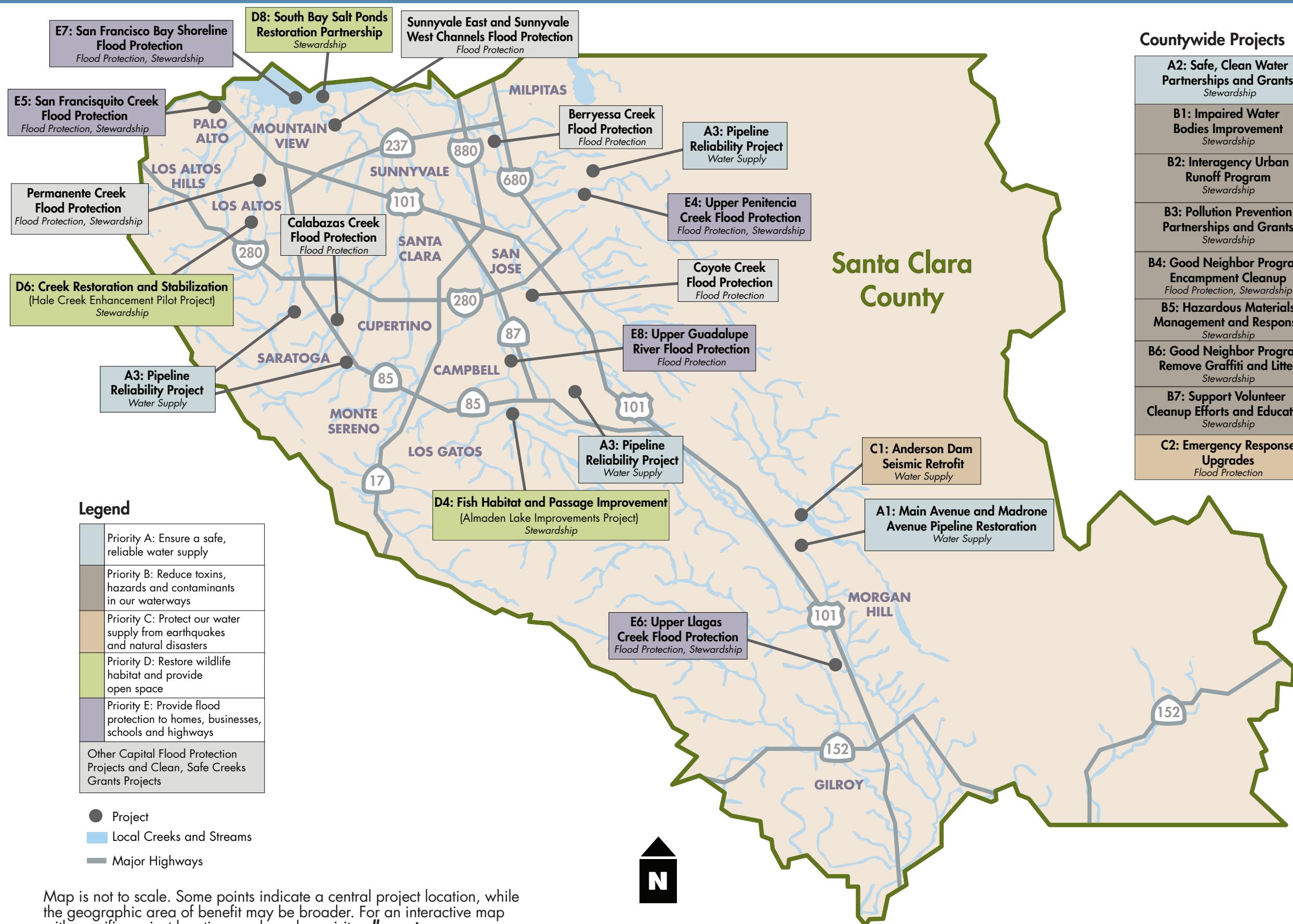
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# Appendix H: Projects by District Mission Area



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# Appendix I: Countywide Map of Projects



Map is not to scale. Some points indicate a central project location, while the geographic area of benefit may be broader. For an interactive map with specific project locations and reaches, visit [valleywater.org](http://valleywater.org).



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# Appendix J: Glossary

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## **1% flood**

A flood that has a 1% chance of occurring in any given year; also referred to as a 100-year flood.

## **50-year flood**

A flood that has a 2% chance of occurring in any given year.

## **100-year flood**

A flood that has a chance of occurring an average of once every 100 years; also referred to as a 1% flood.

## **Acre-feet (AF)**

An acre-foot of water would cover 1 acre of land to a depth of 1 foot. 1 acre-foot equals approximately 325,000 gallons, the average amount of water used by 2 families of 5 in 1 year.

## **Aquifer**

An underground geologic formation of rock, soil, or sediment that is saturated with water; an aquifer stores groundwater.

## **Bypass channel**

A channel built to carry excess water from a stream, or to divert water from the main channel.

## **Cleanup**

The removal of trash and debris resulting from illegal encampments; by the District or by the District in coordination with other agencies.

## **Ecosystem**

An ecological community of plants, animals, and microorganisms in their environment, functioning together as a unit.

## **Encampment (homeless)**

1 or more structures occupied by an individual or family that is located on District or other public property. An area where there are no structures, but where personal property is stored is also considered an encampment.

## **Environmental enhancement**

Action taken by the District that benefits the environment is not mitigation, and is undertaken voluntarily. Enhancement actions may include environmental preservation or creation. In instances where enhancements are located in the same vicinity as a mitigation project, actions must exceed required compliance activities to be considered environmental enhancements.

## **Erosion**

The process by which soil is removed from 1 place by forces such as water or construction activity, and eventually deposited at a new place as sediment.

# Glossary



## **Fiscal Year (FY)**

A period that a company or government uses for accounting purposes and preparing financial statements. The fiscal year may or may not be the same as a calendar year. The District uses a fiscal year that begins on July 1 and ends on June 30, which coincides with the State of California's fiscal year. The fiscal year is denoted by the year in which it ends, so spending incurred on November 14, 2015, would belong to fiscal year 2016. The federal government's fiscal year begins on October 1 and ends on September 30.

## **Fisheries**

An area with an associated fish or aquatic population.

## **Fish passage**

A generic term for several methods incorporated into flood protection projects which allow native fish species to travel upstream to spawn.

## **Flood**

A temporary inundation of inland or tidal waters onto normally dry land areas.

## **Flood conveyance capacity**

The maximum amount of water that can flow through a channel, stream, or culvert before there is flooding of surrounding properties.

## **Floodplain**

The low, flat, periodically flooded lands adjacent to creeks and rivers.

## **Floodplain management**

A city or county program of corrective, preventive and regulatory measures to reduce flood damage and encourage the natural and beneficial functions of floodplains. Careful local management of development in the floodplains results in construction practices that can reduce flood damages.

## **Floodwall**

Walls used as levees to contain floodwaters within a stream. Floodwalls are used when right-of-way is limited.

## **Geomorphology/geomorphic**

The study of the natural relationship between a stream and its bank and bed; pertaining to those processes that affect the form or shape of the surface of the earth, including creeks and streams.

## **Groundwater**

Water that is found beneath the surface in small pores and cracks in the rock and substrate.

Habitat: The specific, physical location or area in which a particular type of plant or animal lives. To be complete, an organism's habitat must provide all of the basic requirements of life for that organism.

## **Hydraulics**

The properties and behaviors of fluids, such as water.

# Glossary

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## **Hydrology**

The behavior (properties, distribution, and circulation) of water in the atmosphere, on land, and in the soil.

## **Hypolimnion**

Dense, bottom layer of water in a thermally-stratified lake. In the summer, lakes separate into layers: epilimnion (top of the lake) and the hypolimnion (bottom), with a thermocline layer in the middle. Typically, the hypolimnion is the coldest layer of a lake in summer and is isolated from surface wind-mixing. During stratification oxygen can be depleted in the hypolimnion.

## **Impaired water bodies**

Waters that are too polluted or otherwise degraded to meet the water quality standards set by the State of California. Under the federal Clean Water Act, California is required to develop lists of impaired water bodies, including creeks, streams, and lakes.

## **Invasive plants**

A non-native plant species that has spread into native or minimally managed plant communities (habitats).

## **Large woody debris (LWD)**

The logs, sticks, branches, and other wood that falls into streams and rivers. This debris can influence the flow and shape of the stream channel. LWD plays an important biological role in streams by increasing channel complexity, enhancing fish habitat, and creating diversity in the food web.

## **Levee**

An embankment constructed to provide flood protection from seasonal high water.

## **Methylation**

The complex process by which inorganic mercury in surface water is converted to toxic methylmercury, the only form of mercury that accumulates appreciably in fish.

## **Methylmercury**

An organic, highly toxic form of mercury that easily bioaccumulates in organisms, increasing in concentration as it travels up the food chain. Because of mercury contamination the public is advised against consuming fish caught in some Santa Clara County reservoirs and ponds.

## **Mitigation**

Action taken to fulfill CEQA/NEPA, permit requirements and court mandated mitigation to avoid, minimize, rectify or reduce adverse environmental impacts, or compensate for the impact(s) by replacing or providing substitute resources or environments.

## **Modified floodplain**

A flood protection technique where land adjacent to a creek is lowered, allowing floodwaters to spread out over a wider area while containing the flow, and reducing the risk of damaging floods. A modified floodplain is often planted with native riparian species.

# Glossary



## **Natural flood protection**

A multiple-objective approach to providing environmental quality, community benefit and protection from creek flooding in a cost-effective manner through integrated planning and management that considers the physical, hydrologic and ecologic functions and processes of streams within the community setting.

## **Pay-as-you-go**

A funding mechanism which collects revenue until sufficient funds are available to begin construction of a project, in contrast to debt financing, in which a large sum is borrowed so that construction can begin sooner.

## **Permitting requirements**

A mechanism used to enforce state and federal laws that protect environmentally sensitive areas. Before moving forward on projects, the District is required to obtain permits from the U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, NOAA Fisheries, Regional Water Quality Control Board, and the California Department of Fish and Game. Each permit gives the permitting agency an opportunity to attach specific measures to the project to reduce impact on the environment.

## **Plant palette**

A master list of appropriate plants that can be drawn from to create a specific assemblage of plants well-matched to a particular area or project's physical, hydrological and ecological conditions.

## **Preservation**

Action taken to protect an ecosystem or habitat area by removing a threat to that ecosystem or habitat, including regulatory actions and the purchase of land and easements.

## **Reach (creek)**

A portion of a creek or watercourse usually defined by both an upstream and a downstream unit.

## **Recharge**

The addition of new water to an aquifer or to the zone of saturation. See groundwater.

## **Respond**

For hazardous materials response (project B5) "Responded to" means that responder arrives at site within 2 hours. For litter and graffiti removal (project B6) "Responded to" means that a request for District action is acknowledged either verbally, in writing, or by email within 5 working days.

## **Restoration/restore**

Action taken by the District, to the extent practicable, toward the re establishment as closely as possible of an ecosystem's pre-disturbance structure, function, and value, where it has been degraded, damaged, or otherwise destroyed

## **Revegetate**

To re-establish vegetation in areas which have been disturbed by project construction.

# Glossary

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## **Revitalize**

Improve habitat value, particularly in an effort to connect contiguous creek reaches of higher value, by removing invasive, non-native vegetation and diseased and/or non thriving specimens, applying mulch to suppress weed competition, revegetating sites with native plants, and installing predation prevention measures such as browse protection or cautionary fencing to reduce impacts from animals and vandals.

## **Riparian**

Pertaining to the banks and adjacent terrestrial habitat of streams, creeks, or other freshwater bodies and watercourses.

## **Riparian corridor**

The riverside or riverine environment next to a stream channel.

## **Riparian ecosystem**

A natural association of soil, plants and animals existing within the floodplain of a stream, and dependent for their survival on high water tables and river flow.

## **Sediment/sedimentation**

Mineral or organic material that is deposited by moving water and settles at the bottom of a waterway. Sediment in a lake, reservoir or stream can either be suspended in the water column or deposited on the bottom. Sediment usually consists of eroded material from the watershed, precipitated minerals, and the remains of aquatic organisms.

## **Special status species**

Any species which is listed, or proposed for listing, as threatened or endangered by the U.S. Fish and Wildlife Service or National Marine Fisheries Service under the provisions of the Endangered Species Act; any species designated by the U.S. Fish and Wildlife Service as a "listed," "candidate," "sensitive," or "species of concern," and any species which is listed by the State of California in a category implying potential danger of extinction.

## **Special tax**

Any tax imposed for specific purposes, or any tax imposed by a special purpose district or agency, such as the Santa Clara Valley Water District. A special district contemplating a special tax levy must hold a noticed public hearing and adopt an ordinance or resolution prior to placing the tax on the ballot. The ordinance or resolution must specify the purpose of the tax, the rate at which it will be imposed, the method of collection, and the date of the election to approve the tax levy. Approval by a 2/3 vote of the city, county or district electorate is necessary for adoption.

## **State Water Resources Control Board**

The State Water Resources Control Board (State Water Board) was created by the Legislature in 1967. The mission of the State Water Board is to ensure the highest reasonable quality for waters of the State, while allocating those waters to achieve the optimum balance of beneficial uses. There are 9 regional water quality control boards that exercise rulemaking and regulatory activities by basin. Santa Clara County is part of 2 regions: Region 2 - San Francisco Regional Water Quality Control Board (north of Morgan Hill) and Region 3 - Central Coast Regional Water Quality Control Board (south of Morgan Hill).

# Glossary



## **Subvention**

Subventions are reimbursements for rights of way and relocation costs of channel improvements and levee projects provided to flood control agencies by the Department of Water Resources Flood Subventions Program.

## **Stewardship**

To entrust the careful and responsible management of the environment and natural resources to one's care for the benefit of the greater community.

## **Stream Corridor Priority Plan (SCPPs)**

A document which identifies priorities for stream restoration and which can be a source of information to guide restoration actions by all parties.

## **Threatened species**

A species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

## **Total Maximum Daily Loads (TMDLs)**

The maximum pollutant load a waterbody can receive (loading capacity) without violating water quality standards.

## **Urban runoff**

The water that runs over the impervious areas in cities, collecting pollutants as it flows. Runoff is recognized as a major source of water impairment.

## **Watershed**

Land area from which water drains into a major body of water.

## **Watershed stewardship**

Protecting and enhancing the county's creeks, streams and water bodies in order to preserve a vibrant, healthy ecosystem, and provide recreational opportunities when appropriate.

## **WebEx**

A system for holding meetings over the web which allows anyone with an internet connection to participate in real time with 2-way communication.

## **Wetland**

Areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support vegetation adapted for life in saturated soil conditions, as well as the diverse wildlife species that depend on this habitat.

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