

DRAFT



Valley Water

FY 2023-27

Watersheds Operations and Maintenance Plan

FY 2023-2027 Watersheds Operation and Maintenance Plan

Prepared By:
Lydia Yiu
Associate Engineer
&
Elizabeth Mercado
Senior Engineer

And the following contributors:

Scott Akin
Jennifer Codianne
John Chapman
Meenakshi Ganjoo
Jeff Ham
Cody Houston

Greg Meamber
Devin Mody
Roger Narsim
Keiron Nawbatt
Tracy Pena
Jay Lee

Under the Direction of:

Erin Baker
Unit Manager
Business Support and Asset Management Unit

Melanie Richardson
Assistant Chief Executive Officer
Office of Integrated Water Management

Accepted By:

Sue Tippets, P.E, CFM
Interim Chief Operating Officer
Watersheds

Accepted By:

Jennifer Codianne
Deputy Operating Officer
Watersheds Operations and
Maintenance Division

DRAFT December 1, 2021

TABLE OF CONTENTS

	PAGE
Executive Summary	3
Report Overview	3
Work Planning and Execution.....	3
Strategic Planning for Future Asset Renewal	3
Five-Year Operations Forecasts	4
I. INTRODUCTION	6
Report Overview	6
Watershed Infrastructure	7
Related Documents	8
II. OVERVIEW OF O&M ACTIVITIES	10
III. WORK PLANNING AND EXECUTION	12
Stream Maintenance Program (SMP).....	12
Watersheds Asset Rehabilitation Program (WARP)	13
Work Not Included.....	13
Work Execution.....	14
IV. STRATEGIC PLANNING FOR FUTURE ASSET RENEWAL: SUSTAINABLE CREEK INFRASTRUCTURE	15
V. FIVE YEAR OPERATIONS FORECASTS	18
WATERSHEDS O&M ENGINEERING SUPPORT UNIT (298)	Error! Bookmark not defined.
WATERSHED FIELD OPERATIONS UNIT (253)	Error! Bookmark not defined.
VEGETATION FIELD OPERATIONS UNIT (295)	27
OPERATIONS AND MAINTENANCE ENVIRONMENTAL SUPPORT UNIT (297)	Error! Bookmark not defined.
VI. CONCLUSION	33
VII. APPENDIX A – POTENTIAL REHABILITATION AND DEFERRED MAINTENANCE PROJECTS	34
VIII. APPENDIX B – 2022 SMP PROJECTS	35
IX. APPENDIX C – WATERSHED STRATEGIC PLANNING WORKFLOW	38

List of Figures

Figure I-1 Santa Clara County Watersheds	7
Figure IV-1 Strategic Planning Approach	16
Figure V-1 FY2023-27 Projected Resource Requirements for WS O&M Division.....	19
Figure V-2 FY2023-27 Projected Resource Requirements for Engineering Support	21
Figure V-3 FY2023-27 Projected Resource Requirements for Field Operations.....	25
Figure V-4 FY2023-27 Projected Resource Requirements for Vegetation Field Operations	28
Figure V-5 FY2023-27 Projected Resource Requirements for SMP Management	31

List of Tables

Table V-1 Projected Resource Requirements by Projects for Engineering Support.....	22
Table V-2 Additional Resource Needs (Unfunded) for Engineering Support.....	22
Table V-3 Projected Resource Requirements by Projects for Field Operations	26
Table V-4 Additional Resource Needs (Unfunded) for Field Operations	26
Table V-5 Projected Resource Requirements by Projects for Vegetation Field Operations.....	29
Table V-6 Additional Resource Needs (Unfunded) for Vegetation Field Operations	29
Table V-7 Projected Resource Requirements by Projects for SMP Management.....	31
Table V-8 Additional Resource Needs (Unfunded) for SMP Management.....	32

List of Acronyms

AMP	Asset Management Plan
BMP	Best Management Practice
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CIP	Capital Improvement Program
DBH	Diameter at Breast Height
LWD	Large Woody Debris
MOA	Memorandum of Agreement
NPW	Notice of Proposed Work
NRCS	Natural Resources Conservation Service
O&M	Operations and Maintenance
SMP	Stream Maintenance Program
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Services
VHP	Valley Habitat Conservation Plan
WARP	Watersheds Asset Rehabilitation Program
WS	Watersheds

EXECUTIVE SUMMARY

Report Overview

This Watersheds Operations and Maintenance Plan (WS O&M Plan) describes Santa Clara Valley Water District's (Valley Water) O&M activities and the projected funding allocated to provide continued flood protection to the community over the next five years. In addition, it discusses plans for identifying future asset renewal needs. It is a rolling plan that will be evaluated and updated annually. Specifically, this plan:

- Documents the baseline and unfunded operations and maintenance project resource needs for the Watersheds Operations and Maintenance Division (WS O&M Division) for the next five fiscal years, 2023 to 2027, and provides an explanation of unfunded needs.
- Discusses additional unfunded asset renewal projects that will be identified through Project F8: Sustainable Creek Infrastructure for Continued Public Safety under the renewed Safe, Clean Water and Natural Flood Protection (Safe, Clean Water) Program. This project will identify and prioritize infrastructure issues and develop asset management plans to determine needed asset renewal projects.

This is a rolling five-year plan that is updated annually. Throughout the plan, the term 'baseline' refers to activities that provide current service levels and are assumed to be funded in fund forecasts prepared by Valley Water's Financial Planning and Management Services Division. ***The FY23-24 budget requests and unfunded needs are preliminary and will be evaluated throughout the budget process through May 2022.***

Work Planning and Execution

Currently, the majority of Valley Water's stream maintenance work is conducted through the Stream Maintenance Program (SMP). Valley Water regularly inspects creeks and levees, and on an annual basis, develops a proposed work plan for stream maintenance activities, secures state and federal regulatory agencies' approval of the work plan, and performs approved maintenance activities. Removal of sediment, management of vegetation, clearing trash and debris, and stabilization of eroded creek banks are activities performed under the SMP.

To supplement O&M resources or for projects outside the scope of the SMP, corrective and/or deferred stream maintenance work may also be performed through Valley Water's Watersheds Asset Rehabilitation Program (WARP), a Small Capital Improvement Project. Projects conducted as part of the WARP are not currently included in the financial charts in this plan, as discussed in Section III. In the future, WARP projects as well as recommendations from the Sustainable Creek Infrastructure Project discussed below may also be included in this plan.

Strategic Planning for Future Asset Renewal

While the SMP and WARP have been successful in planning and executing necessary stream maintenance projects, Valley Water recognizes the need to evaluate stream maintenance from a more strategic and holistic planning approach, as well as to assess the longevity and

effectiveness of past project improvements. Consequently, Valley Water initiated a new project as part of the renewed Safe, Clean Water Program that voters approved in 2020. Project F8: Sustainable Creek Infrastructure for Continued Public Safety (Sustainable Creek Infrastructure project) will help Valley Water plan more efficiently and execute stream maintenance work as operations, small capital, or capital improvements.

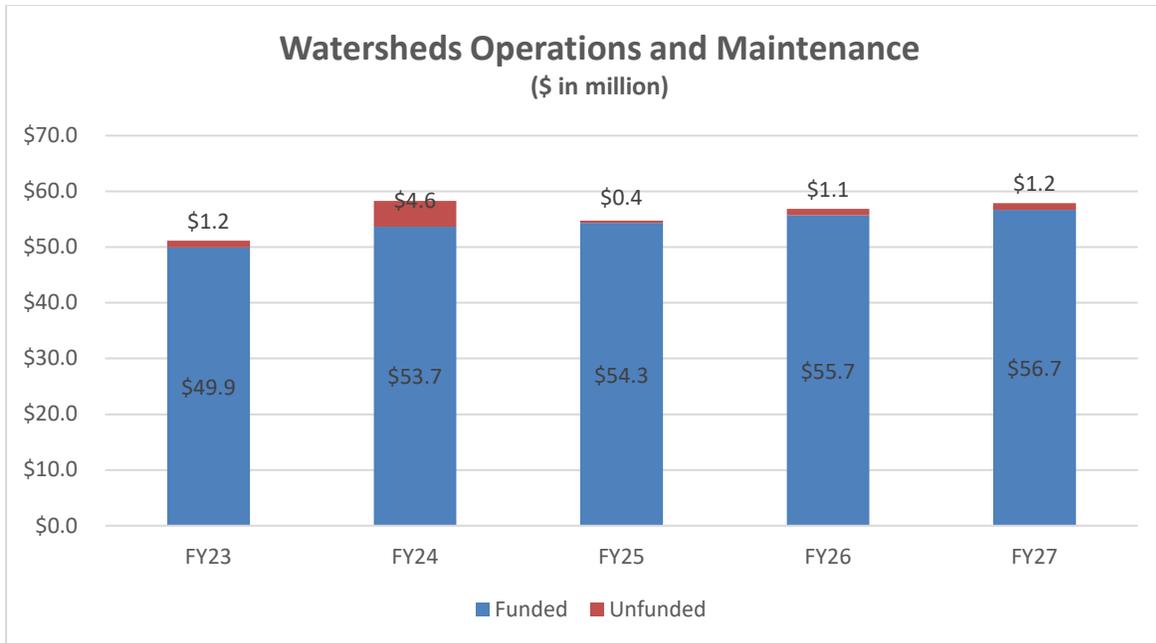
This project will identify and prioritize infrastructure issues and develop asset management plans to determine needed asset renewal projects. Asset renewal work that will be investigated and identified as part of this program includes restoring the level of service originally intended for flood protection infrastructure, extending the life of flood protection infrastructure, and improving the reliability of flood protection infrastructure. A point of emphasis in early planning for this program is to improve our understanding of how best to address deficiencies on creek assets. This program will also assess the longevity and effectiveness of past project improvements. Staff have preliminarily identified several completed flood protection projects requiring work of a greater magnitude than the ongoing routine work to ensure levels of service are maintained.

The magnitude of future watershed asset renewal work is estimated at nearly \$100 Million over the next 10 years. This estimated cost will be refined over the next few years as the renewal work is determined. Some of the asset renewal projects identified through this effort will be funded by Sustainable Creek Infrastructure project, which is allocated \$7.5 million over the next 15 years, the Watersheds Stream Stewardship fund, which is allocated \$7 million over the next 15 years, and/or by the WARP small capital improvement project, which is currently funded at approximately \$7.5-8 million per year. Estimated renewal work is expected to exceed available funding in some future years.

Five-Year Operations Forecasts

Five-year forecasts of funding for current service levels as well as future resource requirements not yet funded for the WS O&M Division are shown in the chart below. The final financial information provided in this section will be taken from the Board-adopted budget for FY23-24, as well as the forecast data that is collected as part of the budget process. This draft report is prepared using long-term forecast data and unfunded needs requests as of December 1, 2021. The FY23-24 budget requests and unfunded needs are evaluated throughout the budget process through May 2022. The plan is finalized following Board adoption of Valley Water's final budget. The final plan will document the final budgeted amounts for each project for FY23-24 and any remaining unfunded needs following the budget process.

[The remaining of this page intentionally left blank]



*Data as of December 2021

In total, the WS O&M Division has identified a need for an additional \$8.56 million for the next five years to support the growing workload of vegetation field operations, the update and development of comprehensive stream maintenance guidelines to meet one of the SMP's permit obligations, the rehabilitation of the Evelyn Avenue fish ladder on Stevens Creek, and the reopening of the Valley Water Habitat Plan.

Similar to last year, this WS O&M Plan includes a high-level, rough cost estimate of approximately \$100 million over the next 10 years to address deferred maintenance and other improvements identified in the Sustainable Creek Infrastructure project and WARP. This work includes preventive and corrective maintenance that has been postponed to a future period for various reasons, such as limited availability of resources, constraints of existing regulatory permits, or managing volume of public requests. The deferred maintenance costs are not included as a part of the unfunded needs of this WS O&M Plan, as those cost estimates can be misleading if not understood in this broader context. Looking at these projects through a more holistic lens is anticipated to reduce overall costs to Valley Water. The Sustainable Creek Infrastructure project team has made progress in the past year analyzing and prioritizing over 30 creeks and developing a workflow to determine when a creek or creek subreach requires a capital improvement, small capital improvement, updated maintenance strategies, and/or an asset management plan to maintain Valley Water watershed assets sustainably and economically.

[The remaining of this page intentionally left blank]

I. INTRODUCTION

Report Overview

This WS O&M Plan describes Valley Water’s O&M activities and the projected funding allocated to provide continued flood protection to the community over the next five years. In addition, it discusses plans for identifying future asset renewal needs. It is a rolling plan that will be evaluated and updated annually. Specifically, this plan:

- Documents the baseline and unfunded operations and maintenance project resource needs for the WS O&M Division for the next five fiscal years, 2023 to 2027, and provides an explanation of unfunded needs.
- Discusses additional unfunded asset renewal projects that will be identified through Safe, Clean Water Project F8: Sustainable Creek Infrastructure for Continued Public Safety. This project will identify and prioritize infrastructure issues and develop asset management plans which will identify needed asset renewal projects.

Throughout the plan, the term ‘baseline’ refers to activities that provide current service levels and are assumed to be funded in fund forecasts prepared by Valley Water’s Financial Planning and Management Services Division. ***The FY23-24 budget requests and unfunded needs are preliminary and will be evaluated throughout the budget process through May 2022.***

WS O&M activities are carried out to meet the following Board of Directors’ (Board) Ends Policies:

- Ends Policy E-3: Natural flood protection is provided to reduce risk and improve health and safety for residents, businesses, and visitors, now and into the future.
- Ends Policy E-4: Water resources stewardship protects and enhances ecosystem health.

The WS O&M Division achieves the Board’s Ends Policies by:

- Maintaining flood protection facilities to the designed levels of protection
- Maintaining the structural and functional integrity of Valley Water facilities
- Fulfilling regulatory permit obligations
- Meeting Safe, Clean Water and Natural Flood Protection Program obligations
- Avoiding, minimizing, or mitigating impacts on the environment by identifying when maintenance work is necessary and incorporating stream stewardship measures to reduce potential impacts further and enhance conditions where possible
- Complying with city and county codes or state and federal regulations (e.g., Endangered Species Act)
- Assisting people, businesses, schools, and communities to prepare for, respond to, and recover from flooding through equitable and effective engagement
- Increasing the health and safety of residents countywide by reducing community flood risk

Copies of past years’ reports are available on the Valley Water intranet on the asset management web site at <https://aqua.valleywater.org/DistrictWideAssetManagementUnit>.

Watershed Infrastructure

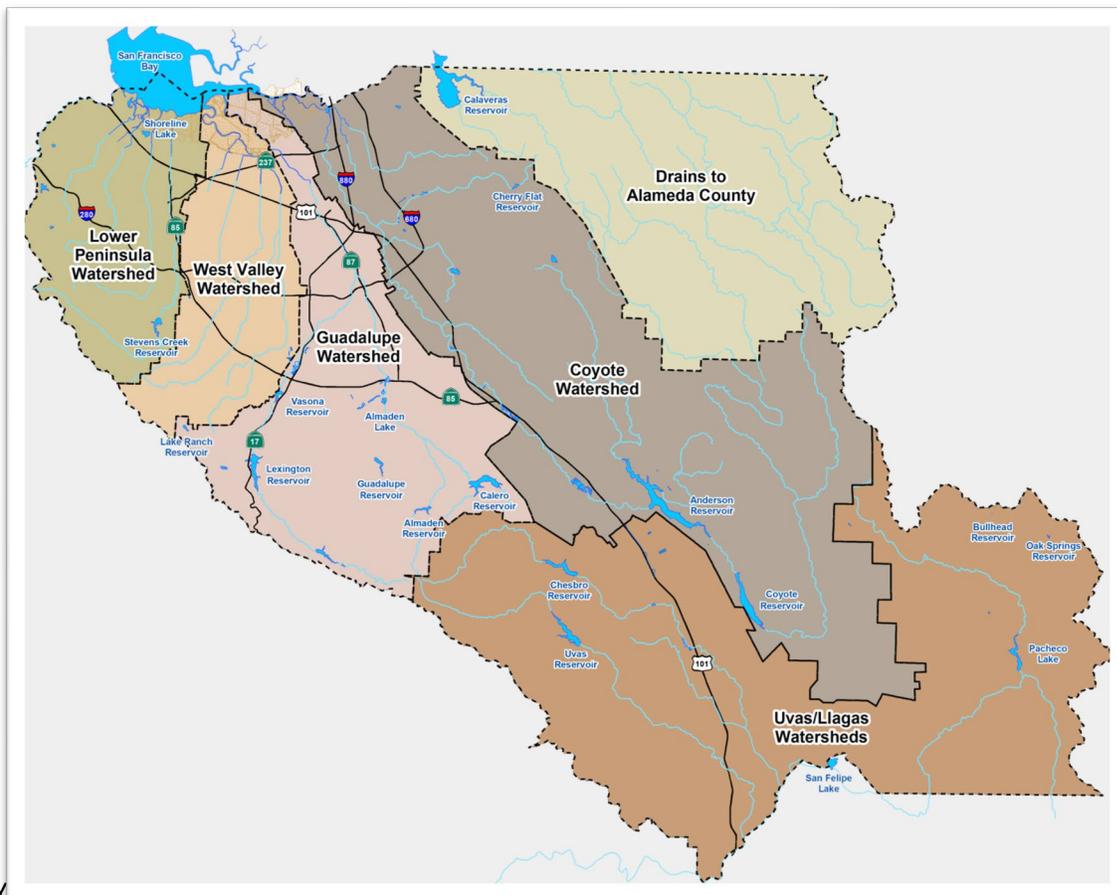
Valley Water manages an integrated water resources system that includes the supply of clean, safe water, flood protection, and stewardship of streams in Santa Clara County (County). Valley Water oversees five distinct watersheds within the County and is responsible for overall stewardship of these geographic areas, namely Coyote, Guadalupe, Lower Peninsula, Uvas/Llagas, and West Valley watersheds (see Figure I-1).

In fulfillment of its mission, Valley Water constructs flood protection projects to protect homes, businesses, and infrastructure. Once those flood protection projects are completed, Valley Water's WS O&M Division conducts inspections and maintenance to ensure those projects and associated facilities continue to function as designed, constructed, improved, altered, or repaired. These operations are carried out using best management practices to avoid, minimize or mitigate potential environmental impacts, and, where possible, enhance habitat values.

Valley Water's watershed infrastructure includes the following:

- 275 miles of creek (owned by Valley Water)
- 101 miles of levees
- 44 miles of concrete lined channels
- 3,000+ individual assets (e.g., drop structures, weirs, fish ladders, mitigation areas)

Figure I-1 Santa Clara County Watersheds



FY

Related Documents

Documents related to this plan include:

- FY23-27 Capital Improvement Program (CIP): The CIP is a rolling five-year plan that identifies major capital improvements. This WS O&M Plan discusses maintenance needs for improvements identified in the CIP. This Plan also identifies improvements that are included in the Watershed Asset Rehabilitation Program, which is a Small Capital Improvement Project.
- FY23-27 Water Utility Operation and Maintenance Work Plan: The Water Utility Operations and Maintenance Plan is a rolling five-year plan that describes operations and maintenance activities for the Water Utility Operations and Maintenance Divisions for the next five years. It is similar to this WS O&M Plan.
- FY23-32 Long-Term Forecast: The long-term forecast is prepared as the first step of the budget process each year to forecast future funding needs for operations projects. The operations project five-year forecasts provided in this report are taken from the long-term forecast data. The draft report is prepared using long-term forecast data and unfunded needs requests as of December. The budget requests and unfunded needs are further evaluated throughout the budget processes through May.
- FY23-24 Operating and Capital Budget: Valley Water's budget is produced each year to identify the planned operations and capital expenditures and funding sources for the coming fiscal year. It provides an overview of both operations and capital expenses, as well as revenues, for the next fiscal year. This WS O&M Plan identifies operations expenditures that are included in the Operating Budget.
- 2016 Watersheds Asset Management Plan (AMP) The Watersheds AMP is a comprehensive plan that documents the current state and future needs of Valley Water's watershed assets. The plan provides a high level 100-year forecast of asset maintenance activities, while this WS O&M Plan provides more detail on the next five-year forecast. Ideally, the plan would be updated every 5 years.
- Stream Maintenance Program (SMP) Manual: The SMP Manual defines the overall maintenance program and describes the authorized avoidance measures, best management practices (BMPs), mitigation activities, and program management actions, and therefore, impacts the design, schedule, cost, and labor for each O&M project. The manual serves as a guide for performing much of the maintenance work described in this WS O&M Plan.
- Safe Clean Water Program (Measure B [2012], Measure S [2020]): The Safe, Clean Water Program is a long-term strategy to ensure uninterrupted water resources services in Santa Clara County. In November 2020, Santa Clara County voters approved Measure S to renew the 2012 Safe, Clean Water Program and provide funding to ensure a seamless continuation of critical water resources-related services to the community. The renewed Safe, Clean Water Program provides funding, in many instances increased funding, for various WS O&M efforts, including vegetation control and sediment removal for capacity; vegetation

FY23-27 WS O&M Plan

management for access and fire safety; encampment cleanups; graffiti and litter removal and management of riparian planting and invasive plant removal. It also includes funding for the new Project F8: Sustainable Creek Infrastructure for Continued Public Safety.

- Safe Clean Water Program 5-Year Implementation Plan for Fiscal Years 2023-2027: This plan describes how Valley Water will implement the Safe, Clean Water Program over the five-year period to deliver the Key Performance Indicators (KPIs) associated with various projects.

In addition, WS O&M Plans from previous years are available starting in FY21-25 and provide additional context on the origins of this plan as well as additional detail on each WS O&M Division unit.

[The remaining of this page intentionally left blank]

II. OVERVIEW OF O&M ACTIVITIES

There are more than 800 miles of creeks on the County valley floor, 275 miles of which are owned by Valley Water. Under Valley Water's SMP, WS O&M staff focus on maintenance of creek sections where modifications have occurred from flood protection projects. The SMP, which authorizes routine work needed to preserve flood conveyance capacity, is a 10-year program approved in 2013 by seven state and federal regulatory agencies.

Maintenance of constructed and improved channels is a top priority for Valley Water, and in instances where a facility does not have a designed capacity or the capacity is unknown or uncertain, Valley Water aims to manage the creek or facility to minimize the risk of flooding. Valley Water also conducts some activities outside the limits of a constructed project, and these may be performed for maintenance access, water quality, fire code compliance, erosion repair and mitigation purposes.

Watersheds O&M work in improved facilities includes:

- Sediment removal
- Bank erosion repair
- Levee maintenance
- Vegetation management
- Mitigation site maintenance
- Riparian planting
- Invasive plant management
- Trash and debris removal
- Access road maintenance
- Weir, grade control structure maintenance
- Large woody debris management
- Fence repairs and graffiti removal
- Fish ladder maintenance
- Inspections, monitoring, and condition assessment
- Concrete channel lining repair

Valley Water identifies stream maintenance work in four main categories: preventive, corrective, preventive maintenance repair, and deferred. Valley Water gives high priority to service requests that are generally preventive or corrective in nature. While maintenance resources and schedules strive to balance community requests with other required corrective and preventive work activities, resource limitations and other factors often lead to deferrals and delays in planned maintenance. The four categories of maintenance are described below.

Preventive Maintenance: This is routine planned maintenance work to keep an asset at a required level of service and to reduce the likelihood of failure. It includes the maintenance of completed capital improvement program (CIP) flood protection projects. Preventive maintenance is guided by project-specific maintenance guidelines or manuals. In some instances, these manuals are developed in partnership with project sponsors, such as the Natural Resources Conservation Service (NRCS) and the U.S. Army Corps of Engineers (USACE). For example, the Uvas Creek Operations, Maintenance, Repair, Replacement and Rehabilitation Manual, issued by USACE, provides O&M staff the information, guidance, and requirements for the proper operation and maintenance of the project.

Non-capital project preventive maintenance includes maintenance of all SMP mitigation sites (riparian planting and invasive plant management), and routine maintenance required for instream flow conveyance, maintenance access, and fire code compliance.

FY23-27 WS O&M Plan

Preventive maintenance responsibilities are projected to increase as more flood protection capital projects and updated maintenance guidelines are completed and turned over to the WS O&M Division. In addition, preventative maintenance responsibilities will likely increase after deferred maintenance projects have been addressed under WARP or the Sustainable Creek Infrastructure Project.

Preventive Maintenance Repair: This is non-routine maintenance work that is identified and addressed proactively, prior to failure, instead of allowing the issue to progress and must be addressed later by corrective maintenance. This work is first identified in the field during inspections where it has been determined that a creek's ability to meet its level of service is threatened. Under preventive maintenance repair, infrastructure is repaired or rehabilitated after an issue is identified in the field, but prior to complete failure requiring Corrective Maintenance. Examples of preventive maintenance repair include repairing a creek bank or levee, removal of sediment or vegetation, maintenance of Valley Water access roads to design conditions, all of which have been identified by previous inspections.

Corrective Maintenance: This is non-routine or unplanned maintenance. Under corrective maintenance, infrastructure is repaired or replaced after unexpected failure and the asset is no longer meeting its level of service. Examples of corrective maintenance include emergency repair of a creek bank or levee damaged from winter storms, emergency removal of fallen trees or trash and debris, and repair or replacement of damaged Valley Water fences, gates, and signs.

Often, weather events may prompt the need to perform corrective maintenance work. During heavy storms, vegetation and sediment washed down from areas upstream can restrict the flow of water, and in some areas, cause a back-up, increasing the risk of flooding and/or bank erosion. WS O&M regularly monitors known "hot spots" for vegetation and debris buildups, and where needed and safe to do so, takes action to remove these blockages and reduce the threat of localized flooding.

Deferred Maintenance: This is preventive or corrective maintenance that has been postponed to a future period for various reasons, such as limited availability of resources, constraints of existing regulatory permits, or managing volume of public requests. Deferred maintenance is required to repair, restore, or rehabilitate infrastructure, and failure to do so would contribute to asset deterioration and, ultimately, asset impairment. This work is prioritized and accomplished subject to availability of resources. Generally, a policy of continued deferred maintenance may result in higher costs, difficulty in obtaining required permits, infrastructure failure and, in some cases, health and safety implications. Deferred maintenance activities can include sediment removal, larger-scale instream vegetation or tree removal (not currently allowed under existing environmental documentation and regulatory permits) for flow conveyance, infrastructure repair and rehabilitation, and erosion repairs.

III. WORK PLANNING AND EXECUTION

This section describes the process for planning and executing WS O&M activities which includes inspection, rehabilitation (also known as routine removal work for conveyance) and replacement work (erosion or systemic issues). Section IV describes an opportunity for improving on these current processes, to develop a strategic planning program that will holistically evaluate creek maintenance needs and identify the most efficient way to address those needs as operations, small capital, or capital projects.

Because of the dynamic nature of creek systems, it is challenging for Valley Water to provide specificity regarding future stream maintenance projects. For instance, an active rainy season could create more erosion- and sediment-related issues in creeks than a less active and dry winter. In addition, it is not always clear what deficient sites can be taken on as maintenance projects by the WS O&M Division, or what sites might be clustered together and addressed via WARP.

Maintenance requirements and schedules are based on several factors, including Board policies, condition assessments, project maintenance guidelines, commitments to federal project partners (NRCS, USACE), regulatory permit requirements, code compliance (county or city codes) and Safe, Clean Water Program commitments. The projects identified in this WS O&M Plan, along with the associated projected funding allocations, are intended to support the WS O&M Division's resource planning and budgeting process.

Stream Maintenance Program (SMP)

Valley Water performs preventive, corrective, preventive repair, and deferred maintenance activities under the SMP. WS O&M staff regularly inspects creeks and flood protection infrastructure such as levees, berms, and floodwalls. In April, staff finalizes a proposed work plan for the upcoming SMP work season. When generating this list of projects, staff analyzes and prioritizes hundreds of inspections/condition assessments where creek assets are at risk of not meeting their level of service. Staff also considers the current and projected resources available in the Field Operations Unit to construct within one SMP season, and ability for the Vegetation Field Operations Unit and others to conduct corresponding mitigation implementation and monitoring for associated impacts.

From June to October, after securing state and federal regulatory agencies' approval of the work plan, WS O&M staff perform maintenance activities in streams to remove sediment, manage vegetation, clear trash, and debris, and stabilize eroded creek banks. Stream maintenance work also includes an integrated vegetation management program which provides many benefits, including removal of instream vegetation to maintain flow conveyance; upland vegetation management to meet fire code compliance and sustain maintenance access; and native planting and invasive plant removal projects to improve the ecological habitat of the riparian ecosystem. While much of this work takes place in the summer, stream maintenance is a year-round effort.

SMP bank protection and sediment removal projects are designed by the WS O&M Engineering Support Unit and, in general, are carried out by the Watershed Field Operations Unit. The Vegetation Field Operations Unit performs instream vegetation removal, upland vegetation management, and mitigation projects.

FY23-27 WS O&M Plan

Approximately 30 SMP bank protection and sediment removal projects are initiated each year by the WS O&M Engineering Support Unit each year to adhere to Valley Water's Board Ends Policies and SCW program. A list of proposed SMP projects for FY23 is provided in Appendix B. The Sustainable Creek Infrastructure project described below intends to provide a proposed 5-year or longer asset renewal project list in future O&M Plans.

Watersheds Asset Rehabilitation Program (WARP)

To supplement WS O&M Division resources for projects outside the scope of the SMP, stream maintenance work may also be performed through Valley Water's WARP, which was initiated as a small capital improvement project in Valley Water's Capital Improvement Program in 2013 to address the back log of O&M projects constructed by low bid contractors using public works procurement process. The long-term target budget is \$147M.

Each fiscal year, the project list is reviewed and re-prioritized as needed per the progressive nature of the field conditions and the risks associated with consequences of watersheds asset failure. As of 2021, 15 higher priority projects were completed out of 34 identified projects. WARP projects are typically carried out during the annual work season (generally, June 15 through October 15). WARP planning and design work is led by Valley Water's Watersheds Design and Construction Unit #5, and WARP construction work is conducted by contractors (hired through competitive bidding process), overseen by Valley Water's Construction Services Unit or external Construction Management (CM) professionals. WARP work is conducted in close consultation with the WS O&M Engineering Support Unit, and other units within the WS O&M Division. A list of asset renewal projects is included in Appendix A may be performed under WARP in the future.

Work Not Included

WARP projects are not included in the financial charts in this plan, as those projects are accounted for in Valley Water's 5-Year Capital Improvement Plan; however, some asset renewal projects are identified in Appendix A may be considered as future WARP projects. For example, there is a project currently in progress and budgeted under WARP to rehabilitate several concrete assets in Piedmont Creek. In addition, a project that includes bank repair and sheet pile walls for Calabazas Creek from Miller Avenue to Bollinger Road has also been budgeted under WARP. Such work is generated by requests from the WS O&M Engineering Support Unit, Asset Management Plans, and this 5-Year O&M Plan to supplement WS O&M Division work that is routine maintenance or in response to an emergency or a threat of imminent failure.

This plan also does not include deferred vegetation management work as information related to that effort is being gathered and will require further analysis. WS O&M staff also work to maintain Water Utility facilities, an effort funded through the Water Utility Fund. Such work is not included in this WS O&M Plan.

In addition, this plan does not include O&M work recommended by the Sustainable Creek Infrastructure Project, as it is in its early stages of prioritizing and analyzing deficiencies within creeks with a variety of watershed units. Deficiencies include, but are not limited to, existing flood protection infrastructure not providing the level of service originally intended, potential

FY23-27 WS O&M Plan

flooding, wide-spread erosion, infeasible maintenance strategies, and near end-of-life constructed assets (i.e., 70-year-old concrete bank lining). Based on a high-level analysis of current conditions, it is anticipated that deferred maintenance and potential asset renewal work will require an estimated \$100 million over the next ten years.

Work Execution

Execution of the watershed O&M projects is predominantly performed through the following units, as described above:

- Watersheds Operations and Maintenance Engineering Support Unit (298)
- Operations and Maintenance Environmental Support Unit (297)
- Vegetation Field Operations Unit (295)
- Watersheds Field Operations Unit (253)

Additional technical support is provided by the following units which all are involved in the Sustainable Creek Infrastructure project /WARP development:

- Business Support and Asset Management Unit (411)
- Water Resources Planning and Policy Unit (245)
- Hydrology, Hydraulics and Geomorphology Unit (296)
- Watersheds Design and Construction Unit #5 (336)

[The remaining of this page intentionally left blank]

IV. STRATEGIC PLANNING FOR FUTURE ASSET RENEWAL: SUSTAINABLE CREEK INFRASTRUCTURE

While the SMP and WARP have been successful in planning and executing necessary stream maintenance projects, Valley Water recognizes the need to evaluate stream maintenance from a more strategic and holistic planning approach, as well as to assess the longevity and effectiveness of past project improvements. Consequently, Valley Water initiated a new project as part of the Safe, Clean Water renewal in 2020. Project F8: Sustainable Creek Infrastructure for Continued Public Safety (Sustainable Creek Infrastructure project). This project will help Valley Water more efficiently plan and execute stream maintenance work as operations, small capital, or capital improvements. In addition, it will identify and prioritize infrastructure issues and develop asset management plans to determine needed asset renewal projects. Asset renewal work that will be investigated and identified as part of this project includes restoring the level of service originally intended for flood protection infrastructure, extending the life of flood protection infrastructure, and improving the reliability of flood protection infrastructure.

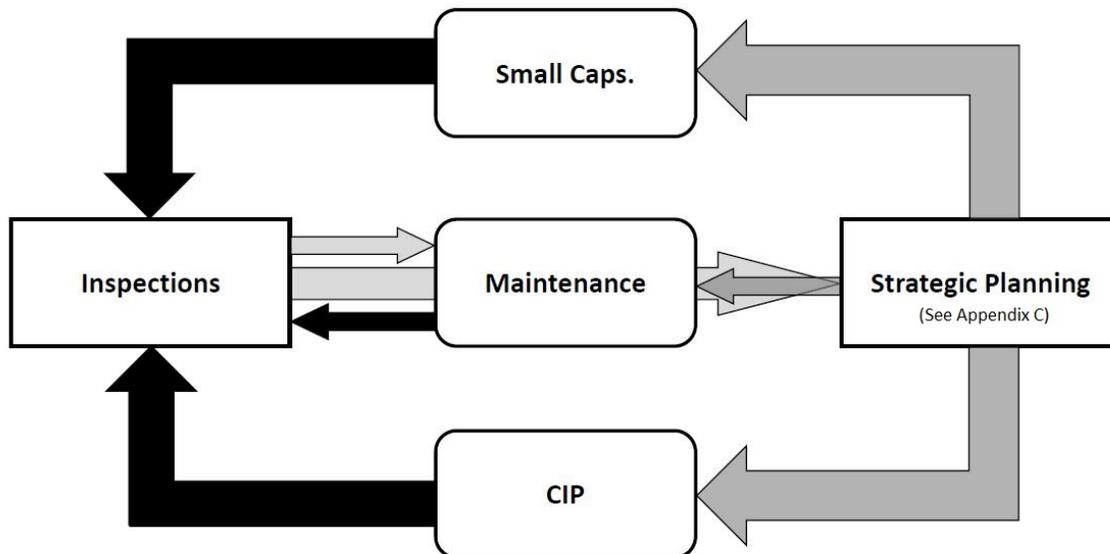
A point of emphasis in early planning for this program is to improve our understanding of how best to address deficiencies on creek assets. Some deficiencies are easily addressed through routine maintenance (e.g., trash and debris removal, fence, and gate repairs, etc.); however, for more complex deficient issues such as erosion of a creek embankment or levee, compromised flow conveyance capacity beyond routine maintenance capabilities and/or outside of regulatory permissions, or failure of concrete infrastructure, there is less clarity on how best to address these. In these instances, routine maintenance may be performed to address the problem for the time being, however it is not always the case that the root of the problem can be addressed as part of routine maintenance.

This project will also assess the longevity and effectiveness of past project improvements. Staff have preliminarily identified several completed flood protection projects that need work of a greater magnitude than the ongoing routine work. These include stretches of failing concrete lining at or beyond expected life expectancy, levees that do not meet current freeboard criteria, creek reaches that provide inadequate flow conveyance based on model calibration using recent high water events, past project components that were deleted or omitted, systemic deterioration of flood protection projects due to channel instability and/or rodent-related issues, and yet-to-be-determined condition of miles of underground pipes (i.e., creeks in pipe). These gaps in our flood protection systems and potential significant infrastructure failures (e.g., concrete channel walls) require remediation and recapitalization.

Over the past few years, a variety of approaches have been taken to address these issues as: (1) routine maintenance (e.g., bank protection projects under the SMP); (2) implementation of a WARP project by the WS Design and Construction Unit #5 (Small Caps team) (e.g., repair of failing concrete stream infrastructure assets); and/or (3) implementation of a new capital improvement project (e.g., Guadalupe River, Tasman Drive to Interstate 880). The goal of the Sustainable Creek Infrastructure project is to not only to identify issues, but to determine how to best address the issues through one of these avenues. A visual representation of the strategic planning approach is depicted in Figure IV-1.

Figure IV-1 Strategic Planning Approach

Santa Clara Valley Water District – Watersheds



1. Light grey arrows (to the right): Inspections lead to maintenance (much of which is routine), but can or should also lead to strategic planning.
2. Dark grey arrows (to the left): Strategic planning, including identification and prioritization of assets, and preparation of implementable asset management plans, should result in recommendations that would either lead to conducting work via routine maintenance, small caps., or a new CIP.
3. Black arrows (to the left): Once any of these three efforts (maintenance, small caps, CIP) are done, inspections should be undertaken.

The magnitude of future watershed asset renewal work is estimated at nearly \$100 Million over the next ten years. This estimated cost will be refined over the next few years as renewal work is identified. Some of the asset renewal projects identified through this effort may be funded by Sustainable Creek Infrastructure project, which is allocated \$7.5 Million over the next 15 years, the Watersheds Stream Stewardship fund, which is allocated \$7 million over the next 15 years, and/or by the WARP small capital improvement project, which is currently funded at approximately \$7.5 - \$8 million per year. It is anticipated that the magnitude of future work will exceed available funding in some future years.

Given staff's push toward strategic planning and asset management, as part of this FY23-27 WS O&M Plan, staff is moving away from the practice of identifying a list of sites and corresponding estimated costs, as such an approach is not informed by the strategic planning effort under development and can be misleading if not understood in this broader context; instead, a working list (draft) of asset renewal work is provided in Appendix A. The intent is for that this list to be refined over time with further development of WARP and the Sustainable Creek Infrastructure project.

Currently, the Sustainable Creek Infrastructure project is in the early stages of analyzing and prioritizing creek assets. Approximately thirty creeks have been analyzed using inspection records from the last five years and prioritized based on business risk exposure (BRE). BRE is a standard asset management tool used to calculate (score) the nature and level of exposure an organization is likely to confront through a potential failure of an asset or group of assets. The BRE score is a product of an asset's probability of failure and consequence of failure. The

probability of failure score is determined during inspections based on the asset's maintenance guidelines and the consequence of failure score is based on the asset's level of service, adjacent properties and geography, financial impact, environmental impact, and safety.

Asset management staff meets regularly with representatives from the Watersheds Operations and Maintenance Engineering Support Unit (298), Vegetation Field Operations Unit (295), Hydrology, Hydraulics, and Geomorphology (296), Watersheds Resources Planning and Policy Unit (245), Environmental Mitigation and Monitoring Unit (244) and Watersheds Small Capital Design and Construction Unit #5 (336) to discuss the key issues of each creek and gain consensus which creeks are most appropriate for follow-on action to occur. Based on discussions among this team, it has been determined that several creeks or reaches of creek have issues that need to be addressed. To this end, some next steps have been taken, including submitting a business case to the capital improvement program, requesting that small capital improvements be undertaken, and/or developing a creek asset management plan.

In addition, under the Sustainable Creek Infrastructure project, staff has developed a draft workflow which includes detailed steps of strategic planning (box shown in Figure IV-1). This workflow is utilized by the team during regular project meetings, and helping the team determine if a creek asset (or group of assets) is due for capital improvement, rehabilitation, maintenance, and/or an updated asset management plan. This draft workflow is provided in Appendix C.

[The remaining of this page intentionally left blank]

V. FIVE YEAR OPERATIONS FORECASTS

This section provides an overview of the expected operations expenses and unfunded needs for the operations and maintenance activities conducted by the WS O&M Division for the next five fiscal years. The types of activities budgeted in the projects presented in this section are described in Section II.

The final financial information provided in this section will be taken from the Board-adopted budget for FY23-24, as well as the forecast data that is collected as part of the budget process. The Draft report is prepared using long term forecast data and unfunded needs requests as of December 1, 2021. The FY23 budget requests and unfunded needs are evaluated throughout the budget process through May 2022. The plan is finalized following Board adoption of Valley Water's final budget. The final plan documents the final budgeted amounts for each project for FY23 as well as any remaining unfunded needs following the budget process.

The sections below provide an overview of the WS O&M Division units, as well as tables and charts that summarize expected operations expenses and unfunded operations resource needs for FY 23-27. The term 'baseline' refers to activities that provide current service levels and are assumed to be funded in fund forecasts prepared by Valley Water's Financial Planning and Management Services Division.

A remaining list of deferred maintenance is being evaluated through the Sustainable Creek Infrastructure project. An initial list of asset renewal work is provided in Appendix A that contain creeks with aging infrastructure. Additional examples of deferred maintenance work and anticipated funding necessary for such work are also described below:

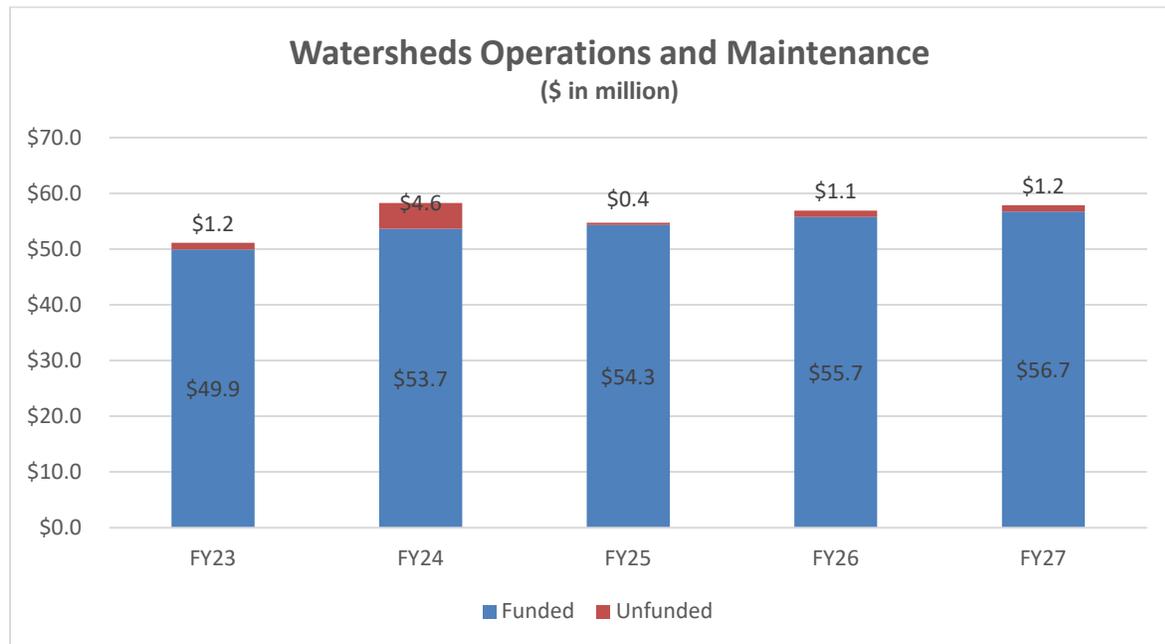
Deferred maintenance work:

- Addressing vegetation that has grown beyond the limits of SMP environmental documentation and permits and is compromising design levels of service. For example, if Valley Water is not proactive in removing trees compromising flow conveyance or inhibiting visual inspections of levees or other key assets prior to them reaching 12 inches diameter at breast height (dbh), Valley Water will need to prepare additional environmental documentation and obtain separate permits for their removal, as removal of trees greater than 12 inches dbh are not permitted under the current SMP. It is noted that limited vegetation management work will occur until new environmental review and regulatory permitting process have been employed. A few reaches of Adobe, Stevens, San Tomas Aquino Creeks are examples of this.
- Addressing systemic issues such as lack of sediment transport causing widespread erosion throughout a channel and compromising the stability of channel beds, banks, and levees adjacent to public and private properties. Valley Water's practice has been to conduct repairs to a few small sections when crucial. Both Stevens Creek (approximately three miles) and Regnart Creek (approximately 1.5 miles) contain this issue.
- Aging concrete assets such as concrete lined channels, culverts, floodwalls, and drop structures. For example, large sections of Adobe, Berryessa, Calabazas, Hale, Lower Penitencia, Permanente, and San Tomas Aquino Creeks contain concrete assets in need of rehabilitation.

- It is noted that mitigation to offset significant impacts of deferred maintenance would likely result in significant costs, whether it be acquiring land to be able to mitigate, installing mitigation plantings, conducting consequent mitigation site maintenance, and monitoring, implementing compensatory mitigation projects, and/or pursuing habitat conservation planning solutions.

A summary of the five-year forecasts of funding for current service levels as well as future resource requirements which are not yet funded for the WS O&M Division is shown in the chart below. Unit-specific information is provided in the following sections.

Figure V-1 FY2023-27 Projected Resource Requirements for WS O&M Division



*Data as of December 2021

In total, the WS O&M Division has identified a need for an additional \$8.56 million for the next five years to support the growing workload of vegetation field operations, the update and development of comprehensive stream maintenance guidelines to fulfill one of the SMP’s permit obligations, the rehabilitation of the Evelyn Avenue fish ladder on Stevens Creek, and the reopening of the Valley Water Habitat Plan. It is important to note that in addition to these unfunded needs, additional deferred maintenance remains unfunded. As a high-level rough estimate, staff anticipates \$100 million over the next ten years are needed to address deferred maintenance. This cost estimate will be refined through Sustainable Creek Infrastructure project as described in Sections III and IV.

[The remaining of this page intentionally left blank]

Watersheds O&M Engineering Support Unit (298)

The WS O&M Engineering Support Unit is responsible for conducting creek and levee inspections, preparing work orders, and providing engineering support for operations and maintenance activities for streams, levees, and other watersheds assets within Santa Clara County over which Valley Water has responsibility. This work supports the flood protection and watershed stewardship components of Valley Water's mission.

This unit updates stream maintenance guidelines and carries out general engineering planning to support the watersheds operation and maintenance activities throughout the county. Stream maintenance guidelines are vital to ensuring that Valley Water continues to provide flood protection to the community while complying with regulatory permits. The guidelines inform when a modified creek facility requires routine maintenance work, such as sediment removal, vegetation management, rodent control measures, and road repairs, among other work activities, to provide the levels of service intended by the original construction of the facility and to ensure the functionality of designed project elements.

Engineering and inspection support includes preliminary development of planning for projects, working with municipalities and other entities, pre-project planning, developing environmental documentation and acquiring permits for non-Stream Maintenance Program (non-SMP) projects, and managing Pond A8 activities resulting from requirements under an agreement with the U.S. Fish and Wildlife Service (USFWS). This unit also provides support for the Watersheds strategic planning and analysis efforts as part of the Sustainable Creek Infrastructure project, and this is reflected in the long-term forecast.



Staff measuring extent of bank erosion along Calabazas Creek

In addition, this unit provides for regular inspection and documentation of watersheds infrastructure, such as flood protection structures (such as levees, floodwalls, berms), streams, and banks, to determine maintenance required and ensure those assets are safe and maintained to their design conditions. The unit inspects USACE-constructed flood protection projects along sections of Guadalupe River, Coyote Creek, and Uvas Creek, and the NRCS-constructed Lower

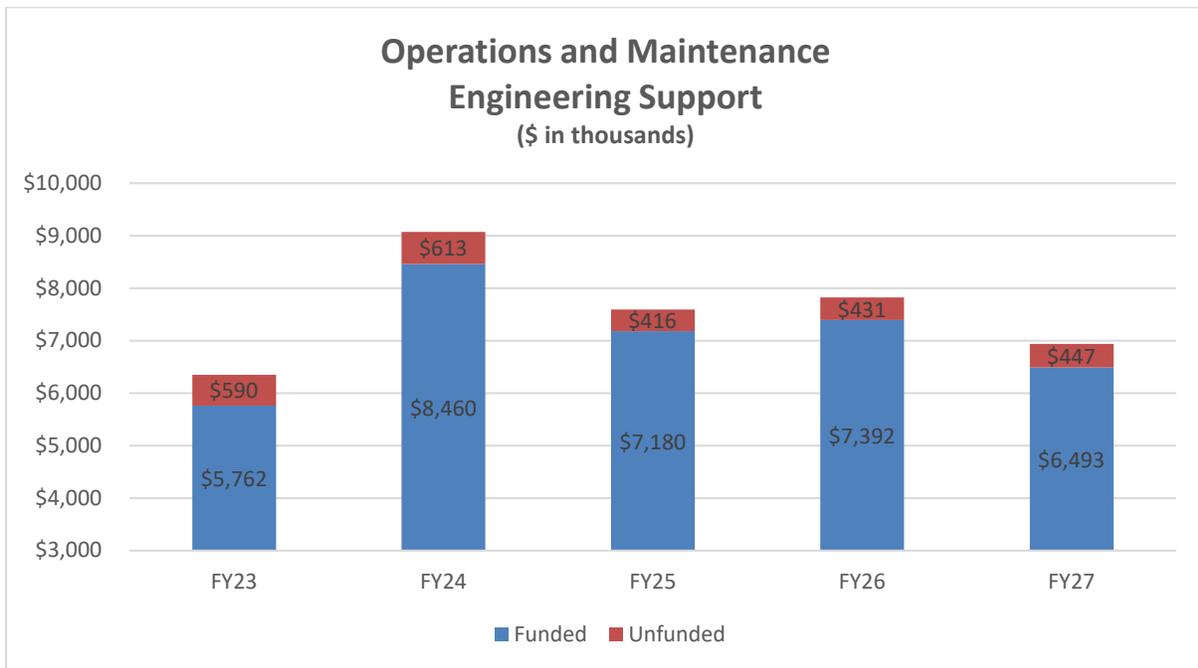
Llagas Creek Flood Protection Project. As the local sponsor for these projects, Valley Water is responsible for maintaining these facilities.

The unit also provides for addressing public requests made through Valley Water’s online customer relationship management portal related to Watersheds’ infrastructure, and for the creation of work orders to address identified deficiencies.

Creek inspection work is expected to grow in the coming years as capital flood protection projects are completed and turned over to the WS O&M Division for inspection and maintenance.

Projected Resource Requirements

Figure V-2 FY2023-27 Projected Resource Requirements for Engineering Support



[The remaining of this page intentionally left blank]

Table V-1 Projected Resource Requirements by Projects for Engineering Support

Operations and Maintenance Engineering Support (\$ in thousand)								
Program	Project Number(s)	FY21 (Actuals)	FY22 (Adopted)	FY23	FY24	FY25	FY26	FY27
Watersheds O&M Engineering and Inspection Support	62021009	\$1,267	\$1,562	\$1,925	\$2,006	\$2,472	\$2,560	\$2,654
Watersheds Maintenance Guideline Update	62042050	\$345	\$754	\$836	\$761	\$0	\$0	\$0
Watershed Facility Condition Assessment	62761024	\$1,778	\$2,299	\$2,572	\$2,771	\$2,904	\$3,005	\$3,107
Non SMP Vegetation Removal for Conveyance	62761080	\$0	\$326	\$429	\$2,922	\$1,803	\$1,828	\$732
		\$3,390	\$4,942	\$5,762	\$8,460	\$7,180	\$7,392	\$6,493

Table V-2 Additional Resource Needs (Unfunded) for Engineering Support

Operations and Maintenance Engineering Support (\$ in thousand)						
Program	Project Number(s)	FY23	FY24	FY25	FY26	FY27
Watersheds O&M Engineering and Inspection Support	62021009	\$384	\$401	\$416	\$431	\$447
Watersheds Maintenance Guideline Update	62042050	\$206	\$212	\$0	\$0	\$0
		\$590	\$613	\$416	\$431	\$447

The projected additional resource needs over the next five years FY23-27 are estimated at \$2.5 million for engineering support and maintenance guidelines. For the past several years, the need for vegetation management has significantly increased within Valley Water's creeks and

FY23-27 WS O&M Plan

streams. In addition to updated environmental permits and regulations, the removal of vegetation has required more engineering analysis and justification to determine the best approach to remove vegetation of specific sizes and species, to continue to meet levels of service. To keep up with the growth of other units within this division, additional resources will ensure this work continues to be completed efficiently and effectively. Additional resources will also assist with design review of future Community Projects Review Unit (CPRU) and capital projects.

Further, additional resources will provide adequate consultant services to complete the remaining stream maintenance guidelines to better manage and evaluate Valley Water's creeks and fulfill permit obligations issued by the San Francisco Regional Water Quality Control Board as a part of the SMP. Staff's original approach was to complete remaining creek maintenance guidelines in house; however, based on the level of effort observed for the guidelines currently being prepared, this does not appear to be possible.

[The remaining of this page intentionally left blank]

Watershed Field Operations Unit (253)

The Watershed Field Operations Unit is responsible for the coordination and management of field construction and O&M activities (noted in section II) within the WS Enterprise, coordination of emergency response services, and monitoring of safety procedures.

One of the many O&M activities that this unit is responsible for is maintaining all WS assets to design capacity and allow stormwater to flow through the creeks as designed. High and/or sustained flows can cause extensive damage to creek banks or levees, while sediment buildup can restrict the flow of water, increasing the risk of flooding. To allow water to flow through the creeks as designed, Valley Water removes sediment, manages vegetation, and repairs banks and levees. This effort also helps ensure that Valley Water meets the requirements identified in the Safe, Clean Water Program Project F1: Vegetation Control and Sediment Removal for Capacity. The removed sediment may also be reused to support the South Bay Salt Pond Restoration project or other environmental enhancement and restoration projects identified in the Safe, Clean Water Program Project D3: Sediment Reuse to Support Shoreline Restoration. These operations are expected to grow as new capital flood protection projects are completed and turned over to the WS O&M Division for inspection and maintenance.



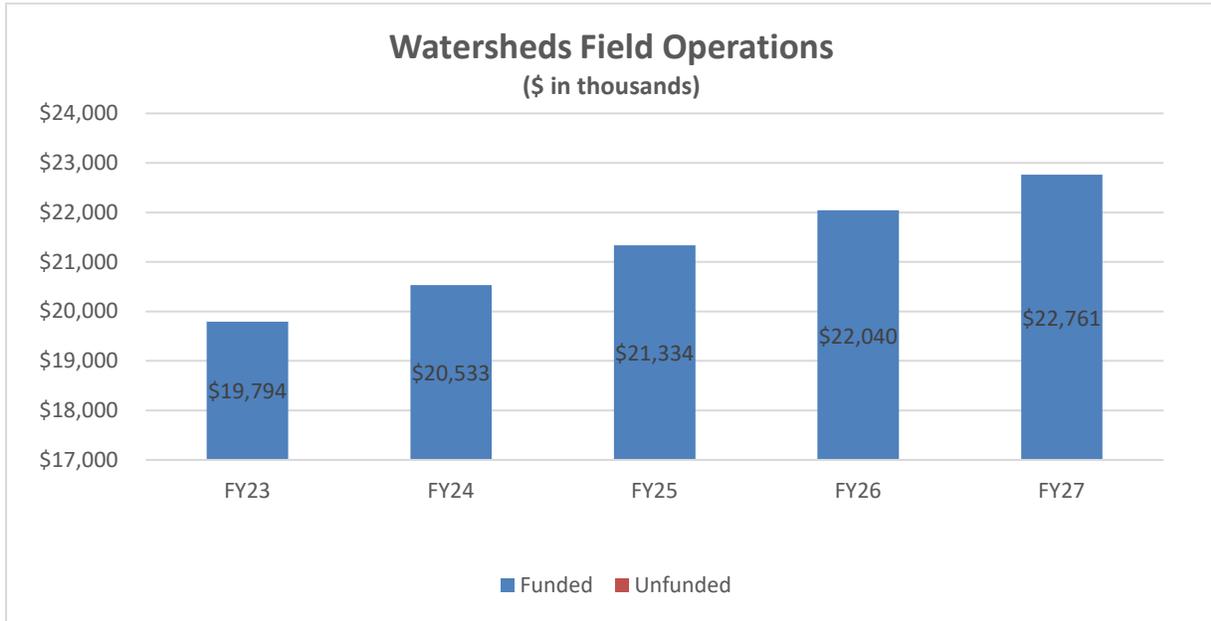
Pictured: Sediment removal activities

In addition to maintaining WS projects, this unit is also responsible for several other programs and general maintenance of Valley Water properties and facilities under watersheds such as debris removal, encampment cleanup (supported by the Safe, Clean Water Project F5: Good Neighbor Program: Encampment cleanups), Pond A4 operations, graffiti and litter removal (supported by the Safe, Clean Water Project F6: Good Neighbor Program: Graffiti and Litter

Removal and Public Art), and other general field maintenance such as access road repairs, fence repair and installation and sign installation.

Projected Resource Requirements

Figure V-3 FY2023-27 Projected Resource Requirements for Field Operations



[The remaining of this page intentionally left blank]

Table V-3 Projected Resource Requirements by Projects for Field Operations

Watersheds Field Operations (\$ in thousand)								
Program	Project Number(s)	FY21 (Actuals)	FY22 (Adopted)	FY23	FY24	FY25	FY26	FY27
WS Good Neighbor Maintenance	00761022	\$2,320	\$1,538	\$1,604	\$1,665	\$1,584	\$1,638	\$1,693
Watershed Sediment Removal	00761023	\$6,484	\$6,127	\$6,498	\$6,717	\$7,509	\$7,749	\$7,996
D3 SCW Sediment Reuse to Support Shoreline	26441003	\$0	\$234	\$239	\$246	\$241	\$248	\$256
Encampment Cleanup Program	26771027	\$301	\$1,924	\$2,436	\$2,520	\$2,300	\$2,374	\$2,423
Pond A4 Operations	62761009	\$61	\$92	\$97	\$121	\$104	\$107	\$134
General Field Maintenance	62761025	\$2,643	\$2,735	\$3,218	\$3,345	\$3,469	\$3,589	\$3,713
Watershed Debris Removal	62761026	\$1,544	\$1,546	\$1,661	\$1,727	\$1,791	\$1,854	\$1,918
Watershed Erosion Protection	62761027	\$3,190	\$2,921	\$3,387	\$3,512	\$3,636	\$3,757	\$3,882
Watershed Levee Maintenance	62761028	\$718	\$827	\$655	\$679	\$701	\$724	\$748
		\$17,261	\$17,943	\$19,794	\$20,533	\$21,334	\$22,040	\$22,761

Table V-4 Additional Resource Needs (Unfunded) for Field Operations

None.

[The remaining of this page intentionally left blank]

VEGETATION FIELD OPERATIONS UNIT (295)

The Vegetation Field Operations Unit is responsible for the coordination and management of integrated vegetation management programs, riparian planting and invasive plant management mitigation projects, hazard tree program and the sandbag program in the Lower Peninsula, West Valley, Guadalupe, Coyote, and Uvas/Llagas Watersheds including capital projects and water utility sites.

This unit supports Valley Water to meet the requirements identified in the Safe, Clean Water Program Priority D1: Management of Riparian Planting and Invasive Plant Removal. This program provides for the maintenance and management of existing and future revegetation projects throughout the county to ensure that Valley Water meets its regulatory requirements. Revegetation sites provide mitigation to compensate for impacts to habitat from flood protection and maintenance projects.

In addition, this program provides for removing non-native invasive plants to mitigate for temporary impacts generated from SMP activities on various riparian corridors throughout the county. It is a required mitigation condition of USACE, USFWS, and California Department of Fish and Wildlife (CDFW) permits for the SMP, which is critical to preserving the flood conveyance capacity as well as maintaining the integrity of Valley Water's flood protection projects and the health of the stream corridors.

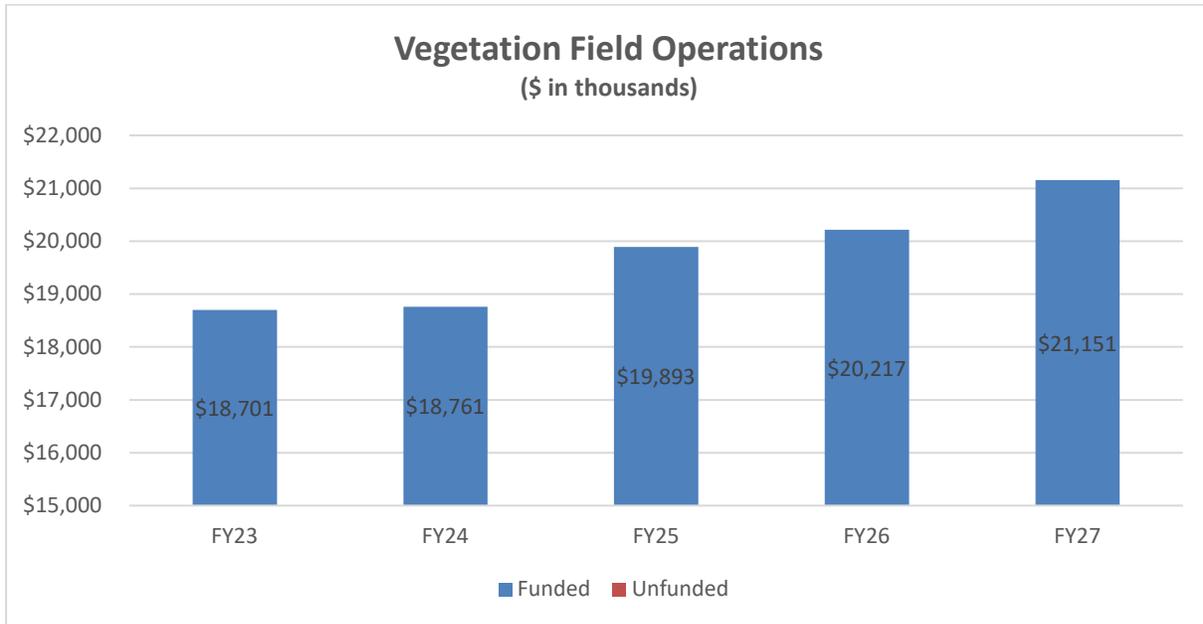
The Vegetation and Field Operations unit also supports a variety of other programs that include in-stream vegetation removal for flow conveyance, vegetation maintenance for access and fire safety (supported by Safe Clean Water Projects F1: Vegetation Control & Sediment Removal and F4: Vegetation Management for Access and Fire), watersheds hazard tree removal, and sandbags.



Pictured: Invasive species removal along Coyote Creek in San José

Projected Resource Requirements

Figure V-4 FY2023-27 Projected Resource Requirements for Vegetation Field Operations



[The remaining of this page intentionally left blank]

Table V-5 Projected Resource Requirements by Projects for Vegetation Field Operations

Vegetation Field Operations (\$ in thousand)								
Program	Project Number(s)	FY21 (Actuals)	FY22 (Adopted)	FY23	FY24	FY25	FY26	FY27
Revegetation Project Management	00761075	\$2,143	\$3,326	\$4,058	\$4,227	\$4,792	\$4,982	\$5,617
Invasive Plant Management	62761006	\$1,427	\$2,348	\$2,587	\$2,684	\$2,778	\$2,872	\$2,968
Stream Capacity Vegetation Con	26771067	\$2,162	\$3,395	\$3,442	\$3,646	\$3,993	\$4,127	\$4,264
Vegetation Management for Access	00761078	\$4,151	\$4,430	\$4,860	\$5,044	\$5,223	\$5,400	\$5,543
Tree Maintenance Program	00762011	\$889	\$948	\$1,420	\$1,474	\$1,527	\$1,578	\$1,632
Drought Induced Tree Removal	60061058	\$593	\$1,617	\$1,720	\$1,053	\$924	\$582	\$430
Sandbag Program	62761008	\$771	\$645	\$613	\$634	\$655	\$676	\$697
		\$12,136	\$16,710	\$18,701	\$18,761	\$19,893	\$20,217	\$21,151

Table V-6 Additional Resource Needs (Unfunded) for Vegetation Field Operations

None.

[The remaining of this page intentionally left blank]

Operations and Maintenance Environmental Support Unit (297)

The Operations and Maintenance Environmental Support Unit is responsible for the management of Valley Water's SMP, implementation of Instream Habitat Complexity projects, and providing additional Water Utility field operations support.

This unit coordinates routine maintenance activities under the SMP, including sediment removal, vegetation management and bank protection. The goal is to ensure activities are carried out in compliance with various regulatory permits and in a manner that minimizes environmental impact to the stream systems. Instream Habitat Complexity Projects are an SMP-2 requirement, compelling Valley Water to conduct gravel augmentation and/or large woody debris (LWD) projects in each of the five watersheds--Coyote, Guadalupe, Lower Peninsula, Uvas/Llagas and West Valley.



Pictured: Stevens Creek streambed restoration

[The remaining of this page intentionally left blank]

Projected Resource Requirements

Figure V-5 FY2023-27 Projected Resource Requirements for SMP Management

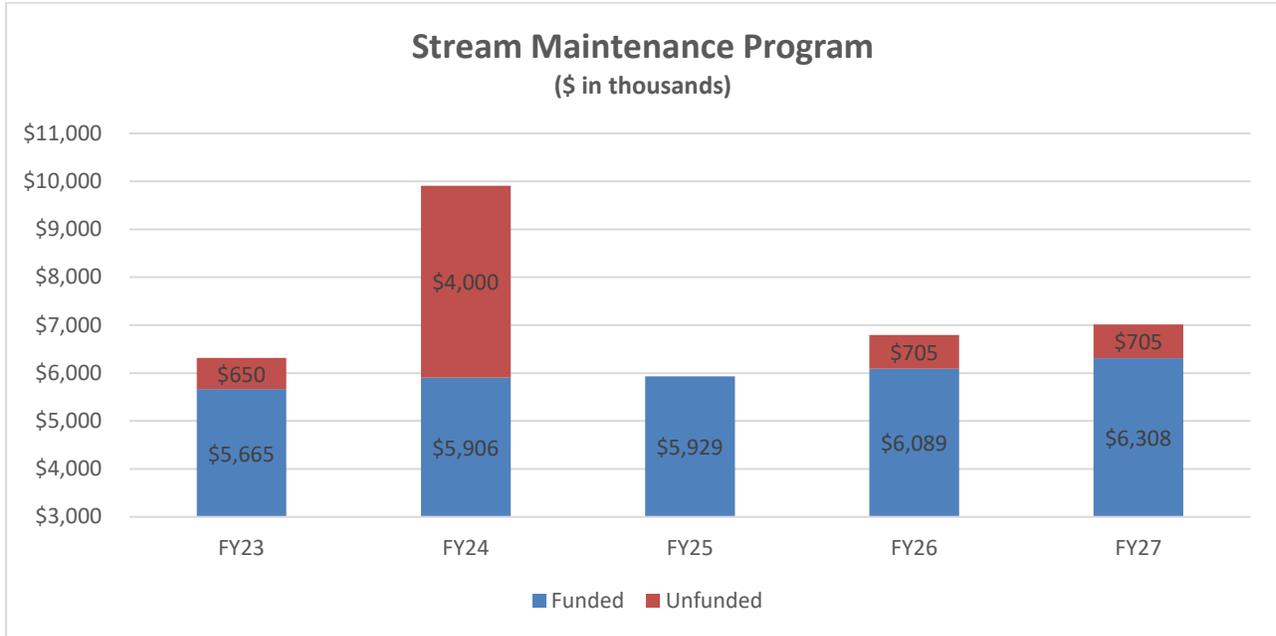


Table V-7 Projected Resource Requirements by Projects for SMP Management

Stream Maintenance Program (\$ in thousand)								
Program	Project Number(s)	FY21 (Actuals)	FY22 (Adopted)	FY23	FY24	FY25	FY26	FY27
Stream Maintenance Program Management	0041022	\$6,153	\$4,763	\$4,662	\$4,850	\$5,030	\$5,204	\$5,390
Instream Habitat Complexity	62181006	\$39	\$201	\$294	\$318	\$132	\$91	\$95
Field Operations Support	62061029	\$569	\$668	\$708	\$738	\$767	\$794	\$823
		\$6,760	\$5,632	\$5,665	\$5,906	\$5,929	\$6,089	\$6,308

Table V-8 Additional Resource Needs (Unfunded) for SMP Management

Stream Maintenance Program (\$ in thousand)						
Program	Project Number(s)	FY23	FY24	FY25	FY26	FY27
Instream Habitat Complexity	62181006	\$650	\$4,000	\$0	\$705	\$705
		\$650	\$4,000	\$0	\$705	\$705

The projected additional resource needs over the next five years from FY23-27 is estimated at \$6.06 million for the Valley Habitat Plan renewal and CEQA fees and rehabilitation for the Evelyn Avenue Fish Ladder. Additional resources are requested to support the following:

- Approximately \$4 million is anticipated for design and construction of the rehabilitation of the Evelyn Avenue fish ladder as a one-time cost in FY24.
- Approximately \$650,000 in FY23 for the reopening of the Valley Habitat Plan and CEQA document and subsequent fees of \$705,000 per year, declining after FY30.

[The remaining of this page was intentionally left blank]

VI. CONCLUSION

Since FY22, the WS O&M Division has been provided additional funding through the renewal of the Safe, Clean Water Program to perform necessary vegetation maintenance work resulting from completed capital improvement projects. In this FY23-27 WS O&M Plan, an immediate need is identified for an additional \$8.56 million that would provide resources to support the continued efforts of updating and developing stream maintenance guidelines, engineering support and analysis for vegetation management, the rehabilitation of the Evelyn Avenue Fish Ladder, and the renewal of the Valley Habitat Plan.

Similar to last year, unfunded costs for deferred maintenance have been excluded from this year's plan. Efforts under WARP and the Sustainable Creek Infrastructure project are helping staff determine whether these maintenance activities can and/or should be addressed with a more holistic approach. Such an approach could result in small capital or large capital projects being the most cost-effective and sustainable solution in the long term.

Although this five-year forecast has indicated unfunded needs due to current projects and programs, it is important to note that there is a remaining list of deferred maintenance projects that includes watershed assets with conditions that are a potential threat to their levels of service. In addition, Valley Water recognizes an opportunity to further analyze all watershed assets to effectively maintain existing and new infrastructure (i.e., improvements from flood control projects) and address the root cause of any physical deficiencies such as excessive vegetation growth, sediment build up, and/or erosion in a waterway system. The magnitude of future watershed asset renewal work is estimated at nearly \$100 Million over the next ten years. This estimated cost will be refined over the next few years as the Sustainable Creek Infrastructure project identifies actions that can be implemented and incorporated into future five-year O&M plans to create a more complete picture of potential O&M needs.

[The remaining of this page intentionally left blank]

VII.APPENDIX A – POTENTIAL REHABILITATION AND DEFERRED MAINTENANCE PROJECTS

Creek	Location	Asset Renewal Notes	Approximate Length
Permanente	Amphitheater Pkwy. to Charleston Rd.	Aging concrete walls	0.5 mile
Hale	Permanente Creek to Rosita Ave.	Aging concrete walls	1 mile
San Tomas Aquino ⁱ	Bay to Tasman Dr. d/s Williams Rd. and u/s Smith Creek confluence Westmont Ave. to Wildcat Creek confluence	Aging concrete and modified levees and banks	2 miles
Stevens ⁱⁱ	Crittenden Ln. to I-280	Aging concrete and modified levees and deferred creek improvements*	3 miles
Adobe	d/s Charleston Rd. to Bay Barron Creek confluence to Louis Rd.	Culvert rehabilitation below Hwy. 101 Aging concrete, levee, and banks	3 miles
Lower Penitencia	San Andreas Dr. to Capitol Ave.	Aging concrete and modified levees and banks	1.5 miles
Berryessa	Montague Expwy. to I-680 to Sierra Creek confluence (concrete) Morrill Ave. to Messina Dr. (concrete) Messina Dr. to u/s Cropley Ave. (natural)	Aging concrete and modified banks	2.5 miles
Regnart	Calabazas Creek confluence to Kim St.	Aging modified banks and invert	1 mile
Regnart	UPRR to Bubba Road	Eroding banks and invert	0.5 mile
Randol	d/s Bret Harte Dr.	Deferred bank improvement* and aging concrete drop structures	0.2 mile
Los Gatos	Twin Brook Dr.	Eroding banks with gabions	0.2 mile
Calabazas	Valco Pkwy. To Stevens Creek Blvd.	Aging concrete culvert	0.2 mile

*Improvement indicates an element that was omitted from original construction.

i. A business case for a request Capital Improvement Planning Study and Project for San Tomas Aquino Creek was submitted in FY22.

ii. The Sustainable Infrastructure project team determined that the appropriate next step for Stevens Creek is to move forward with preparation of an updated asset management plan to determine the most sustainable and economic management strategies.

VIII. APPENDIX B – 2022 SMP PROJECTS

To be determined for Final Draft in May 2022.

2022 SMP Project List* (TBD)								
Item	Watershed	Creek / Facility	Work Type	Location	Sta (From)	Sta (To)	Length (Feet)	Project Type
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								

2022 SMP Project List* (TBD)

Item	Watershed	Creek / Facility	Work Type	Location	Sta (From)	Sta (To)	Length (Feet)	Project Type
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								

2022 SMP Project List* (TBD)								
Item	Watershed	Creek / Facility	Work Type	Location	Sta (From)	Sta (To)	Length (Feet)	Project Type
28								
29								
30								

* This is SMP work anticipated to be conducted in 2022 (FY23). While Valley Water will make every effort to undertake these projects, work may not be conducted for multiple reasons, including delays in receipt of regulatory agencies’ approvals, wildlife considerations, unforeseen site conditions, unavailability of resources, and compliance with social distancing and other public health guidance, among other circumstances.

IX. APPENDIX C – WATERSHED STRATEGIC PLANNING WORKFLOW

[The remaining of this page was intentionally left blank]



Valley Water

Clean Water • Healthy Environment • Flood Protection

Santa Clara Valley Water District
5750 Almaden Expressway, San José, CA 95118-3686
Phone: (408) 265-2600 Fax: (408) 266-0271
www.valleywater.org