



March 27, 2024

## **MEETING NOTICE SANTA CLARA VALLEY WATER DISTRICT**

### **JOINT WATER RESOURCES COMMITTEE WITH CITIES OF GILROY AND MORGAN HILL**

**Members of the Joint Water Resources Committee:**

District 1 Director John Varela - Committee Chair  
Hon. Marie Blankley, Mayor, City of Gilroy - Committee Vice Chair  
District 3 Director Richard Santos  
Hon. Dion Bracco, Councilmember, City of Gilroy  
Hon. Yvonne Martinez-Beltran, Councilmember, City of Morgan Hill  
Hon. Rene Spring, Councilmember, City of Morgan Hill  
Hon. Gino Borgioli, Councilmember City of Morgan Hill (Alternate)  
Hon. Marilyn Librers, Councilmember, City of Morgan Hill (Alternate)

**Valley Water Staff Support of the Joint Water Resources Committee:**

Rick Callender, Chief Executive Officer  
Rachael Gibson, Acting Asst. Chief Executive Officer  
Aaron Baker, Chief Operating Officer, Water Utility  
Chris Hakes, Chief Operating Officer, Watersheds  
Marta Lugo, Acting Chief of External Affairs  
Carlos Orellana, District Counsel  
Michele King, Clerk, Board of Directors  
Brian Hopper, Senior Assistant District Counsel  
Don Rocha, Assistant Officer, External Affairs  
Vincent Gin, Deputy Operating Officer, Water Supply Division  
Bhavani Yerrapotu, Deputy Operating Officer, Watersheds Design & Construction  
Emmanuel Aryee, Deputy Operating Officer, Water Utility Capital  
Sam Bogale, Deputy Operating Officer, Treated Water Division  
Greg Williams, Deputy Operating Officer, Raw Water Division  
Kirsten Struve, Assistant Officer, Water Supply Division  
Hossein Ashktorab, Recycled & Purified Water Manager  
Girle Jacobson, Senior Engineer – Treatment Plant Design  
David Tucker, Associate Engineer - Civil  
Elise Latedjou-Durand, Senior Environmental Planner  
Neeta Bijoor – Associate Water Resource Specialist  
James Randol, Security Manager  
Nicole Merritt, Assistant Deputy Clerk II

A Santa Clara Valley Water District regular Joint Water Resources Committee meeting has been scheduled to begin at 8:30 a.m. on Wednesday, April 3, 2024, at the South County Regional Wastewater Authority 1500 Southside Drive, Gilroy, CA 95020

This meeting is in-person only.

The meeting agenda and corresponding materials are located on our website:  
<https://www.valleywater.org/how-we-operate/committees/board-committees>

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## **Santa Clara Valley Water District Joint Water Resources Committee with Cities of Gilroy and Morgan Hill**

South County Regional Wastewater Authority  
1500 Southside Drive  
Gilroy, CA 95020

**This meeting is in-person only.**

### **REGULAR MEETING AGENDA**

**Wednesday, April 3, 2024  
8:30 AM**

**District Mission: Provide Silicon Valley safe, clean water for a healthy life, environment and economy.**

**COMMITTEE MEMBERS:**

Hon. John Varela, Director District 1, Chair  
Hon. Marie Blankley, Mayor, Gilroy, Vice Chair  
Hon. Richard Santos, Director District 3  
Hon. Dion Bracco, Council Member, Gilroy  
Hon. Yvonne Martinez, Council Member,  
Morgan Hill  
Hon. Rene Spring, Council Member, Morgan Hill

All public records relating to an item on this agenda, which are not exempt from disclosure pursuant to the California Public Records Act, that are distributed to a majority of the legislative body will be available for public inspection at the Office of the Clerk of the Board at the Santa Clara Valley Water District Headquarters Building, 5700 Almaden Expressway, San Jose, CA 95118, at the same time that the public records are distributed or made available to the legislative body. Santa Clara Valley Water District will make reasonable efforts to accommodate persons with disabilities wishing to attend Board of Directors' meeting. Please advise the Clerk of the Board Office of any special needs by calling (408) 265-2600

**COMMITTEE LIAISON:**  
Kirsten Struve

**COMMITTEE CLERK:**  
Nicole Merritt  
Assistant Deputy Clerk II  
408-630-3262  
nmerritt@valleywater.org  
www.valleywater.org

**Note: The finalized Board Agenda, exception items and supplemental items will be posted prior to the meeting in accordance with the Brown Act.**

**Santa Clara Valley Water District  
Joint Water Resources Committee  
with Cities of Gilroy and Morgan Hill  
REGULAR MEETING AGENDA**

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Wednesday, April 3, 2024

8:30 AM

South County Regional Wastewater Authority  
1500 Southside Dr.  
Gilroy, CA 95020

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**1. CALL TO ORDER:**

1.1. Roll Call.

**2. TIME OPEN FOR PUBLIC COMMENT ON ANY ITEM NOT ON THE AGENDA.**

*Notice to the public: Members of the public who wish to address the Board/Committee on any item not listed on the agenda may do so by filling out a Speaker Card and submitting it to the Clerk or using the "Raise Hand" tool located in the Zoom meeting application to identify yourself to speak. Speakers will be acknowledged by the Board/Committee Chair in the order requests are received and granted speaking access to address the Board/Committee. Speakers' comments should be limited to three minutes or as set by the Chair. The law does not permit Board/Committee action on, or extended discussion of, any item not on the agenda except under special circumstances. If Board/Committee action is requested, the matter may be placed on a future agenda. All comments that require a response will be referred to staff for a reply in writing. The Board/Committee may take action on any item of business appearing on the posted agenda.*

2.1. Election of 2024 Committee Chairperson and Vice-Chairperson.

[24-0309](#)

Recommendation: Election of 2024 Committee Chairperson and Vice-Chairperson.

Manager: Candice Kwok-Smith, 408-630-3193

Est. Staff Time: 5 Minutes

**3. APPROVAL OF MINUTES:**

3.1. Approval of January 3, 2024 Joint Water Resources Committee Meeting Minutes.

[24-0310](#)

Recommendation: Approve the minutes.

Manager: Candice Kwok-Smith, 408-630-3193

Attachments: [Attachment 1: 010324 JWRC Minutes](#)

Est. Staff Time: 5 Minutes

**4. REGULAR AGENDA:**



- 4.1. Receive South County Water Reuse Collaboration and Implementation Update and Provide Feedback. [24-0308](#)  
Recommendation: Receive an update and provide feedback on the South County water reuse collaboration and implementation.  
Manager: Kirsten Struve, 408-630-3138  
Attachments: [Attachment 1: PowerPoint](#)  
[Attachment 2: Master Plan](#)  
Est. Staff Time: 20 Minutes
- 4.2. Receive Information on Valley Water's Proposed FY 2024-25 Groundwater Production Charges and Provide Feedback. [24-0328](#)  
Recommendation: Receive information on Valley Water's proposed FY 2024-25 groundwater production charges and provide feedback.  
Manager: Darin Taylor, 408-630-3068  
Attachments: [Attachment 1: PowerPoint](#)  
Est. Staff Time: 20 Minutes
- 4.3. Review and Accept the Joint Water Resources Committee 2024 Proposed Work Plan, and Confirm the Next Meeting Date. [24-0311](#)  
Recommendation: A. Review and Accept the Joint Water Resources Committee 2024 Proposed Work Plan; and  
B. Confirm the next meeting date.  
Manager: Candice Kwok-Smith, 408-630-3193  
Attachments: [Attachment 1: 2024 Proposed JWRC Work Plan](#)  
Est. Staff Time: 5 Minutes
5. **CLERK REVIEW AND CLARIFICATION OF COMMITTEE REQUESTS.**  
*This is an opportunity for the Clerk to review and obtain clarification on any formally moved, seconded, and approved requests and recommendations made by the Committee during the meeting.*
6. **ADJOURN:**
- 6.1. Adjourn to Regular Meeting at 8:30 a.m., on June 5, 2024.

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# Santa Clara Valley Water District

**File No.:** 24-0309

**Agenda Date:** 4/3/2024

**Item No.:** 2.1.

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## **COMMITTEE AGENDA MEMORANDUM** **Joint WRC with Cities of Gilroy/Morgan Hill/SCRWA**

Government Code § 84308 Applies: Yes ☐ No ☒  
(If "YES" Complete Attachment A - Gov. Code § 84308)

### **SUBJECT:**

Election of 2024 Committee Chairperson and Vice-Chairperson.

### **RECOMMENDATION:**

Election of 2024 Committee Chairperson and Vice-Chairperson.

### **SUMMARY:**

Per the Board Resolution, the duties of the Chair and Vice-Chair are as follows:

The officers of each Committee shall be a Chairperson and Vice-Chairperson, both of whom shall be members of that Committee. The Chairperson and Vice-Chairperson shall be elected by the Committee, each for a term of one year commencing on January 1 and ending on December 31 and for no more than two consecutive terms. The Committee shall elect its officers at the first meeting of the calendar year. All officers shall hold over in their respective offices after their term of office has expired until their successors have been elected and have assumed office.

The Chairperson shall preside at all meetings of the Committee, and he or she shall perform other such duties as the Committee may prescribe consistent with the purpose of the Committee.

The Vice-Chairperson shall perform the duties of the Chairperson in the absence or incapacity of the Chairperson. In case of the unexpected vacancy of the Chairperson, the Vice-Chairperson shall perform such duties as are imposed upon the Chairperson until such time as a new Chairperson is elected by the Committee.

Should the office of Chairperson or Vice-Chairperson become vacant during the term of such office, the Committee shall elect a successor from its membership at the earliest meeting at which such election would be practicable, and such election shall be for the unexpired term of such office.

Should the Chairperson and Vice-Chairperson know in advance that they will both be absent from a meeting, the Chair may appoint a Chairperson Pro-tempore to preside over that meeting. In the event of an unanticipated absence of both the Chairperson and Vice-Chairperson, the Committee may elect

a Chairperson Pro-tempore to preside over the meeting in their absence.

**BACKGROUND:**

The District Act provides for the creation of advisory boards, committees, or commissions by resolution to serve at the pleasure of the Board.

Accordingly, the Board has established Advisory Committees, which bring respective expertise and community interest, to advise the Board, when requested, in a capacity as defined: prepare Board policy alternatives and provide comment on activities in the implementation of the District's mission for Board consideration. In keeping with the Board's broader focus, Advisory Committees will not direct the implementation of District programs and projects, other than to receive information and provide comment.

Further, in accordance with Governance Process Policy-3, when requested by the Board, the Advisory Committees may help the Board produce the link between the District and the public through information sharing to the communities they represent.

The Board may also establish Ad-hoc Committees to serve in a capacity as defined by the Board and will be used sparingly.

**ENVIRONMENTAL JUSTICE AND EQUITY IMPACT:**

The Election of Chairperson and Vice Chairperson is not subject to environmental justice analysis.

**ATTACHMENTS:**

None.

**UNCLASSIFIED MANAGER:**

Candice Kwok-Smith, 408-630-3193



# Santa Clara Valley Water District

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**File No.:** 24-0310

**Agenda Date:** 4/3/2024

**Item No.:** 3.1.

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## **COMMITTEE AGENDA MEMORANDUM** **Joint WRC with Cities of Gilroy/Morgan Hill/SCRWA**

Government Code § 84308 Applies: Yes ☐ No ☒  
(If "YES" Complete Attachment A - Gov. Code § 84308)

### **SUBJECT:**

Approval of January 3, 2024 Joint Water Resources Committee Meeting Minutes.

### **RECOMMENDATION:**

Approve the minutes.

### **SUMMARY:**

In accordance with the Ralph M. Brown Act, a summary of Committee discussions, and details of all actions taken by the Committee, during all open and public Committee meetings, is transcribed and submitted to the Committee for review and approval.

Upon Committee approval, minutes transcripts are finalized and entered into the District's historical record archives and serve as historical record of the Committee's meeting.

### **ENVIRONMENTAL JUSTICE AND EQUITY IMPACT:**

The approval of minutes is not subject to environmental justice analysis.

### **ATTACHMENTS:**

Attachment 1: 010324 JWRC Minutes

### **UNCLASSIFIED MANAGER:**

Candice Kwok-Smith, 408-630-3193

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SOUTH COUNTY REGIONAL  
WASTEWATER AUTHORITY

**JOINT WATER RESOURCES COMMITTEE  
(CITY OF GILROY, CITY OF MORGAN HILL AND VALLEY WATER)**

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# DRAFT MINUTES

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**REGULAR MEETING SESSION  
WEDNESDAY, JANUARY 3, 2024  
9:00 AM**

(Paragraph numbers coincide with agenda item numbers)

## **1. CALL TO ORDER**

A regular meeting of the Joint Water Resources Committee (City of Gilroy, City of Morgan Hill, and Valley Water) (Committee) was called to order at 9:00 a.m. at the South County Regional Wastewater Authority (SCRWA), 1500 Southside Drive, Gilroy, CA 95020.

### **1.1. ROLL CALL**

Committee Members in attendance were: City of Gilroy Mayor and Vice Chairperson Marie Blankley and City of Gilroy Councilmember Dion Bracco; City of Morgan Hill Councilmember Rene Spring; Valley Water District 3 Director Richard Santos and Valley Water District 1 Director John L. Varela, Chairperson presiding, constituting a quorum of the Committee.

Valley Water staff in attendance: Aaron Baker, Walter Gonzales, Nicole Merritt, Carlos Orellana, Kirsten Struve, Dave Tucker, and Jing Wu.

SCRWA and City of Morgan Hill staff in attendance: Saeid Vaziry, SCRWA Environmental Programs Manager and Chris Ghione, Morgan Hill Public Services Director.

Public in Attendance was: Doug Muirhead.

## **2. TIME OPEN FOR PUBLIC COMMENT ON ANY ITEM NOT ON THE AGENDA.**

Chairperson Varela declared time open for public comment on any item not on the agenda. There was no one present who wished to speak.

### **2.1. Election of 2024 Committee Chair and Vice-Chair.**

Recommendation: Elect the 2024 Chair and Vice-Chair.

Public Comment:  
None.

The Committee deferred this item to the April 2024 JWRC meeting to allow for the approval of the Valley Water Board's 2024 Board Committee Member Appointments.

### **3. APPROVAL OF MINUTES:**

#### **3.1. Approval of October 4, 2023 Joint Water Resources Committee Meeting Minutes.**

Recommendation: Approve the minutes.

The Committee considered the attached minutes of the October 4, 2023 Committee meeting.

Public Comments:  
None.

It was moved by Director Santos and seconded by Council Member Spring and unanimously carried that the minutes be approved.

### **4. REGULAR AGENDA:**

#### **4.1. Receive Water Supply Master Plan (WSMP) 2050 and South County Opportunities Update and Collaboration and Implementation Update and Provide Feedback.**

Recommendation: Receive update and provide feedback on the development of Valley Water's WSMP 2050.

Kirsten Struve reviewed the information on this item per the attached Committee agenda memo and per the information contained in Attachment 3.

Kirsten Struve was available to answer questions.

Public Comments:

Doug Muirhead expressed support of Valley Water's approach of providing multiple future options and noted concern for a potential bottleneck in canals when buying imported water from the federal/state projects during a drought.

The Committee received the information, took no formal action, and noted the following:

- The Committee confirmed there are 3 additional dams outside of South County in addition to the Anderson Dam identified to be retrofitted by Valley Water per federal/state mandates.
- Councilmember Spring expressed interest in confirming how Valley Water plans to keep water rates affordable per the upcoming projects, inflation, and potential limits on water conservation.
- The Committee confirmed that Valley Water will do everything possible to maintain the current water rate structure with a potential marginal increase from 8% to 10.5%.
- Vice Chairperson Blankley supported confirming the expenditures from Valley Water's dam projects to understand how those costs will translate to water rates for South County constituents.



- The Committee noted Valley Water's partnership for imported water through the federal/state water projects, water banking with the Semitropic Water Storage District, importing water from the snowpack, and cleaning incoming water from per- and polyfluoroalkyl substances (PFAS) are outside factors contributing to the water rates.
- The Committee noted that environmental impacts and agencies are considered by Valley Water when planning future capital improvement projects.
- The Committee confirmed WSMP 2050 will be reviewed/monitored annually and fully updated every 5 years with Valley Water Board approval.
- The Committee confirmed staff will do a 30-year financial projection per water infrastructure modeling and state input to prepare for the costs associated with WSMP 2050 to be updated as needed and Valley Water will continue to work closely with federal and state legislators to ensure funding.
- The Committee noted Valley Water's 2024-2025 budget information may be finalizing through April 2024 and requested staff to provide an update at the next JWRC meeting.

#### 4.2. Receive South County Water Reuse Collaboration and Implementation Update and Provide Feedback.

Recommendation: Receive update and provide feedback on Technical Working Group discussions related to South County Water Reuse Collaborations.

Dave Tucker reviewed the information on this item per the attached Committee agenda memo and the corresponding presentation materials contained in Attachment 1 were reviewed as follows: Dave Tucker reviewed Slides 1 through 6 and Chris Ghione reviewed Slides 7 through 11.

Dave Tucker and Chris Ghione were available to answer questions.

#### Public Comments:

Doug Muirhead expressed support for the master plan report update being available to the public to provide feedback, further information on the projection for the water flows going into SCRWA, and potential research into shallow subsurface for artificial groundwater recharge.

The Committee received the information, took no formal action, and noted the following:

- The Committee noted the receipt of the United States Bureau of Reclamation (USBR) planning grant of \$330,000 for South County to fund a feasibility study, which is the first step to receiving federal funding for future water reuse expansion.
- The Committee confirmed SCRWA is currently using every drop of recycled water in the summer as 40% goes to agriculture which could be increased with additional available water storage.
- The Committee noted a draft master plan report is currently available for agency feedback and the full feasibility study may take up to 2 years to evaluate the feasible water reuse options and associated costs/constraints to confirm the best projects for reuse options and associated costs/constraints to confirm the best projects for South County.

- The Committee noted that the City of Morgan Hill utilized state grant funding for stormwater basins and Valley Water continues to work with the agricultural community to assist with capturing storm water for South County groundwater recharge.
- Councilmember Springer and Vice Chairperson Blankley requested staff follow up on further information on the USBR Title XVI water recycling, desalination, and purification funding program which was provided by Dave Tucker on January 4, 2024.

4.3. Review and Accept the Joint Water Resources Committee 2024 Proposed Work Plan, and Confirm the Next Meeting Date.

- Recommendation: A. Review and accept the Joint Water Resources Committee 2024 Proposed Work Plan; and  
B. Confirm the next meeting date.

The Committee considered this Item without a staff presentation.

Public Comments:  
None.

The Committee expressed support for having meetings start as 8:30 a.m. for future JWRC regular meetings.

**5. CLERK REVIEW AND CLARIFICATION OF COMMITTEE REQUESTS.**

*This is an opportunity for the Clerk to review and obtain clarification on any formally moved, seconded, and approved requests and recommendations made by the Committee during the meeting.*

Nicole Merritt confirmed there were no items for Board consideration and noted the Committee deferred the election of the 2024 Committee Chair and Vice Chair under Item 2.1; requested staff follow up on the status of Valley Water's 2024-2025 budget under Item 4.1; requested staff follow up on further information on the USBR Title XVI funding program under Item 4.2; and confirmed support for have upcoming JWRC meetings start at 8:30 a.m. under Item 4.3.

Councilmember Springer requested staff follow up at a future meeting to have a presentation on any new or upcoming laws that may impact the JWRC.

**6. ADJOURN:**

6.1. Adjourn to Regular Meeting at 9:00 a.m. on April 3, 2024.

Chairperson Varela adjourned the meeting at 10:03 a.m. to the regular meeting to be scheduled at 8:30 a.m. on April 3, 2024.

Approved:

Nicole Merritt  
Assistant Deputy Clerk II



# Santa Clara Valley Water District

**File No.:** 24-0308

**Agenda Date:** 4/3/2024

**Item No.:** 4.1.

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## **COMMITTEE AGENDA MEMORANDUM** **Joint WRC with Cities of Gilroy/Morgan Hill/SCRWA**

Government Code § 84308 Applies: Yes ☐ No ☒  
(If "YES" Complete Attachment A - Gov. Code § 84308)

### **SUBJECT:**

Receive South County Water Reuse Collaboration and Implementation Update and Provide Feedback.

### **RECOMMENDATION:**

Receive an update and provide feedback on the South County water reuse collaboration and implementation.

### **SUMMARY:**

Since 1999, the Santa Clara Valley Water District (Valley Water), the City of Gilroy, and the City of Morgan Hill have collaborated to ensure the utilization and expansion of non-potable water reuse in South Santa Clara County (South County). In 2017, the Joint Water Resources Committee (Committee) was established by the Valley Water Board of Directors to advance water reuse interests in South County, and which includes identifying future demand for purified and recycled water in South County and funding sources to implement South County recycled water master plans.

In 2021, the Committee recommended the establishment of a Technical Working Group (TWG) to evaluate opportunities to advance water reuse and purified water production and distribution in South County. Since September 2021, the TWG has convened nearly monthly with technical staff from Gilroy, Morgan Hill, and Valley Water to collaboratively discuss water reuse issues. The Committee has received informational updates on the TWG's activities in January, July, and October of 2022, in April and October of 2023, and January of 2024.

In January 2024, the TWG discussed with the Committee the history of water reuse master planning in South County. The first *South County Recycled Water Master Plan* (2004 Master Plan) included capital projects to improve the South County recycled water system's reliability and to expand the use of recycled water in South County. In 2015, Valley Water and its South County partners developed an update to the 2004 Master Plan that supported the continued expansion of water reuse in South County. This plan also evaluated the feasibility of emerging issues including indirect potable reuse (IPR) and direct potable reuse (DPR).

In 2023, the TWG completed further updates to the 2015 Master Plan Update - the *2023 South County Recycled Water Master Plan Update*. Today's discussion will present the TWG's final recommendations to revise the 2015 South County Recycled Water Master Plan, which includes:

1. revisions to South County water reuse infrastructure (new pipeline),
2. recycled water customer updates and their reuse potential,
3. recommendations for new users along the distribution system,
4. priorities of planned future system expansion and upgrades, and
5. discussion of the opportunities and challenges to future expansion of water reuse in Morgan Hill.

The TWG will finalize the *2023 South County Recycled Water Master Plan Update* after receiving any final feedback from partnering agencies.

The TWG will also present the status of our United States Bureau of Reclamation (USBR) planning grant to develop a South County Recycled Water System Feasibility Study. This study will build upon the 2023 recycled water master planning and other South County water resource planning to expand the analysis of future opportunities for purified water implementation in South County. A USBR adopted feasibility study is a prerequisite toward seeking federal funding assistance for capital projects under the Title XVI grant program. The Title XVI program provides funding for the planning, design, and construction of water recycling and reuse projects in partnership with local government agencies in the western United States and Hawaii.

**ENVIRONMENTAL JUSTICE AND EQUITY IMPACT:**

There are no environmental justice and equity impacts associated with this agenda item. This action is unlikely to or will not result in adverse impacts and is not associated with an equity opportunity.

**ATTACHMENTS:**

Attachment 1: PowerPoint  
Attachment 2: Master Plan

**UNCLASSIFIED MANAGER:**

Kirsten Struve, 408-630-3138



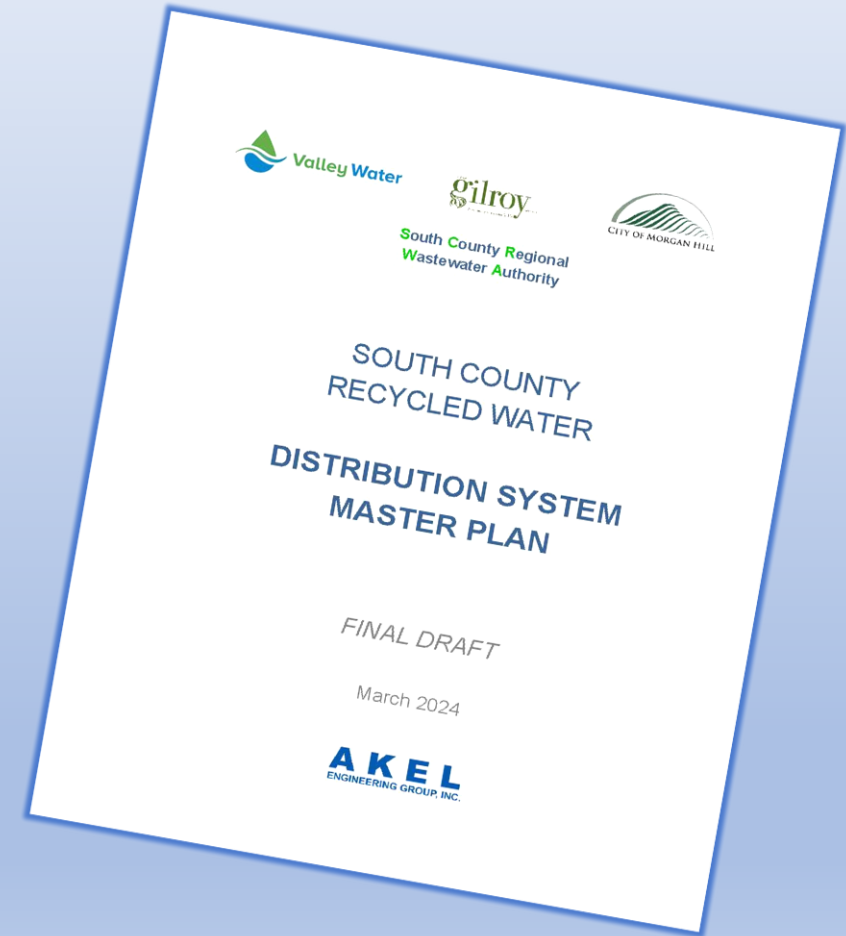


# South Santa Clara County Water Reuse Collaboration

Joint Water Resources Committee Meeting  
April 3, 2024

# South County Master Planning History

- 2004 RW Master Plan
- 2015 RW Master Plan Update
- 2023 RW Master Plan Update



# 2023 Master Plan Update (Draft Final)

- **New Infrastructure & Information**
- **Reuse Opportunities & Options**
- **Capital Investment Recommendations**
- **Morgan Hill Reuse Opportunities**

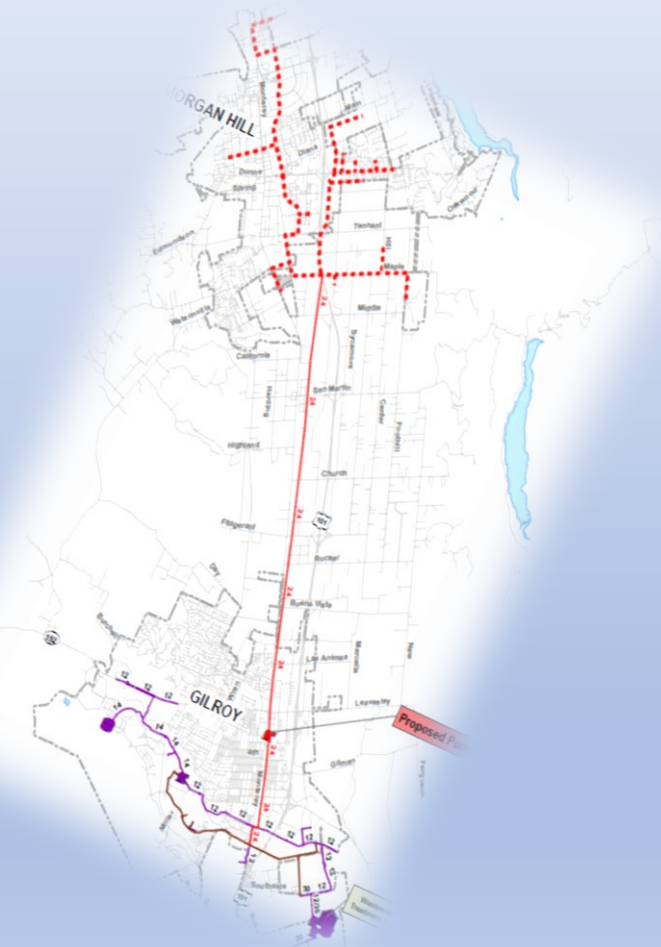




# Morgan Hill Reuse Options

## Feasible Reuse Options

- **Source Water Alternatives**
  - Morgan Hill, SBWR, SCRWA
- **Non-Potable vs Potable Reuse**
  - NPR+, Purified Water





# Morgan Hill Water Reuse Options

Options <sup>1,2,3</sup>	Brief Description	Portfolio	Major Infrastructure	Costs <sup>4,5</sup>	Likelihood	Feasibility	Advantages	Disadvantages
1	2	3	4	5	6	7	8	9
Option 1	Option 1a: Direct Potable Reuse via Treated Water Augmentation into water system (via Satellite WWTP and AWWPF)	1,100 - 2,900 AFY	Satellite WWTP and AWWPF Facility	\$120M	Med./Low	Med./Low	- Less pipeline infrastructure required	- DPR recycled water regulations have not been adopted - High Cost of Infrastructure (satellite WWTP and AWWPF) - Additional solids loading and reduced recycled water availability at SCRWA - High O&M Costs
	Option 1b: Direct Potable Reuse via Treated Water Augmentation into water system (via purified water pumped from SCRWA)	1,100 - 2,900 AFY	AWWPF at SCRWA, 12 miles of 24-inch pipeline, pump station	\$150M	Med./Low	Med./Low	- Less O&M costs than a satellite WWTP/AWWPF	- Current recycled water regulations - High Cost of Infrastructure (AWWPF, pipelines, and pump station) - Additional solids loading and reduced recycled water availability at SCRWA
Option 2	NPR+ from South Bay Water Recycling	Delivers 2,900 AFY of NPR+ from SBWR to a new Morgan Hill recycled water system	16 miles of 16-inch pipeline	\$80M	Med./Low	Med.	- Availability of Water - Less O&M costs than a satellite plant and AWWPF - Lowest cost opportunity	- Requires agreement with San Jose - High Cost of Infrastructure - Potentially high cost of water due to long distance pumping
Option 5	Pumping Recycled Water from SCRWA to a Morgan Hill Recycled Water System (RW Master Plan - Alt 1 or 2)	Delivers 3,000 AFY NPR water from SCRWA to Morgan Hill	9 miles of 24-inch pipeline, 4 miles of distribution pipelines, pump station	\$75M	Low	Med./Low	- RW Service to Morgan Hill - Less O&M costs than a satellite plant	- High Cost of Infrastructure (Pipelines, and Pump Station) - Availability of RW during peak usage
Option 6	Pumping Recycled Water from SCRWA to Morgan Hill for Groundwater Recharge (RW Master Plan - SCVWA IPR to Butterfield)	Delivers 3,000 AFY of AWWPF water from SCRWA for IPR in Butterfield Channel	AWWPF at SCRWA, 12 miles of 24-inch pipeline, pump station	\$146M	Low	Med./Low	RW Groundwater recharge in Morgan Hill	- High Cost of Infrastructure (AWWPF, Pipelines, EIR, CalTrans Permits for crossing Hwy 101, and a Pump Station)

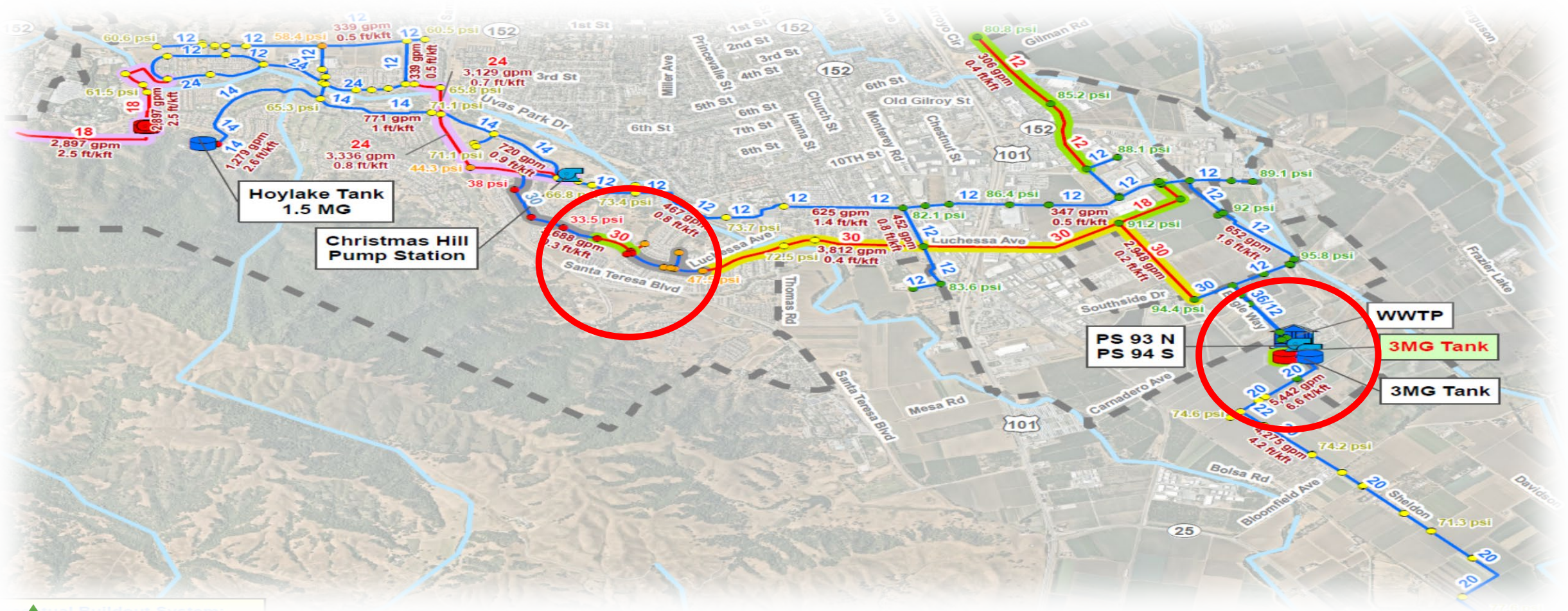
# MH Water Reuse Opportunities

- **Reflections & Next Steps**
  - \$75 to \$150M Cost Estimates
  - Conceptual Level Planning
  - Benefits / Limitations
  - Implementation Uncertain
  - New Technologies Available
  - DPR Regulations & Opportunities



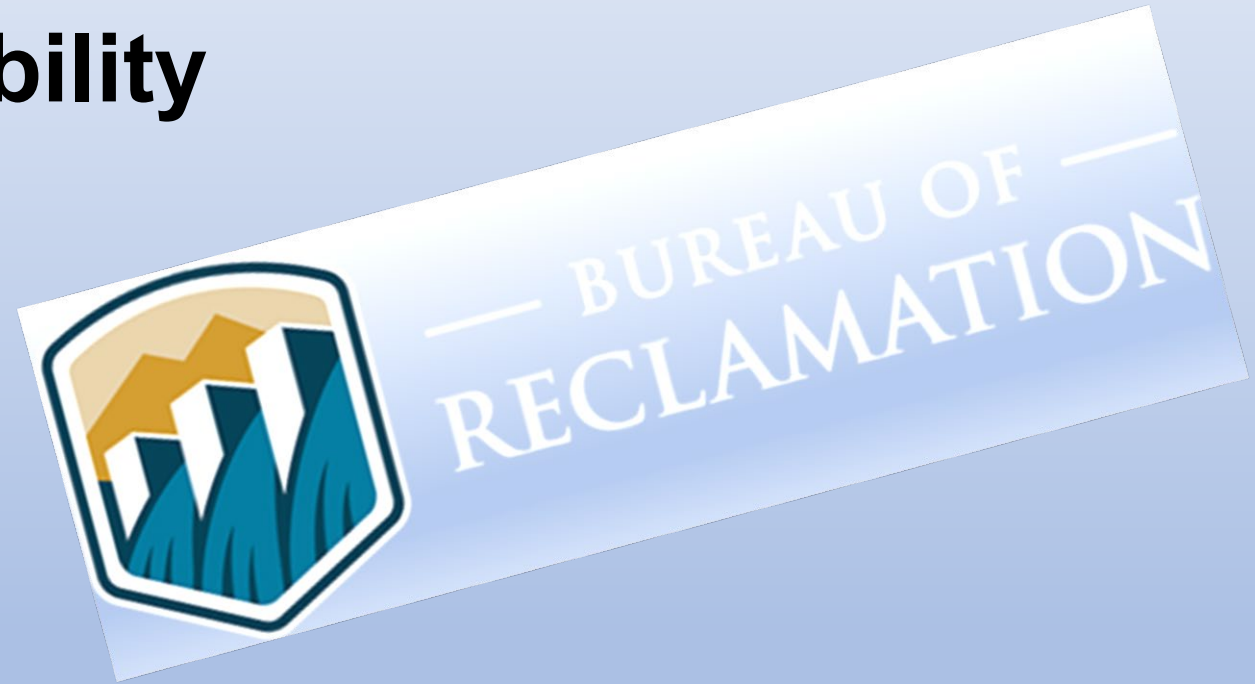


# 2023 CIP Recommendations



# USBR Financial Assistance Program

- **Pre-Planning & Feasibility**
- **Title XVI Funding**
- **NPR, IPR, and DPR**
- **Schedule & Timing**







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South County Regional  
Wastewater Authority

# SOUTH COUNTY RECYCLED WATER DISTRIBUTION SYSTEM MASTER PLAN

*FINAL DRAFT*

March 2024



March 1, 2024

Santa Clara Valley Water District  
5750 Almaden Expressway  
San Jose, CA 95118-3686

Attention: Mr. David Tucker, P.E.  
Associate Engineer, Project Manager

**Subject: South County Recycled Water - Distribution System Master Plan**

Dear David:

We are pleased to submit this 2023 South County Recycled Water Distribution System Master Plan. The report includes the following major tasks:

- Performing a capacity analysis and evaluation of the existing distribution system and improvement alternatives.
- Provide recommendations for mitigating existing distribution system capacity deficiencies and servicing the short-term users.
- Summarizing the Morgan Hill recycled water options.
- Developing mapping of the existing distribution system, customers, and proposed improvements.
- Developing an updated distribution system Capital Improvement Program (CIP) for a short-term horizon (5-yr).

We are extending our thanks to you and your staff, and to Saeid Vaziry, South County Regional Wastewater Authority; Chris Ghione, City of Morgan Hill Public Services Director; Karl Bjarke, City of Gilroy Interim Public Works Director; whose courtesy and cooperation were valuable components in completing this study and producing this report.

Sincerely,

AKEL ENGINEERING GROUP, INC.

Tony Akel, P.E., D.WRE  
President





## Acknowledgements

### Valley Water Board of Directors

**John L. Varela**, District 1

**Barbara Keegan**, District 2

**Richard Santos**, District 3

**Jim Beall**, District 4

**Nai Hsueh**, District 5

**Tony Estremera**, District 6

**Rebecca Eisenberg**, District 7

### Valley Water Management Personnel

**Hossein Ashktorab, Ph.D.**, Recycled & Purified Water Manager

**David Tucker**, Associate Engineer

**Kirsten Struve**, Assistant Officer for Water Supply

### South County Regional Wastewater Authority

**Saeid Vaziry**, Environmental Programs Manager

**Jimmy Forbis**, General Manager

### City of Morgan Hill

**Chris Ghione**, Public Services Director, City of Morgan Hill

**James Sylvain**, Deputy Director of Utilities

**Tanya Carothers**, Environmental Programs Administrator

### City of Gilroy

**Karl Bjarke**, Interim Public Works Director

**Jeff Castro**, Operations Supervisor

# Valley Water

## South County Recycled Water Distribution System Master Plan

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**Valley Water**  
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## South County Recycled Water Distribution System Master Plan

### 1.0 PURPOSE AND SCOPE

This 2023 Recycled Water Distribution System Master Plan provides an update of the distribution system capacity evaluation component of the previous 2015 South County Recycled Water Master Plan (2015 Master Plan) prepared for Santa Clara Valley Water District (Valley Water) and the South County Regional Wastewater Authority (SCRWA) in May of 2016. Since the completion of the 2015 Master Plan, new pipelines have been constructed, customer demands have increased, and operation at the Wastewater Treatment Plant (WWTP) has become increasingly challenging during peak usage and the high demand season.

#### Purpose

This study provides an updated **2023 Distribution System capacity evaluation** to the 2015 South County Recycled Water Master plan, with a 5-year short-term planning horizon. It also provides a summary for the **Morgan Hill potential RW options**.

This project, located in South Santa Clara County in the City of Gilroy (**Figure 1**), consisted of updating and evaluating the short-term capacity requirements for the South County Recycled Water Distribution System. It is intended as an update superseding the capacity analysis from the 2015 Master Plan.

#### Scope

This report documents the following scope of work tasks:

- Updating the inventory of the existing South County recycled water pipelines.
- Documenting the existing and short-term users recycled water demands.
- Updating the short-term recycled water demand projections.
- Performing a capacity analysis and evaluation of the existing distribution system and improvement alternatives.
- Providing recommendations for mitigating existing distribution system capacity deficiencies and servicing the short-term users.
- Summarizing the Morgan Hill recycled water options.
- Developing detailed mapping of the existing distribution system, customers, and proposed improvements.
- Developing an updated distribution system Capital Improvement Program (CIP) for a short-term horizon (5-yr).

## 2.0 RELEVANT DOCUMENTS

The 2015 South County Recycled Water System Master Plan is the primary document that was updated in this effort. This section lists other relevant reports that were referenced during the completion of this distribution system capacity master plan update to the 2015 Master Plan, along with a brief description of each document.

- **2020 Countywide Water Reuse Master Plan (2020 CoRe Plan).** This document was developed to identify opportunities for Santa Clara County to expand water reuse and improve water supply reliability. This plan included water reuse options for the North County (San Jose, Palo Alto, and Sunnyvale) and the South County (Morgan Hill, Gilroy)
- **2019 Sustainable Water Management Plan (2019 SWMP).** This document presents water supply alternatives available for the Llagas and Coyote Valley Groundwater Subbasins and included a qualitative analysis and ranking system to prioritize impacts for each project and the benefits for each alternative.
- **2015 South County Recycled Water Master Plan Update (2015 Master Plan).** This report was an update to the 2004 Master Plan and updated the existing recycled water demands, identified and prioritized future users, performed a hydraulic analysis, and prepared a capital improvement program to mitigate existing system deficiencies and serve future users.
- **2010 South County Recycled Water Pipeline Short-Term Phase 1, Planning Study Report (2010 Planning Study).** This document includes information for the updated potential future users list and contains updates to the 2004 Master Plan short term facilities.
- **2004 South County Recycled Water Master Plan (2004 Master Plan).** This report included the development of potential recycled water users and a hydraulic model of Valley Water's recycled water system. The hydraulic model was used to evaluate the existing recycled water system and recommended improvements to accommodate future growth.
- **2000 South Bay Water Recycling, Phase 2 Concept Design Report (2000 Design Criteria).** This document includes Valley Water's design criteria for the recycled water system facilities.

## 3.0 EXISTING AND PLANNED RECYCLED WATER DISTRIBUTION SYSTEM

This section documents the existing recycled water infrastructure including the distribution system pressure zones, pump stations, storage tanks and includes a brief description for the planned baseline system.

### 3.1 Existing System

The existing recycled water distribution system is comprised of two separate delivery systems: the North System and the South System (Pajaro River Pipeline). The system consists of approximately 91,300 linear feet (17.3 miles) of 8-inch to 36-inch diameter pipelines, a 4 million gallons per day (mgd) booster pump station, and a 1.5 million gallons (MG) off-site storage tank, and is supported by a 3 MG on-site reservoir, a 6.9 mgd pump station, and a 6.0 mgd pump station at the SCRWA WWTP shown graphically on [Figure 2](#) and documented in [Table 1](#).

#### 3.1.1 North System Distribution Pipelines

The North System is comprised of two pressure zones and serves the existing recycled water customers north of the SCRWA WWTP. The North System Pressure Zones are documented on [Figure 2](#).

- **Pressure Zone 1:** This zone is pressurized by the Area 93 Pump Station at the WWTP and includes a 200 cubic feet (ft<sup>3</sup>) pressurized surge tank.

The existing pipeline alignment heads north from the WWTP along Engle Way with parallel 12-inch and 36-inch mains and east with a 12-inch main along Southside Drive to supply the Gilroy Shooting Range. The 12-inch main then follows the Miller Slough north to the Princeville Drain flood control maintenance road. A 12-inch spur from this intersection supplies the Calpine Energy Center to the east.

From the Calpine Energy Center spur, the 12-inch main continues west along the Princeville Drain to supply the McCarthy Business Park and United Natural Food. The 12-inch pipeline continues west to supply water to B&T Farms and then crosses under Highway 101. At Monterey Road and the Princeville Drain, a 12-inch extension supplies water south to the Gilroy Sports Park. The 12-inch pipeline then continues west along the Princeville Drain and crosses through Gilroy High School to supply water to Christmas Hill Park and ending at the Zone 2 Pump Station.

Construction of a 30-inch main from Southside Drive in Luchessa Avenue (and through the Glen Loma development) to Christmas Hill Pump Station is nearing completion. There is one section of pipeline in the Glen Loma Development along Luchessa Avenue between Miller Avenue and Vintner Court that is not constructed. Once this last section is constructed, the southern loop will be complete which will enhance the existing system operations.

- **Pressure Zone 2:** This zone is supplied by the Zone 2 Pump Station (Christmas Hill Park) located just west of Christmas Hill Park which pumps water to the 1.5 MG Hoylelake Tank.

From the Zone 2 Pump Station a 14-inch pipeline parallels the Uvas Creek Preserve along Grenache Way. At Club Drive there is an 8-inch spur which has been used to temporarily



supply the Glen Loma Ranch Development with recycled water for grading and other construction activities. From Club Drive the 14-inch continues north-west to Santa Teresa Boulevard where the turnout is located for the Eagle Ridge Golf Course. From Santa Teresa Boulevard the 14-inch continues west where the pipeline splits to the north and west. The 12-inch north branch supplies water to the Gilroy Golf Course, a couple of HOA's, and City of Gilroy parks. The 14-inch west branch continues southwest along Club Drive and connects to the 1.5 MG Hoylake Tank.

### 3.1.2 South System Distribution Pipelines (Pajaro River Pipeline)

The majority of the South System is owned and maintained by SCRWA under joint operations since it primarily serves agricultural customers that pay Valley Water. The pipeline was installed for discharge to the river in case of an emergency (e.g. high inflow conditions and low recycled water demands), but SCRWA has never used it for such a purpose, and instead distributes recycled water year-round to agricultural customers south of the WWTP.

This system is pressurized by the Area 94 Pump Station which pumps into a 20-inch pipeline that heads south-west then south-east from the WWTP ([Figure 2](#)). The pipeline goes through a right-of-way in the SCRWA Farms Agriculture lands to the intersection of Bloomfield Avenue and Sheldon Avenue. A 22-inch, inner diameter main continues south-east for 700 feet and decreases in diameter to a 20-inch main which continues south-east to a discharge turnout located on the Pajaro River near the railroad tracks. Turnouts along this pipeline serve the San Felipe Farms.

### 3.1.3 Distribution System Pump Stations

The existing recycled water distribution system has three pump stations, documented on [Table 1](#), and summarized as follows:

- **Area 93 Pump Station (North System, Pressure Zone 1)**. The Area 93 Pump Station is located at the SCRWA WWTP at an elevation of 154 feet and is comprised of five pumps. Each of the five pumps has a variable frequency drive that provides up to 1,530 gallons per minute (gpm). Thus, the total existing capacity is 7,650 gpm and the firm capacity is 6,120 gpm. During peak months the pumps are generally operated to maintain approximately 95 pounds per square inch (psi) in the North System Pressure Zone 1.
- **Zone 2 Christmas Hill Pump Station (North System Pressure Zone 2)**. The Zone 2 Christmas Hill Pump Station is located west of Christmas Hill Park at an elevation of 222 feet and is comprised of three pumps. Each of the three pumps has a variable frequency drive that provides up to 1,375 gpm. Thus, the total existing capacity is 4,125 gpm and the firm capacity is 2,750 gpm. The pumps are generally operated by water levels in the Hoylake Tank that is located west of Santa Teresa Boulevard within the Eagle Ridge Golf Community.

The existing distribution system currently experiences high headlosses in the pipelines due to high water demands, resulting in low pressures near the Christmas Hill Pump Station. Due to the restrictions in the existing system (causing low pressures) this pump station's speed is operated between 65% to 85% in order to maintain a suction pressure of 20 psi.

- **Area 94 Pump Station (South System)**. The Area 94 Pump Station is located at the SCRWA WWTP at an elevation of 154 feet and is comprised of three pumps. Each of the three pumps has a variable frequency drive that provides up to 2,100 gpm. Thus, the total existing capacity is 6,300 gpm and the firm capacity is 4,200 gpm. When serving customers in the South System the pumps are generally operated with high head to maintain approximately 80-85 psi in the South System. During river discharge pumping, which generally does not occur, the pumps are operated with low head as high pressures are not required for river discharges.

### 3.1.4 Storage Tanks/Reservoirs

The existing distribution system has two storage tanks/reservoirs with a combined volume of 4.5 MG.

- **3.0 MG Reservoir at the SCRWA WWTP**. The 3.0 MG reservoir located at the SCRWA WWTP has a base elevation of 160 feet. This reservoir also has a return pump station with a capacity of 3 mgd, and which is used to drain the 3.0 MG reservoir. The same pipeline that is used to drain this reservoir is also used to fill it. Therefore, this critical reservoir operates by alternating between fill and drain mode but cannot do both at the same time. This reservoir is used to support the distribution system during peak demands, provides equalization of treatment flows at the WWTP, and the Area 93 and Area 94 Pump Stations both pump from this reservoir.
- **1.5 MG Reservoir in Pressure Zone 2 (North System)**. The Hoylake Tank is the second storage reservoir, and it is located in Zone 2 (North System). This tank is located at the end of Hoylake Court, has a capacity of 1.5 MG, and a base elevation of 385 feet. The Zone 2 Christmas Hill Pump Station is set to fill this tank based on the water levels.

This critical reservoir operates by alternating between fill-and-drain cycles but cannot do both at the same time. Operational enhancements are recommended at this critical facility.

## 3.2 Planned Recycled Water System (Baseline System)

The planned recycled water system (baseline) from the 2015 Recycled Water Master Plan was developed to mitigate the existing system deficiencies and to expand service to the most viable customers based on the market assessment that was performed. These planned and future alignments included in this distribution system capacity master plan are documented on [Figure 3](#).

The hydraulic analysis will focus on these pipelines and identify the potential customers in close proximity that could connect with minimal required infrastructure.

## 4.0 OPERATIONAL CONSTRAINTS

The South County recycled water system is operated by the South County Regional Wastewater Authority, and at the Wastewater Treatment Facility located in the City of Gilroy. Jacobs Solutions Inc. have been providing management and staffing assistance at the SCRWA Wastewater Treatment Facility for many years, and they were consulted during this study. This section documents the operational constraints observed by the system operators, and they include distribution constraints that are being mitigated by the large distribution main projects constructed by Valley Water, and on-site storage constraints experienced during peak season usage.

### 4.1 Distribution System Constraints

The distribution main constraints were identified in previous studies including the 2004 and 2015 South County Master Plans. The existing 12-inch main in the North System, Pressure Zone 1 experiences high headlosses during peak recycled water usage resulting in low pressures and restricted operations at the Christmas Hill Booster Station. Valley Water has been diligently working on resolving the distribution bottle necks and is planning on completing several large diameter pipeline projects in the near-term. SCRWA operational staff commented on the constraints as follows:

Valley Water is addressing the distribution constraints by completing several large diameter conveyance pipeline segments in the North System.

*“The SCRWA recycled water system has evolved over the years. In the past 7 years, constraints on the system have also evolved. Early on the main constraint was being able to get water offsite. With the upgrades to SCRWA’s 93 pumpstation and flow meters, this constraint has been alleviated to some degree”. (SCRWA operations staff, 2022).*

It should be noted that since Valley Water has been actively resolving the distribution system bottlenecks, staff will further experience enhanced operations.

## 4.2 SCRWA WWTP On-site Operational Storage Constraints

The SCRWA WWTP on-site operational storage constraints were identified in the 2015 South County Master Plan. These current constraints are related to recycled water delivery scheduling, chances of overlapping delivery hours, and the unpredictable nature of the users. Additional storage and pumping will alleviate the current on-site operational constraints. The projects to address these constraints have not been initiated, and they include on-site storage as well as updates to the booster station. SCRWA operations staff commented on this constraint as follows: *“Our main current constraints are storage and pumping capacity”*.

**Additional storage and pumping capacity add resilience to the Recycled Water system operation and provide SCRWA operations staff with leverage to better serve existing and anticipated future customers.**

Operations staff currently schedule all planned equipment maintenance activities during the low recycled water usage season (wet months). However, when issues arise during the dry season, and which require immediate repairs, they work harder to resolve the operational issue, and mitigate service interruptions.

*“If an issue arises prior to refilling the reservoir, we work with the users to reduce their demand. This includes but is not limited to having farmers switch from recycled water to their well systems, shutting off Eagle Ridge Golf course (if their pond is full), reducing onsite usage, and working with other users as necessary to lower usage”.* (SCRWA operations staff, 2022).

**Additional storage and pumping capacity add resilience to the Recycled Water system** and provide SCRWA operations staff more leverage to better serve existing and anticipated future customers.

## 5.0 SUPPLY ANALYSIS AND RECYCLED WATER DEMANDS

This section documents the recycled supply versus demand analysis, the existing and potential recycled water users, usage types, and diurnal patterns.

### 5.1 Supply vs. Demand Analysis

The recycled water system relies on water from the SCRWA Wastewater Treatment and Reclamation Plant, which collects and treats wastewater flows from the cities of Morgan Hill and Gilroy. Approximately 73% of the influent flows are from residential customers, 17% from commercial/institutional customers, and 10% are from industrial customers. **Figure 5** documents the monthly historical WWTP influent flow versus the recycled water production. Since 2017, the WWTP influent water has been trending down due to conservation measures and plumbing code changes, while the recycled water production has been trending higher.

The monthly recycled water usage is documented on [Figure 6](#) which identifies the recycled water use type (landscape irrigation, municipal and industrial (M&I), agriculture water (crop irrigation), and utility) by month (June 2021 to May 2022) as compared to the wastewater annual treatment plant influent flow. The WWTP influent average is approximately 6.1 mgd and the annual recycled water usage is 2.09 mgd, however during peak usage recycled water demands increase up to 5.7 mgd. The maximum day demands by hour are documented on [Figure 7](#), which shows peak recycled water use above the WWTP influent flows during high use periods. These peak flows have to be supplied by the existing 1.5 MG tank in Zone 2 and the 3.0 MG recycled water tank at the WWTP. There is approximately 0.4 mgd of surplus capacity for future users during peak summer months.

## 5.2 Existing Recycled Water User Demands

The existing recycled water users (meter locations) are identified on [Figure 4](#). The historical recycled water use has been generally consistent as documented on [Figure 5](#), with only a slight upward trend. Based on the historical recycled water production analysis, the existing recycled water demands for these users are based on the most recent monthly billing records from June 2021 to May 2022 and adjusted to the total recycled water production. These recent demands and allocation will provide the most up to date and accurate results for the hydraulic analysis. The annual recycled water use (including utility water) was approximately 2,338 AFY as documented on [Table 2](#).

The maximum day demands were developed based on peak month SCADA from the Area 93 and 94 pump stations and is estimated at 3,945 gpm as documented on [Table 2](#) (North System: 1,912 gpm and South System: 1,404 gpm). The peak hour demands were developed based on the reported hours of operation extracted from the yearly recycled water use permits that are submitted to SCRWA. [Figure 8](#) and [Figure 9](#) document the north and south system user demands diurnals.

## 5.3 Potential Recycled Water Users and Demands

The 2015 Recycled Water Master Plan included a thorough market assessment and customer ranking system for potential recycled water users. This capacity analysis focused on these high ranking and potential customers near the baseline system as identified on [Figure 10](#) and documented on [Table 3](#). The annual demands for each user were extracted from the 2015 Master Plan and the peaking factors developed from the updated existing system demand analysis were applied to determine the projected maximum day demands. The projected demand of the baseline potential users is approximately 4,529 gpm. Two potential long-term users were also included in this analysis, Gilroy Gardens and Western Tree and Nursery.

## 6.0 HYDRAULIC MODEL UPDATE AND CALIBRATION

The South County's recycled water distribution system hydraulic model combines information on the physical characteristics of the recycled water system (pipelines, pump, storage reservoirs) and operational characteristics (how they operate). The hydraulic model then performs calculations and solves a series of equations to simulate flows in pipes and calculate pressures at nodes or junctions. The recycled water model was developed using the water modeling software, InfoWater Pro by Autodesk, which offers an intuitive graphical interface and robust integration with ESRI's ArcGIS.

### 6.1 Hydraulic Model Update

The hydraulic model was updated to reflect current facility improvements and pipeline alignments based on recent construction. The existing water demands were also updated in the hydraulic model to reflect the most recent billing records and spatial allocation.

### 6.2 Hydraulic Model Calibration

Calibration is intended to instill a level of confidence in the pressures and flows that are simulated, and it generally consists of comparing model predictions to field measured results, and making necessary adjustments. The calibrated hydraulic model was updated with system operational controls, and was verified with Supervisory Control and Data Acquisition (SCADA) system data obtained for July 2021.

The model calibration consisted of comparing the pump flows from the Area 93 and Area 94 pump stations to SCADA for the summer months. **Figure 11** documents multiple peak use days from July 2021 (SCADA) as compared to the hydraulic model outputs. The demand allocation and diurnal patterns developed in the demand analysis resulted in an acceptable match between the SCADA and model outputs. The hydraulic model is now an established benchmark and can be used for system evaluations.

## 7.0 HYDRAULIC ANALYSIS AND USER OPTIMIZATION

The section documents the evaluation criteria utilized in the hydraulic analysis for the existing and planned baseline system and includes recommendations for system operations to optimize and maximize the capacity of the existing facilities and limited supply. The scenarios included in this analysis are as follows:

- **Existing System Evaluation:** This scenario evaluates the existing system and recycled water usage to identify the deficiencies in the distribution system.
- **Existing Recycled Water User Optimization:** This scenario evaluates the existing system with optimized use of recycled water usage.



- **Baseline System Evaluation with Optimized Operations:** This scenario evaluates the existing system plus the currently under-construction baseline system improvements with optimized operations.
- **Near-Term Users Evaluation with Optimized Operations:** This scenario evaluates the baseline system with additional users to maximize the available recycled water.
- **Conceptual Baseline System Buildout:** This scenario evaluates the conceptual buildout of the baseline system (included for long-range planning purposes only).

## 7.1 Design Criteria

Velocity, headlosses and pressures are important factors in the design of a recycled water distribution system. To properly serve customers, the velocities and headlosses need to be a reasonable and provide adequate pressure for customers.

The criterion used in the analysis of the recycled water system was originally obtained from the South Bay Water Recycling, Phase 2 Concept Design Report, dated February 2000. The criterion is intended for maintaining efficient system operation while providing a reliable service to the recycled water system customers.

**Table 4** documents the criterion used for evaluating the capacity adequacy of the distribution system during peak day demands and peak hour demands.

### Design Criteria

- Velocities less than 5 feet per second (fps).
- Headlosses less than 4 feet per 1,000 feet (ft/kft).
- Minimum Pressures at 35 pounds per square inch (psi).
- Operating pressures ranging between 60 and 120 psi (ideal).

## 7.2 Existing System Evaluation

The hydraulic analysis for the existing system identified numerous pipelines and pressures under the SCRWA criteria. The existing 12-inch main will experience headlosses up to 17 ft/1000ft (criteria is < 4 ft/1000ft). These high headlosses result with service pressures below the 35 psi minimum criteria (preferred 60-120 psi). As a result, the Christmas Hill booster station has to operate at a lower speed in order to maintain a suction pressure above 20 psi. The hydraulic analysis results are documented on **Figure 12**.

The existing system operations are documented on **Figure 13**. This figure documents the recycled water flow as compared to the system demands and the high peak demands that must be supplied by the existing tanks in order to meet the demands. The peak demands in the system are 9.2 mgd while peak flows from the WWTP are 7.5 mgd. Additionally, due to the low pressures at Christmas Hill booster station, the pump runs at a reduced capacity resulting with near constant flow during high demand periods to maintain the Hoylake Tank.



7.3 Existing Recycled Water User Optimization

During summer months the recycled water system experiences high peak usage due to the agricultural and irrigation uses. Being able to shift some of the water usage during peak hours to off-peak will ease the operations and depletion of the storage tanks.

Stantec was retained by SCRWA during this distribution system master plan update to perform a high-level analysis to identify opportunities for shifting demands during peak usage, and thus optimize the system operations. The approach of this optimization is summarized as follows:

- Step 1. Identify which users’ “hours of use” can be shifted. Which users are not flexible, which are flexible.
- Step 2. Work with the “flexible” users to optimize the daily water use.

The existing user demands, and their current hours of operations are inventories on Table 2. This information was provided to Stantec to review the permitted hours of operation, and the results of the high-level analysis provided by Stantec are summarized as follows:

*“We have reviewed the data for each user and ... There are a lot of limitations with the users and why their hours cannot change. For the few users that have flexibility, the changes are very minor and therefore would not help to optimize the existing recycled water usage. We have talked about this with Valley Water staff as well and they agree any changes would be minor and not help to optimize the recycled water usage. There is potential to take the data ... provided into consideration when new users come online and set their hours of operation accordingly”.*  
Stantec, 2023.

Operation limitations on the users’ side indicate no flexibility in shifting the desired deliveries. Thus, the recycled water system’s current operation is considered running at, or near, an optimized level.

Based on the results of this analysis the users’ hours of operation will remain the same for the future system analyses.

7.4 Baseline System Evaluation with Optimized Operations

Valley Water is actively constructing several segments along the distribution system, and which intended to resolve existing bottlenecks and for future system expansion. The construction of the segments in the North System (baseline system) are occurring in difference phases, with some segments constructed but are currently inactive while others are under construction as documented on Figure 3. The baseline improvements in this scenario include the 30-inch main from Southside Drive to the Christmas Hill booster station (P-1, P-2, P-4, plus the constructed but inactive mains) and the 18-inch main that links the new 30-inch main to the existing 12-inch main in Cameron Boulevard (P-3). Please note this segment (P-3) has not been constructed and may not since Valley Water has been unable to secure an easement.

With the construction and activation of the Baseline system improvements, pipeline headlosses are reduced resulting in higher and more adequate pressures experienced in Zone 1. These higher pressures allow the Christmas Hill booster station to operate at a higher capacity and allow for more optimized operations. With the higher suction pressures, Christmas Hill pumping capacity can be increased back to full capacity allowing for filling the Hoylake Tank during off-peak hours. **Figure 14** documents Baseline system with existing demands but with optimized operations. The peak hour flows are reduced from 7.5 mgd to 6.4 mgd which eases the stress on the WWTP operations and tank depletion.

**Completing the imminent and near-term improvements will result with more adequate pressures in Zone 1, and more efficient and reliable operations at the Christmas Hill Booster Station.**

The hydraulic analysis results for the Baseline system with optimized operations are documented on **Figure 15**. The 14-inch discharge pipeline in Zone 2 had pipeline headlosses over criteria (up to 6.6 ft/kft), but system pressures and operations are not impacted.

**7.5 Near-Term Users Evaluation with Optimized Operations**

The near-term scenario includes two new potential users (Glen Loma and the Data Center) to maximize the use of the available recycled water. The selection of users presented here is speculative and actual potential customers will vary depending on their projected demands and interest in using recycled water. There is approximately 0.4 mgd of surplus capacity for future near-term users during peak summer months.

The hydraulic analysis utilized the optimized operations at Christmas Hill and is documented on **Figure 16**. The hydraulic analysis results are documented on **Figure 17**. The addition of these new users causes minor impacts to the baseline system but will increase the stress on the WWTP operations and reliance on WWTP on-site reservoir.

**7.6 Conceptual Baseline System Buildout**

The conceptual baseline buildout (long-term) scenario includes each of the potential future users from **Table 3**. This scenario will require the following improvements:

- Zone 2 pipeline improvements (P-5, P-6)
- Pipe improvements to service the large users of Gilroy Gardens and Western Tree and Nursery on the west side of the system (LT-P-8, LT-P-9).
- A new booster station from Zone 2 to the new Zone 3.
- Booster station capacity upgrades at Area 93 and Christmas Hill.
- Additional storage in Zone 2.

**System expansion for the baseline long-term users will require additional improvements to the existing distribution system.**

The hydraulic analysis results are documented on [Figure 18](#). The Zone 2 pipeline improvements P5, and P-6 mitigate the high headlosses observed in the previous scenarios and the planned baseline improvements are adequate for the potential long-term demands.

Please note, this scenario is conceptual and is highly dependent on wastewater influent flow increases plus additional treatment capacity. The existing WWTP influent flow is approximately 6.1 mgd and the buildout demands in this scenario is 11.6 mgd. This buildout scenario is conceptual and included for long-range planning purposes only.

## 8.0 RECYCLED WATER OPTIONS FOR MORGAN HILL

There is currently no recycled water delivered within the City of Morgan Hill's service area, though delivering recycled water to Morgan Hill from the SCRWA WWTP and other sources has been considered in the 2015 Master Plan and in other feasibility studies. Morgan Hill has been consistently interested in exploring potential feasible opportunities where recycled water can be implemented in the future and added to their water supply portfolio. This section is intended to provide an updated summary of the currently considered six feasible reuse options.

Morgan Hill has been consistently interested in exploring potential opportunities to add water reuse to their supply portfolio. This section provides an update on six potentially feasible options.

### 8.1 Morgan Hill Reuse Options Relevant Studies

This section lists previous relevant reports and studies which explored the opportunities and potential costs of adding recycled water to the water supply portfolio in Morgan Hill.

- **2015 South County Recycled Water Master Plan Update.** The Santa Clara Valley Water District, the South County Regional Wastewater Authority, the City of Morgan Hill (Morgan Hill), and the City of Gilroy (Gilroy) partnered to explore the continued use, promotion, and expansion of the recycled water in the region. The agencies retained the services of Stantec and Akel Engineering Group to complete the 2015 South County Recycled Water Master Plan Update and which included a market assessment and developed project alternatives for expanding the existing recycled water system currently serving the City of Gilroy and adjacent County users. One of the considered alternatives included extending a recycled water pipeline from the SCRWA wastewater plant northward to service the City of Morgan Hill.
- **2016 Recycled Water Feasibility Evaluation.** With intent to provide more focus on the City of Morgan Hill recycled water needs, Morgan Hill retained the services of Akel Engineering Group and Stantec to further explore opportunities in recycled water for Morgan Hill, and to prepare the 2016 Recycled Water Feasibility Evaluation. This study identified potential recycled water users through a market assessment and included high

level costs for the potential alternatives. As identified in the market assessment, the potential future users of recycled water in the City include landscape irrigation, agricultural irrigation, industrial processes, and indirect potable reuse. As part of the 2016 RWFE, infrastructure required to convey recycled water from the South County Regional Wastewater Authority Wastewater Treatment Plant in the City of Gilroy to the potential users was identified.

- **2019 Sustainable Water Management Plan.** The 2019 Sustainable Water Management Plan, by Akel Engineering Group, Inc. was finalized in September 2019 for the cities of Morgan Hill and Gilroy. This plan documents the water supply alternatives analysis and project rankings for the Llagas Groundwater Subbasin and Coyote Valley. This report is intended to identify on-going and potential projects impacting the water supplies for the groundwater aquifers and includes a quantitative analysis to rank each alternative.
- **2020 Countywide Water Reuse Master Plan (2020 CoRe Plan).** This Countywide Water Reuse Master Plan (CoRe Plan) by Brown and Caldwell was finalized in June 2021. This countywide plan explores opportunities for reliable local water, imported water, and recycled water within Valley Water’s service area. This report is intended to identify opportunities to expand water reuse throughout Valley Water’s service area, including the City of Morgan Hill. The report identified three alternatives (options) with potential costs and risk levels, which are documented in this section.

## 8.2 Updated Morgan Hill Reuse Options

This section summarizes six potential recycled water options for the City of Morgan Hill. These six options were extracted from the following relevant studies, which were referenced in the previous section: *2020 Valley Water’s Countywide Reuse Master Plan*, *2016 Recycled Water Feasibility Evaluation*, *2015 South County Recycled Water Master Plan Update*, and the *2019 Sustainable Water Management Plan*.

The six Morgan Hill reuse options were further refined and developed during discussions between Valley Water, Morgan Hill, and Gilroy. It should be noted that during peak recycled water usage there is no additional wastewater available for treatment. For this scenario, either reductions to existing users or additional storage would be required to supply recycled water.

### 8.2.1 Option 1a and 1b – Direct Potable Reuse

In December of 2023 the California State Water Resources Control Board adopted new regulations for direct potable reuse (DPR). While not explored in-depth in the CoRe Plan, direct potable reuse or the planned introduction of recycled water either directly into a public drinking water system, or into a raw water supply immediately upstream of a drinking water treatment plant may provide opportunity for a secure water source that can supply recycled water directly into the City of Morgan Hill’s water system. Once the new regulations are finalized in 2024, water systems

will be able to submit plans for DPR for approval. Should DPR projects prove to be a feasible path in the future, the City of Morgan Hill could consider moving in that direction.

There are two likely options to deliver purified water to the Morgan Hill Water System (**Figure 19**): The 1a option consists of the development of a satellite wastewater treatment facility in combination with an Advanced Water Purification Facility (AWPF) that utilizes the City's wastewater. The 1b option consists of the construction of the AWPF at the South County Regional Wastewater Authority and pumping the treated water back to Morgan Hill.

**Option 1a:** Direct Potable Reuse via Treated Water Augmentation into water system (via Satellite WWTP and AWPF). This option would include a satellite WWTP and an AWPF.

**Option 1b:** Direct Potable Reuse via Treated Water Augmentation into water system (via purified water pumped from SCRWA). This option would include an AWPF at SCRWA, approximately 12 miles of 24-inch pipeline, and a pump station.

These options were not included in the CoRe Plan but a brief summary of benefits and limitations is provided as follows:

**Benefits.** *These options would require less pipeline infrastructure and have less operations and maintenance (O&M) costs than a satellite WWTP and AWPF. Provides a drought-resilient water supply for the City of Morgan Hill.*

**Limitations.** *There is a high cost of infrastructure which would be borne by Llagas subbasin unless there is grant funding, high O&M costs, and additional solids loading and reduced recycled water availability at SCRWA.*

### **8.2.2 Option 2 – NPR+ from South Bay Water Recycling**

This option includes importing recycled water supplies from South Bay Water Recycling (SBWR) via 16 miles of 16-inch pipeline. A transmission main from SBWR would connect to a future recycled water distribution system in Morgan Hill. This option is documented on **Figure 20**.

**Benefits.** *According the 2020 CoRe Plan, this option would improve groundwater management (water supply reliability) for Morgan Hill by importing NPR+ supply from SBWR to serve non-potable demands in place of groundwater, which is currently the sole water source of Morgan Hill.*

**Limitations.** *According to the 2020 CoRe Plan, an agreement to establish terms of exporting SBWR NPR+ supply from San Jose and neighboring areas to Morgan Hill would be needed, as the existing Silver Creek Agreement between Valley Water and San José expires in 2027. Long-term supply reliability is unconfirmed. Operational impacts to the SBWR system have not been evaluated, and a new reservoir may be needed to supply reliable summertime flows. Valley Water may need to reassess the potential impacts of recycled water on the Llagas Subbasin prior to moving forward as there is potential for groundwater quality degradation*



from using recycled water for irrigation. Given shifting development trends in Morgan Hill, an updated NPR market assessment is needed. Additionally, without grant funding the cost would be borne entirely by Llagas subbasin for the operations and maintenance.

### **8.2.3 Option 3 – Satellite Advanced Water Purification Facility for Groundwater Recharge (GWR)**

This option includes recharging the Llagas subbasin in the San Pedro Ponds with purified water, which would be produced at a satellite WWTP treating the City’s wastewater and an AWPf. This purified water would be conveyed to San Pedro Ponds through 3 miles of 16-inch pipelines along Maple Avenue and Hill Road. This option is shown on [Figure 21](#).

**Benefits.** According to the 2020 CoRe Plan, this option would improve water supply reliability and drought resilience for Morgan Hill by recharging the Llagas Subbasin with purified water.

**Limitations.** According to the 2020 CoRe Plan, high unit costs with uncertain value to improving South County water supply reliability. Limited wastewater available for satellite treatment in Morgan Hill and relied upon for meeting existing South County Recycled Water System (RWS) demands. A Morgan Hill satellite facility would increase solids loads to SCRWA, posing operational issues that may be substantial. If implemented in Morgan Hill, solids handling requires further study and may increase costs significantly. Density and proximity of active private wells limit GWR locations in South County. San Pedro Ponds recharge facility is assumed the delivery point; which currently have significant recharge restrictions due to groundwater level issues/septic interference. Valley Water has recently finished a high-level feasibility study to identify alternatives to restore the capacity of these ponds, however conditions and reliability of increasing raw water delivery to Llagas Subbasin and specific recharge facility still need to be confirmed. A drought-resilient source of water would be ideal to combat droughts as Valley Water delivers raw water to all recharge facilities in Llagas Subbasin when supplies are available. Prolonged droughts impact the deliveries, albeit Valley Water does prioritize Morgan Hill facilities. Additionally, the assumed location for the evaporation pond for reverse osmosis concentrate management (ROC) in Gilroy gets inundated with stormwater (unsuitable for evaporation pond). New permits from Regional Board(s) and/or State Water Resources Control Board’s Division of Drinking Water are also needed for discharging purified water.

### **8.2.4 Option 4 – Satellite Advanced Water Purification Facility for Surface Water Augmentation (SWA)**

This option includes supplementing recharge of the Llagas Subbasin with water supplies provided by Valley Water, which would be delivered to ponds within the City’s service area. In exchange for these water supplies, the City would deliver purified water delivered to Valley Water’s Anderson Reservoir northeast of the City’s service area. This option would include a satellite WWTP, an AWPf, and approximately 6 miles of 16-inch pipeline. This option is shown on [Figure 22](#).

**Benefits.** According to the 2020 CoRe Plan, this option would improve water supply reliability and drought resilience for Morgan Hill by recharging the Llagas Subbasin with raw water supplied from Valley Water via the Santa Clara Conduit in exchange for an equivalent amount of purified water delivered to Anderson Reservoir for SWA.

**Limitations.** According to the 2020 CoRe Plan, high unit costs with uncertain value to improving South County water supply reliability. Limited wastewater available for satellite treatment in Morgan Hill and relied upon for meeting existing South County RWS demands. Morgan Hill satellite facility would increase solids loads to SCRWA, posing operational issues that may be substantial. If implemented in Morgan Hill, solids handling requires further study and may increase costs significantly. New permits from Regional Board(s) and/or State Water Resources Control Board's Division of Drinking Water needed for discharging purified water to Anderson Reservoir. Conditions and reliability of increasing raw water delivery to Llagas Subbasin and specific recharge facility need to be confirmed.

#### **8.2.5 Option 5 – Pumping Recycled Water from SCRWA to a Morgan Hill Recycled Water System**

This recycled water option was extracted from the 2015 South County Recycled Water Master Plan Update and was also a high-ranking project in the 2019 Sustainable Water Management Planning study. This is identified as Alternative 1 or 2 in the 2015 SCRWMP Update and includes 9 miles of 24-inch transmission mains, 4 miles of distribution mains, and a pump station. This option would deliver recycled water from SCRWA to a recycled water system in the City of Morgan Hill. This option is shown on [Figure 23](#).

This option was not included in the CoRe Plan but a brief summary of benefits and limitations is provided as follows:

**Benefits.** This option would provide recycled water services to Morgan Hill and require less O&M costs than a satellite plant.

**Limitations.** This option has a high cost of infrastructure and there is currently no recycled water availability during peak usage periods. As with Option 2, Valley Water may need to reassess potential impacts of recycled water in the Llagas Subbasin prior to moving forward.

#### **8.2.6 Option 6 – SCRWA Advanced Water Purification Facility for Groundwater Recharge in Morgan Hill**

This recycled water option was also extracted from the 2015 South County Recycled Water Master Plan Update and was one of the highest high-ranking projects in the 2019 Sustainable Water Management Planning study. This option includes an AWPF at the SCRWA, 12-miles of 24-inch pipeline, and a pump station. This option would deliver purified water from SCRWA for groundwater recharge in the City of Morgan Hill. This option is shown on [Figure 24](#).



This option was not included in the CoRe Plan but a brief summary of benefits and limitations is provided as follows:

***Benefits.** This option would provide recycled water for groundwater recharge in Morgan Hill.*

***Limitations.** This option has a high cost of infrastructure which would be borne by Morgan Hill and Gilroy/Llagas subbasin if there is no grant funding.*

### 8.3 Morgan Hill Recycled Water Options Comparison

The six Morgan Hill reuse options are summarized on [Table 5](#), with a brief description, the amount of reuse augmentation added to the Morgan Hill portfolio, the major infrastructure requirements, high-level opinion of conceptual project costs, likelihood of implementation, feasibility of implementation, advantages, and disadvantages.

It should be noted that the costs presented on [Table 5](#) were extracted from the relevant reports and may include varying levels of assumptions, cost estimate classification, cost accuracy, and contingencies. This study recommends these costs be further revisited and scrutinized for a more accurate and fair comparison of costs between the presented options.

When comparing the high-level opinion of conceptual costs, Option 2 (NPR+ from South Bay Water Recycling) seems to have one of the lowest implementation costs and highest feasibility ratings, however actual implementation requires negotiations and an agreement with the City of San José.

Newer technologies and recently adopted DPR regulations may unlock new options for the City of Morgan Hill in the future leading to Options 1a and 1b becoming more feasible. The City of Morgan Hill intends to continue to work in partnership with Valley Water to determine the best path forward to enhance its water supply and resiliency portfolio.

Morgan Hill intends to continue to work in partnership with Valley Water to determine the best path forward to enhance its water supply and resiliency portfolio.

## 9.0 RECOMMENDED IMPROVEMENTS AND SYSTEM OPERATIONS

This section provides a summary of the recommended recycled water distribution system improvements to mitigate existing capacity deficiencies and accommodate future system expansion within the City of Gilroy. The recommended improvements are shown on [Figure 3](#) and summarized on [Table 6](#). They are also described in this section.

### 9.1 Constructed but Inactive Improvements

These pipelines have been constructed but are currently inactive. There is approximately 13,650 feet of 30-inch main that can be activated once the remaining baseline system improvements in Zone 1 are constructed. These pipelines are highlighted in gray on [Figure 3](#).

## 9.2 Recently Constructed Improvements

- **P-1.** This 30-inch pipeline starts at Southside Drive, continues north through an agriculture right of way, and ends at Luchessa Avenue. This pipe is approximately 3,380 feet in length.
- **P-2.** This 30-inch pipeline starts at Luchessa Avenue and an agricultural right of way, continues west on Luchessa Avenue and ends at Greenfield Drive. This pipeline is approximately 10,270 feet in length.

## 9.3 Near-Term Improvements

- **P-3.** This 18-inch pipeline starts at Luchessa Avenue and an agricultural right of way, continues east on Luchessa Avenue turns north at Cameron Boulevard and ends at the Princeville Drain. This pipeline is approximately 2,450 feet in length.
- **P-4.** This 30-inch pipeline starts at West 10<sup>th</sup> Steet, continues west on Luchessa Avenue, and ends at Miller Avenue. This pipeline is approximately 960 feet in length.
- **P-4a.** This improvement is a 42-inch pipe casing for the 30-inch crossing at the Reservoir Canyon Creek. This casing is approximately 100 feet in length.
- **WWTP-1.** This improvement is a 3 MG recycled water reservoir expansion at the WWTP.
- **WWTP-2.** This improvement is a recycled water pump station at the WWTP to aid in filling/draining of the on-site storage reservoir.
- **WWTP-3.** This improvement is for the on-site pipelines (approximately 1,500 feet) for the reservoir expansion and proposed pump station improvements.

## 9.4 Long-Term Improvements (*Conceptual*)

- **P-5.** This 24-inch pipeline starts at the Zone 2 pump station, continues west through the Home Ranch development, and ends at Uvas Creek. This pipeline is approximately 4,250 feet in length.
- **P-6.** This 24-inch pipeline starts at Uvas Creek, continues west on Santa Teresa Boulevard, and ends at Cobblestone Court. This pipeline is approximately 1,620 feet in length.
- **LT-P-8.** This 18-inch pipeline starts at the Meritage development, continues west in the Uvas Creek right of way and then south in the Gilroy Gardens Service Road, and ends at the new Zone 2 Tank/Zone 3 Booster Station. This pipeline is approximately 3,700 feet in length.

- **LT-P-9.** This 18-inch pipeline starts at the new Zone 2 Tank Site/Zone 3 Booster Station, continues west in the Gilroy Gardens right of way, and ends at Lake Kathryne. This pipeline is approximately 3,230 feet in length.
- **LT-T1.** This improvement is a new 1.5 MG storage reservoir in Zone 2.
- **LT-BS1.** This improvement is for a new 2,250 gpm total capacity Zone 3 booster pump station.
- **LT-BS2.** This improvement is for a Christmas Hill pump station capacity upgrade to 5.5 mgd (total).
- **LT-BS3.** This improvement is for an Area 93 pump station capacity upgrade to 9.3 mgd (total).

Please note that this Long-Term scenario is conceptual and is highly dependent on wastewater influent flow increases plus additional treatment capacity. The existing WWTP influent flow is approximately 6.1 mgd and the buildout demands in this scenario is 11.6 mgd.

## 9.5 Operational Improvements

Due to the existing system restrictions and storage constraints, the Christmas Hill pump station operates at a reduced flow to maintain adequate suctions pressures and needs to operate almost 24/7 during high use periods (**Figure 13**). With the activation and construction of the recently constructed and Near-Term pipelines, the Christmas Hill pump station will be able to pump at its design capacity. This will allow operations to pump during off-peak hour to fill the Hoylake tank and ease the storage constraints at the WWTP (**Figure 14**).

## 10.0 CAPITAL IMPROVEMENT PROGRAM (5-YR)

This section provides a summary of the recommended domestic water system improvements costs. The section also presents the cost criteria and methodologies for developing the Capital Improvement Program.

### 10.1 Cost Estimate Accuracy

Cost estimates presented in the capital improvement program were prepared for general master planning purposes and, where relevant, for further project evaluations. The final costs of a project will depend on several factors including the specific project scope of work, costs of labor and material, and market conditions during construction.

AACE International (Association for the Advancement of Cost Engineering, International) has defined five estimate classes for general construction based on the maturity level of the project scope definition. These estimate classes are extracted from the *AACE International Recommended Practice No. 56R-08, Cost Estimate Classification System – As Applied in*

*Engineering, Procurement, and Construction for the Building and General Construction Industries (Rev. August 2020)* and briefly summarized on the following matrix.

Costs developed in this study should be considered “Class 5” and have an expected accuracy range of **-30 percent** and **+50 percent**.

Class	Description	Data Availability and Percent Accuracy
<b>Class 5</b>	This classification is also known as <b>an order of magnitude estimate and is generally intended for</b> long-range capital planning and <b>master plans</b> . This estimate is not supported with detailed engineering data about the specific project, and its accuracy is dependent on historical data and cost indices.	The data is 0% to 2% complete and includes the location and proposed project.  It is generally expected that this estimate would be accurate within <b>-30 percent to +50 percent</b> .

## 10.2 Cost Estimate Methodology

Cost estimates presented in this section are opinions of probable construction and other relevant costs developed from several sources including cost curves, Akel experience on other master planning projects, and input from City staff. Where appropriate, costs were escalated to reflect the more current ENR (formerly Engineering News Record) Construction Cost Index (CCI). The ENR CCI is a cost estimating tool updated weekly, used by engineers to gage the current cost for new construction.

This section documents the unit costs used in developing the opinion of probable construction costs, the Construction Cost Index, and markups to account for construction contingency and other project related costs.

### 10.2.1 Unit Costs

The unit cost estimates used in developing the CIP are summarized in **Table 7**. The unit costs are intended for developing the Class 5, Order of Magnitude estimates, and do not account for site specific conditions, changes in labor or material costs during the time of construction, final project scope, implementation schedule, detailed utility and topography surveys, investigation of alternative routings for pipes, and other various factors. The CIP included in this report accounts for construction and project-related contingencies as described in this section.

### 10.2.2 Construction Cost Index

Costs estimated in this study are adjusted utilizing the ENR CCI, which is widely used in the engineering and construction industries.

The costs in this Water System Master Plan were calculated using a 20-City national average ENR CCI of 13,171, reflecting a date of August of 2022.

### 10.2.3 Estimating Contingency Allowance

Knowledge about site-specific conditions for each proposed project is limited at the master planning stage; therefore construction contingencies were used. In the absence of bid tabulations, the estimated construction cost includes a **20 percent** contingency allowance to account for unforeseen events and unknown field conditions.

#### 10.3.1 Project Related Costs

The capital improvement costs also account for project-related costs, comprised of construction and administration. The construction costs contingency is comprised of engineering design, construction management, and inspection. In the absence of bid tabulations, the construction related costs were estimated by applying an additional **20 percent** to the baseline costs. The administration contingency costs are comprised of project administration (developer and City staff) and legal costs and are estimated by applying an additional **30 Percent** to the baseline.

## 10.4 CAPITAL IMPROVEMENT PROGRAM

This section documents the capital improvement program, including estimated costs.

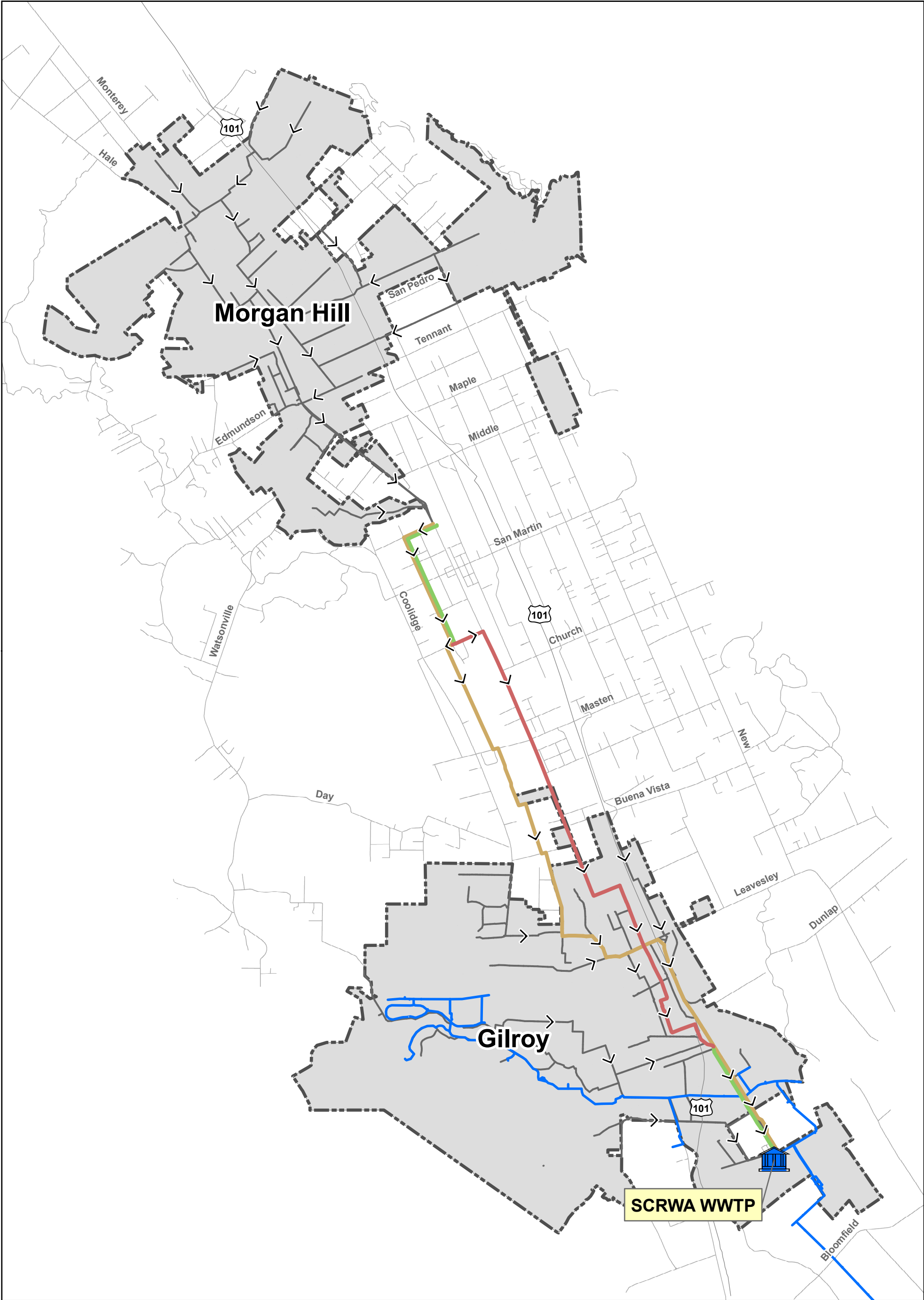
### 10.4.1 Capital Improvement Costs

The Capital Improvement Program costs for the projects identified in this master plan for mitigating existing deficiencies and for servicing anticipated future growth throughout the City are summarized on **Table 8**. The Capital Improvement Program lists the type of improvement, location, and cost.

Each improvement was assigned a unique coded identifier associated with the improvement type and is summarized graphically on **Figure 3**.

**South County Recycled Water  
Distribution System Master Plan**

## FIGURES



**Legend**

**Morgan Hill to Gilroy System**

- Future Relief Trunk
- Existing Relief Trunk
- Joint Trunk
- Existing Major Sewer Trunks

**Recycled Water Distribution System Existing Features**

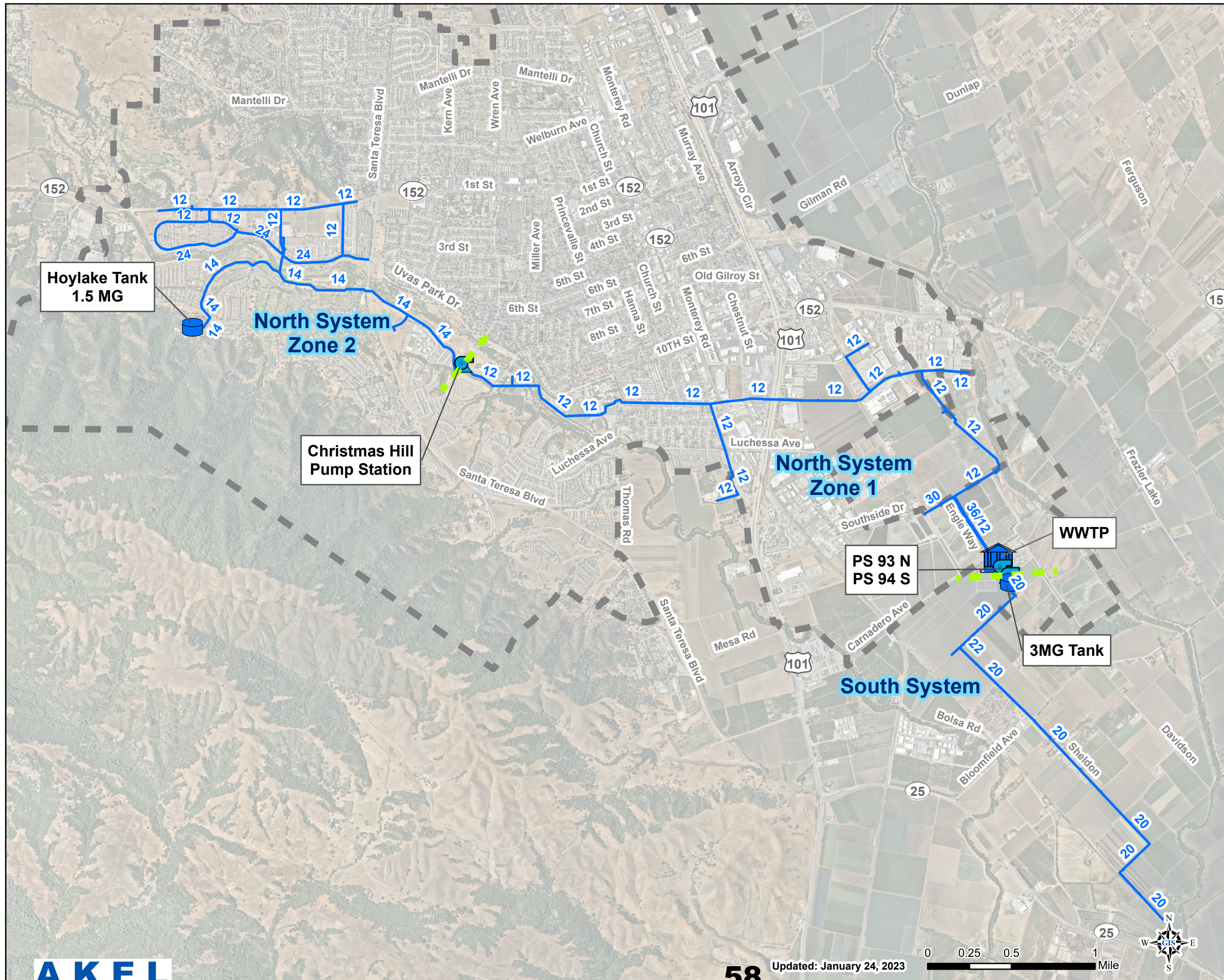
- SCRWA WWTP
- Distribution Pipelines
- City Limits Boundary
- City Limits Area
- Roads



**Figure 1  
Study Area**






Recycled Water Distribution System  
Master Plan  
Santa Clara Valley Water District







## Legend

### Existing System

-  WWTP
-  Booster Station
-  Storage Tank
-  Pipes
-  Pressure Zone Boundary

### Existing Features

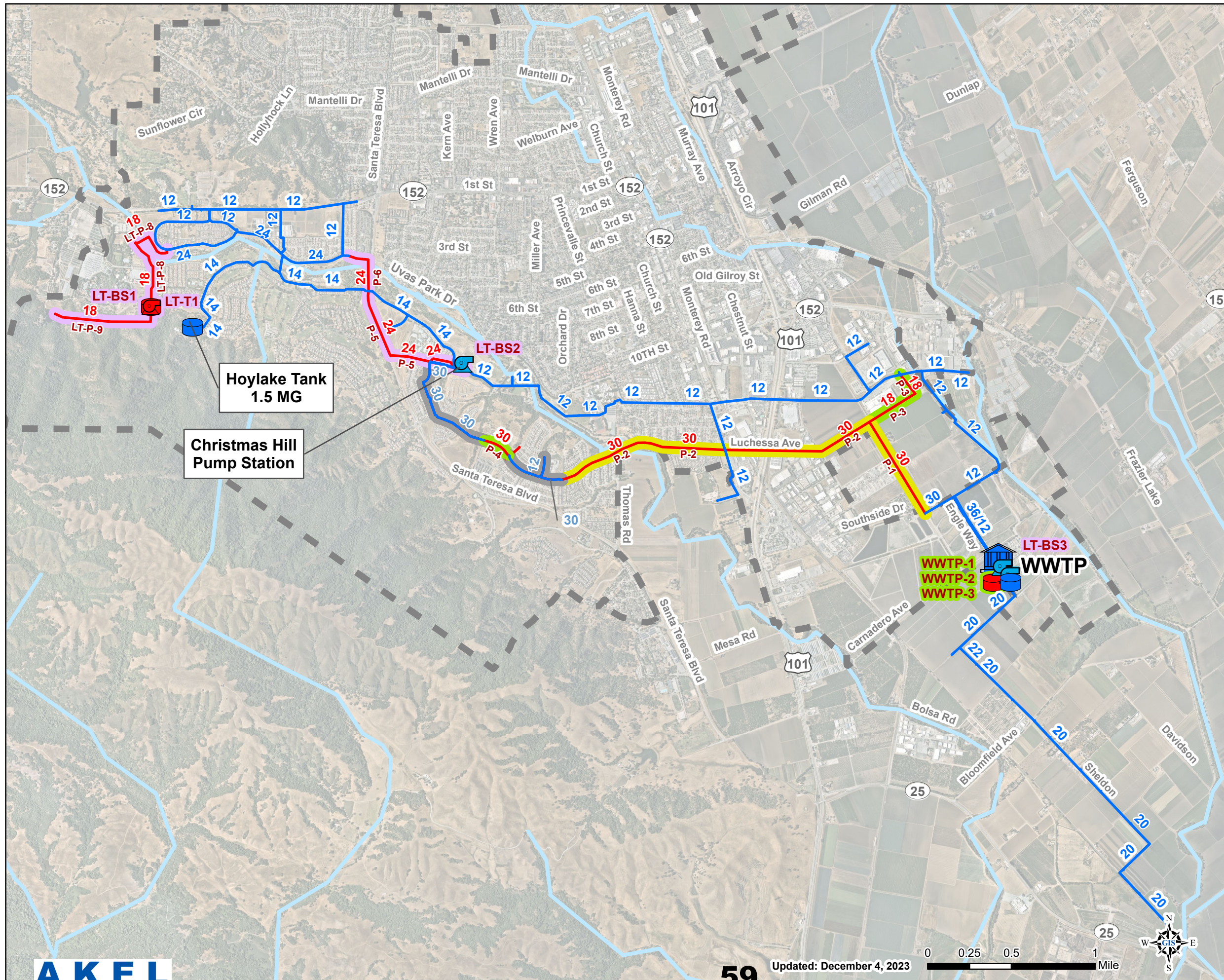
-  Rivers
-  City Limits

**Figure 2  
Existing System**

Recycled Water Distribution System Master Plan  
Santa Clara Valley Water District


















## Legend



### Baseline System Improvements

-  Tanks
-  Booster Stations
-  Pipelines
-  Constructed but Inactive
-  Recent Construction
-  Near-Term Improvements
-  Long-Term Improvements

### Existing System

-  WWTP
-  Booster Station
-  Storage Tank
-  Pipelines

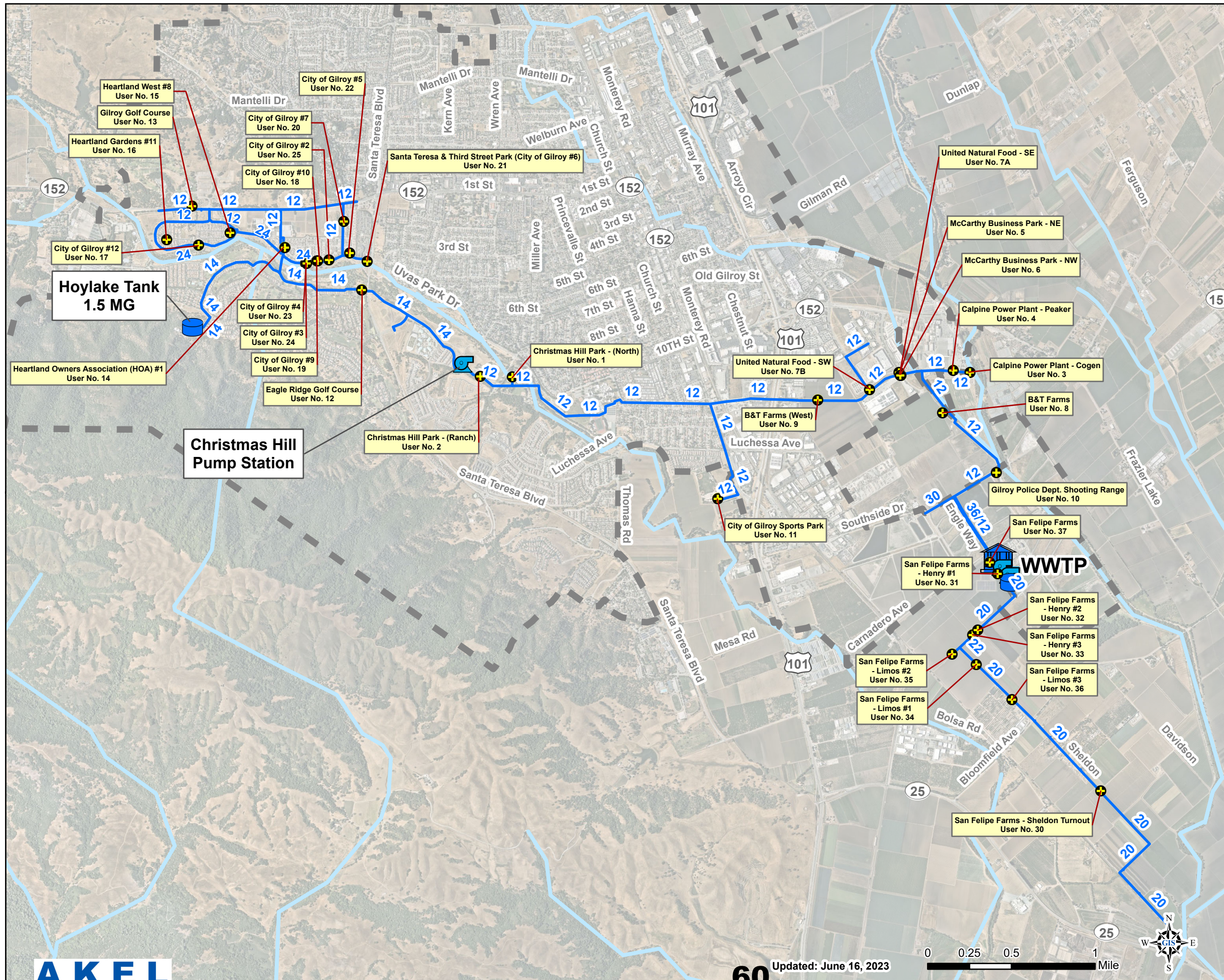
### Existing Features

-  Rivers
-  City Limits

## Figure 3 Planned / Future Pipeline Improvements

Recycled Water Distribution System Master Plan  
Santa Clara Valley Water District





## Legend

### Existing System

- WWTP
- Booster Station
- Storage Tank
- Recycled Water Meters
- Pipes

### Existing Features

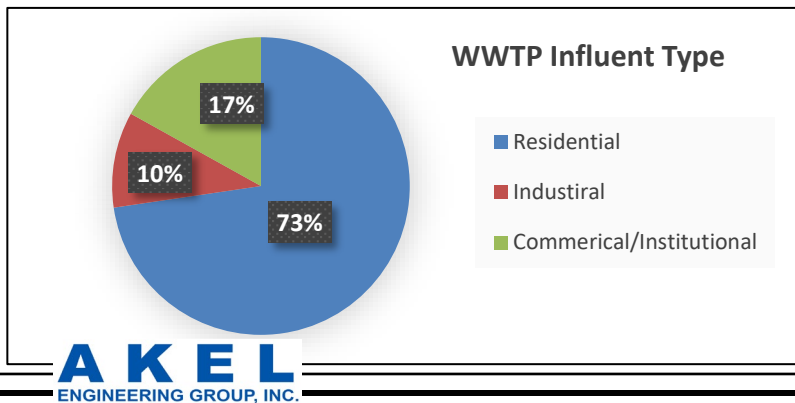
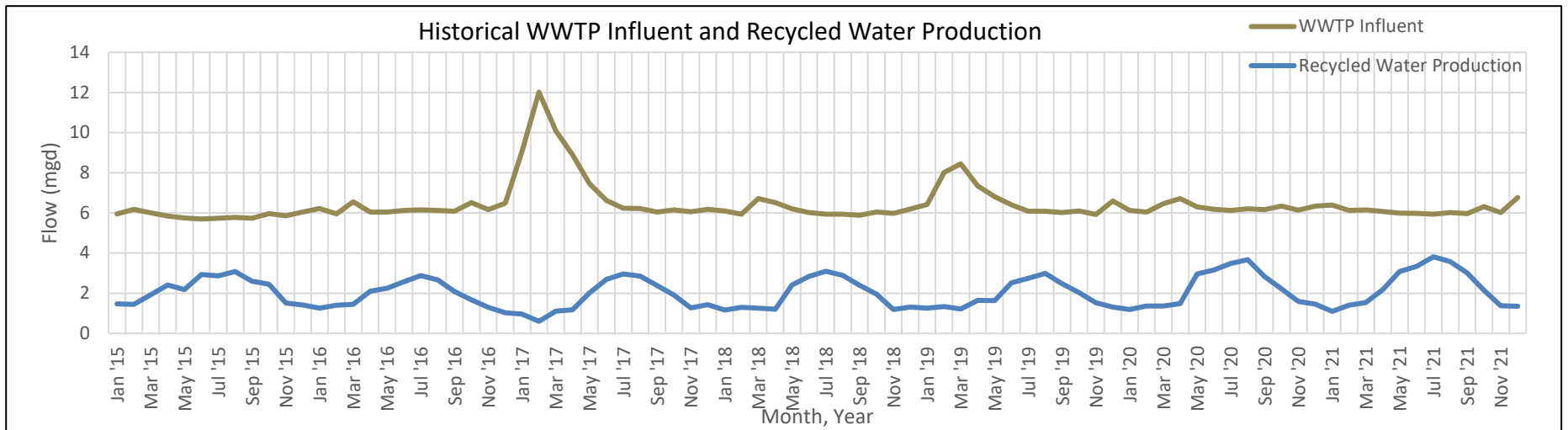
- Rivers
- City Limits

**Figure 4**  
**Existing Customer**  
**Connections**

Recycled Water Distribution System Master Plan  
Santa Clara Valley Water District



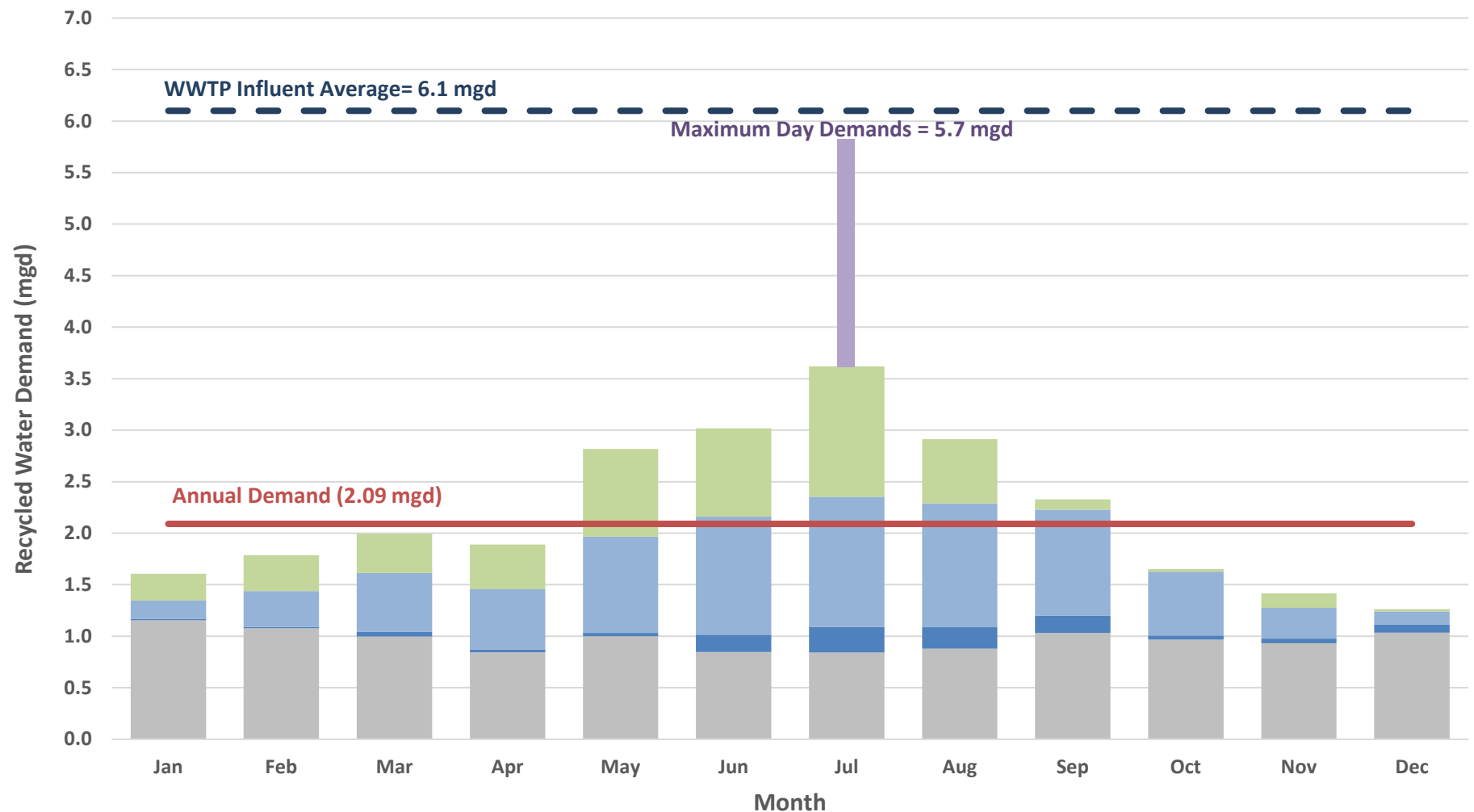
Season	2015		2016		2017		2018		2019		2020		2021	
	WWTP Influent	Recycled Water Production	WWTP Influent	Recycled Water Production	WWTP Influent	Recycled Water Production	WWTP Influent	Recycled Water Production	WWTP Influent	Recycled Water Production	WWTP Influent	Recycled Water Production	WWTP Influent	Recycled Water Production
	(mgd)	(mgd)	(mgd)	(mgd)	(mgd)	(mgd)	(mgd)	(mgd)	(mgd)	(mgd)	(mgd)	(mgd)	(mgd)	(mgd)
Summer	5.7	2.9	6.1	2.6	6.3	2.7	5.9	2.8	6.1	2.7	6.2	3.3	6.0	3.4
Shoulder	5.9	2.2	6.3	1.9	8.1	1.6	6.4	1.7	7.2	1.6	6.5	2.0	6.1	2.2
Winter	6.0	1.5	6.2	1.2	8.3	1.1	6.1	1.2	6.7	1.4	6.2	1.4	6.3	1.3
Total	5.9	2.2	6.2	1.9	7.6	1.8	6.1	1.9	6.7	1.9	6.3	2.2	6.1	2.3



**Figure 5**  
**Historical WWTP Influent**  
**and RW Production**  
Recycled Water Distribution  
System Master Plan  
Santa Clara Valley Water District



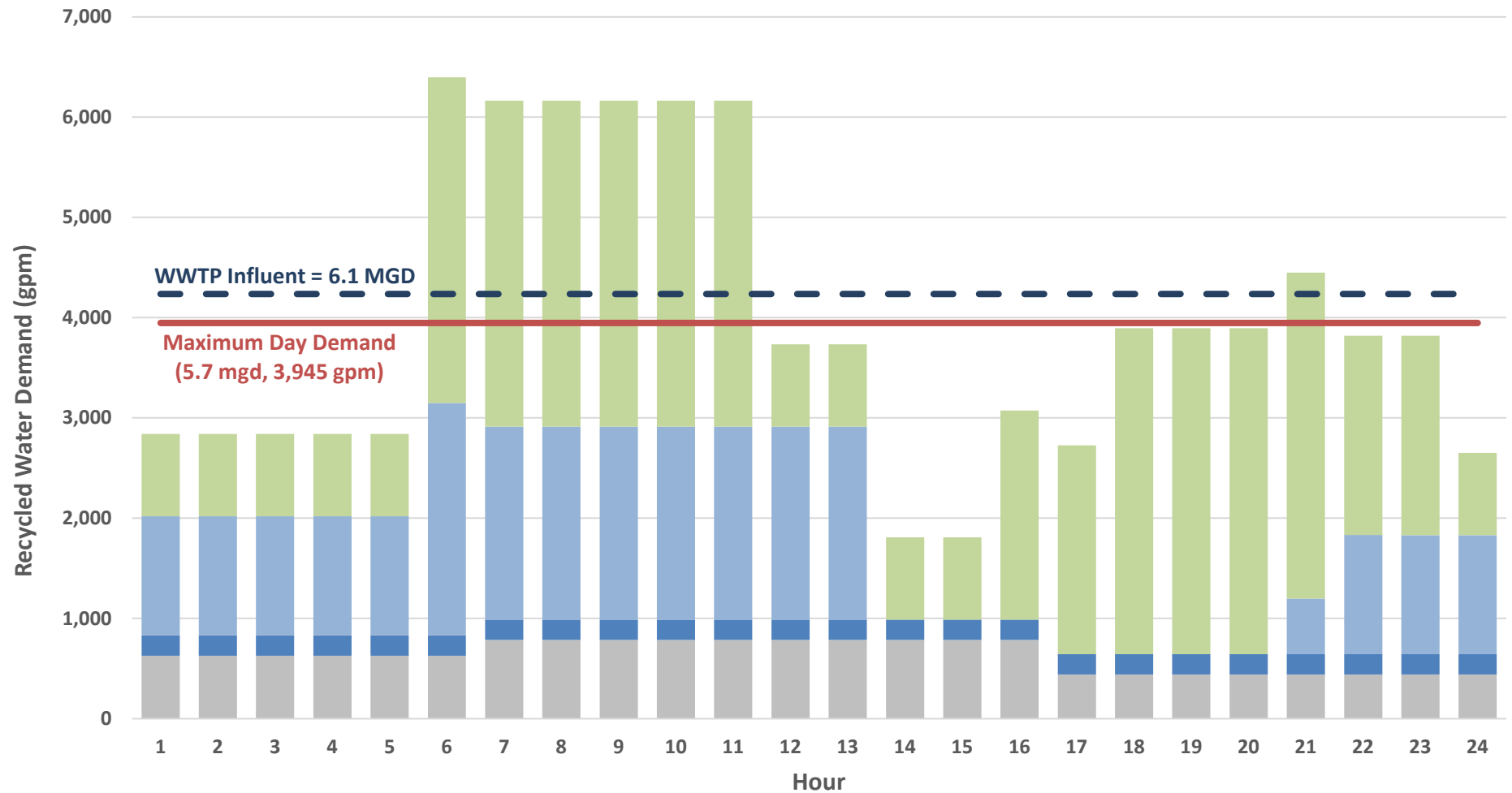
February 28, 2024



#### LEGEND

- WWTP Utility Water
- M&I
- Irrigation
- Agriculture
- Average Monthly Demand (Billing Records)

**Figure 6**  
**Existing Users**  
**Monthly Demands**  
 Recycled Water Distribution  
 System Master Plan  
 Santa Clara Valley Water District

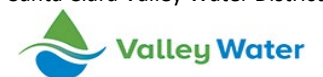


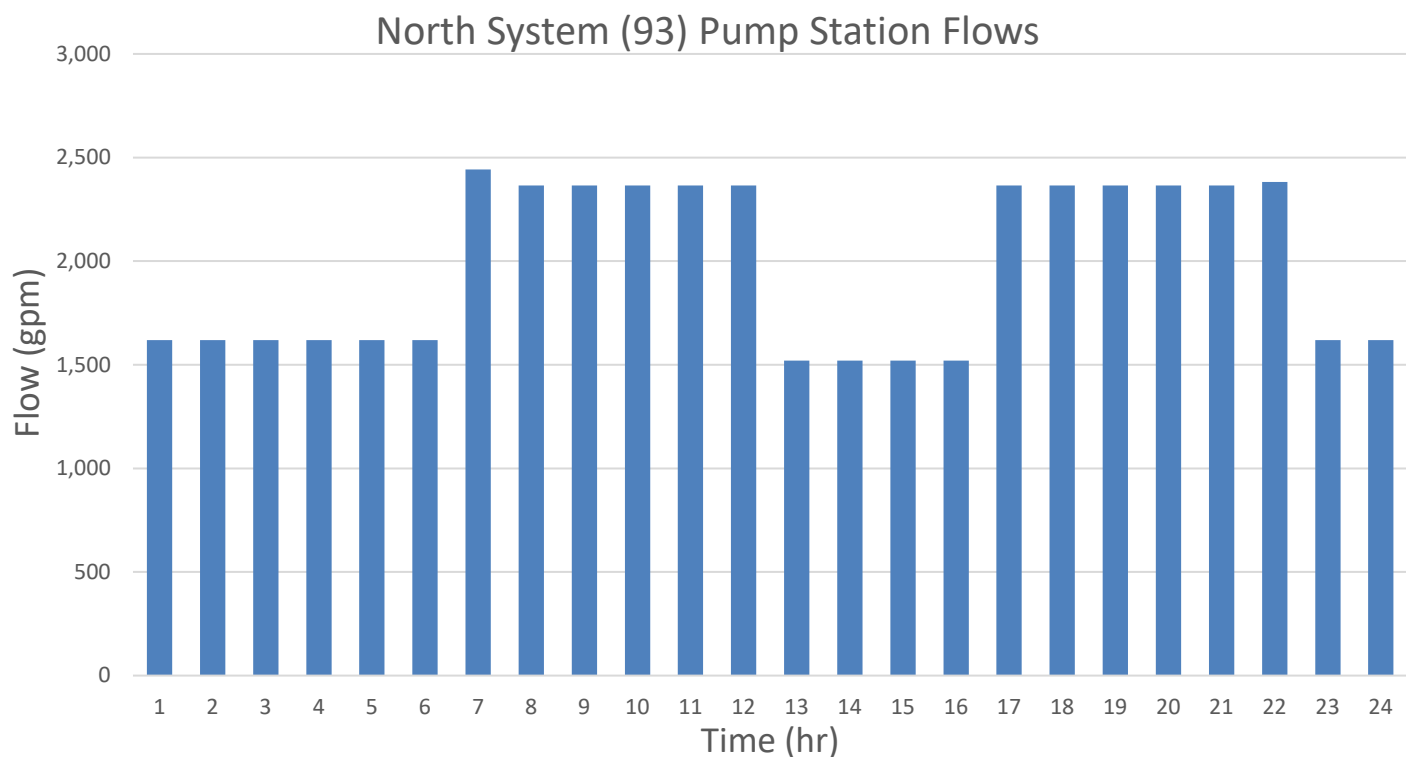
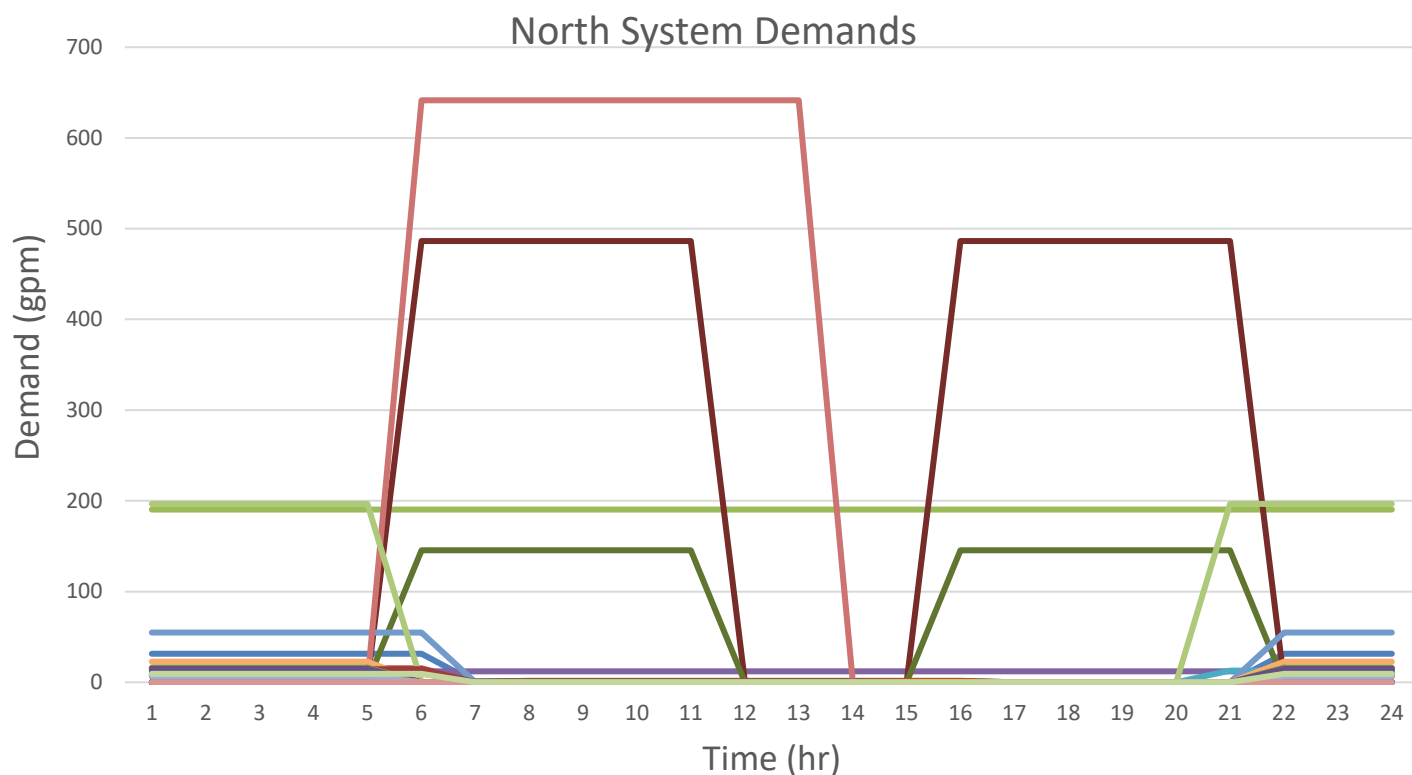
**LEGEND**

- Utility
- M&I
- Irrigation
- Agriculture
- Average Recycled Water Use

**Figure 7**  
**Existing User Hourly**  
**Demands, MDD**

Recycled Water Distribution  
System Master Plan  
Santa Clara Valley Water District





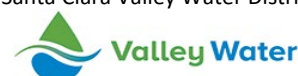
#### LEGEND

Christmas Hill Park - (North)	Christmas Hill Park - (Ranch)
Calpine Power Plant - Cogen	Calpine Power Plant - Peaker
McCarthy Business Park - NE	McCarthy Business Park - NW
United Natural Food	B&T Farms
B&T Farms (West)	Gilroy Police Dept. Shooting Range
Tri Pointe (North)	Tri Pointe (South)
City of Gilroy Sports Park	Eagle Ridge Golf Course
Gilroy Golf Course	Heartland Owners Association (HOA) #1
Heartland Owners Association (HOA) #8	Heartland Owners Association (HOA) #11
Trinchero Construction Company	City of Gilroy #12
City of Gilroy #10	City of Gilroy #9
City of Gilroy #7	Santa Teresa & Third Street Park (City of Gilroy #6)

January 12, 2023

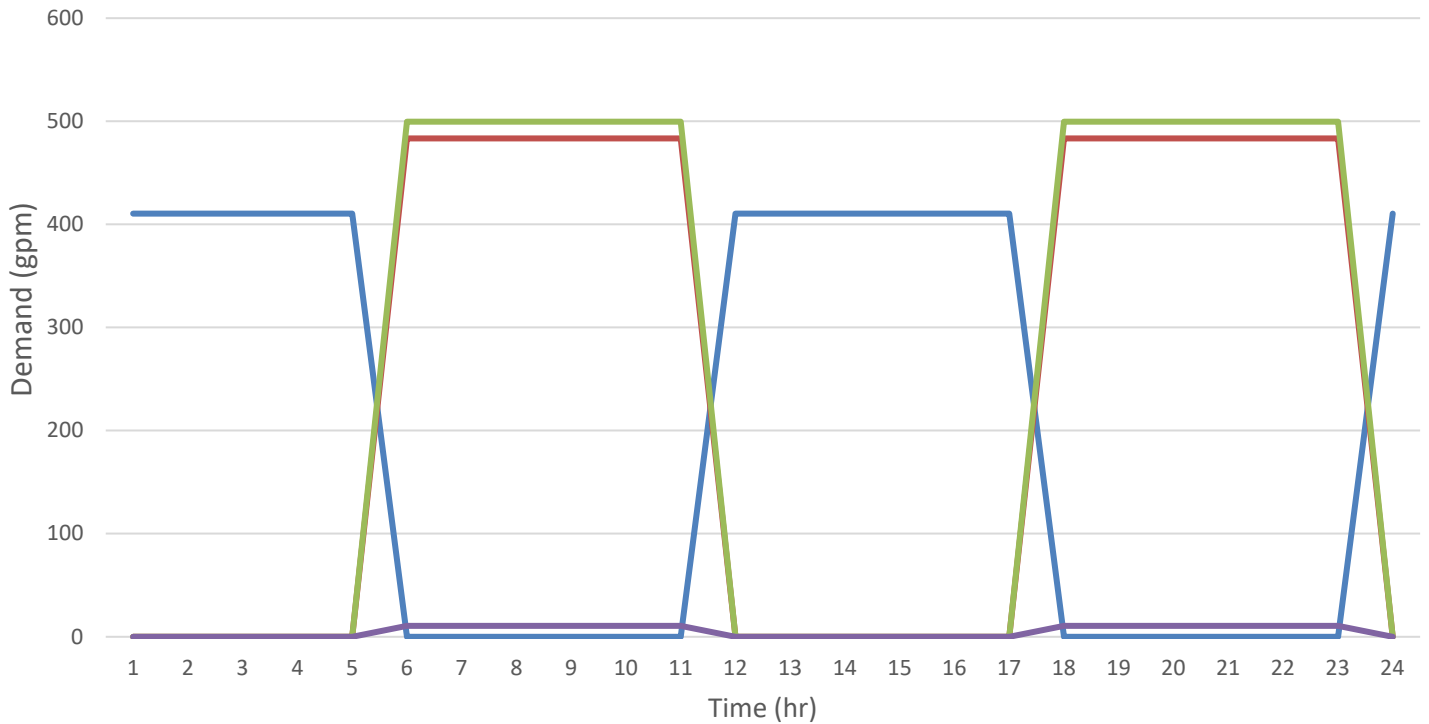
### Figure 8 North System Demands

Recycled Water Distribution  
System Master Plan  
Santa Clara Valley Water District

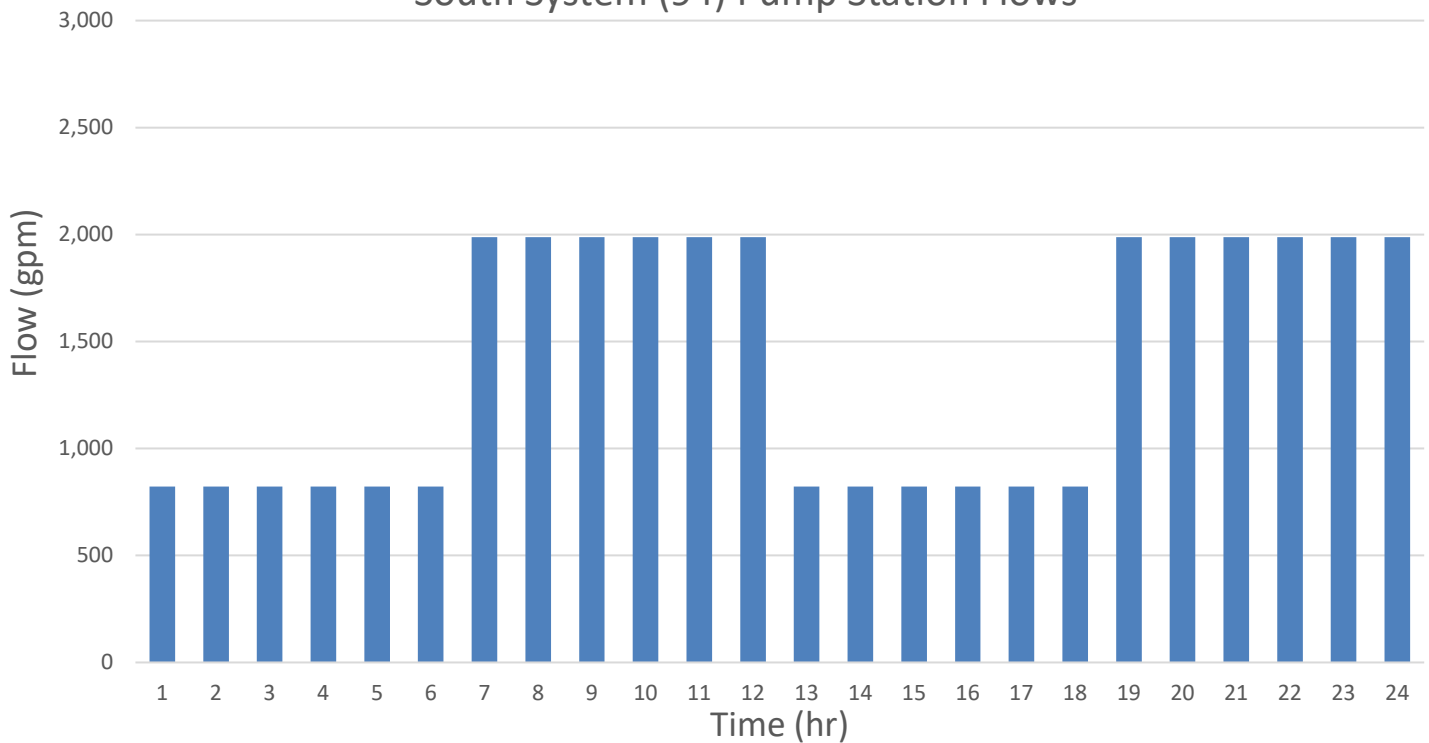




## South System Demands



## South System (94) Pump Station Flows



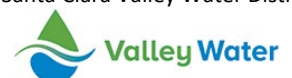
### LEGEND

- San Felipe Farms - Sheldon Turnout
- San Felipe Farms #135116
- San Felipe Farms #135115
- San Felipe Farms #135711

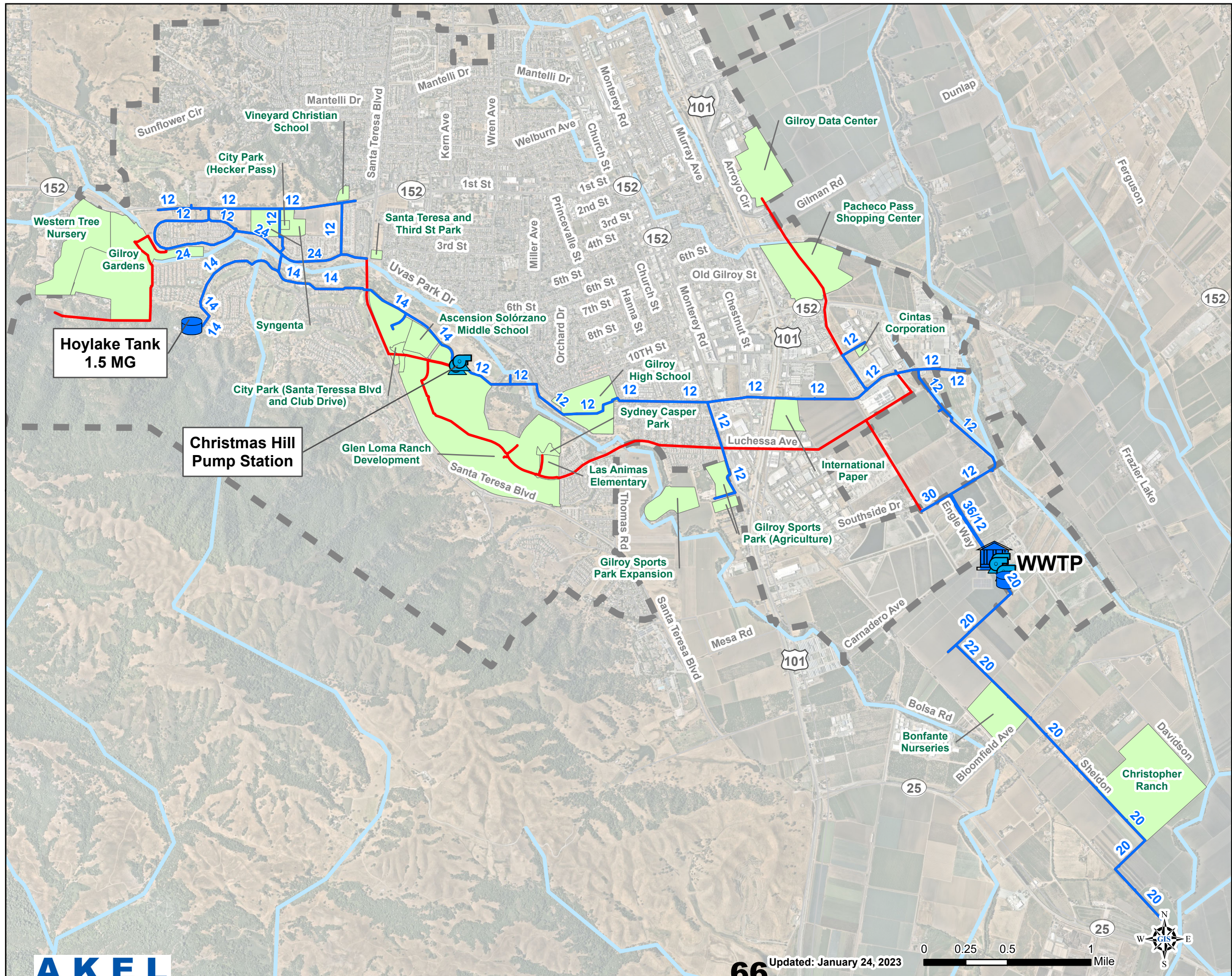
### Figure 9

### South System Demands

Recycled Water Distribution  
System Master Plan  
Santa Clara Valley Water District










## Legend

### Future System

- Planned Baseline System
- Immediate Potential Users

### Existing System

-  WWTP
-  Booster Station
-  Storage Tank
- Pipelines

### Existing Features

- Rivers
- City Limits

**Figure 10**  
**Potential Future Users**

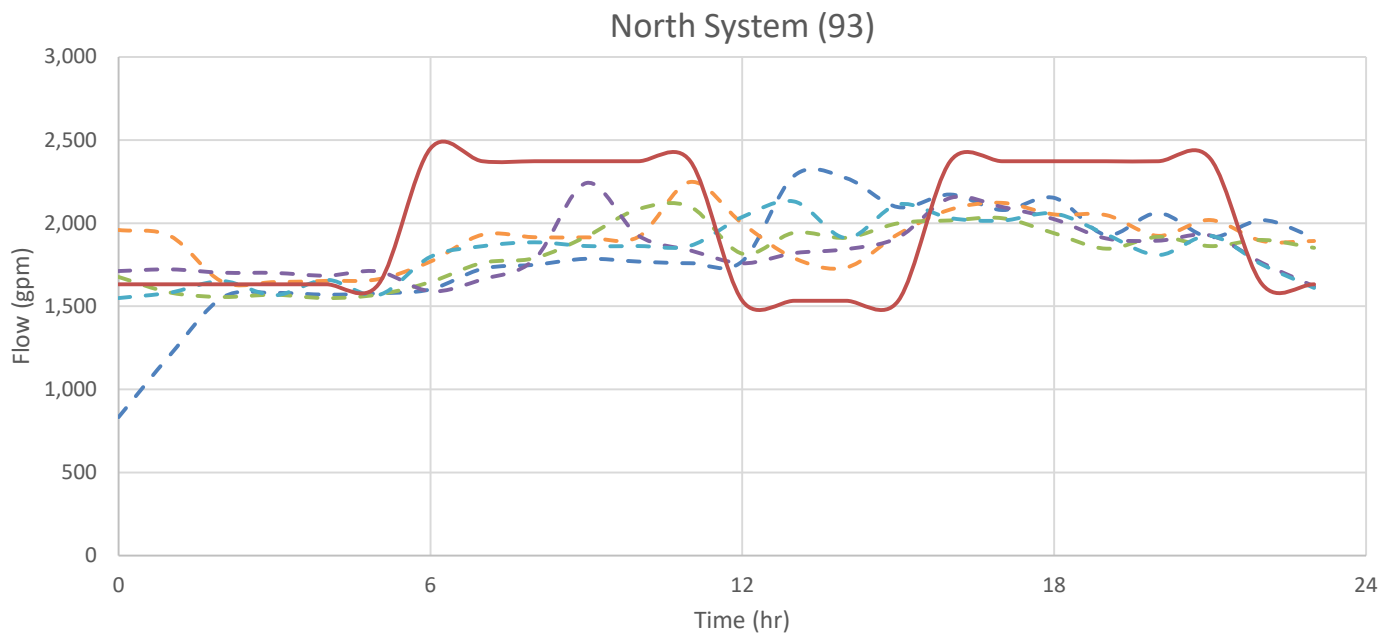
Recycled Water Distribution System Master Plan  
Santa Clara Valley Water District



Attachment 2

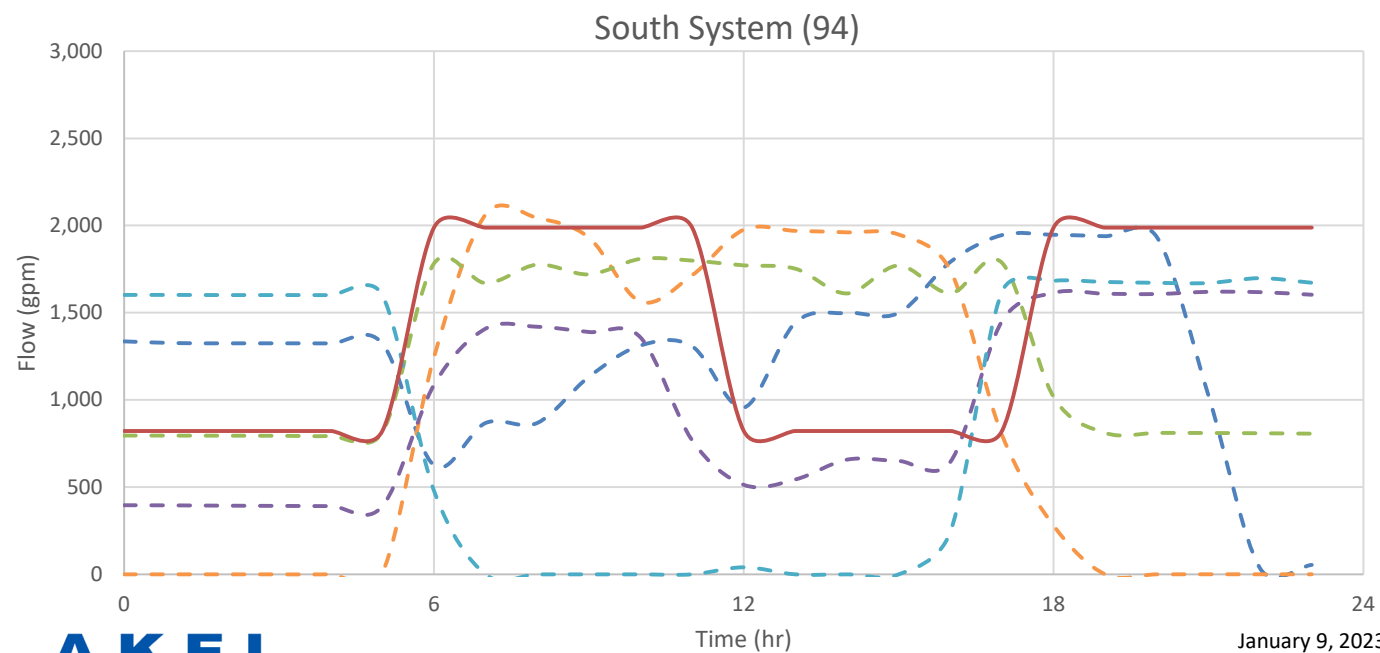
Page 40 of 63





#### LEGEND

- 7/9/2021
- 7/10/2021
- 7/13/2021
- 7/20/2021
- 7/23/2021
- Model



- 7/2/2021
- 7/7/2021
- 7/10/2021
- 7/14/2021
- 7/15/2021
- Model

**Figure 11**  
**Hydraulic Model**  
**Calibration**  
 Recycled Water Distribution  
 System Master Plan  
 Santa Clara Valley Water District

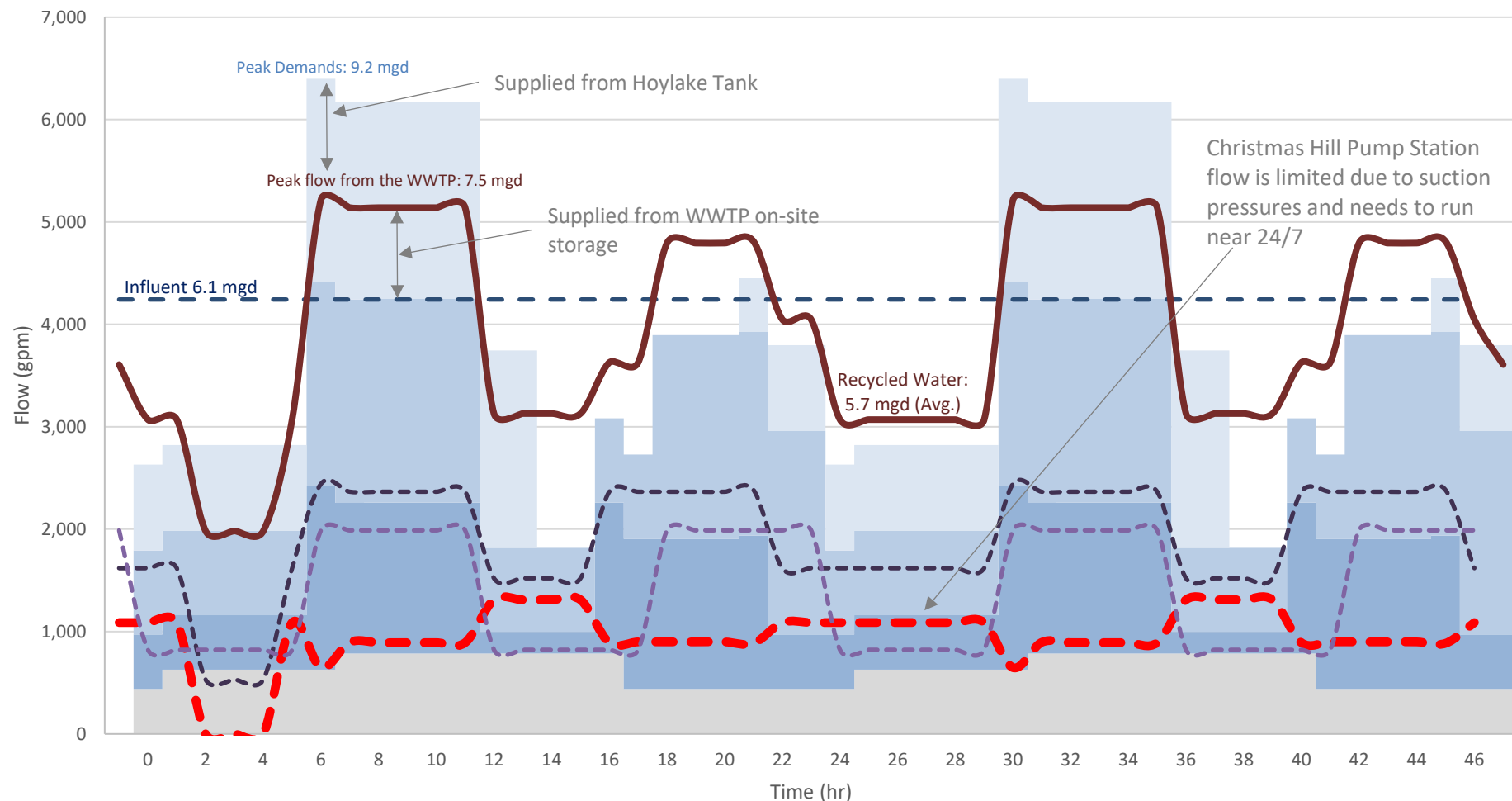








## Existing Operations



### LEGEND

- Zone 2 Demands
- South Demands
- Zone 1 Demands
- WWTP Utility Water
- X-Mas Hill PS Flow
- WWTP Influent (Avg.)
- Recycled Effluent
- North PS (Area 93) Flow
- South PS (Area 94) Flow

**AKEL**  
ENGINEERING GROUP, INC.

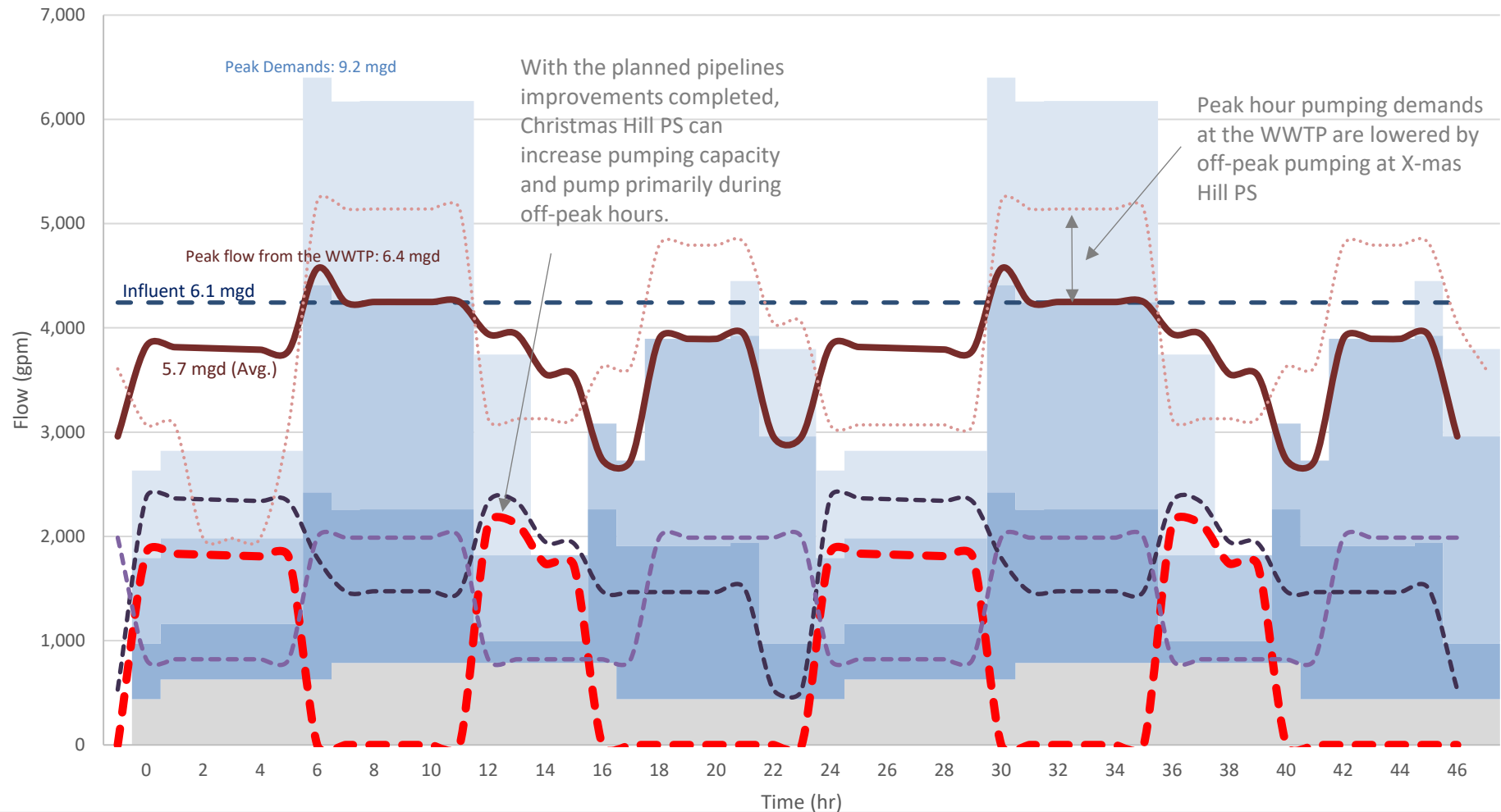
January 4, 2023

### Figure 13 Existing MDD Operations

Recycled Water Distribution  
System Master Plan  
Santa Clara Valley Water District



## Optimized Operations with Pipeline Improvements



### LEGEND

- Zone 2 Demands
- South Demands
- Zone 1 Demands
- WWTP Utility Water
- X-Mas Hill PS Flow
- WWTP Influent (Avg.)
- Recycled Water Effluent
- North PS (Area 93) Flow
- South PS (Area 94) Flow
- Existing Recycled Effluent

### Notes:

1. Pipeline improvements include the Under Construction, Constructed but Inactive, and Imminent pipelines

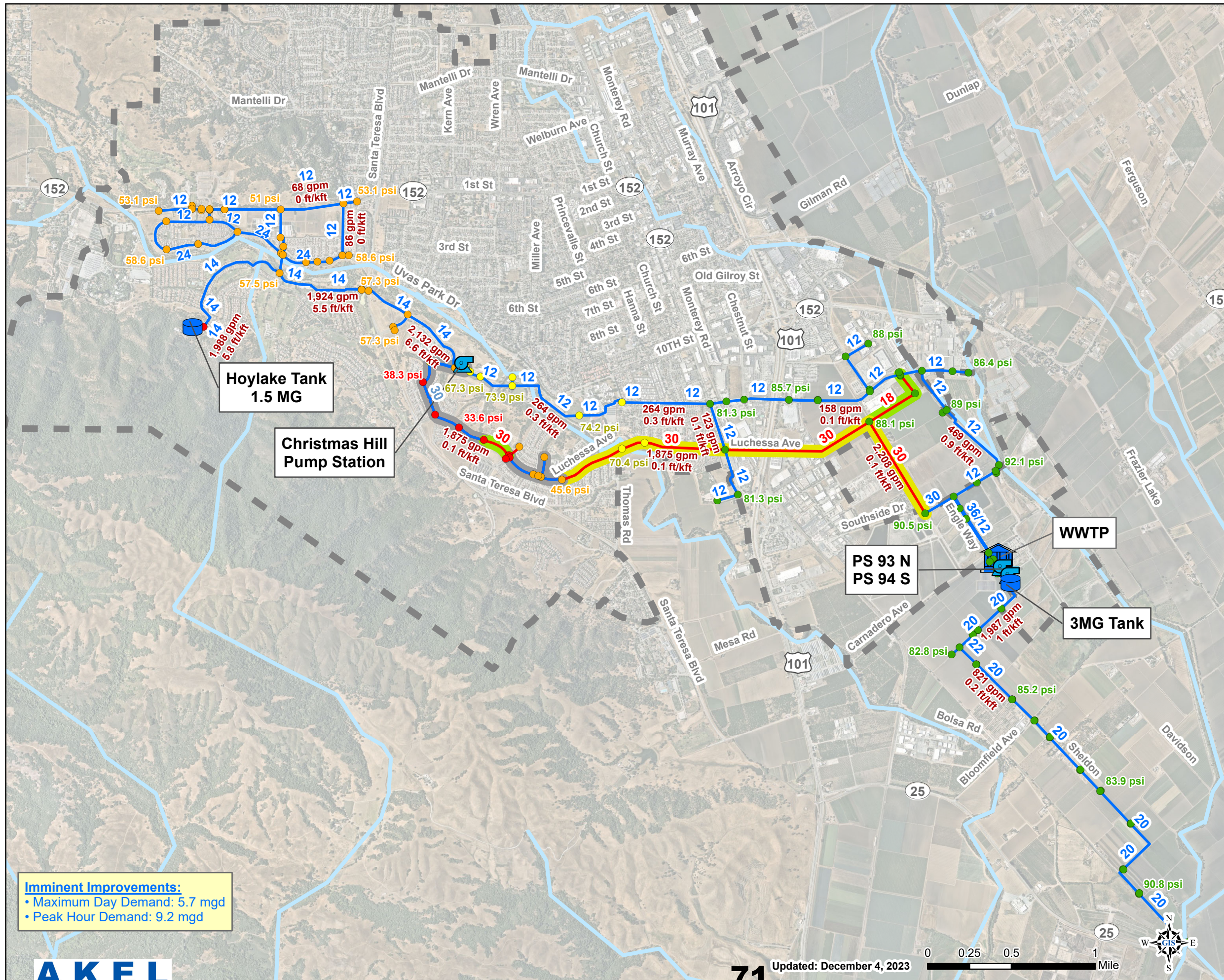
January 4, 2023

### Figure 14 Optimized MDD Operations

Recycled Water Distribution  
System Master Plan  
Santa Clara Valley Water District







## Legend

### Peak Hour Pressures

- Greater than 100 psi
- 80 - 100 psi
- 60 - 80 psi
- 40 - 60 psi
- Less than 40 psi

### Baseline System Improvements

- Pipelines
- Constructed but Inactive
- Recent Construction
- Near-Term Improvements

### Existing System

- WWTP
- Booster Station
- Storage Tank
- Pipes

### Existing Features

- Rivers
- City Limits

### Notes:

- Christmas Hill Pump Station operates during off-peak hours
- Maximum Day Demand: 5.7 mgd
- Peak Hour Demand: 9.2 mgd
- Pipe flows and system pressures documented are during peak hour demands

**Imminent Improvements:**

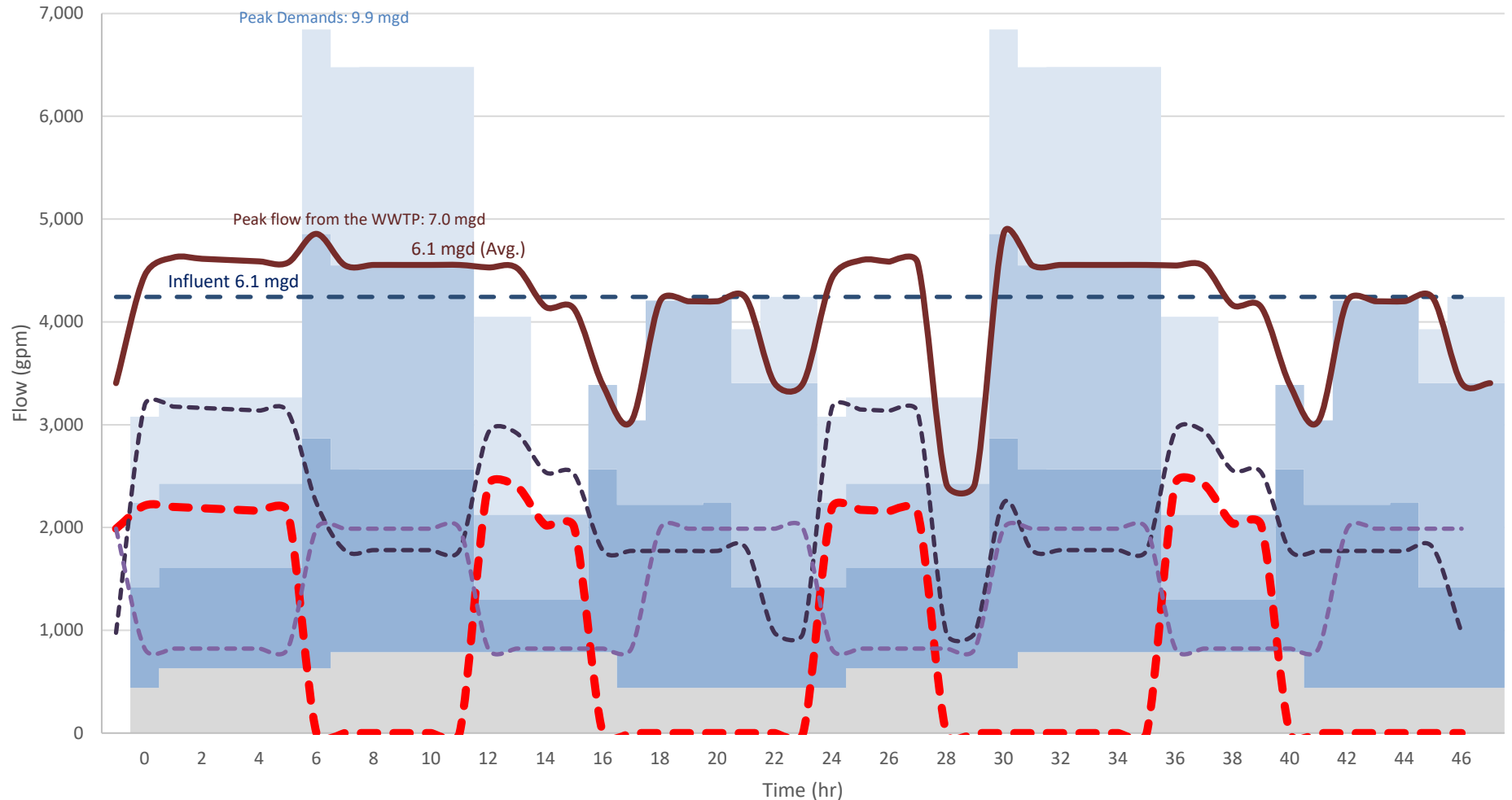
- Maximum Day Demand: 5.7 mgd
- Peak Hour Demand: 9.2 mgd



**Figure 15**  
**Baseline Improvements plus**  
**Optimization Evaluation**  
Recycled Water Distribution System Master Plan  
Santa Clara Valley Water District



## Optimized with Near Term Users



### LEGEND

- Zone 2 Demands
- South Demands
- Zone 1 Demands
- WWTP Utility Water
- X-Mas Hill PS Flow
- WWTP Influent (Avg.)
- Recycled Effluent
- North PS (Area 93) Flow
- South PS (Area 94) Flow

### Notes:

1. Pipeline improvements include the Under Construction, Constructed but Inactive, and Imminent pipelines
2. Near-Term users include Gilroy Data Center and Glen Loma

January 4, 2023

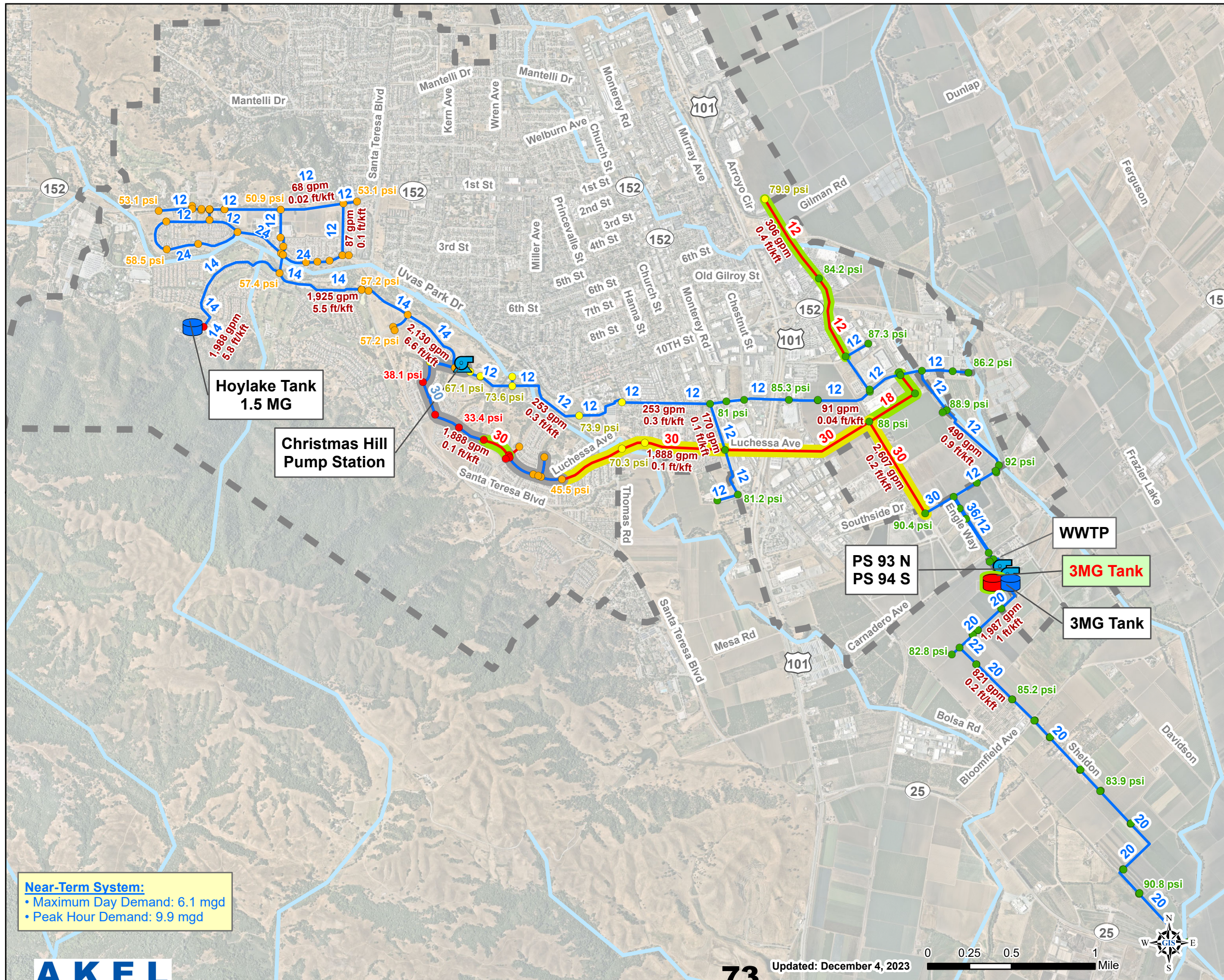
### Figure 16

#### Optimized MDD Operations + Near Term Users

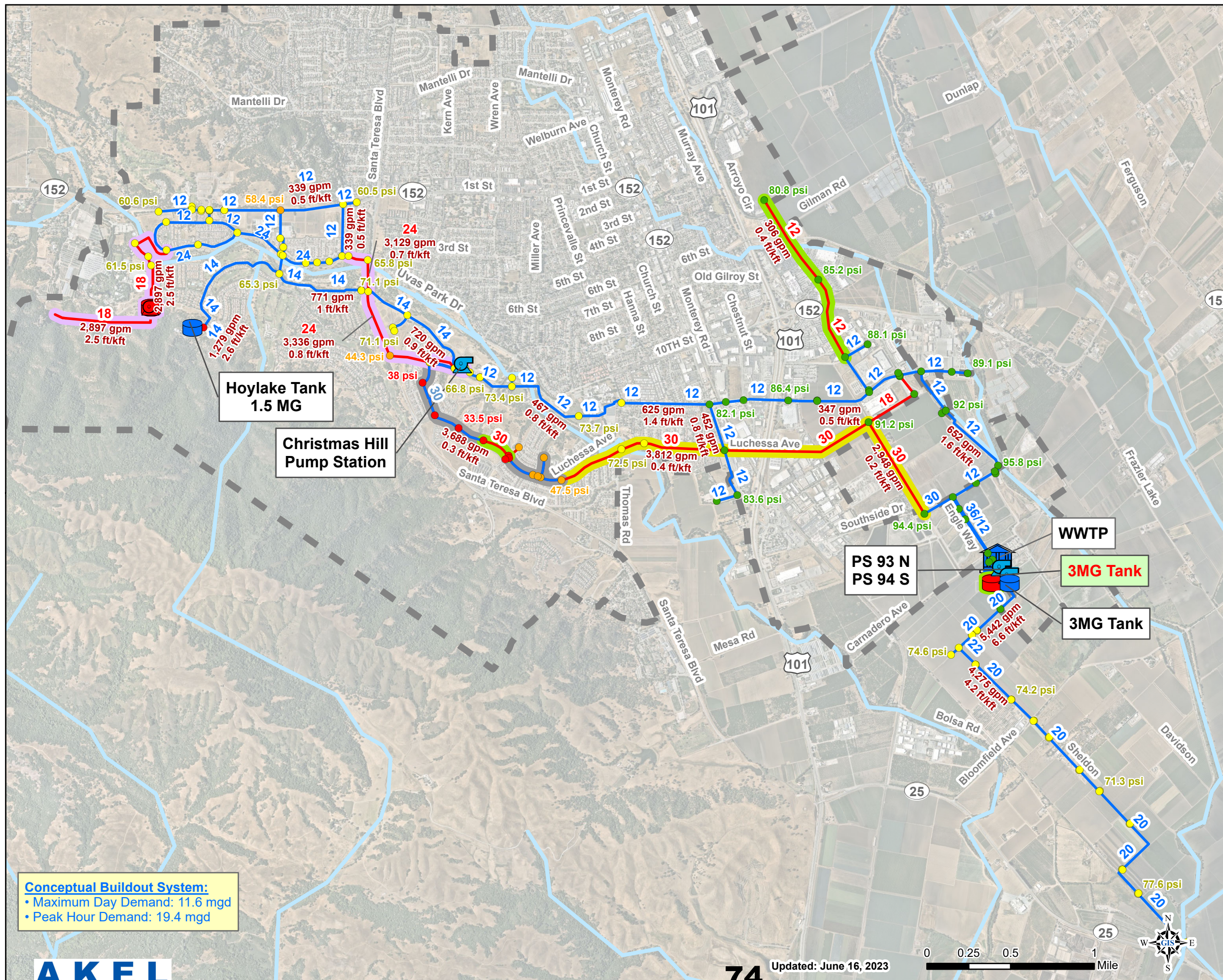
Recycled Water Distribution  
System Master Plan  
Santa Clara Valley Water District











## Legend

### Peak Hour Pressures

- Greater than 100 psi
- 80 - 100 psi
- 60 - 80 psi
- 40 - 60 psi
- Less than 40 psi

### Baseline System Improvements

- Tanks
- Booster Stations
- Pipelines
- Constructed but Inactive
- Under Construction
- Imminent Improvements
- Near-Term Improvements
- Long-Term Improvements

### Existing System

- WWTP
- Booster Station
- Storage Tank
- Pipes

### Existing Features

- Rivers
- City Limits

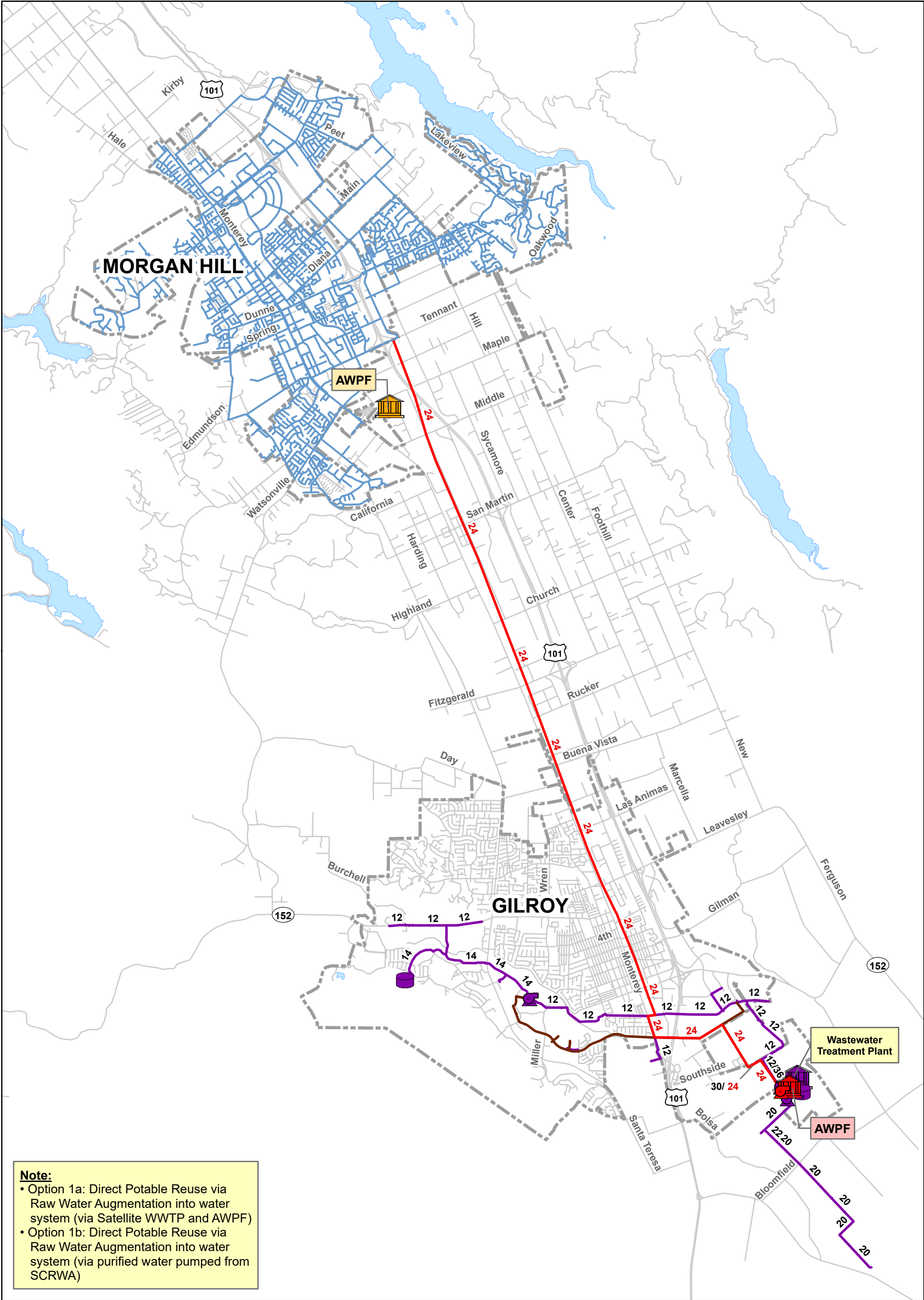
### Notes:

- Maximum Day Demand: 11.6 mgd
- Peak Hour Demand: 19.4 mgd
- Pipe flows and system pressures documented are during peak hour demands

## Figure 18 Conceptual Baseline Buildout

Recycled Water Distribution System Master Plan  
Santa Clara Valley Water District





**Legend**

**Option 1a**

Water Purification Facility

**Option 1b**

Water Purification Facility

**SCVWD Improvements**

Baseline Improvements

**Existing**

WWTP

City Limits

Roads

Lakes

Storage Tanks

Booster Stations

Recycled Water Pipelines

Morgan Hill Water System

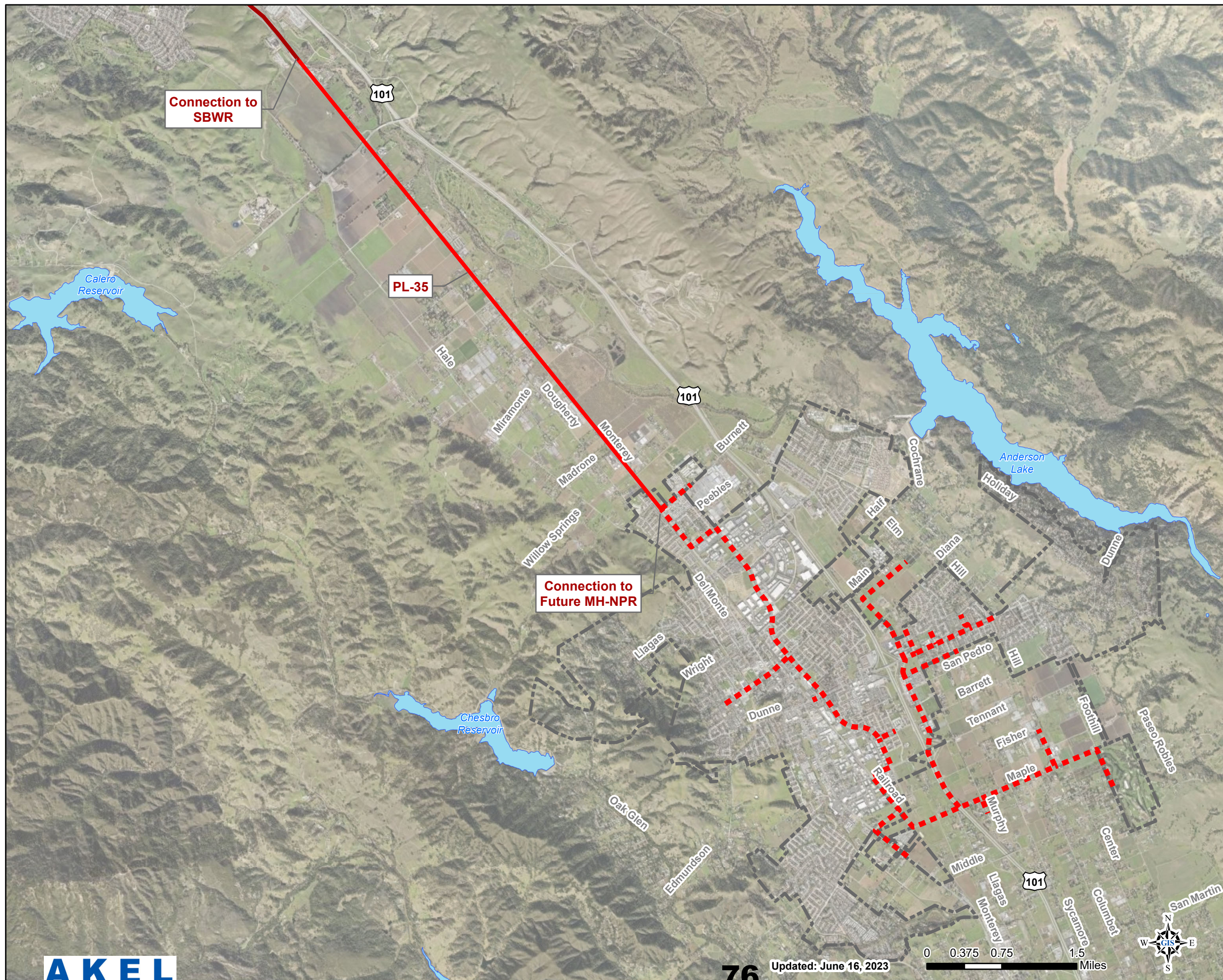
Recycled Water Recharge Pipeline

**PRELIMINARY**

0 0.25 0.5 1 Mile

**Figure 19**  
**Morgan Hill Recycled Water**  
**Option 1 - Direct Reuse**  
Recycled Water Distribution System  
Master Plan  
Santa Clara Valley Water District





## Legend

### Raw Water System

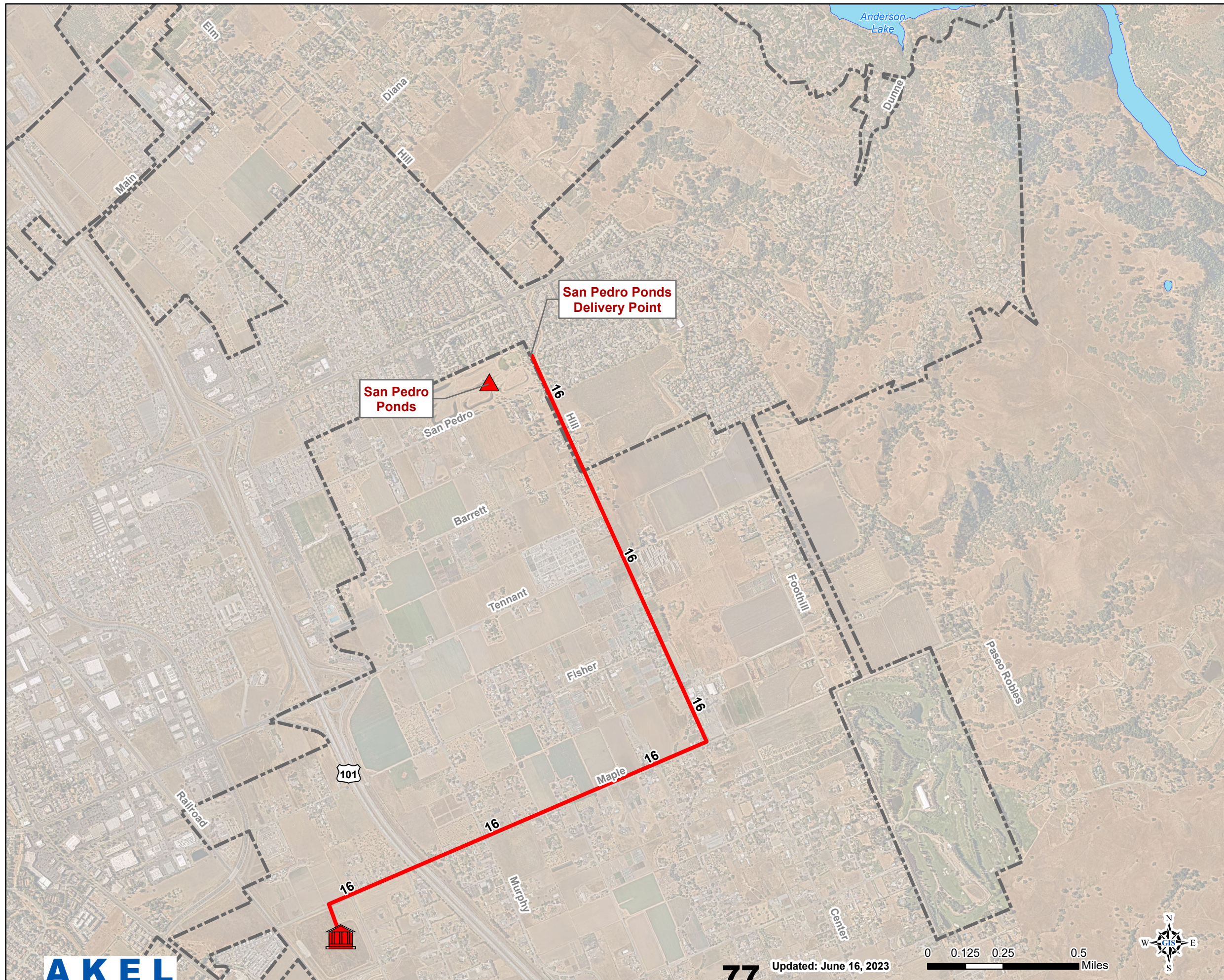
- Existing SBWR Pipeline
- Proposed RW Pipeline
- - - Morgan Hill RW System
- ~ Lakes
- City Limits

**Source:**  
Countywide Water Reuse  
Master Plan (CoRe Plan),  
October 2020

**Note:**  
• NPR+ from South Bay  
Water Recycling






**Figure 20**  
**Morgan Hill Recycled**  
**Water Option 2 - NPR +**  
Recycled Water Distribution System Master Plan  
Santa Clara Valley Water District





## Legend

### Water Purification System

-  Water Purification Facility
-  San Pedro Ponds
-  Purified Water Pipeline
-  Lakes
-  City Limits

### Source:

Countywide Water Reuse Master Plan (CoRe Plan), October 2020

### Note:

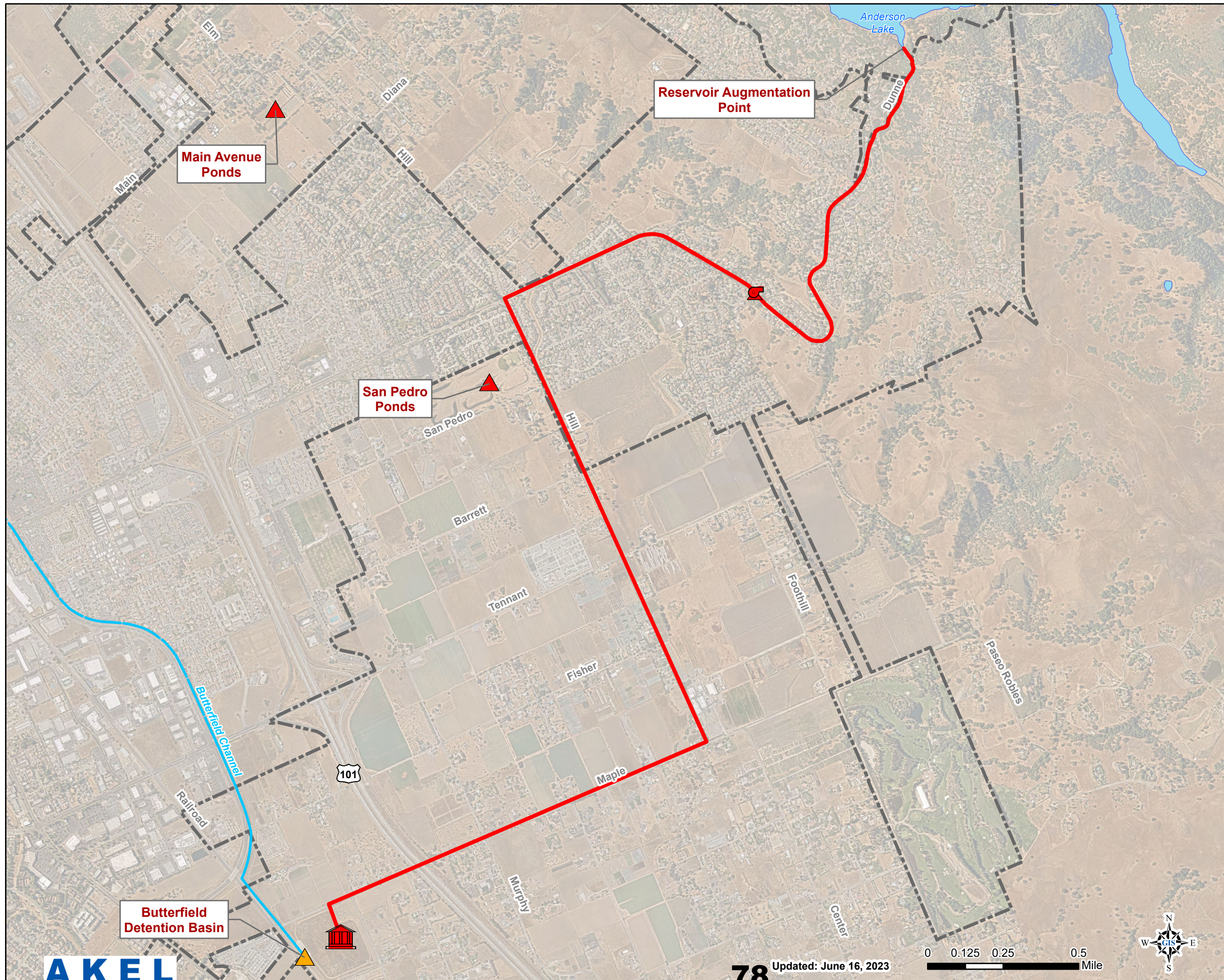
- Satellite Advanced Water Purification Facility (AWPF) for Groundwater Recharge (GWR)

## Figure 21 Morgan Hill Recycled Water Option 3 - GWR

Recycled Water Distribution System Master Plan  
Santa Clara Valley Water District















## Legend

### Water Purification System

-  Water Purification Facility
-  Booster Station
-  Detention Basin
-  Recharge Ponds
-  Purified Water Pipeline
-  Butterfield Channel
-  Lakes
-  City Limits

### Source:

Countywide Water Reuse Master Plan (CoRe Plan), October 2020

### Note:

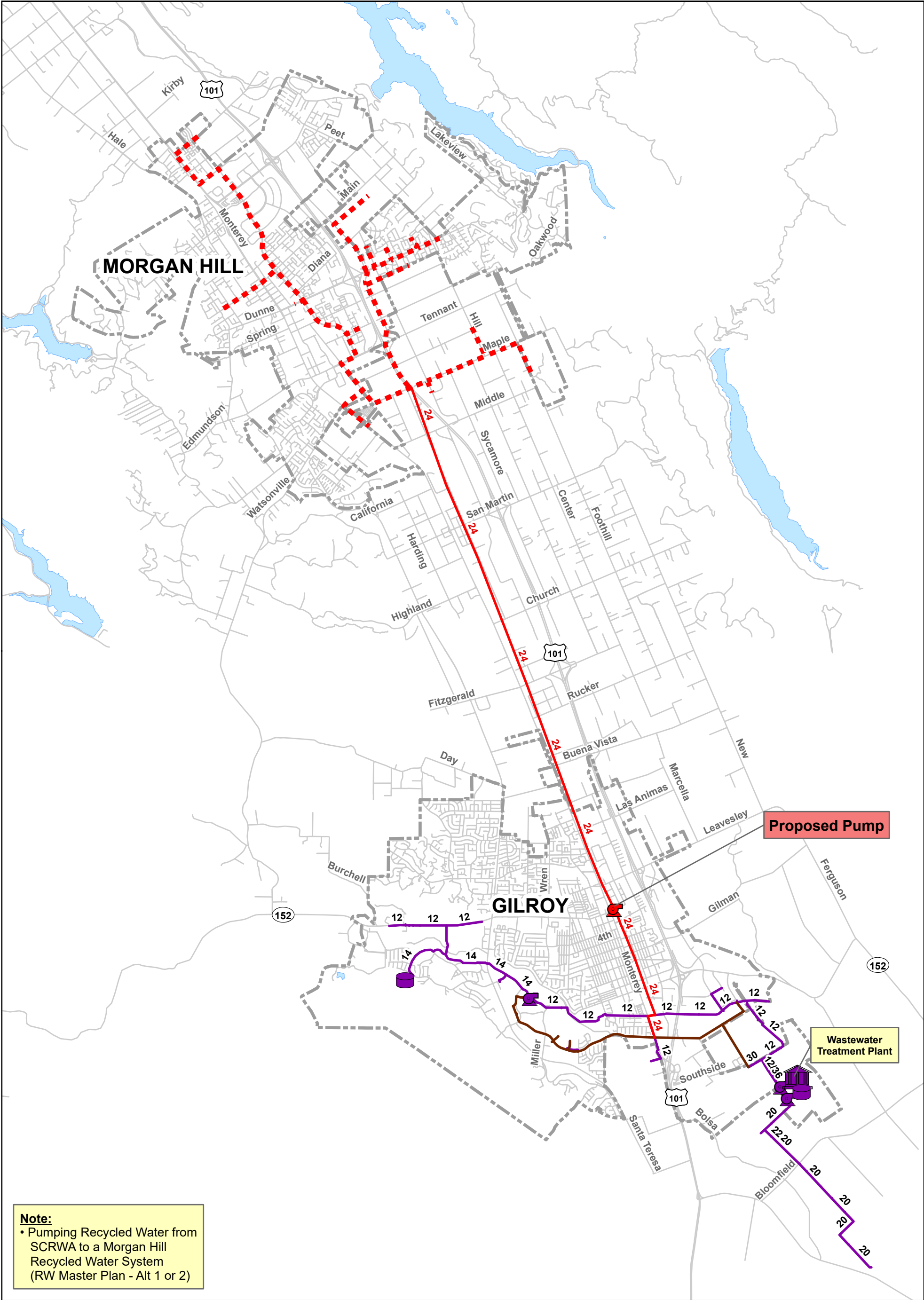
- Satellite Advanced Water Purification Facility (AWPF) for Surface Water Augmentation (SWA)

## Figure 22 Morgan Hill Recycled Water Option 4 - SWA

Recycled Water Distribution System Master Plan  
Santa Clara Valley Water District





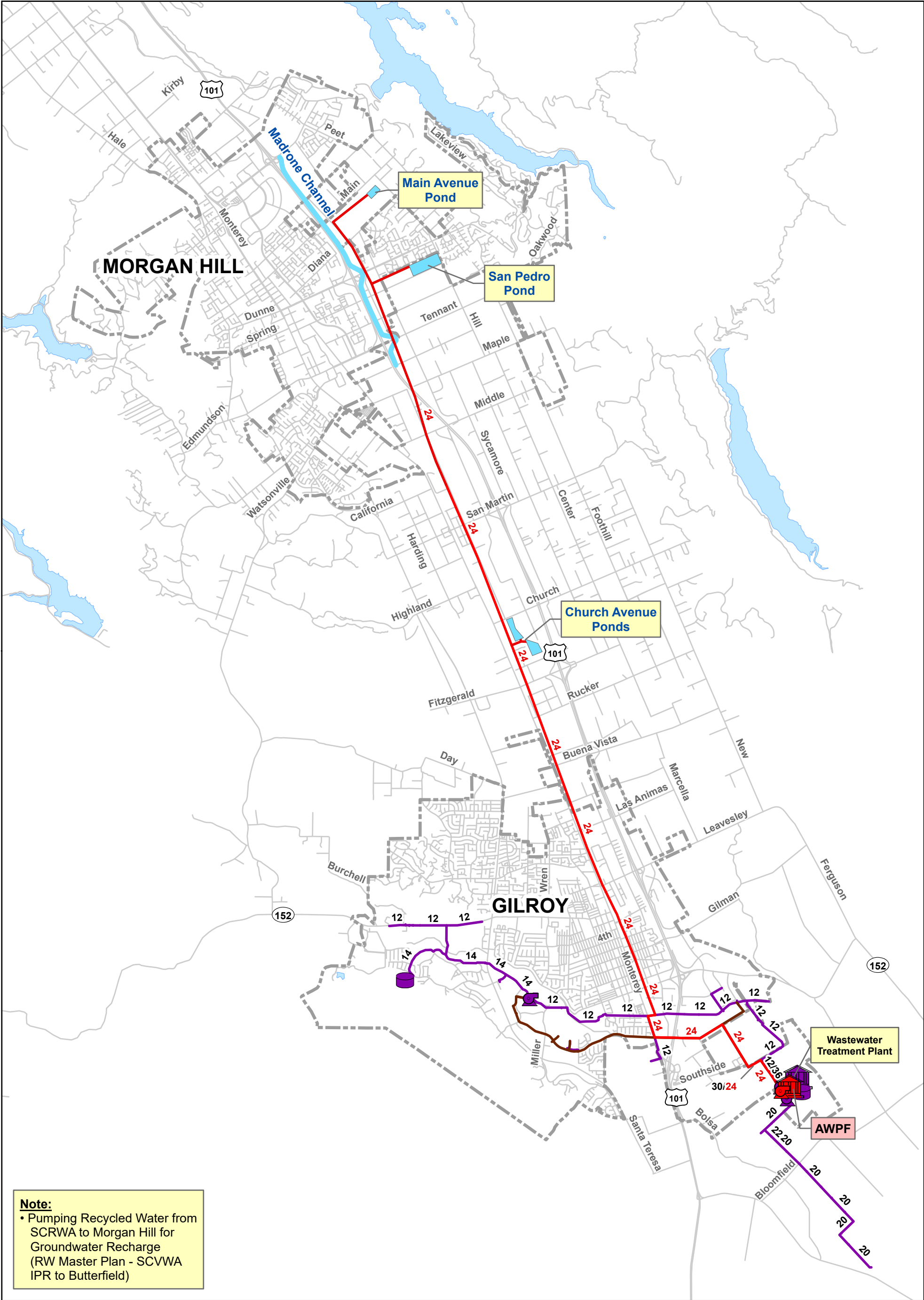


**Note:**  
• Pumping Recycled Water from SCRWA to a Morgan Hill Recycled Water System (RW Master Plan - Alt 1 or 2)

- Legend**
- |                                  |                       |                          |                |
|----------------------------------|-----------------------|--------------------------|----------------|
| <b>Option 5</b>                  | <b>Proposed</b>       | <b>Existing</b>          | Recharge Ponds |
| Recycled Water Recharge Pipeline | Storage Tanks         | WWTP                     | City Limits    |
| Morgan Hill's Proposed RW System | Booster Stations      | Storage Tanks            | Roads          |
|                                  | Baseline Improvements | Booster Stations         | Lakes          |
|                                  |                       | Recycled Water Pipelines |                |

**Figure 23**  
**Morgan Hill Recycled Water Option 5 - RW from SCRWA**  
Recycled Water Distribution System Master Plan  
Santa Clara Valley Water District  
 **Valley Water**  
Attachment 2





**Legend**

**Proposed**

Water Purification Facility

Recharge Pipeline Project Alternative 6

**SCVWD Improvements**

Baseline Improvements

**Existing**

WWTP

Storage Tanks

Booster Stations

Recycled Water Pipelines

Recharge Ponds

City Limits

Roads

Lakes

**Figure 24**

**Morgan Hill Recycled Water**

**Option 6 - AWPf Water**

**from SCRWA for GWR**

Recycled Water Distribution System

Master Plan

Santa Clara Valley Water District

Valley Water

Attachment 2

**80**

Updated: June 16, 2023

0 0.25 0.5 1 Mile

File Path: P:\xGIS\GIS\_P\Projects\SCVWD\220714-RWS\Final\SCVWD\_Fig22-Option6\_061623.mxd

**South County Recycled Water  
Distribution System Master Plan**

# TABLES

**Table 1 Existing System Inventory**

Recycled Water Distribution System Master Plan  
Santa Clara Valley Water District

Pipes				
Pipe Diameter	Length			
(in)	(ft)	(mi)		
North System				
8	750	0.1		
12	50,600	9.6		
14	11,750	2.2		
24	6,350	1.2		
30	1,400	0.3		
36	3,100	0.6		
Sub-Total	73,950	14.0		
South System				
10	350	0.1		
12	400	0.1		
20	15,650	3.0		
22	750	0.1		
30	200	0.0		
Sub-Total	17,350	3.3		
Total	91,300	17.3		
Booster Stations				
Booster Station ID	Pump No.	Head (ft)	Flow (gpm)	
North System				
Zone 1 Pump Station (Area 93)	1	295	1,200	
	2	295	1,200	
	3	295	1,200	
	4	295	1,200	
	5	295	1,200	
	Total Capacity	6,000 gpm / 8.6 mgd		
	Firm Capacity	4,800 gpm / 6.9 mgd		
Zone 2 Pump Station (Christmas Hill)	1	276	1,375	
	2	276	1,375	
	3	276	1,375	
	Total Capacity	4,125 gpm / 5.9 mgd		
	Firm Capacity	2,750 gpm / 4.0 mgd		
South System				
South Zone Pump Station (Area 94)	1	170	2,100	
	2	170	2,100	
	3	170	2,100	
	Total Capacity	6,300 gpm / 9.0 mgd		
	Firm Capacity	4,200 gpm / 6.0 mgd		
Tanks				
Tank ID	Height (ft)	Diameter (ft)	Volume (MG)	Base Elevation (ft)
WWTP Reservoir	22.5	150	3.0	160
North System Tank (Hoylake)	22.5	105	1.5	385

1/12/2023



Table 2 Existing Recycled Water System Demands  
Recycled Water Distribution System Master Plan  
Santa Clara Valley Water District

User No.	Customer Name	Meter Number	Usage Type	System	Zone <sup>1</sup>	Hours of Usage		Annual Demand <sup>1</sup>		Maximum Month Demand <sup>2</sup>	Maximum Day Demand <sup>3</sup>	Peak Hour Demand <sup>4,5</sup>
						(period)	(hrs)	(AFY)	(gpm)	(gpm)	(gpm)	(gpm)
Existing Users - North System												
1	Christmas Hill Park - (North)	893178	Irrigation	North	1	10pm - 7am	9	19.2	11.9	25.3	31.5	83.9
2	Christmas Hill Park - (Ranch)	70020157	Irrigation	North	1	10pm - 7am	9	10.6	6.6	12.4	15.4	41.2
3	Calpine Power Plant - Cogen	64897928	M&I	North	1	24hr	24	97.9	60.7	153.0	190.4	190.4
4	Calpine Power Plant - Peaker	61767407	M&I	North	1	24hr	24	4.6	2.9	9.7	12.1	12.1
5	McCarthy Business Park - NE	65660171	Irrigation	North	1	9pm - 7am	10	11.8	7.3	10.3	12.9	30.9
6	McCarthy Business Park - NW	64308108	Irrigation	North	1	9pm - 7am	10	0.0	0.0	0.0	0.0	0.0
7	United Natural Food SW	66435006	Irrigation	North	1	10pm - 7am	9	8.4	5.2	7.9	9.8	26.2
7a	United Natural Food SE	66435007	Irrigation	North	1	-	-	-	-	-	-	-
8	B&T Farms	904393	Agricultural	North	1	6am - 12pm and 4pm to 10pm	12	164.2	101.8	390.7	486.4	972.7
9	B&T Farms (West)	994024-8	Agricultural	North	1	6am - 12pm and 4pm to 10pm	12	67.3	41.8	116.9	145.5	291.0
10	Gilroy Police Dept. Shooting Range	60852362	Irrigation	North	1	7am - 11pm	16	0.2	0.1	0.1	0.2	0.3
11	City of Gilroy Sports Park	77132138	Irrigation	North	1	10pm - 7am	9	38.1	23.7	44.0	54.8	146.2
12	Eagle Ridge Golf Course	892545	Irrigation	North	2	6am - 2pm	8	532.3	330.0	515.4	641.5	1,924.5
13	Gilroy Golf Course	84633020	Irrigation	North	2	9pm - 6am	9	82.4	51.1	158.0	196.6	524.3
14	Heartland Owners Association (HOA) #1	78846906	Irrigation	North	2	10pm - 6am	8	2.2	1.3	5.2	6.5	19.4
15	Heartland West #8	64926314	Irrigation	North	2	10pm - 6am	8	7.3	4.5	6.7	8.4	25.1
16	Heartland Gardens #11	65939514	Irrigation	North	2	10pm - 6am	8	13.3	8.3	18.2	22.7	68.1
17	City of Gilroy #12	63267486	Irrigation	North	2	10pm - 7am	9	5.3	3.3	11.6	14.4	38.5
18	City of Gilroy #10	65939449	Irrigation	North	2	10pm - 6am	8	9.3	5.8	13.0	16.2	48.5
19	City of Gilroy #9	63267477	Irrigation	North	2	10pm - 6am	8	15.7	9.7	12.0	14.9	44.7
20	City of Gilroy #7	81877686	Irrigation	North	2	10pm - 6am	8	5.3	3.3	7.0	8.7	26.2
21	Santa Teresa & Third Street Park (City of Gilroy #6)	81877638	Irrigation	North	2	10pm - 6am	8	5.2	3.2	5.8	7.2	21.5
22	City of Gilroy #5	79448993	Irrigation	North	2	10pm - 6am	8	4.5	2.8	5.1	6.3	19.0
23	City of Gilroy #4	78255939	Irrigation	North	2	10pm - 6am	8	0.0	0.0	0.0	0.0	0.0
24	City of Gilroy #3	78846903	Irrigation	North	2	10pm - 6am	8	0.0	0.0	0.0	0.0	0.0
25	City of Gilroy #2	78293084	Irrigation	North	2	10pm - 7am	9	5.5	3.4	7.5	9.3	24.8
						Existing Users - North Subtotal		1,111	689	1,536	1,912	3,782
Temporary Construction Users - North System												
26	Overaa Construction	-	Construction	North	1	7am - 3:30pm	8.5	-	-	-	-	-
27	Tri Pointe (North)	1567721	Construction	North	1	7:30am - 5pm	9.5	1.8	1.1	1.1	1.4	3.5
28	Tri Pointe (South)	1590955	Construction	North	1	7:30am - 5pm	9.5	2.0	1.3	1.3	1.6	4.1
29	Trinchero Construction Company	A1068	Construction	North	2	7am - 3:30pm	8.5	0.9	0.6	0.6	0.7	2.1
Existing Users - South System												
30	San Felipe Farms - Sheldon Turnout	135164	Agricultural	South	-	6am - 12pm and 6pm - 12am	12	108.0	67.0	171.5	410.5	820.9
31	San Felipe Farms - Henry #1	134051	Agricultural	South	-	6am - 12pm and 6pm - 12am	12	0.0	0.0	0.0	0.0	0.0
32	San Felipe Farms - Henry #2	78334101	Agricultural	South	-	6am - 12pm and 6pm - 12am	12	0.0	0.0	0.0	0.0	0.0
33	San Felipe Farms - Henry #3	20091455-08	Agricultural	South	-	6am - 12pm and 6pm - 12am	12	0.0	0.0	0.0	0.0	0.0
34	San Felipe Farms - Limos #1	135116	Agricultural	South	-	6am - 12pm and 6pm - 12am	12	59.0	36.6	202.0	483.4	966.8
35	San Felipe Farms - Limos #2	135115	Agricultural	South	-	6am - 12pm and 6pm - 12am	12	96.6	59.9	208.7	499.6	999.2
36	San Felipe Farms - Limos #3	135711	Agricultural	South	-	6am - 12pm and 6pm - 12am	12	2.1	1.3	4.4	10.6	21.2
37	San Felipe Farms	862840	Agricultural	South	-	6am - 12pm and 6pm - 12am	12	0.0	0.0	0.0	0.0	0.0
						Existing Users - South Subtotal		266	165	587	1,404	1,988
WWTP Utility Water <sup>6</sup>						24hr	24	961.2	597.0	716.0	629.0	786.3
						Total		2,338	1,450	2,838	3,945	6,557

AKEL



3/1/2024

Notes:

- 1. Annual demands are based on monthly billing records from June 2021 to May 2022 and adjusted to production
- 2. Billing records from June 2021 to May 2022 were used to develop peak month factors for each user.
- 3. Maximum Day Demands were derived using SCADA from peak month of July to develop a MDD to MMD peaking factor for north and south users.
- 4. Peak hour demand was estimated using the formula PHD=(24/hours of permitted usage) x MDD
- 5. User peak hour demands are not additive, peak hour demand sub-totals and totals based on hours of operation
- 6. WWTP utility water historically peaks in the winter months, the MDD and PHD documented is based on max usage observed in SCADA from July 2021 (recycled water system maximum month).

Table 3 Potential Recycled Water Users  
Recycled Water Distribution System Master Plan  
Santa Clara Valley Water District

Customer Name <sup>1</sup>	Usage Type	System	Zone	Hours of Usage	Hours	Site Area  (acres)	Average Demand <sup>2</sup>  (gpm)	Maximum Month Demand <sup>3</sup>  (gpm)	Maximum Day Demand <sup>3</sup>  (gpm)	Peak Hour Demand <sup>4</sup>  (gpm)
Baseline System - Potential Users										
Gilroy Data Center	M&I	North	1	12am-12am	24	56.3	13.0	37.7	305.6	305.6
Glen Loma Ranch Development	Irrigation	North	1	10pm-7am	9	318.7	18.0	41.4	52.2	139.2
International Paper	M&I	North	1	8am-5pm	9	20.0	10.2	29.6	37.7	100.6
Vineyard Christian School	Irrigation	North	2	10pm-7am	9	3.3	4.0	9.2	11.6	30.9
Ascension Solorsano Middle School	Irrigation	North	1	10pm-7am	9	17.0	17.0	39.1	49.3	131.5
Gilroy Sports Park Expansion	Irrigation	North	1	10pm-7am	9	10.6	10.0	23.0	29.0	77.3
Gilroy Sports Park (Agriculture)	Agricultural	North	1	6am-5pm	11	5.7	21.0	75.6	113.4	247.4
Pacheco Pass Shopping Center	Irrigation	North	1	10pm-7am	9	67.0	3.4	7.7	9.7	25.9
Sydney Casper Park	Irrigation	North	1	10pm-7am	9	3.3	8.0	18.4	23.2	61.9
Syngenta	Irrigation	North	2	8am-5pm	9	29.1	12.0	27.6	34.8	92.8
Santa Teresa & Third Street Park	Irrigation	North	2	10pm-7am	9	2.2	8.0	18.4	23.2	61.9
City Park (Hecker Pass)	Irrigation	North	2	10pm-7am	9	2.0	8.0	18.4	23.2	61.9
Las Animas Elementary	Irrigation	North	1	10pm-7am	9	8.1	8.0	18.4	23.2	61.9
City Park (Santa Teresa Blvd and Club Drive)	Irrigation	North	2	10pm-7am	9	4.8	8.0	18.4	23.2	61.9
Cintas Corporation	M&I	North	1	24hr	24	2.2	74.0	214.6	273.8	273.8
Gilroy Gardens	Irrigation	North	2	10pm-7am	9	136.8	105.0	241.5	304.5	812.0
Western Tree Nursery	Irrigation	North	2	24hr	24	160.4	371.0	853.3	1,075.9	1,075.9
Gilroy High School	Irrigation	North	1	10pm-7am	9	55.4	48.0	110.4	139.2	371.2
Bonfante Nurseries	Agricultural	South	-	6am-5pm	11	44.9	133.0	478.8	718.2	1,567.0
Christopher Ranch	Agricultural	South	-	6am-5pm	16	149.4	233.0	838.8	1,258.2	1,887.3
Sub-Total							1,113	3,120	4,529	7,448
Long-Term Potential Users										
Gilroy Gardens	Irrigation	North	3	10pm-7am	9	136.8	105.0	241.5	304.5	812.0
Western Tree Nursery	Irrigation	North	3	24hr	24	160.4	371.0	853.3	1,075.9	1,075.9
Sub-Total							476	1,095	1,380	1,888
Total							1,589	4,215	5,910	9,336



3/1/2024

- Notes:
1. This table represents users within close proximity to existing recycled water pipelines and planned baseline system that have a potential for using recycled water
  2. Average day demands were obtained from the 2015 South County Recycled Water Master Plan.
  3. Maximum month and day peaking factors are based on billing records from June 2021 to May 2022 for similar use types (Ag, M&I, and Irrigation).
  4. Peak hour demand was estimated using the formula  $PHD=(24/\text{hours of permitted usage}) \times MDD$

**Table 4 Recycled Water System Criteria**  
 Recycled Water Distribution System Master Plan  
 Santa Clara Valley Water District

Distribution System Performance Criteria	
Pipe Headloss	< 4 ft/kft
Pipe Velocity	< 5 fps
Minimum Pressure	35 psi
Normal Pressure Range	60 to 120 psi
Pump Station Performance Criteria	
Pressure Zone with Storage	Meet maximum day demand with largest unit out of service.
Pressure Zones without Storage	Meet peak hour demands with largest unit out of service.
Demand Peaking Factors	
Maximum Day Demand	
Agricultural Users	5.4 x ADD
M&I Users	3.7 x ADD
Irrigation Users	2.9 x ADD

3/1/2024



**Table 5 Morgan Hill Recycled Water Options**

Recycled Water Distribution System Master Plan  
Santa Clara Valley Water District

Options <sup>1,2,3</sup>	Brief Description	Portfolio	Major Infrastructure	Costs <sup>4,5</sup>	Likelihood	Feasibility	Advantages	Disadvantages
1	2	3	4	5	6	7	8	9
<b>Option 1</b>	Option 1a: Direct Potable Reuse via Treated Water Augmentation into water system (via Satellite WWTP and AWWP)	1,100 - 2,900 AFY	Satellite WWTP and AWWP Facility	\$120M	Med./Low	Med./Low	- Less pipeline infrastructure required	- DPR recycled water regulations have not been adopted - High Cost of Infrastructure (satellite WWTP and AWWP) - Additional solids loading and reduced recycled water availability at SCRWA - High O&M Costs
	Option 1b: Direct Potable Reuse via Treated Water Augmentation into water system (via purified water pumped from SCRWA)	1,100 - 2,900 AFY	AWPF at SCRWA, 12 miles of 24-inch pipeline, pump station	\$150M	Med./Low	Med./Low	- Less O&M costs than a satellite WWTP/AWWP	- Current recycled water regulations - High Cost of Infrastructure (AWPF, pipelines, and pump station) - Additional solids loading and reduced recycled water availability at SCRWA
<b>Option 2</b>	NPR+ from South Bay Water Recycling	Delivers 2,900 AFY of NPR+ from SBWR to a new Morgan Hill recycled water system	16 miles of 16-inch pipeline	\$80M	Med./Low	Med.	- Availability of Water - Less O&M costs than a satellite plant and AWWP - Lowest cost opportunity	- Requires agreement with San Jose - High Cost of Infrastructure - Potentially high cost of water due to long distance pumping
<b>Option 3</b>	Satellite Advanced Water Purification Facility (AWPF) for Groundwater Recharge (GWR)	Delivers 1,900 AFY from a Morgan Hill 2.5-mgd satellite WWTP and 2.1-mgd AWWP to recharge facilities in Morgan Hill for GWR	Satellite WWTP and AWWP Facility 3 miles of 16-inch pipeline	\$140M	Low	Low	Groundwater recharge in Morgan Hill	- High Cost of Infrastructure (satellite plant, AWWP, and pipelines) - Inability to meet existing Customer demands during peak demand periods - Inadequate flow in sewer collection system could create odor and clogging problems - Resulting sludge loading and reduced flow could substantially change composition of WWTP influent potentially leading to compliance issues - High O&M Costs
<b>Option 4</b>	Satellite Advanced Water Purification Facility (AWPF) for Surface Water Augmentation (SWA)	Delivers 1,900 AFY from a Morgan Hill 2.5-mgd satellite WWTP and 2.1-mgd AWWP to Anderson Reservoir for SWA	Satellite WWTP and AWWP Facility 6 miles of 16-inch pipeline	\$160M	Low	Low	Surface Water Augmentation in Anderson Reservoir	- High Cost of Infrastructure (satellite plant, AWWP, and pipelines) - Inability to meet existing Customer demands during peak demand periods - Inadequate flow in sewer collection system could create odor and clogging problems - Resulting sludge loading and reduced flow could substantially change composition of WWTP influent potentially leading to compliance issues - High O&M Costs
<b>Option 5</b>	Pumping Recycled Water from SCRWA to a Morgan Hill Recycled Water System (RW Master Plan - Alt 1 or 2)	Delivers 3,000 AFY NPR water from SCRWA to Morgan Hill	9 miles of 24-inch pipeline, 4 miles of distribution pipelines, pump station	\$75M	Low	Med./Low	- RW Service to Morgan Hill - Less O&M costs than a satellite plant	- High Cost of Infrastructure (Pipelines, and Pump Station) - Availability of RW during peak usage
<b>Option 6</b>	Pumping Recycled Water from SCRWA to Morgan Hill for Groundwater Recharge (RW Master Plan - SCVWA IPR to Butterfield)	Delivers 3,000 AFY of AWWP water from SCRWA for IPR in Butterfield Channel	AWPF at SCRWA, 12 miles of 24-inch pipeline, pump station	\$146M	Low	Med./Low	RW Groundwater recharge in Morgan Hill	- High Cost of Infrastructure (AWPF, Pipelines, EIR, CalTrans Permits for crossing Hwy 101, and a Pump Station)

Notes:

- Option 1a and 1b are potential future options depending on changes in the recycled water regulations
- Options 2, 3, 4 were extracted from the 2020 Countywide Water Reuse Master Plan (CoRe Plan)
- Options 5 and 6 were extracted from the 2019 Sustainable Water Management Plan
- Costs documented have been escalated to April 2023 (ENR 13230)
- Costs for each option and are order of magnitude. Cost information for Options 1a, 2, 3, and 4 are based on the CoRe Plan and Options 1b, 5, and 6 are based on the 2015 Recycled Water Master Plan

2/28/2024

**Table 6 Baseline System Improvement Summary**

Recycled Water Distribution System Master Plan

Santa Clara Valley Water District

Scenario	Demands		Distribution System Improvement Summary
	Maximum Day	(mgd)	
Existing	5.7 mgd		-
Baseline System: Imminent -Term	5.7 mgd		<b>Imminent Term Distribution System Improvements:</b> <ul style="list-style-type: none"> <li>Recent Construction: 13,650 feet of 30-inch diameter pipeline</li> <li>Constructed but Inactive: 6,120 feet of 30-inch diameter pipeline 770 feet of 16-inch diameter pipeline 640 feet of 12-inch diameter pipeline</li> <li>Near-Term: 2,450 feet of 18-inch diameter pipeline</li> </ul>
Baseline System: Near - Term	6.1 mgd		<b>Near-Term Distribution System Improvements:</b> <ul style="list-style-type: none"> <li>960 feet of 30-inch diameter pipeline (plus 100' pipe casing)</li> </ul> <b>Planned WWTP Recycled Water Projects:</b> <ul style="list-style-type: none"> <li>Reservoir Expansion (Additional 3 MG)</li> <li>New Reservoir Pump Station</li> <li>1,500 feet of on-site piping</li> </ul>
Conceptual Baseline Buildout: Long - Term <sup>1</sup>	11.7 mgd		<b>Long-Term Distribution System Improvements:</b> <ul style="list-style-type: none"> <li>5,870 feet of 24-inch diameter pipeline</li> <li>6,930 feet of 18-inch diameter pipeline</li> <li>New 1.5 MG Zone 2 Tank</li> <li>New 1,500 gpm (Firm) Zone 3 Pump Station</li> <li>Christmas Hill Pump Station Capacity Upgrade to 5.5 mgd</li> <li>Area 93 Pump Station Firm Capacity Upgrade to 9.3 mgd</li> </ul>

Notes:

12/1/2023

1. Long-Term recycled water usage dependent on wastewater influent flow increase plus treatment capacity

## Table 7 Cost Estimating Criteria

Recycled Water Distribution System Master Plan

Santa Clara Valley Water District

Pipe Size (Inner Diameter)	Unit Costs <sup>1</sup>
(in)	(\$/lineal foot)
8	187
10	211
12	253
14	283
16	304
18	312
24	400
30	500
36	560
<b>Pump Stations</b>	
<b>Pump Station Within WWTP or Upgraded Capacity at Existing Site</b>	
Estimated Pumping Station Project Cost = $1.2 * 10^{(0.7583 * \log(Q) + 3.1951)}$ ; where Q is in gpm	
<b>New Pump Station Outside WWTP</b>	
Estimated Pumping Station Project Cost = $2.4 * 10^{(0.7583 * \log(Q) + 3.1951)}$ ; where Q is in gpm	
<b>Storage Reservoirs (\$/gal)</b>	
Earthwork, Lined and Covered Storage Pond	\$0.25
Steel Tank - Above Ground	
≤ 1.0 MG	\$2.69
1.1 MG - 3.0 MG	\$2.15
3.1 MG - 5.0 MG	\$1.55
> 5.0 MG	\$1.16
<b>Costs Estimating Contingencies<sup>2</sup></b>	
Estimating	20%
Construction	20%
Administration	30%

**AKEL**  
ENGINEERING GROUP, INC.

12/22/2023

Notes:

- Construction costs estimated using August 2022 ENR CCI of 13,171.
- Contingencies:
  - Estimating contingency of 20% to account for unforeseen events and unknown conditions.
  - Construction contingency of 20% to account for engineering design and construction management and inspection.
  - Administration contingency of 30% to account for administration and legal costs.

Table 8 Capital Improvement Program  
Recycled Water Distribution System Master Plan  
Santa Clara Valley Water District

Itemized Cost Estimate														
Improvement Number	Pressure Zone	Type of Improv.	Street	Limits	Pipeline and Appurtenances Costs				Baseline Construction Cost (\$)	Estimating Contingency Cost <sup>3</sup> (\$)	Construction Contingency Cost <sup>4</sup> (\$)	Administration Contingency Cost <sup>5</sup> (\$)	Total Estimated Capital Cost (\$)	
					Diam. (in)	Length (ft)	Unit Cost <sup>2</sup> (\$)	Pipe Cost (\$)						
Recent Construction Improvements														
Distribution System														
P-1	North - Zone 1	Pipe	Through Agriculture Fields ROW	Southside Dr. to Luchessa Ave.					Cost extraced from bid tabs - Phase 1B, 2A, 2B					21,300,000
P-2	North - Zone 1	Pipe	Luchessa Avenue	Agriculture ROW to Greenfield Dr					Recent Construction Subtotal					21,300,000
Near-Term Improvements														
Distribution System														
P-3	North - Zone 1	Pipe	Luchessa Avenue/Cameron Boulevard	Luchessa Ave to Princeville Drain					Cost extraced from bid tabs - Phase 1C					1,700,000
P-4	North - Zone 1	Pipe	Luchessa Avenue	W 10th St to Miller Ave	30	960	500	480,000	480,000	96,000	96,000	144,000	820,000	
P-4a	North - Zone 1	Casing	Luchessa Avenue	Reservoir Canyon Creek Crossing	42	100	705	70,500	70,500	14,100	14,100	21,150	120,000	
									Distribution System Subtotal					2,640,000
Other On-Site WWTP Recycled Water Projects														
WWTP-1	WWTP	Lined Reservoir <sup>1</sup>	Recycled Water Reservoir Expansion (Additional 3 MG)		3.0 MG				2,060,000	412,000	412,000	618,000	3,500,000	
WWTP-2	WWTP	Pump Station <sup>1</sup>	New Reservoir Pump Station						815,000	163,000	163,000	244,500	1,390,000	
WWTP-3	WWTP	Pipe	On-Site Pipelines						500,000	100,000	100,000	150,000	850,000	
									WWTP On-Site Subtotal					5,740,000
											Near-Term Subtotal			8,380,000
Long-Term Improvements														
Distribution System														
P-5	North - Zone 2	Pipe	ROW through Home Ranch Development	Zone 2 Pump Station Outlet to Uvas Creek	24	4,250	400	1,700,000	1,700,000	340,000	340,000	510,000	2,890,000	
P-6	North - Zone 2	Pipe	Santa Teresa Boulevard	Uvas Creek to Cobblestone Ct	24	1,620	400	648,000	648,000	129,600	129,600	194,400	1,100,000	
LT-P-8	North - Zone 2	Pipe	Uvas Creek ROW/Gilroy Gardens Service Rd	Meritage Loop to New Zone 2 Tank Site/Zone 3 PS (Elev. 383)	18	3,700	312	1,154,400	1,154,400	230,880	230,880	346,320	1,960,000	
LT-P-9	North - Zone 2	Pipe	Gilroy Gardens ROW	New Zone 2 Tank Site/Zone 3 PS to Lake Kathryne	18	3,230	312	1,007,760	1,007,760	201,552	201,552	302,328	1,710,000	
LT-T1	North - Zone 2	Tank <sup>1</sup>	Gilroy Gardens	Zone 2 Storage Expansion	1.5 MG			3,225,551	3,225,551	645,110	645,110	967,665	5,480,000	
LT-BS1	North - Zone 3	Pump Station <sup>1</sup>	2 x 750 gpm Duty + 750 gpm Standby		2,250 gpm (total)			1,310,000	1,310,000	262,000	262,000	393,000	2,230,000	
LT-BS2	North - Zone 2	Pump Station <sup>1</sup>	Christmas Hill Capacity Upgrade		5.5 mgd (total)			978,390	978,390	195,678	195,678	293,517	1,660,000	
LT-BS3	North - Zone 1	Pump Station <sup>1</sup>	North (Area 93) Recycled Water Pump Station Upgrade		9.3 mgd (total)			1,457,121	1,457,121	291,424	291,424	437,136	2,480,000	
											Long-Term Subtotal			19,510,000
Capital Improvement Summary														
Note: 1. Tank and pump station pricing can vary widely with site conditions. 2. Cost estimates are based on the Engineering News Record (ENR) construction cost index (CCI) of 13171 for the 20 cities for August 2022. 3. Baseline construction cost plus 20% to account for unforeseen events and unknown conditions (Estimating Contingency). 4. Baseline construction cost plus 20% to cover other costs including: engineering design, construction management, and inspection (Construction Contingency). 5. Baseline construction cost plus 30% to account for project administration (developer and City staff) and legal costs (Administration Contingency).														
											Recent Construction: 21,300,000			
											Immediate and Near-Term Subtotal: 8,380,000			
											Estimated Total: 49,190,000			



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# Santa Clara Valley Water District

File No.: 24-0328

Agenda Date: 4/3/2024

Item No.: 4.2.

## COMMITTEE AGENDA MEMORANDUM Joint WRC with Cities of Gilroy/Morgan Hill/SCRWA

Government Code § 84308 Applies: Yes ☐ No ☒  
(If "YES" Complete Attachment A - Gov. Code § 84308)

### SUBJECT:

Receive Information on Valley Water's Proposed FY 2024-25 Groundwater Production Charges and Provide Feedback.

### RECOMMENDATION:

Receive information on Valley Water's proposed FY 2024-25 groundwater production charges and provide feedback.

### SUMMARY:

#### Summary of Groundwater Production Charge Analysis

Staff has prepared Valley Water's recommended Fiscal Year 2024 - 2025 (FY 2024-25) groundwater production charge analysis, which included several scenarios presented to the Board on January 9, 2024. Staff sought Board input on the preliminary analysis to incorporate into the development of the groundwater production charge recommendation.

The groundwater production charge recommendation is detailed in the 53<sup>rd</sup> Annual Report on the Protection and Augmentation of Water Supplies that was filed with the Clerk of the Board on February 23, 2024. The public hearing on groundwater production charges is scheduled to open on April 9, 2024. It is anticipated that the Board will set the FY 2024-25 groundwater production charges by May 14, 2024, and those charges will become effective on July 1, 2024. The Protection and Augmentation of Water Supplies (PAWS) report can be found at [www.valleywater.org](http://www.valleywater.org) <<http://www.valleywater.org>>. The FY 2024-25 groundwater production charge and surface water charge setting process will be conducted consistent with the District Act requirements, and Board Resolutions 99-21 and 12-10.

The groundwater production charge reflects the benefit of Valley Water activities to protect and augment groundwater supplies and is applied to water extracted from the groundwater basin in Zones W-2, W-5, W-7, and W-8. Zone W-2 encompasses the Santa Clara groundwater subbasin north of Metcalf Road or the North County. Zone W-5 overlays the Llagas subbasin from northern

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Morgan Hill south to the Pajaro River. Zone W-7 overlays the Coyote Valley south of Metcalf Road to northern Morgan Hill, and W-8 encompasses the area below Uvas and Chesbro Reservoirs.

### Water Use Assumptions

District managed water use for FY 2022-23 was approximately 197,600 acre-feet (AF), roughly 6,100 AF higher than budgeted due to a slight increase in water use at the conclusion of the drought. Water use is budgeted slightly higher for FY 2023-24 at 207,000 AF. In FY 2024-25 and beyond, water usage has been adjusted based on trends from the last drought (2014-2017). Returning to “normal” water use is projected by FY 2025-26, with water usage projected to be 222,000 AF for FY 2024-25.

### Groundwater Production Charge Projection

Staff prepared an initial baseline groundwater production charge projection scenario for Board review, with several additional scenarios including a lower water use scenario and scenarios reflecting a range of assumptions for several capital investments.

Recommended groundwater production charge assumptions are outlined below and result in the following rate changes for FY 2024-25 Municipal and Industrial (M&I) groundwater production charges: in the North County Zone W-2 an increase of 12.9%; in the South County, increases of 6.6% for Zone W-5, 14.2% for Zone W-7, and 8.0% for Zone W-8.

The overall impact of the recommended groundwater production charges for FY 2024-25 on the average household would be an estimated increase of \$8.78 per month in North County, \$1.22 per month in South County Zone W-5, \$3.20 per month in South County in Zone W-7, and \$1.10 per month in South County in Zone W-8.

The recommended groundwater production charges include the following projects and assumptions:

1. Conservation: voluntary conservation continues, with water use returning to prior projections by FY 2025-26; FY 2024-25 water use is projected at 222 thousand acre-feet (TAF);
2. Anderson Reservoir leveraging Water Infrastructure Finance and Innovation Act (WIFIA) loans (up to 49% of total project costs [TPC]);
3. Pacheco Reservoir Expansion Project with \$504M Proposition 1 grants, WIFIA loans (up to 49% of TPC) and Partnership Participation at 35% of TPC;
4. Funding 3.23% of Delta Conveyance Project costs;
5. Dam Safety Program (preliminary placeholder) for Almaden, Calero, Coyote & Guadalupe Dams;
6. B.F. Sisk Dam Raise and Reservoir Expansion Project - up to 60 TAF storage;
7. Master Plan Project Placeholder: assumes \$326M in anticipated costs from FY 2025-26 to FY 2033-34 for new pipelines, pipeline rehabilitations, treatment plant upgrades, and SCADA implementation projects; and,

- 
8. Agricultural rates set at or below 10% of the lowest groundwater benefit zone M&I rate (Zone W-8).

**Other Assumptions**

The recommended groundwater production charges assume that Valley Water will continue to pay for 100% of its State Water Project (SWP) costs through the SWP Tax, due to the significant impact of paying for SWP costs through water charges. The SWP Tax for FY 2024-25 is assumed at \$28M for the purpose of this analysis. The SWP Tax for the average household in Santa Clara would be about \$42 per year.

**ENVIRONMENTAL JUSTICE AND EQUITY IMPACT:**

There are no environmental justice and equity impacts associated with this item at this time.

**ATTACHMENTS:**

Attachment 1: PowerPoint

**UNCLASSIFIED MANAGER:**

Darin Taylor, 408-630-3068



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FISCAL YEAR 2024-25

# Recommended Groundwater Production Charges

Presented by:

Carmen Narayanan, Financial Planning and Revenue Unit Manager  
Joint Water Resources Committee – Cities of Gilroy and Morgan Hill

April 3, 2024

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Valley Water

Attachment 1, Page 1 of 22

# Topics for Today's Meeting

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**Background**

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**Water Usage**

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**Key Assumptions for FY 2024-25**

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**Groundwater Production Charges**

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**Schedule/Wrap up**



# 53<sup>rd</sup> Annual Report Released

**Annual Protection and Augmentation of  
Water Supplies Report provides  
information & accountability**

Filed February 23, 2024

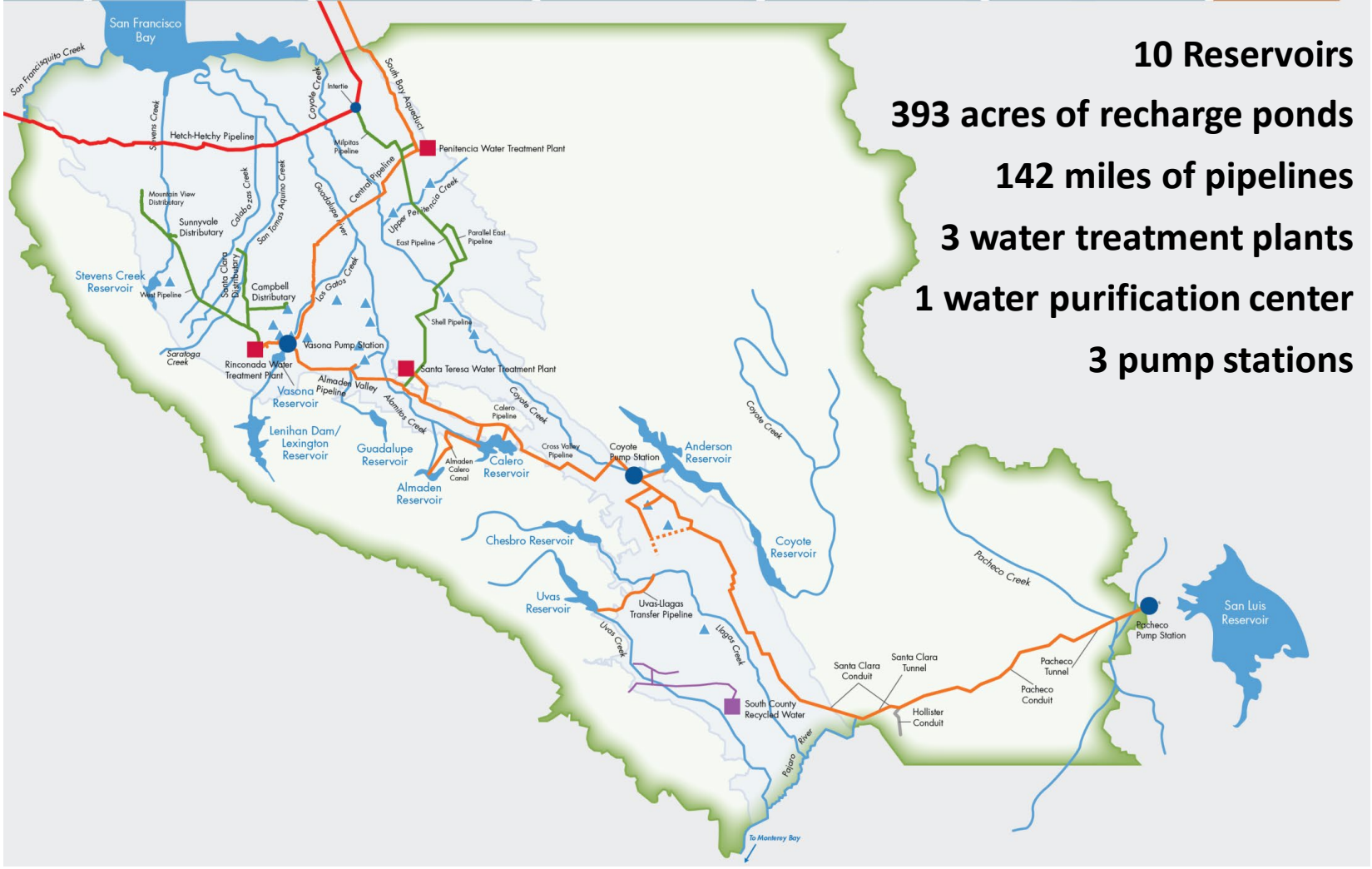
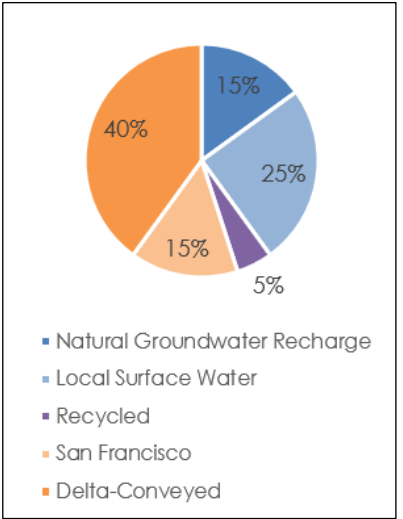
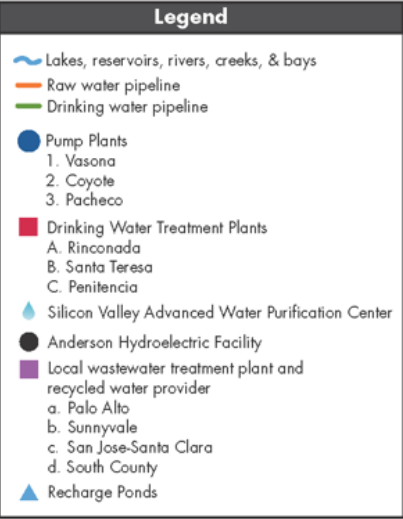
Available Online:

<https://www.valleywater.org/ProposedWaterCharges>



# A comprehensive, flexible water system

## SERVING OVER 2.0 MILLION PEOPLE

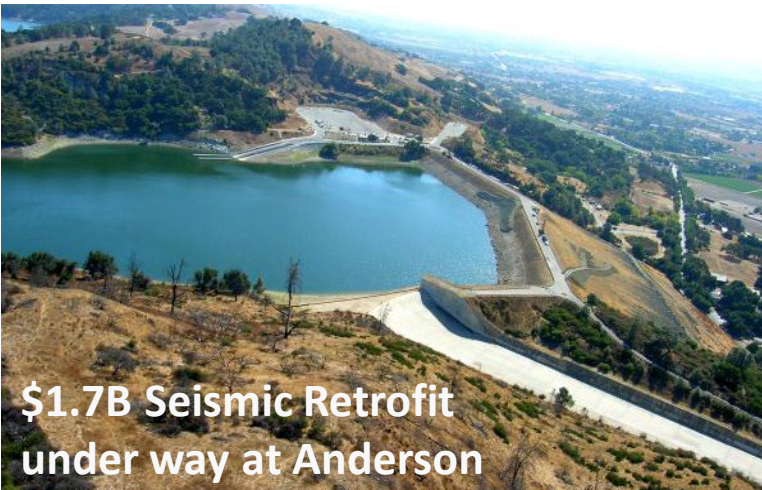




# Why do well owners pay SCVWD to pump water from the ground?

5

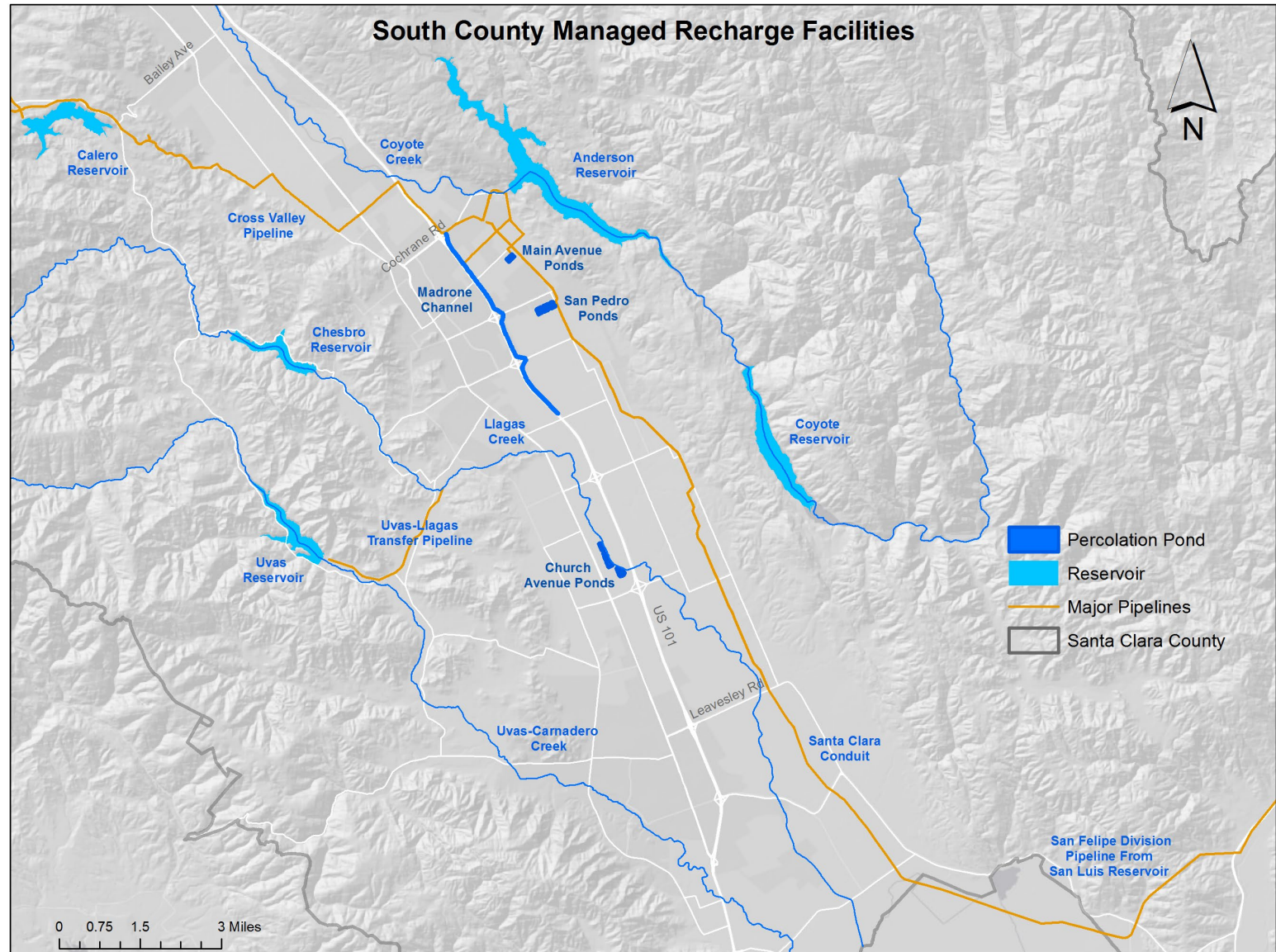
**Construction at Anderson Reservoir, 1951**



**\$1.7B Seismic Retrofit under way at Anderson**

- **Local rainfall cannot sustain South County water needs**
- **Planning in early 1900's called for construction of reservoirs to capture rainwater to percolate into the ground**
- **Groundwater Production Charge is a reimbursement mechanism**
  - **Pays for efforts to protect and augment water supply**
  - **Fee for service, not a tax**

# South County facilities help ensure reliability



**Main Avenue  
Recharge Ponds**

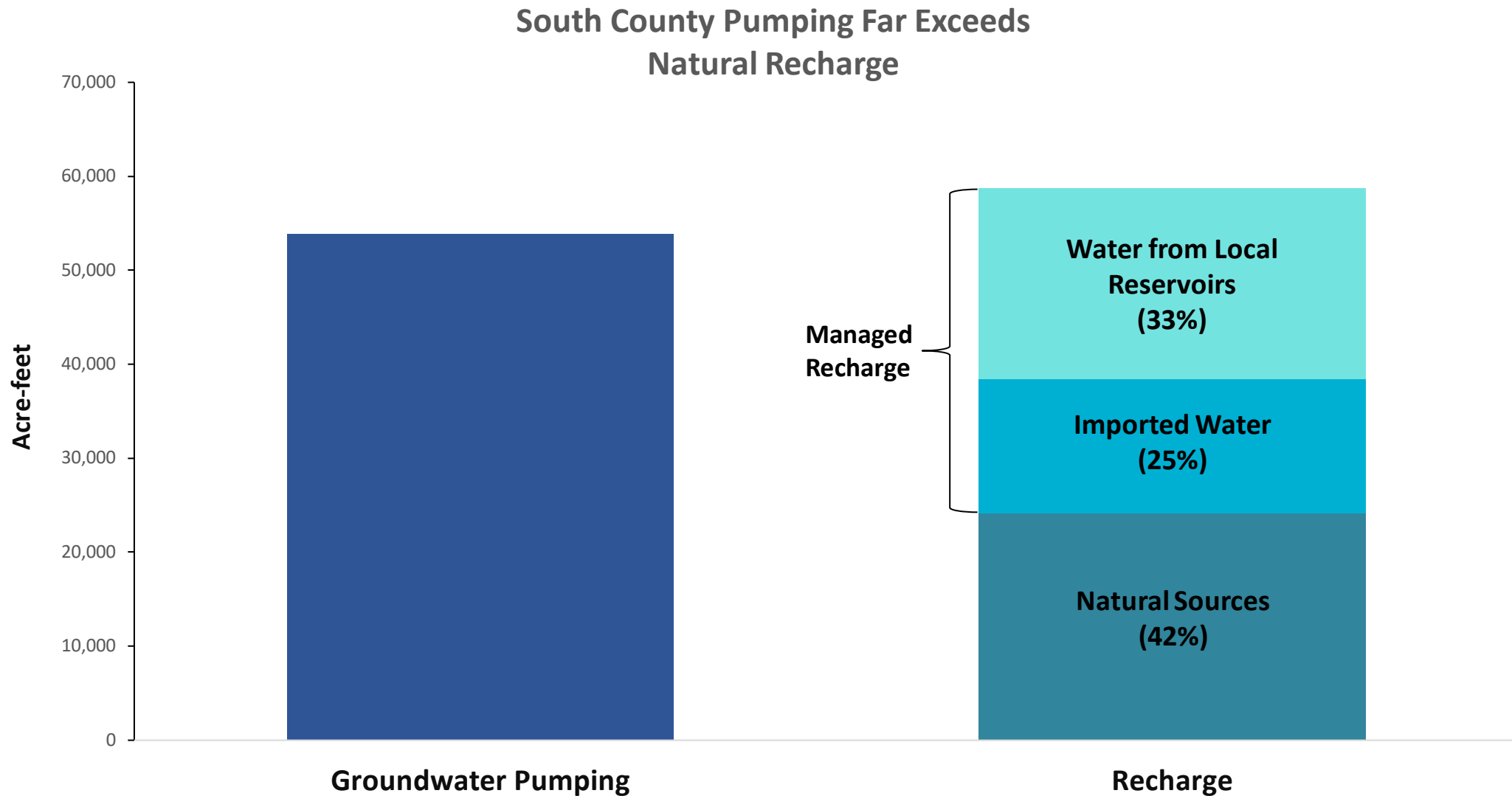


**Madrone Channel**



# Recharge needed to offset groundwater pumping

7



Based on average annual data from 2013 to 2022

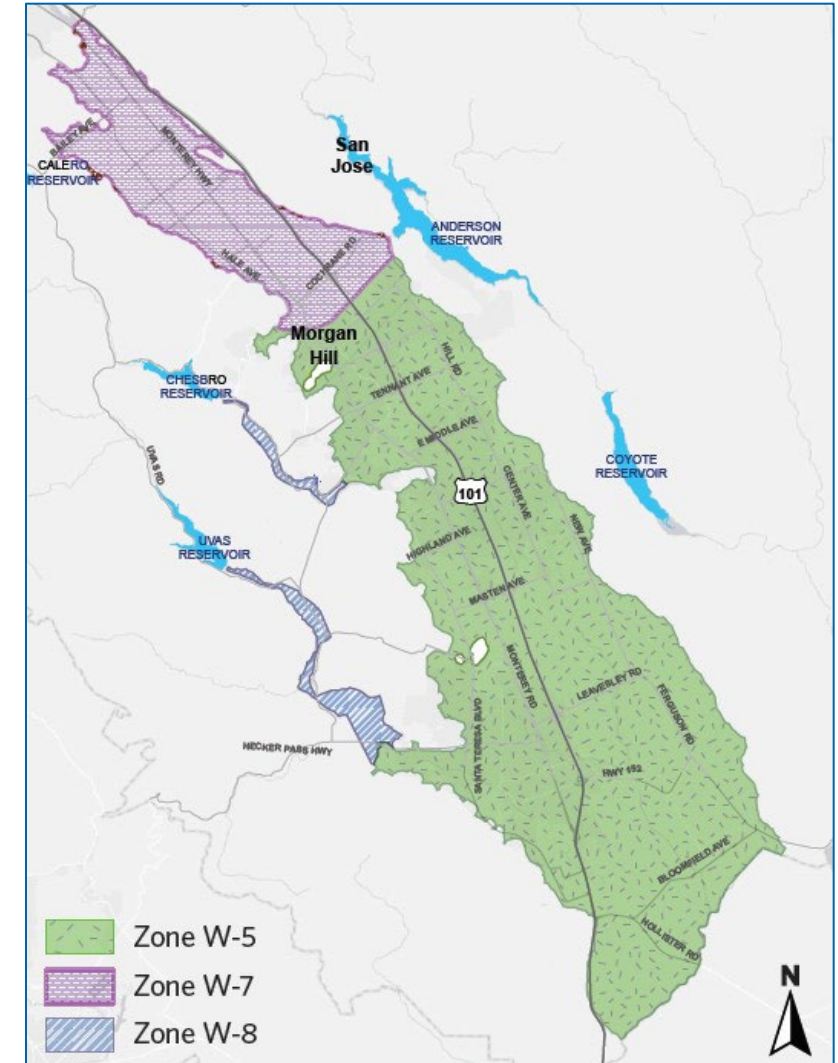
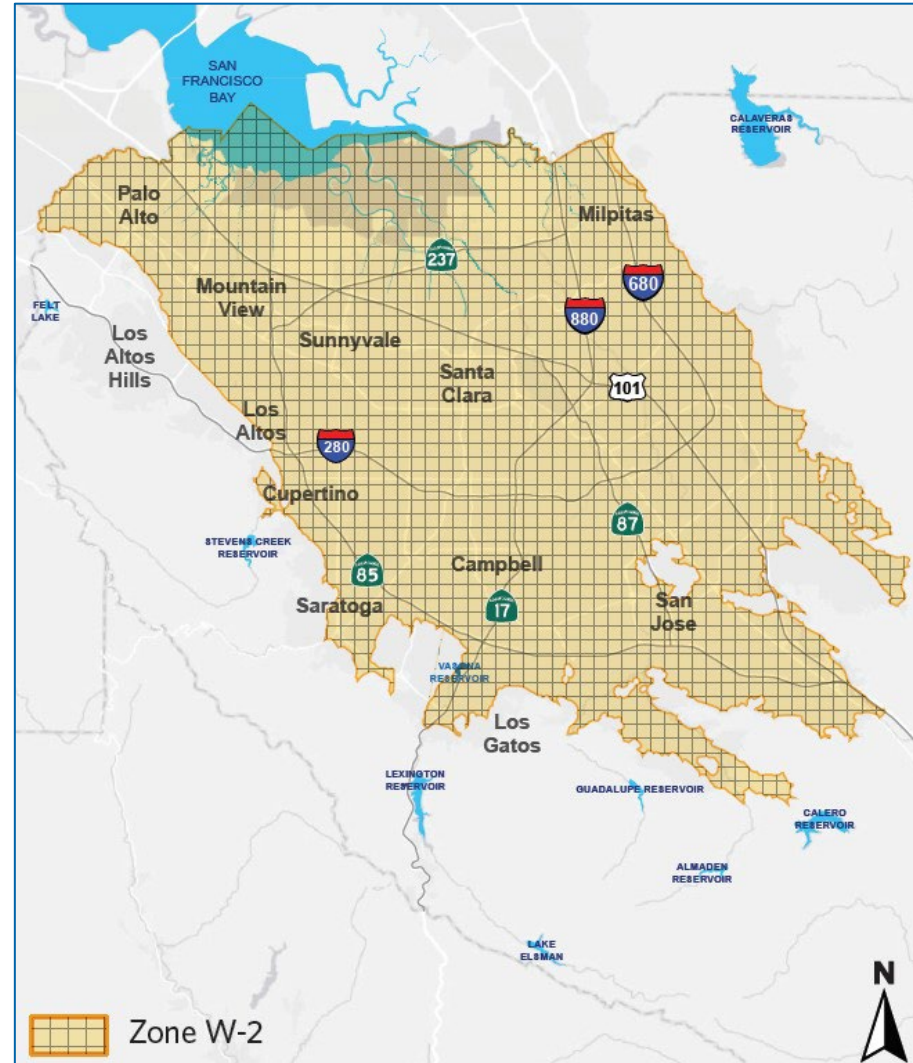
# Valley Water Groundwater Charge Zones of Benefit

8

SERVING OVER 2.0 MILLION PEOPLE

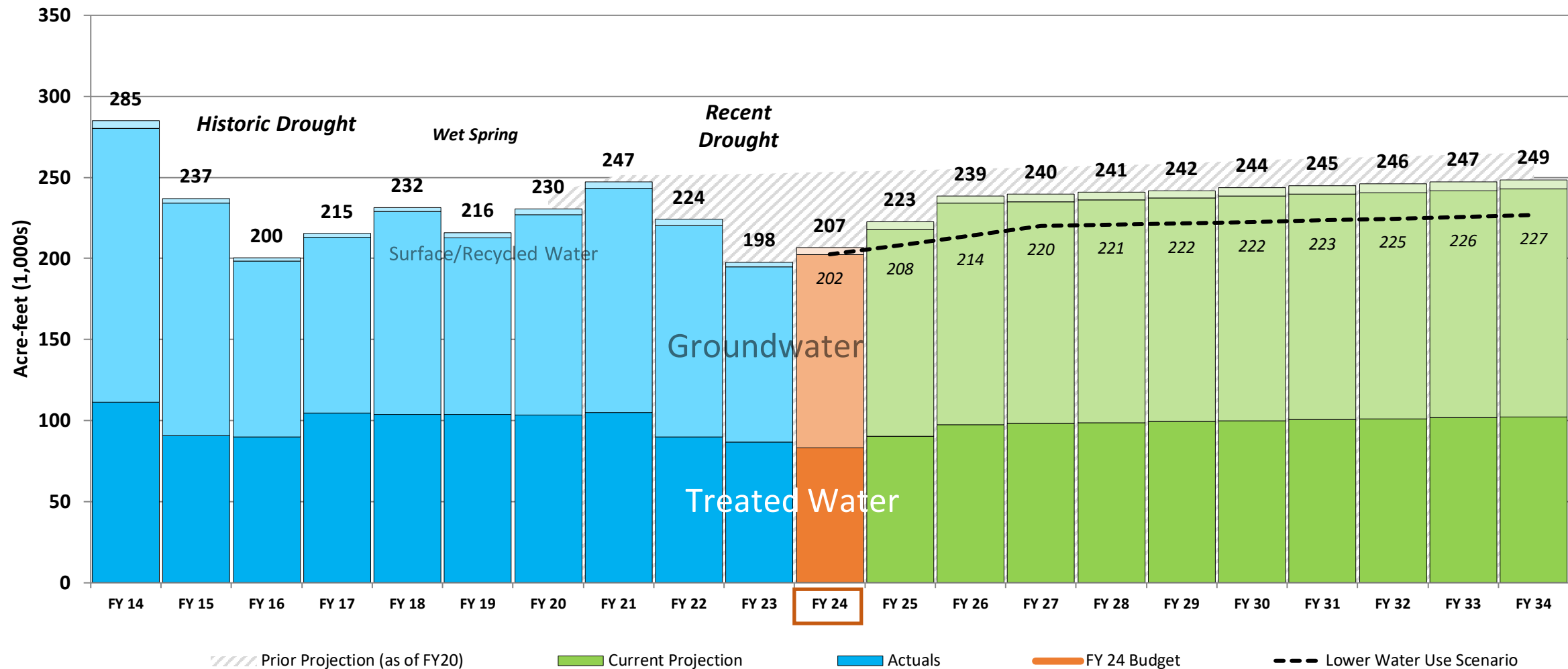
## Board Pricing Policy Summary

- Groundwater charges are levied within a zone for benefits received
- All water sources and water facilities contribute to common benefit within a zone regardless of cost, known as “pooling” concept
  - Helps maximize effective use of available resources
- Agricultural water charge shall not exceed 10% of M&I water charge



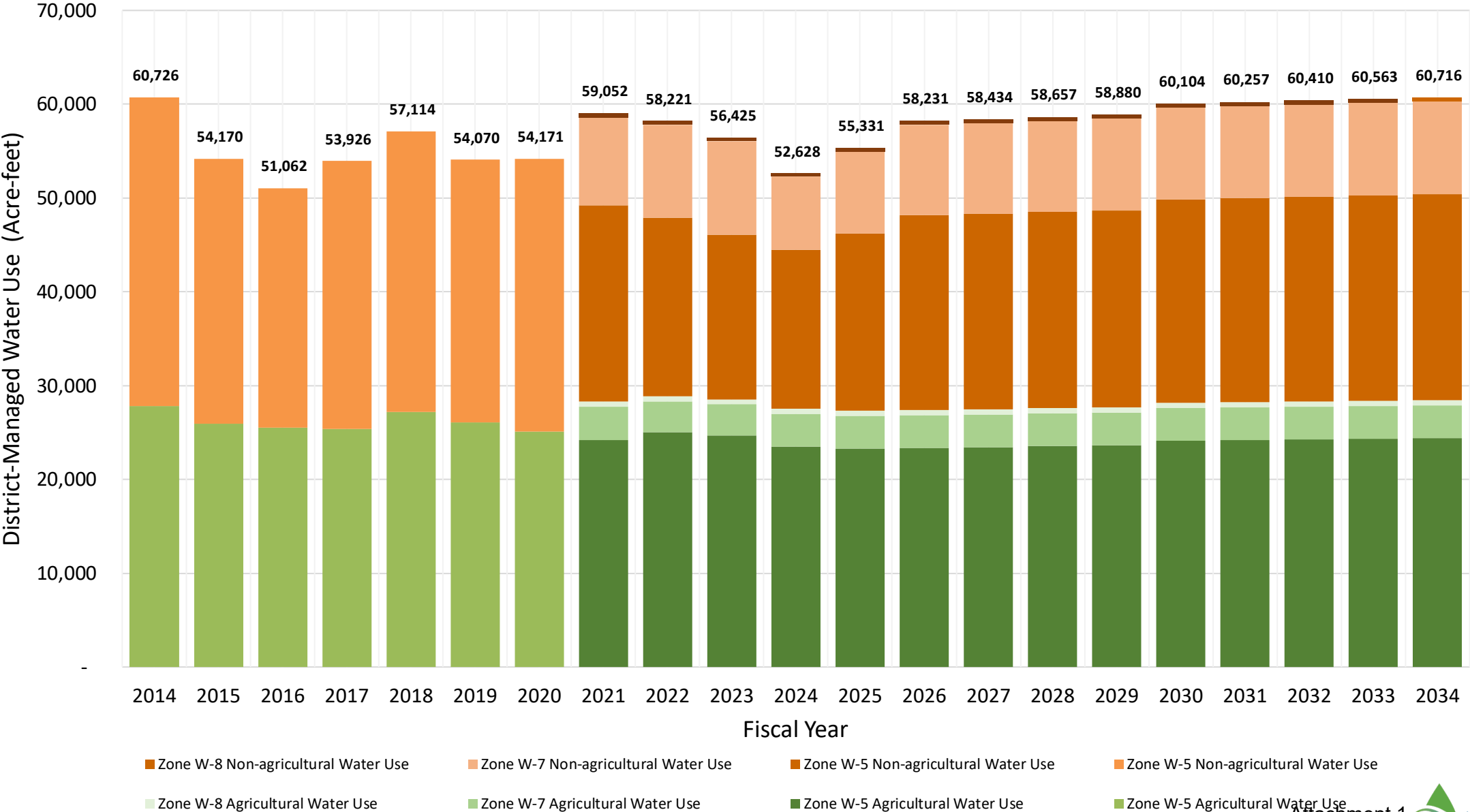
# Water Usage (District Managed)

Water Usage (District Managed in TAF)





# Water Usage Trend in South County (Zone W-5, W-7 & W-8)



- Recent inflation trends have put upward pressure on water rates
- Valley Water is in era of investment as existing water supply infrastructure was built decades ago
  - **Fixing Anderson Dam** – Address public health and safety concerns and relieve operational restrictions
  - **Address seismic deficiencies at Coyote Dam** – DSOD requested expedited project implementation schedule
- **Climate change has brought need for new infrastructure investments**
  - **Building local storage with Pacheco Reservoir Expansion Project** – Add water storage to help face extended droughts
  - **Investing in out-of-county storage with Los Vaqueros Reservoir Expansion & Sisk Dam Raise** – Maintaining out-of-county storage is critical in securing water supply reliability and for storage diversification
- **Water Supply Master Plan 2050 will shed more light on what new infrastructure investments are recommended to be built**

Planning  
work

# Rate setting strategy for FY 2024-25

## FY 25 RATE ASSUMPTIONS:

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### Baseline Projects <sup>1</sup>

- Anderson Dam Seismic Retrofit with WIFIA loan (up to 49% of TPC)
- Dam Safety Program (*preliminary placeholder*): Coyote Dam
- Master Plan Projects Placeholder: Assumes \$326M from FY26-FY34 <sup>2</sup>
- SWP Tax pays for 100% of SWP costs (excludes SWP portion of Delta Conveyance)
- Delta Conveyance SWP portion continues at 3.23% <sup>3, 4</sup>
- Pacheco Reservoir Expansion Project (PREP) with \$504M Proposition 1 grants, WIFIA loan (up to 49% of TPC) and Partnership Participation at 35% of TPC <sup>4</sup>
- Sisk Dam Raise at San Luis Reservoir with up to 60 kAF Storage <sup>3, 4</sup>

<sup>1</sup> Includes but not limited to dam seismic retrofits, Rinconada WTP reliability improvement, 10-year pipeline rehabilitation program.

<sup>2</sup> Master Plan Project Placeholder includes anticipated costs for new pipelines, pipeline rehabilitations, treatment plant upgrades & SCADA implementation projects.

<sup>3</sup> Project costs are reflected as Operations & Maintenance.

<sup>4</sup> Project is included in Water Supply Master Plan 5050 Update analysis.

TPC: Total Project Cost

kAF: Thousand Acre-Feet

## ENSURING A RELIABLE A WATER SUPPLY

Construction at Anderson Dam in east Morgan Hill continues, with crews progressing on a 24-foot outlet tunnel that will feed into Coyote Creek when the project is complete. That new tunnel will allow for the quicker, controlled release of water from the reservoir during a storm or other emergency.

Following construction of the tunnel, Valley Water will begin the seismic retrofit project to strengthen the dam in case of a large earthquake. In addition to building a high-level outlet, the project work includes removal and construction of the spillway and dam embankment. This effort will ensure public safety and secure a reliable water supply and is expected to be completed by 2032. Anderson Reservoir remains an integral part of our regional water supply system. For further details please visit [valleywater.org/project-updates/c1-anderson-dam-seismic-retrofit](https://valleywater.org/project-updates/c1-anderson-dam-seismic-retrofit).



*Tunnel Portal and Diversion Outlet Structure Overview*



*Anderson Dam Tunnel, Low-Level Outlet Tunnel*



# Recommended Groundwater Production Charges

# Infrastructure

## DRIVES DIFFERENT GROUNDWATER PRODUCTION CHARGES IN EACH ZONE

### North County

- 3 water treatment plants
- Reservoirs –
  - Almaden
  - Calero
  - Guadalupe
  - Lexington
  - Stevens Creek
  - Vasona
- Silicon Valley Advanced Water Purification Center
- Imported Water – State Water Project

### Shared

- Reservoirs –
  - Anderson
  - Coyote
  - Pacheco
- Imported Water –
  - Central Valley Project
- *Shared facilities do not benefit Zone W-8*

### South County

- Reservoirs –
  - Chesbro
  - Uvas
    - *Does not benefit Zone W-7*
- SCRWA Recycled Water System
  - *Benefits Zone W-5 only*

# Groundwater Charge Increase Projection

As published in the PAWS Report February 23, 2024

M&I Groundwater Charge Year to Year Growth %

Baseline Scenario	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
South County Zone W-5	6.6%	6.6%	6.6%	6.6%	6.6%	6.6%	6.6%	6.6%	6.6%	6.6%
Prior Year	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	
South County Zone W-7	14.2%	14.2%	14.2%	14.2%	14.2%	14.2%	14.2%	14.2%	14.2%	14.2%
Prior Year	12.9%	12.9%	12.9%	12.9%	12.9%	12.9%	12.9%	12.9%	12.9%	
South County Zone W-8	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%
Prior Year	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	

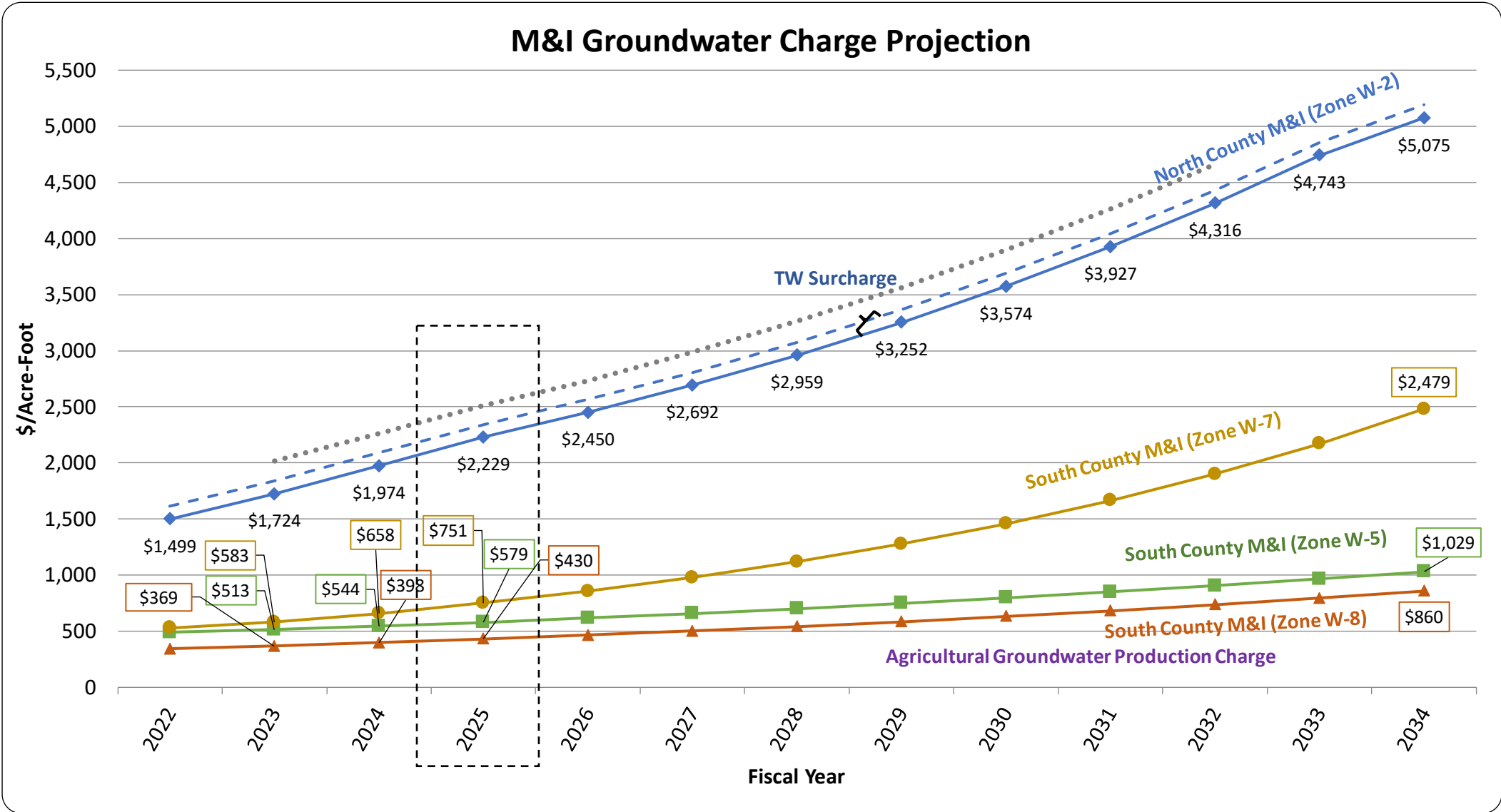


# Groundwater Charge Increase Projection

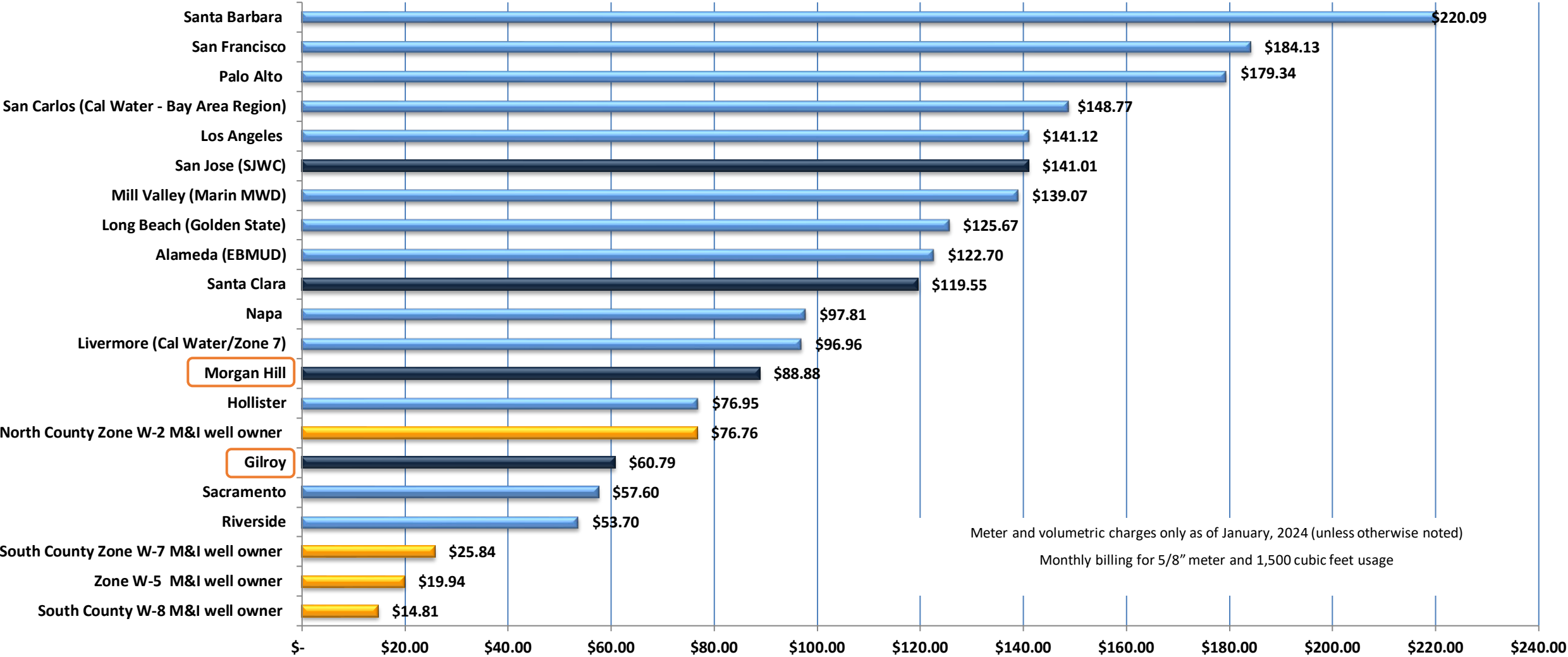
As published in the PAWS Report February 23, 2024

M&I Groundwater Charge – Monthly Impact To Average Household

Baseline Scenario	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
South County Zone W-5	\$1.22	\$1.32	\$1.40	\$1.50	\$1.59	\$1.70	\$1.81	\$1.93	\$2.06	\$2.19
South County Zone W-7	\$3.20	\$3.67	\$4.19	\$4.79	\$5.47	\$6.24	\$7.13	\$8.14	\$9.30	\$10.62
South County Zone W-8	\$1.10	\$1.18	\$1.28	\$1.38	\$1.49	\$1.61	\$1.74	\$1.88	\$2.03	\$2.19



# Retail Agency Benchmarks





# 2024 Schedule

20

Jan 8	Agricultural Water Advisory Committee: Preliminary Groundwater Charge Analysis
Jan 9	Board Meeting: Preliminary Groundwater Charge Analysis
Jan 17	Water Retailers Meeting: Preliminary Groundwater Charge Analysis
Jan 24	Water Commission Meeting: Preliminary Groundwater Charge Analysis
Feb 13	Board Meeting: Set time & place of Public Hearing
Feb 23	Mail notice of public hearing and file PAWS report
Mar 12	Board Meeting: Second Pass Budget development update
Mar 20	Water Retailers Meeting: FY 25 Groundwater Charge Recommendation
<b>Apr 8</b>	<b>Agricultural Water Advisory Committee</b>
<b>Apr 9</b>	<b>Open Public Hearing</b>
<b>Apr 10</b>	<b>Water Commission Meeting</b>
<b>Apr 11</b>	<b>Continue Public Hearing in South County</b>
<b>Apr 23</b>	<b>Conclude Public Hearing</b>
<b>Apr 24-25</b>	<b>Board Meeting: Budget work study session</b>
<b>May 14</b>	<b>Adopt budget &amp; groundwater production and other water charges</b>

## Valley Water remains in an era of investment

- Coupled with climate change, driving planning efforts for new infrastructure investments

**Water Supply Master Plan 2050 will shed more light on what new infrastructure investments are recommended to be built.**

**Proposed Maximum FY 25 Groundwater Projection Charges for South County in terms of average household increase are:**

- Increase of \$1.22 per month in Zone W-5
- Increase of \$3.20 per month in Zone W-7
- Increase of \$1.10 per month in Zone W-8

**Proposed Maximum FY 25 Groundwater Production Charge for North County in terms of average ag user is:**

- Increase of \$0.49 per month per acre assuming two acre feet of water pumped per year

## Next Steps

- Continue and conclude Public Hearing on April 23rd



# Valley Water

Clean Water • Healthy Environment • Flood Protection





# Santa Clara Valley Water District

File No.: 24-0311

Agenda Date: 4/3/2024

Item No.: 4.3.

## COMMITTEE AGENDA MEMORANDUM Joint WRC with Cities of Gilroy/Morgan Hill/SCRWA

Government Code § 84308 Applies: Yes ☐ No ☒  
(If "YES" Complete Attachment A - Gov. Code § 84308)

### SUBJECT:

Review and Accept the Joint Water Resources Committee 2024 Proposed Work Plan, and Confirm the Next Meeting Date.

### RECOMMENDATION:

- A. Review and Accept the Joint Water Resources Committee 2024 Proposed Work Plan; and
- B. Confirm the next meeting date.

### SUMMARY:

Work Plans are created and implemented by all Board Committees to increase Committee efficiency, provide increased public notice of intended Committee discussions, and enable improved follow-up by staff. Work Plans are dynamic documents managed by Committee Chairs and are subject to change. Committee Work Plans also serve to assist to prepare an Annual Committee Accomplishments Reports. Discussion of topics as stated in the Plan have been described based on information from the following sources: • Items referred to the Committee by the Board; • Items requested by the Committee to be brought back by staff; • Items scheduled for presentation to the full Board of Directors; and • Items identified by staff.

### ENVIRONMENTAL JUSTICE IMPACT:

There are no Environmental Justice impacts associated with this item.

### ATTACHMENTS:

Attachment 1: 2024 JWRC Proposed Work Plan

### UNCLASSIFIED MANAGER:

Candice Kwok-Smith, 408-630-3193

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**(Proposed) 2024 Joint Water Resources Committee Workplan**

CATEGORY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
Water Supply Master Plan and South County Opportunities	X									X		
South County Water Reuse Collaboration and Implementation □ Water Purification Potential for Future Water Supply	X			X		X				X		
South County Water Reuse Program Feasibility Study	X			<del>X</del>		X				X		
Valley Water Budget Update				X								
<b>STANDING ITEMS</b>												
Elect Committee Chair and Vice Chair (Annually)	X			X								
Approval of Meeting Minutes	X			X		X				X		
Review Committee Work Plan	X			X		X				X		

\*Yellow highlighted item – new or updated items on the work plan.

\*Red font - removed item

Revised: 03/11/24

Attachment 1  
Page 1 of 1



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