Virtual Bus Tour Overview

Virtual Bus Tour Overview

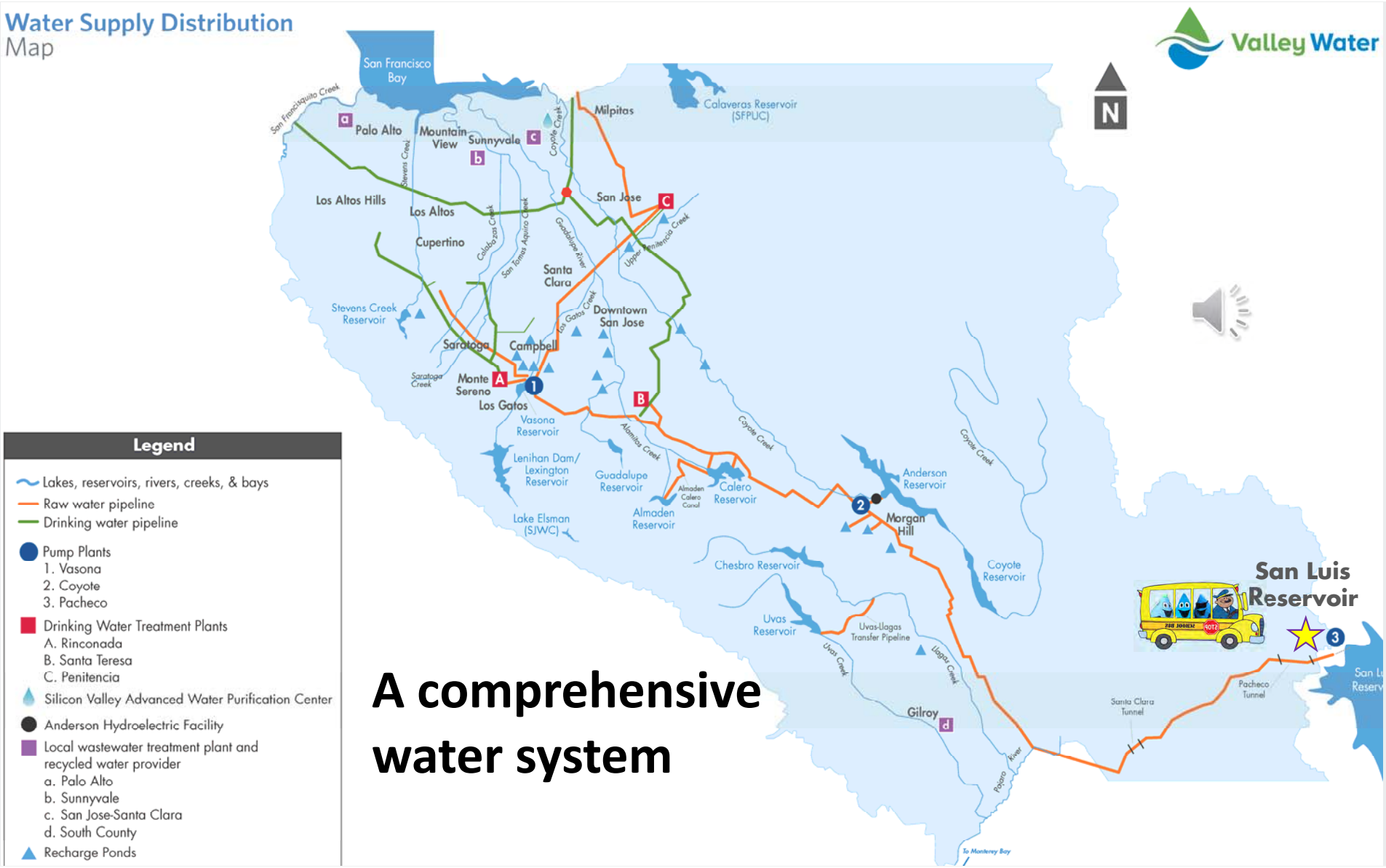
Virtual Tour Stops

- **South County Road Trip**
  - **San Luis Reservoir**
  - **Pacheco Reservoir Expansion Project**
  - **Anderson Dam Retrofit Project**
- *Q&A on San Luis/Pacheco/Anderson*
- **Coyote Creek Project**
- **Permanente Creek (McKelvey Park) Project**
- *Q&A on Coyote and Permanente Creeks*
- *Break*
- **Water Treatment Plants**
- **Silicon Valley Advanced Water Purification Center**
- *Q&A on Water Treat Plants/Purification Center*
- Wrap Up

Tour Videos - https://tinyurl.com/watertourvideos

Valley Water

Water Supply Distribution Map



A comprehensive water system

Cindy Kao,

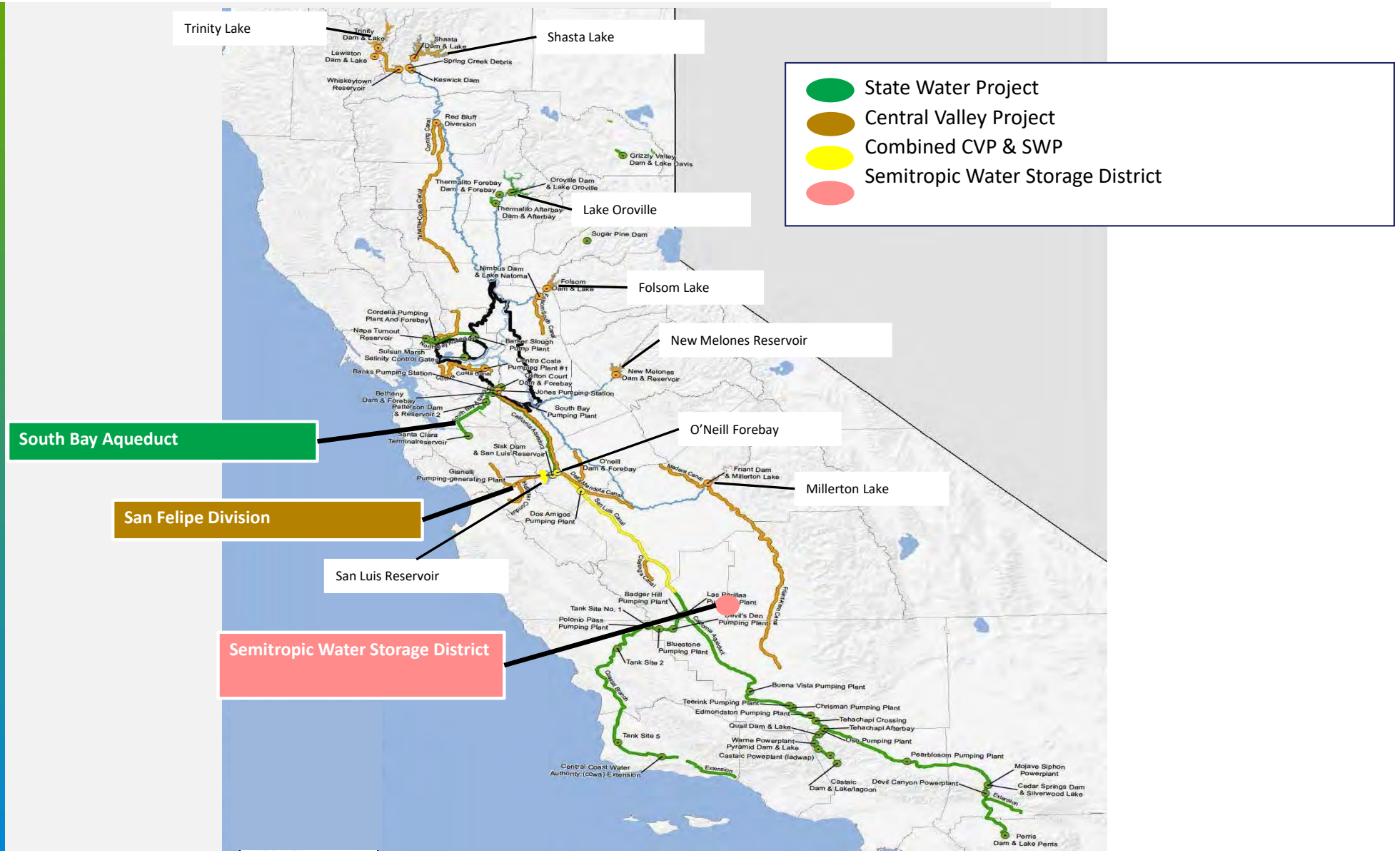
Imported Water Manager

Water Supply Division

Valley Water

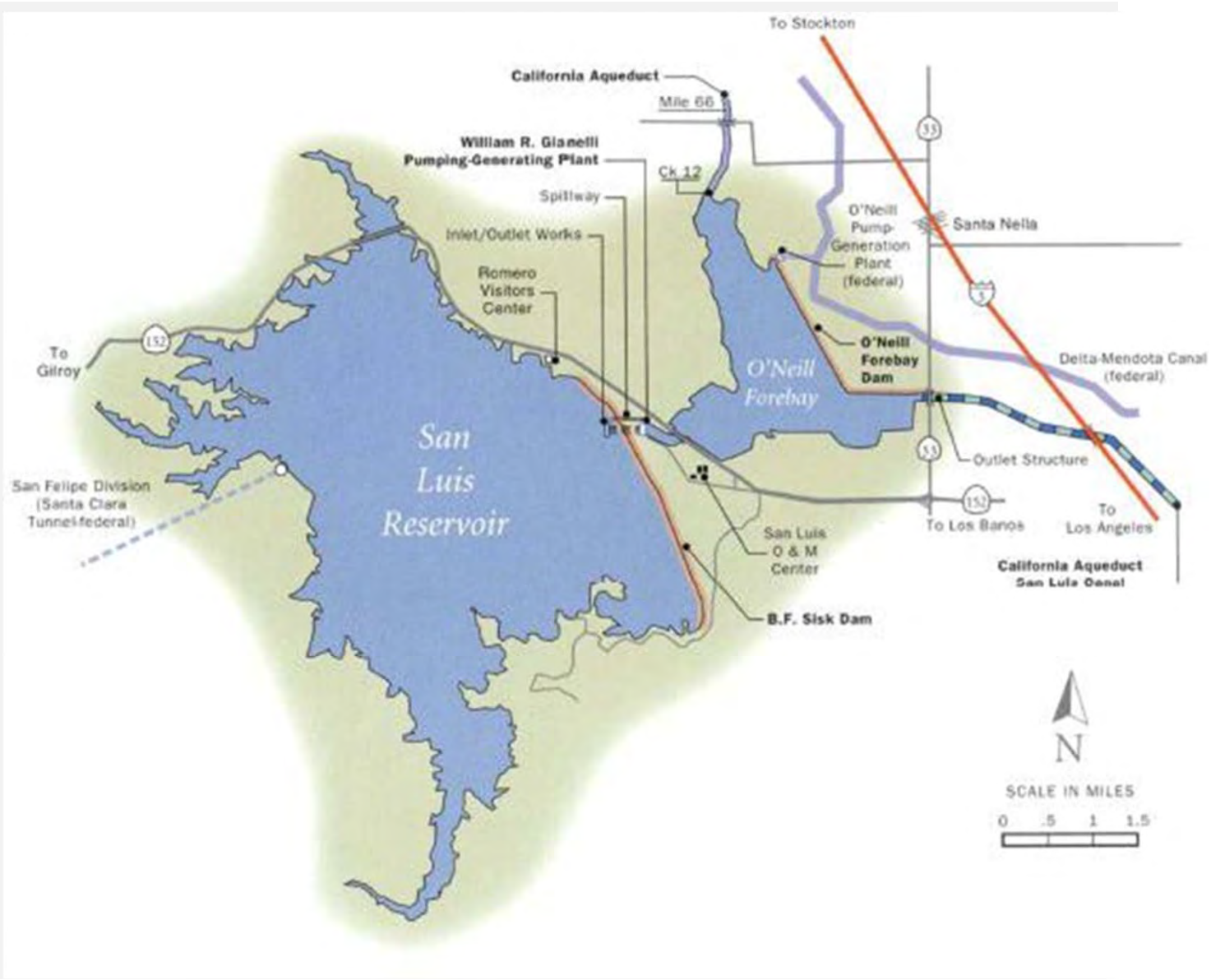
San Luis Reservoir

Valley Water


Trinity Lake
Shasta Lake
Lake Oroville
Folsom Lake
New Melones Reservoir
South Bay Aqueduct
O'Neill Forebay
Millerton Lake
San Felipe Division
San Luis Reservoir
Semitropic Water Storage District
State Water Project
Central Valley Project
Combined CVP & SWP
Semitropic Water Storage District
Trinity Dam & Lake
Lewiston Dam & Lake
Whiskeytown Reservoir
Shasta Dam & Lake
Spring Creek Debris
Keswick Dam
Red Bluff Diversion
Grizzly Valley Dam & Lake Davis
Thermalito Forebay Dam & Forebay
Thermalito Afterbay Dam & Afterbay
Oroville Dam & Lake Oroville
Sugar Pine Dam
Nimbus Dam & Lake Natoma
Folsom Dam & Lake
Cordelia Pumping Plant And Forebay
Napa Turnout Reservoir
Suisun Marsh Salinity Control Gates
Banks Pumping Station
Bethany Dam & Forebay
Patterson Dam & Reservoir 2
Santa Clara Terminal Reservoir
Badger Slough Pump Plant
Contra Costa Pumping Plant #1
Clifton Court Dam & Forebay
Jones Pumping Station
South Bay Pumping Plant
New Melones Dam & Reservoir
Sisk Dam & San Luis Reservoir
Gianelli Pumping-generating Plant
O'neill Dam & Forebay
Dos Amigos Pumping Plant
Friant Dam & Millerton Lake
Badger Hill Pumping Plant
Tank Site No. 1
Polonio Pass Pumping Plant
Las Perillas Pumping Plant
Devil's Den Pumping Plant
Bluestone Pumping Plant
Tank Site 2
Tank Site 5
Central Coast Water Authority (ccwa) Extension
Buena Vista Pumping Plant
Teerink Pumping Plant
Edmondston Pumping Plant
Quail Dam & Lake
Warne Powerplant
Pyramid Dam & Lake
Castaic Poweplant (ladwap)
Castaic Dam & Lake/lagoon
Chrisman Pumping Plant
Tehachapi Crossing
Tehachapi Afterbay
Oso Pumping Plant
Pearblosom Pumping Plant
Devil Canyon Powerplant
Mojave Siphon Powerplant
Cedar Springs Dam & Silverwood Lake
Perris Dam & Lake Perris

District map

Water Supply Distribution


To Stockton
California Aqueduct
Mile 66
William R. Gianelli
Pumping-Generating Plant
Ck 12
Spillway
Inlet/Outlet Works
Romero
Visitors
Center
O'Neill
Pump-
Generation
Plant
(federal)
Santa Nella
O'Neill
Forebay
Dam
Delta-Mendota Canal
(federal)
To
Gilroy
152
San
Luis
Reservoir
O'Neill
Forebay
Outlet Structure
San Felipe Division
(Santa Clara
Tunnel-federal)
San Luis
O & M
Center
To Los Banos
To
Los Angeles
California Aqueduct
San Luis Canal
B.F. Sisk Dam
N
SCALE IN MILES
0 .5 1 1.5

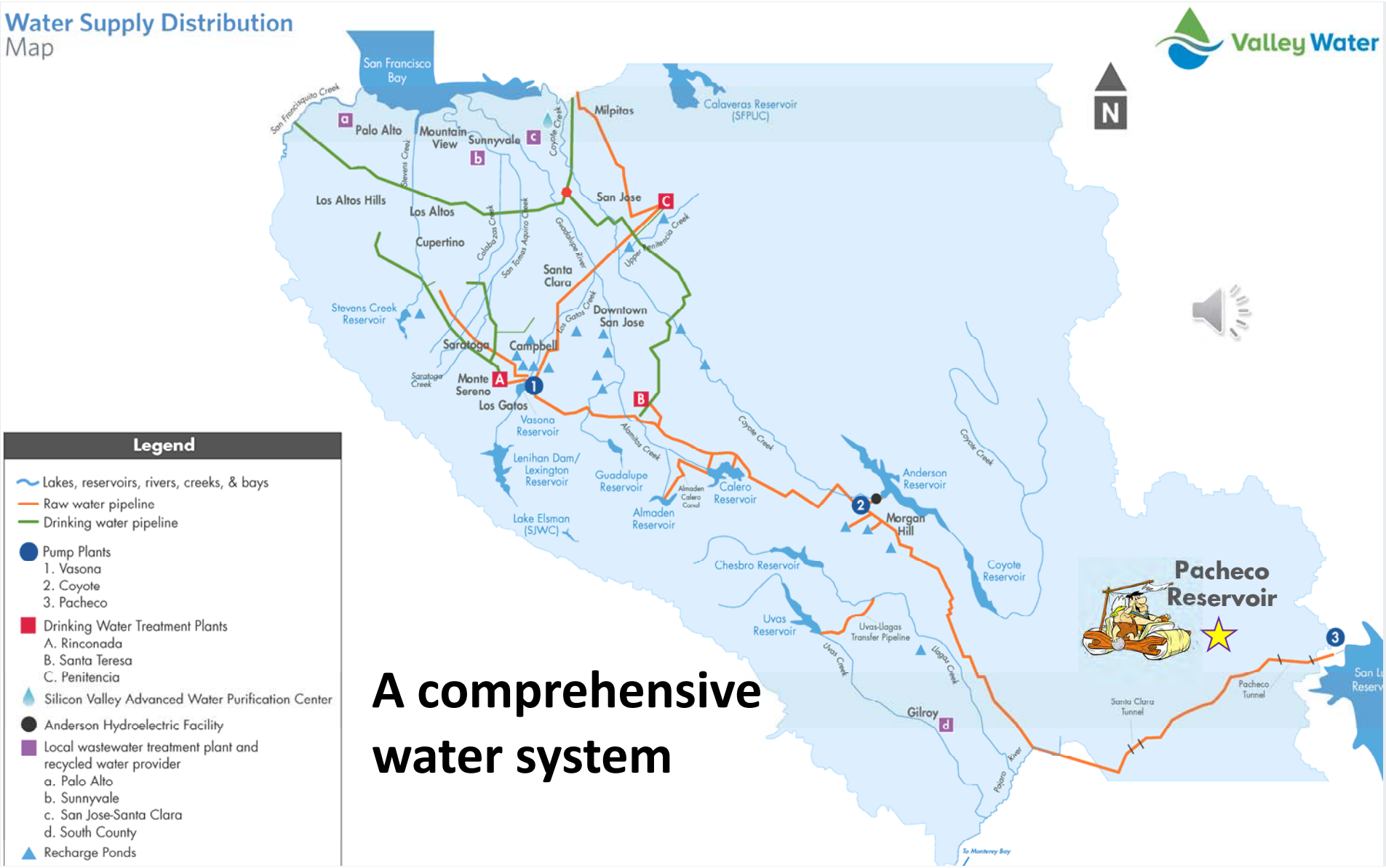
San Luis Low Point

San Luis Low Point Improvement Project

Valley Water is partnering with the US Bureau of Reclamation to explore utilizing expansion of the Pacheco Reservoir as a potential solution to the San Luis Reservoir Low Point Problem

- San Luis Reservoir is owned by Reclamation and jointly operated with DWR.
- The San Luis Low Point Improvement Project is a being conducted in parallel to the locally led Pacheco Reservoir Expansion Project effort being sponsored by Valley Water and the San Benito County Water District.
- Paralleling the two projects provides multiple paths to potential WIIN Act funding.

Water Supply Distribution Map

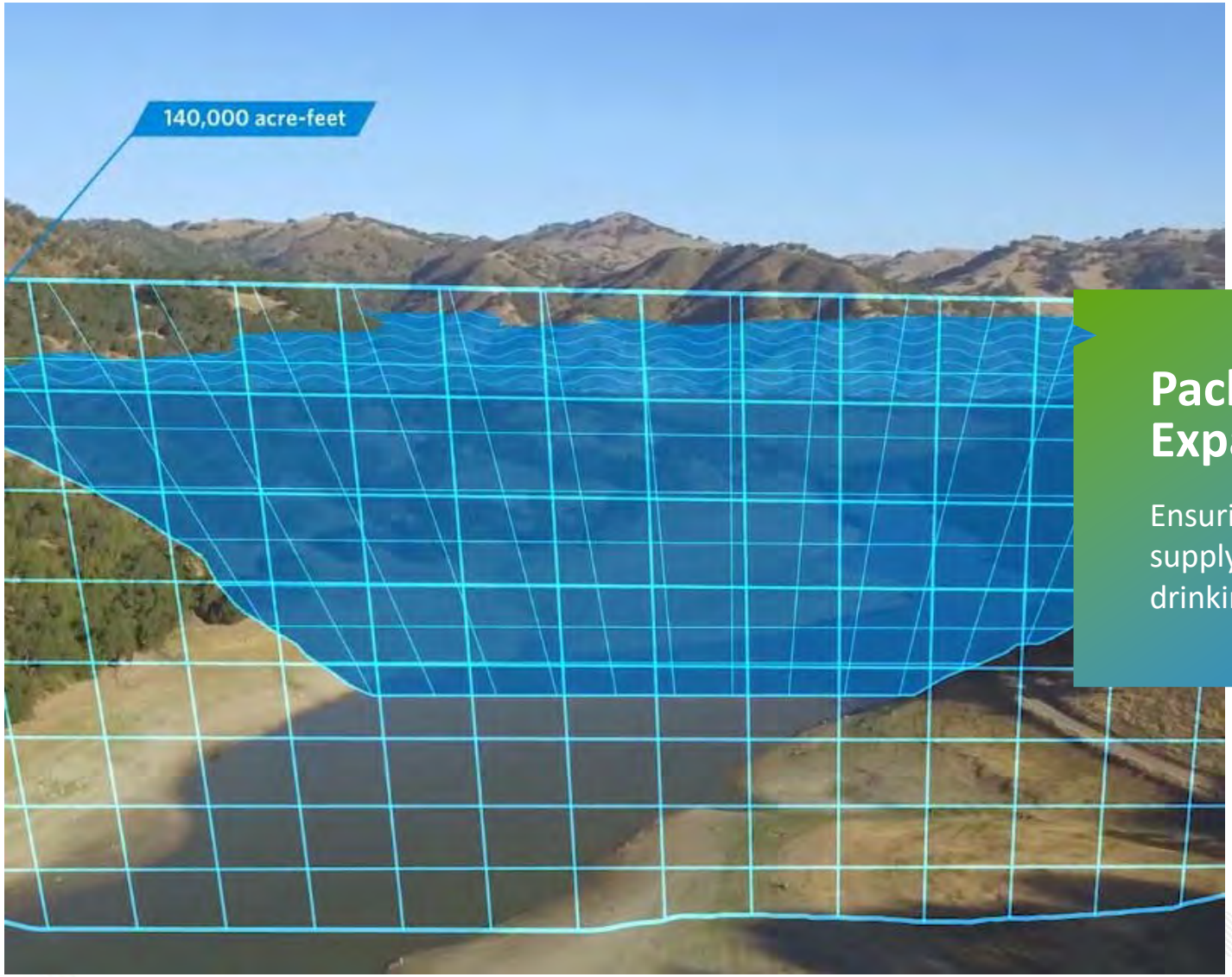


A comprehensive water system

Christopher Hakes,
Deputy Operating Officer

Dam Safety & Capital Delivery Division

Valley Water



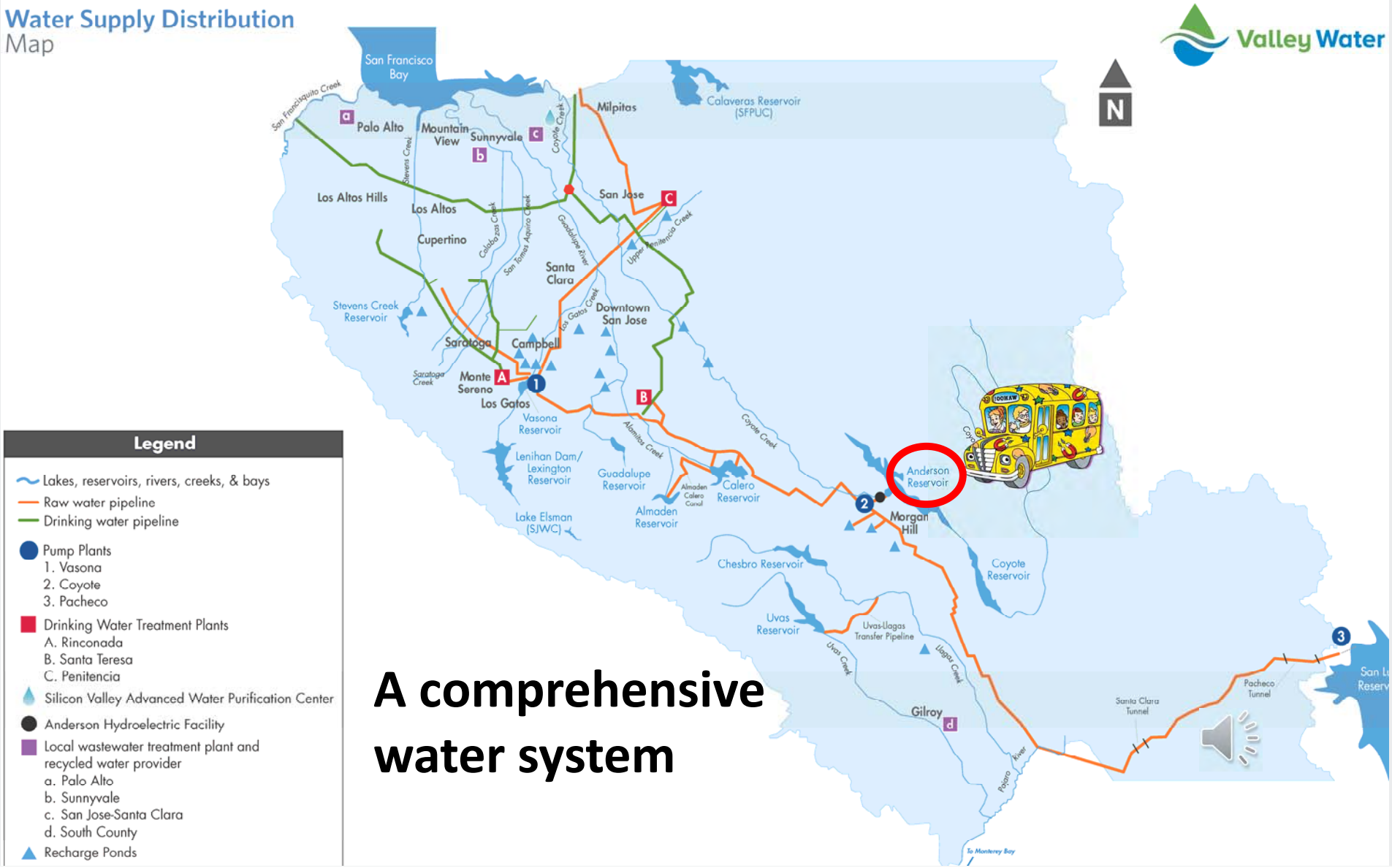
Expanding Local Storage and Supply

Pacheco Reservoir Expansion Project

Ensuring a more reliable supply of safe, clean drinking water

valleywater.org

Water Supply Distribution Map



A comprehensive water system

Time for a pulse check!

Valley Water

Clean Water • Healthy Environment • Flood Protection

Regulatory Agencies

Federal

- FERC - Federal Energy Regulatory Commission lead on design and environmental
- USACE - US Army Corps of Engineers
- US Fish and Wildlife Service
- US Environmental Protection Agency
- National Oceanic and Atmospheric Association - NOAA
    - National Marine Fisheries Service - NMFS

State

- Division of Safety of Dams – DSOD
- California Office of Historic Preservation (SHPO)
- California Department of Fish and Wildlife
- State Water Resources Control Board
    - Regional Water Quality Control Board

County

- Valley Habitat Agency
- Santa Clara County Parks

Cities of:

- Morgan Hill
- Gilroy
- San Jose

Aging Infrastructure

Anderson Reservoir Retrofit Project

Ensuring a more reliable supply of safe, clean drinking water

valleywater.org

Valley Water

Questions?

Time for a pulse check!

Valley Water

Clean Water • Healthy Environment • Flood Protection

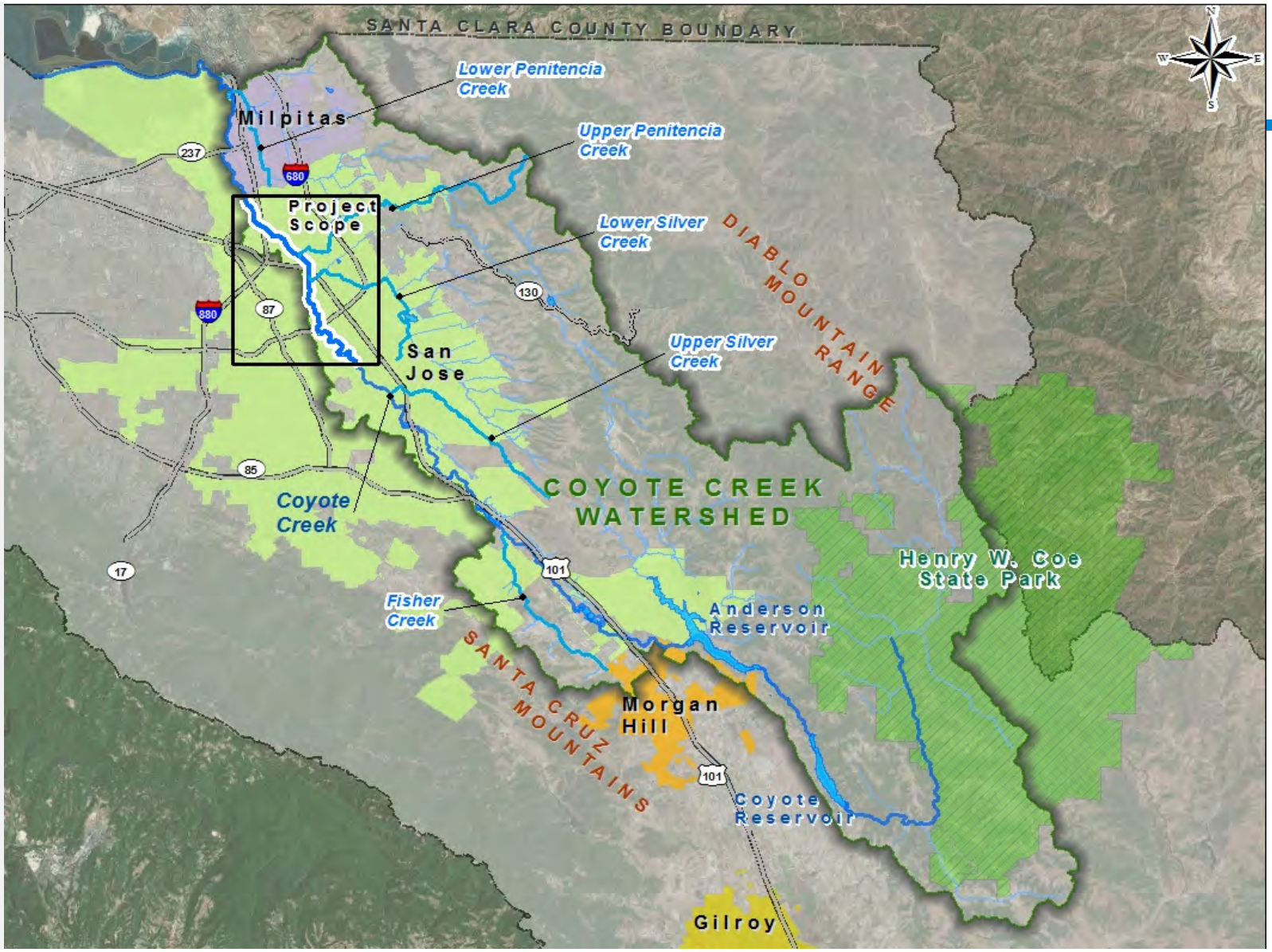
Damaris Villalobos-Galindo

Associate Engineer

Water Resources Planning and Policy Unit

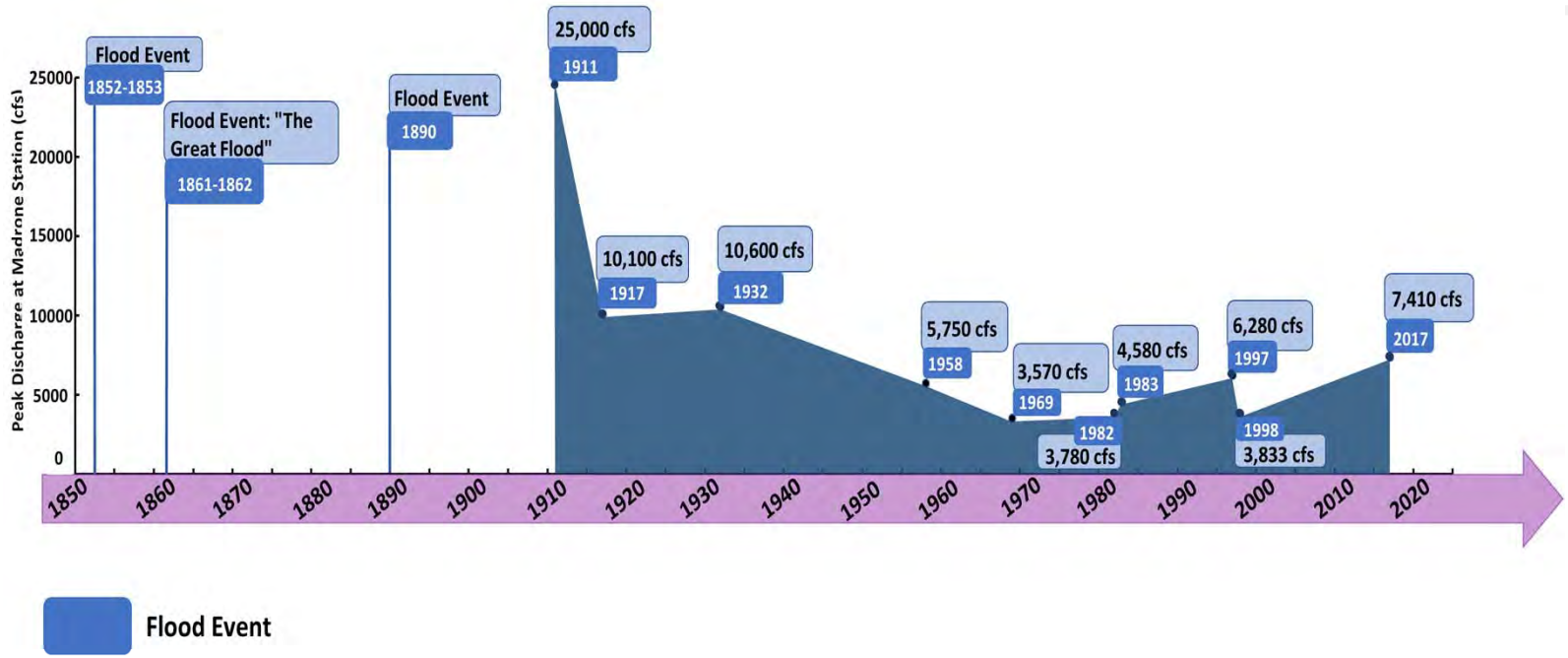
Valley Water

Coyote Creek Flood Protection Project

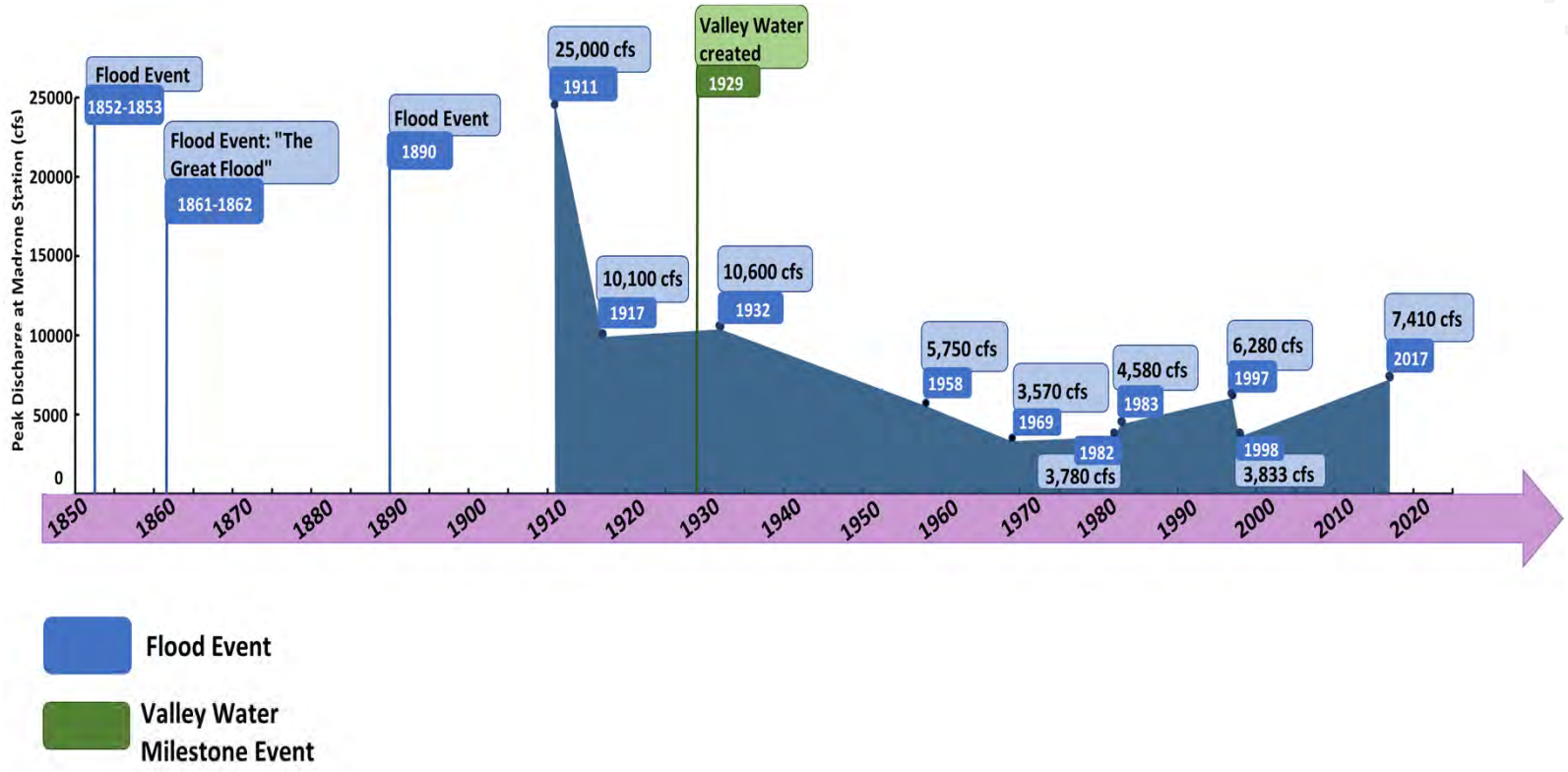

SANTA CLARA COUNTY BOUNDARY
Lower Penitencia Creek
Milpitas
Upper Penitencia Creek
237
680
Project Scope
Lower Silver Creek
DIABLO MOUNTAIN RANGE
130
880
87
San Jose
Upper Silver Creek
85
COYOTE CREEK WATERSHED
Coyote Creek
17
101
Henry W. Coe State Park
Fisher Creek
Anderson Reservoir
SANTA CRUZ MOUNTAINS
Morgan Hill
101
Coyote Reservoir
Gilroy


Montague Expressway
MONTAGUE EXPRESSWAY
880
Fox Lane
Brokaw Road
Oakland Road
San Jose Municipal Golf Course
Sierra Road
Berryessa Road
N White Road
Upper Penitencia Creek
Mabury Road
101
87
City of Santa Clara
Watson Park
680
N 1st Street
4th Street
Hedding Street
Roosevelt Park
East Julian Street
Story Road
Lower Silver Creek
Selma Olinder Park
City of San Jose
William Street Park
S 1st Street
Kelley Park
Tully Road
Senter Road
280
Monterey Road
TULLY ROAD

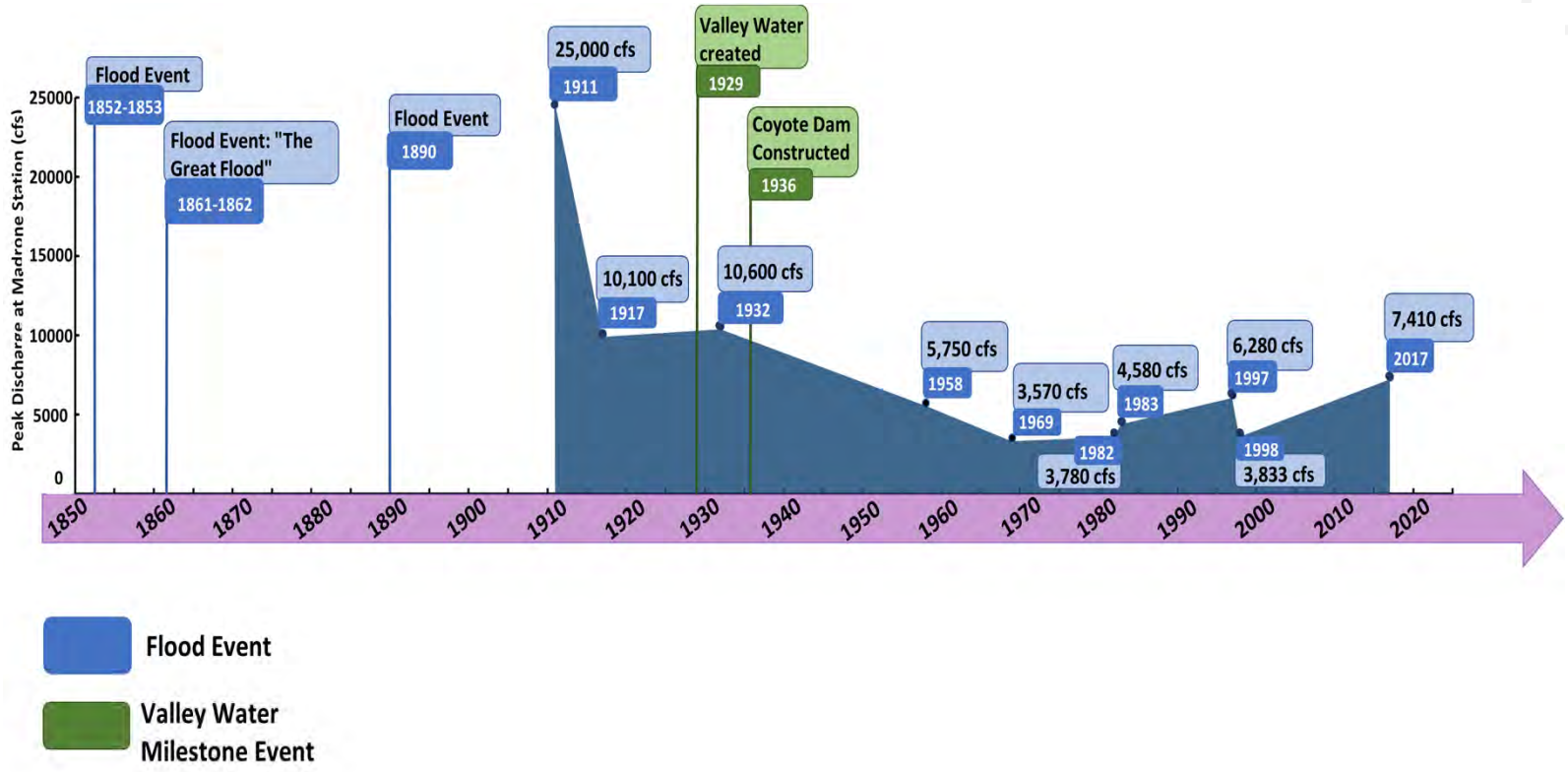
History of Coyote Creek Floods



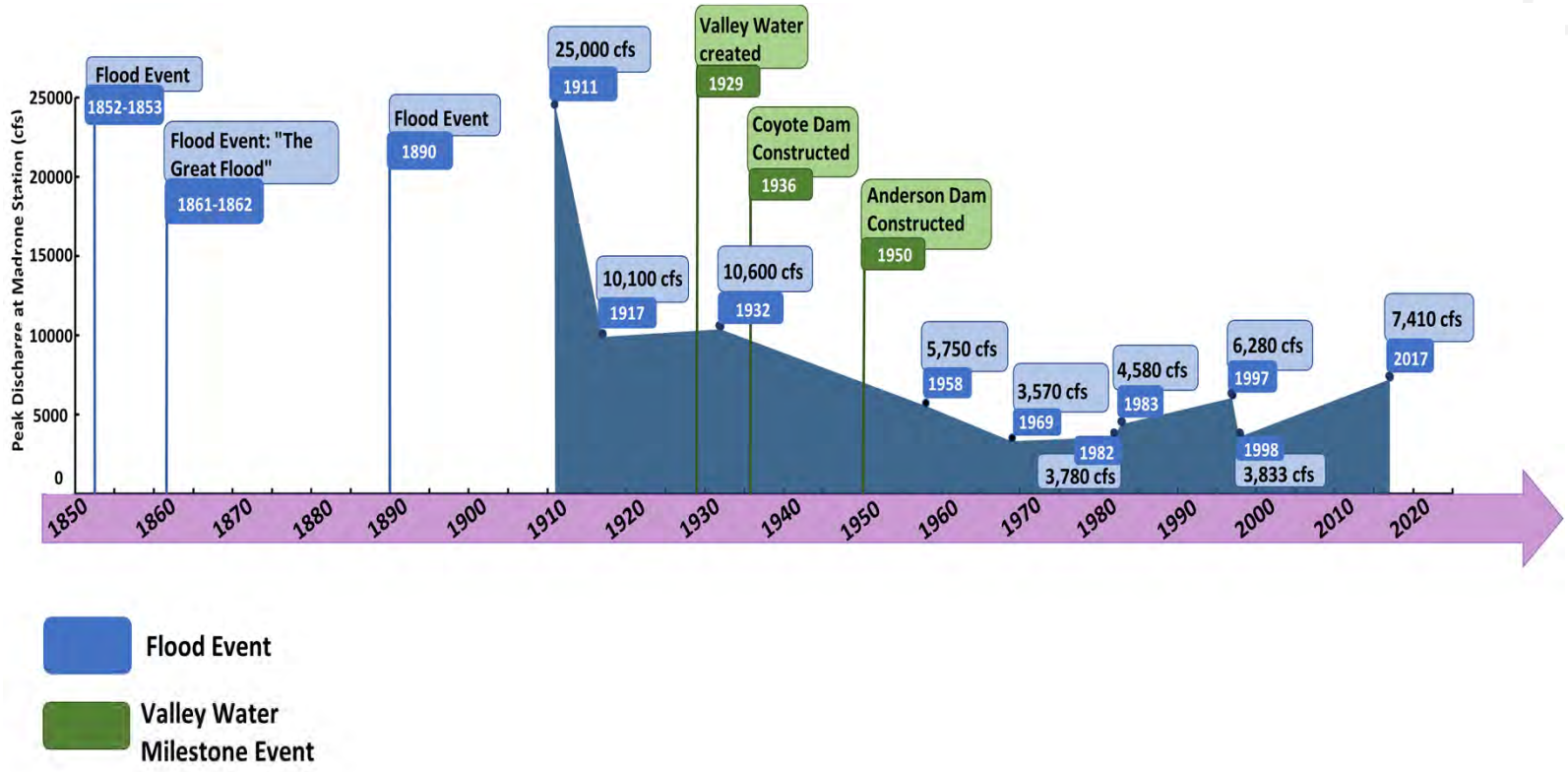
History of Coyote Creek Floods



History of Coyote Creek Floods



History of Coyote Creek Floods

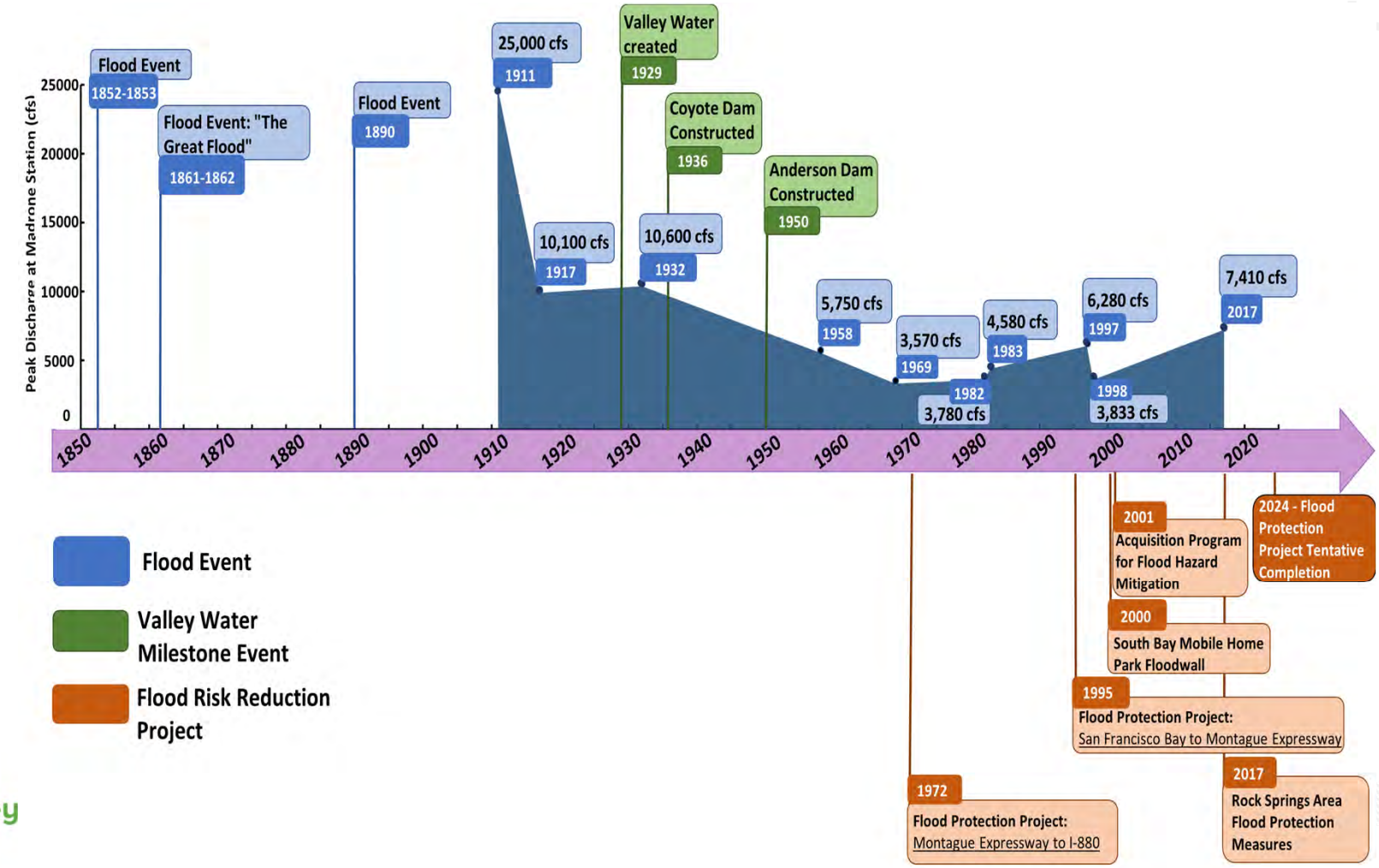


Flood Event

Valley Water Milestone Event

valleywater.org

History of Coyote Creek Floods



Flooding History: Santa Clara Street, January 1890

Source: *Loomis, P., Signposts, [Limited 1st ed.]. San Jose Historical Museum Association. San Jose, Calif. 74 p.*

Boating down W. Santa Clara Street, January, 1890

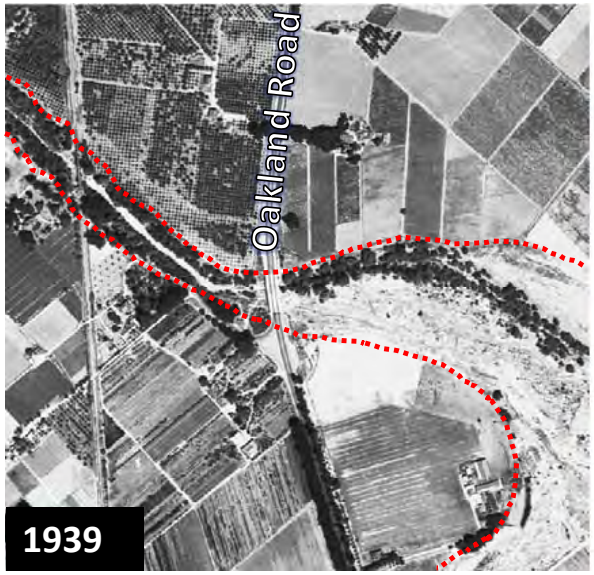
Flooding History: Monterey Road, March 7-9, 1911

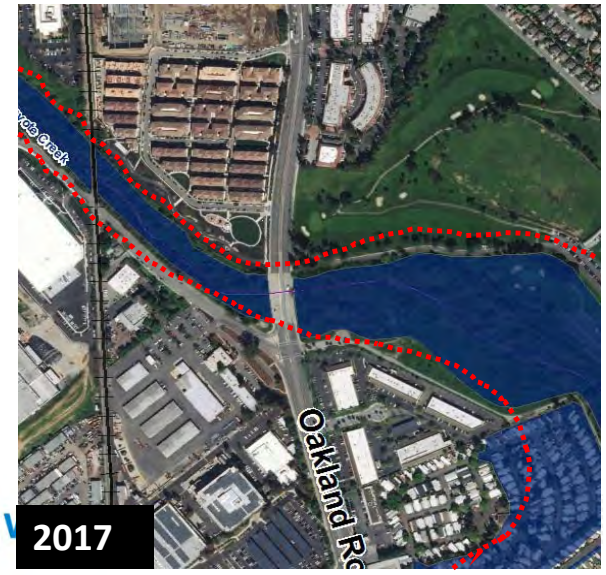
Flooding History: Nordale Avenue, January 27, 1997

Flooding History: Golden Wheel Mobile Home Park, February 8, 1998

Photographer Richard Wisdom, San Jose Mercury News

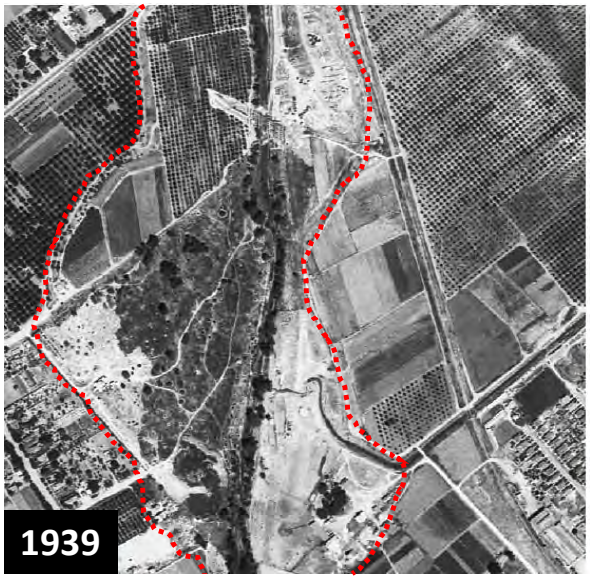
Flooding History: William Street Park, February 2017





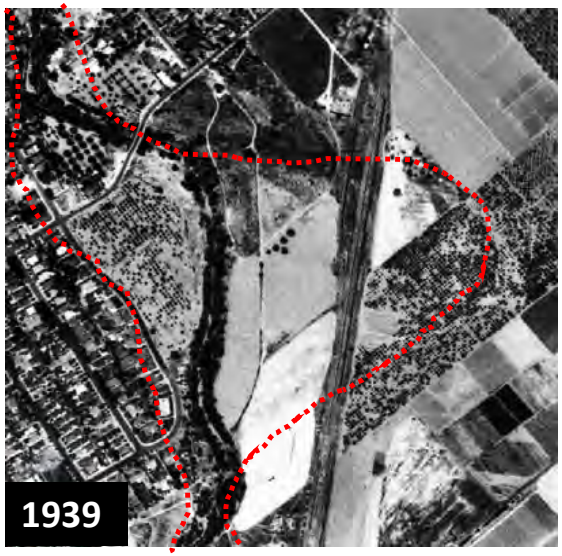
Historical Landscape Conditions: *Oakland Road*

Source: Grossinger, Robin, et al., 2006. Coyote Creek Watershed Historical Ecology Study: Historical Condition, Landscape Change, and Restoration potential in the Eastern Santa Clara Valley, California.



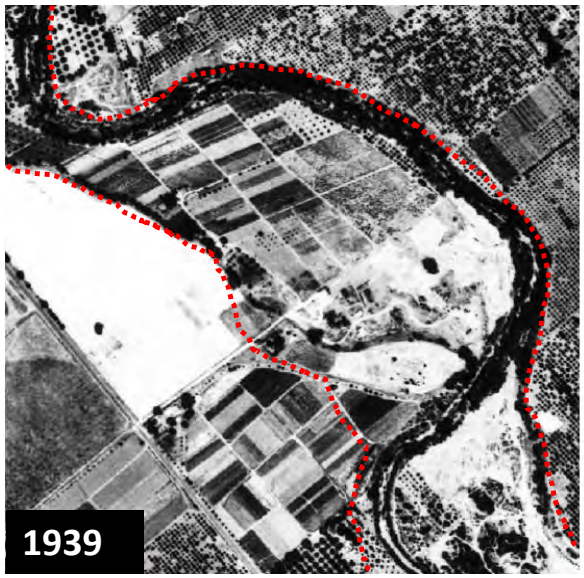
Historical Landscape Conditions: *Watson Park*

Source: Grossinger, Robin, et al., 2006. Coyote Creek Watershed Historical Ecology Study: Historical Condition, Landscape Change, and Restoration potential in the Eastern Santa Clara Valley, California.



Source: Grossinger, Robin, et al., 2006. Coyote Creek Watershed Historical Ecology Study: Historical Condition, Landscape Change, and Restoration potential in the Eastern Santa Clara Valley, CA.

William Street Park



Historical Landscape Conditions: *Kelley Park*

Source: Grossinger, Robin, et al., 2006. Coyote Creek Watershed Historical Ecology Study: Historical Condition, Landscape Change, and Restoration potential in the Eastern Santa Clara Valley, California.

Project Objective:

Reduce Risk of Flooding from a flood event equivalent to the February 2017 event

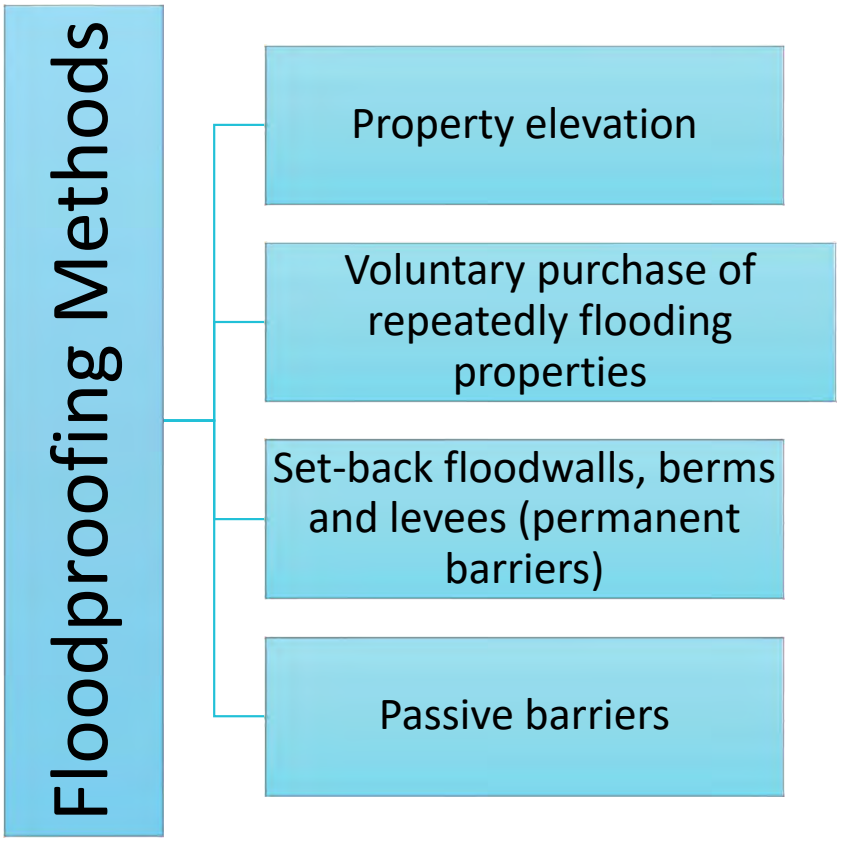
Additional Project goals:

- **Stream Habitat Enhancement**
- **Improve Water Quality**
- **Provide for Public Access and Recreation**
- **Minimize Need for Future Maintenance Activities**

Project Reaches

Valley

Flood Mitigation Strategies



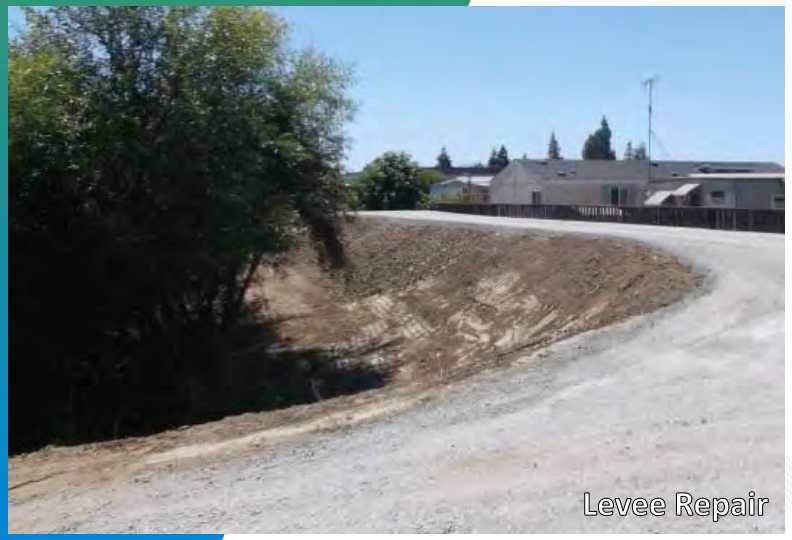
Flood Mitigation Strategies

Flood Risk Reduction Work Since 2017


Floodwall and berm installation


Invasive vegetation Management and blockage removal

Installation of visible stream gauges


Levee Repair


Protection Project


Catholic Charities
of Santa Clara Co


Agenda
1. Project Setting
4. Conceptual Solutions
2. Project History and Description
5. Next Steps
3. Project Status and Timeline


Valley Water
Expo

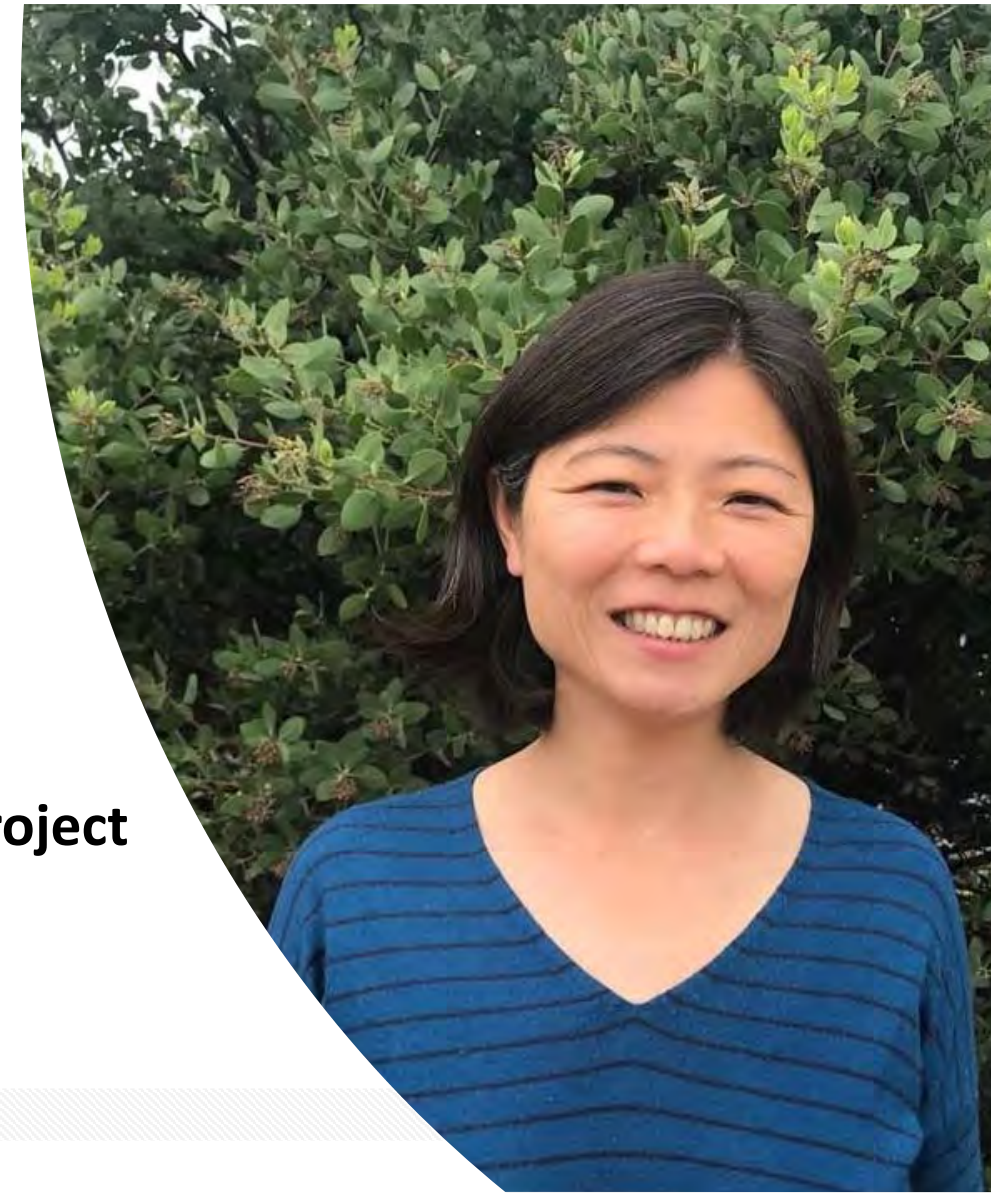
Project Components, Status and Timeline

Expedited Project Timeline: Assumes project alternative selected for implementation does not require extensive permitting

Lotina Nishijima

Associate Engineer

Permanente Creek Flood Protection Project



Valley Water

Permanente Creek Flood Protection Project

Water 101 Tour – May 20, 2020

Project Objectives

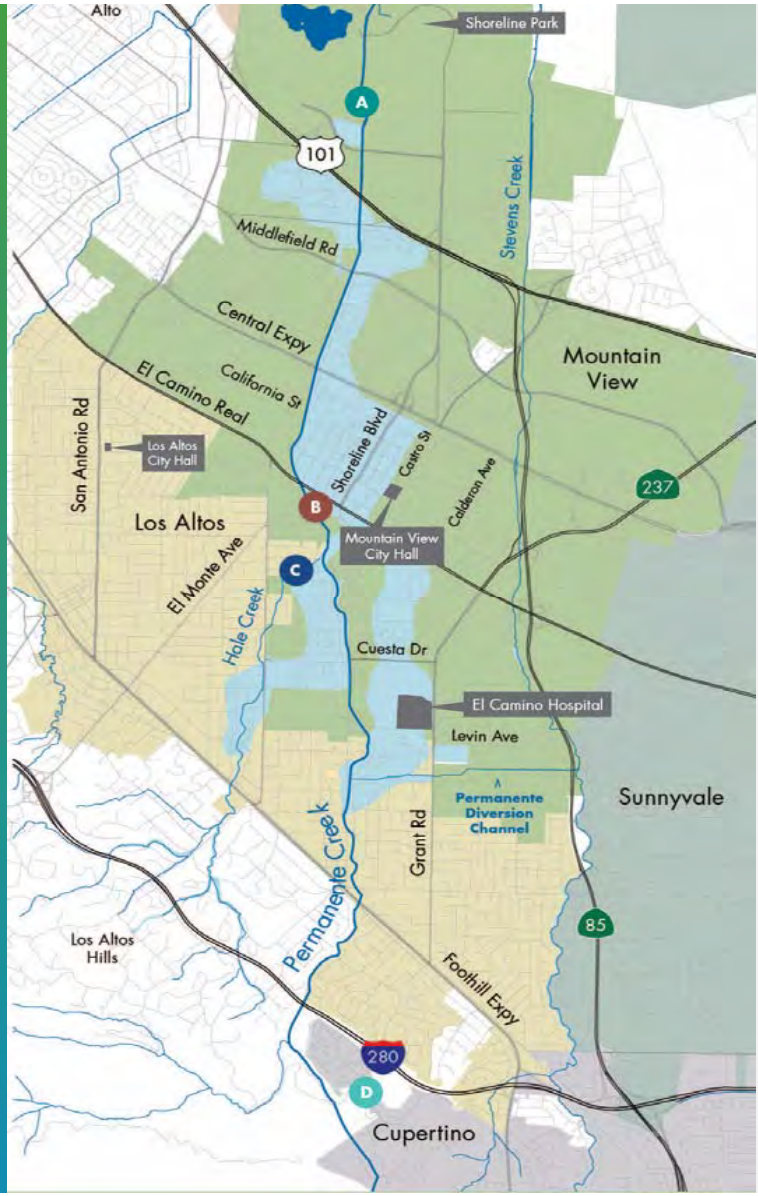
- Provide 1% flood protection to Mountain View and Los Altos using a natural flood protection approach
- Address deteriorating concrete channels
- Provide opportunities for environmental enhancements and recreational benefits
- Minimize long-term maintenance cost

Permanente Project Elements

- A Floodwalls
- C Channel widening

Flood detention areas:

- B McKelvey Park
- D Rancho San Antonio Park



Project Cost

- Planning and Design: $13M
- Construction: $76M
- Construction Contract Amounts
  - McKelvey Detention Basin: $31M
  - Rancho San Antonio Detention Basin: $19M
  - Permanente Creek Channel Improvements: $8M
- Funding Source
  - Watershed Stream Stewardship Fund
  - Safe Clean Water Fund

Project Description

Channel Improvements

- Floodwalls
- Channel Widening

Floodwall

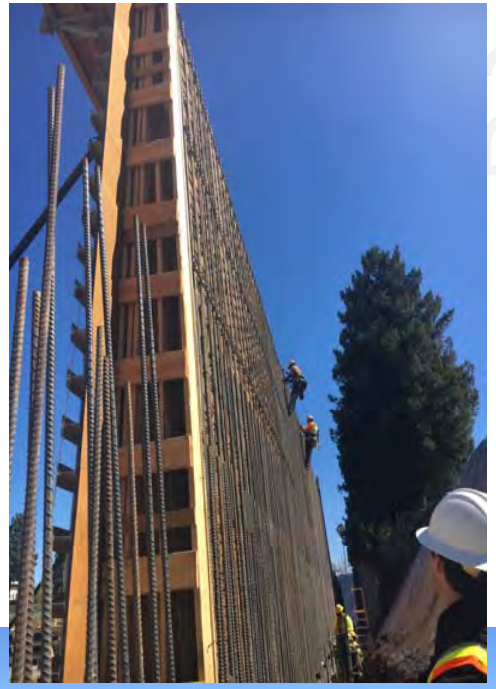
Channel Widening

Project Description

McKelvey Park

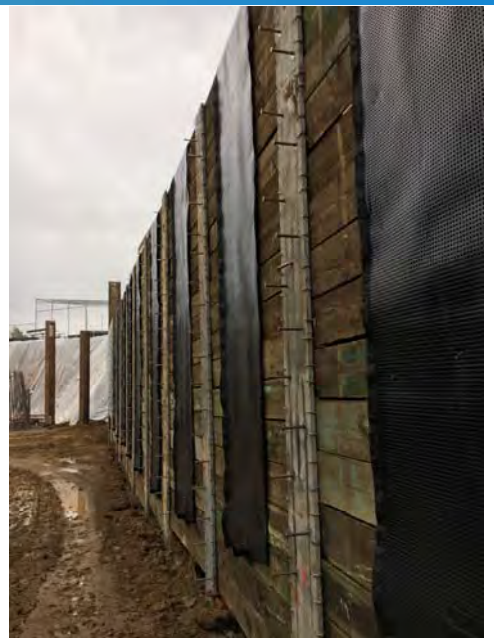
- Sunken fields
- 13 concrete retaining and soldier pile walls
- Weir & pump station
- Other park amenities

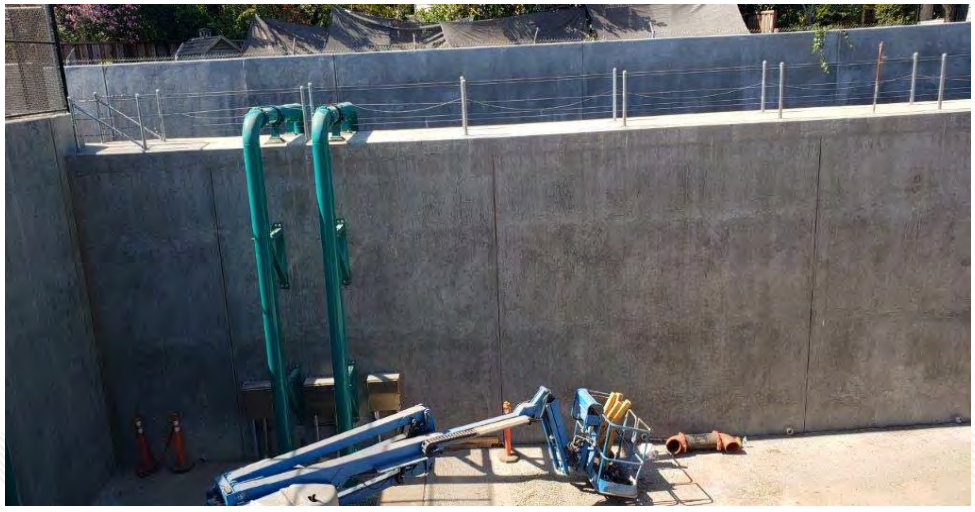
Babe Ruth Field



Little League Field

Weir and Pump Station





Pedestrian Bridge

Babe Ruth Field Building

Little League Field Building

Community Building

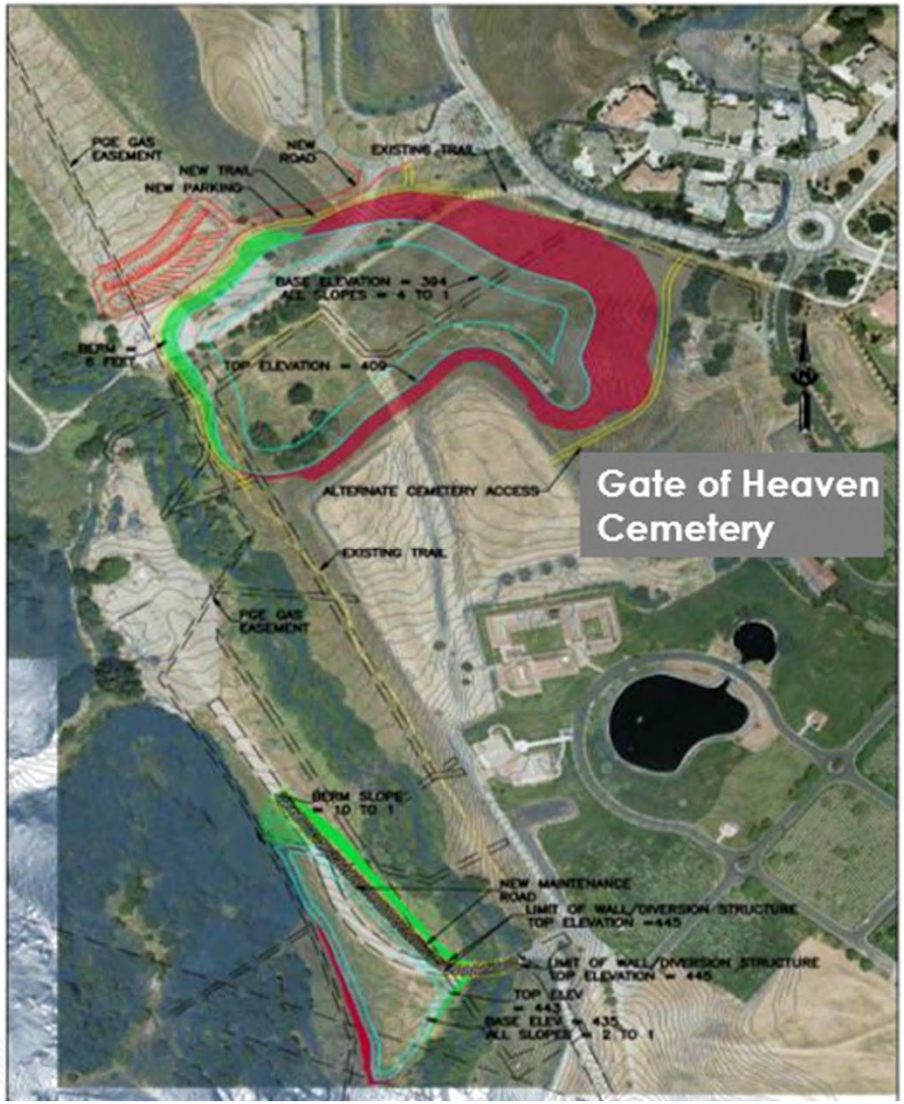
Mini Park (Shaefer Park)


EAGLES

Project Description

Rancho San Antonio

- Detention Basins
- Maintenance Bridge
- Restroom/Leach Field
- Parking Lot
- Planting



Valley Water

Inlet Structure and South Basin

North Basin and New Parking Lot

Valley Water

Questions?

Time for a quick break!

Time for a pulse check!

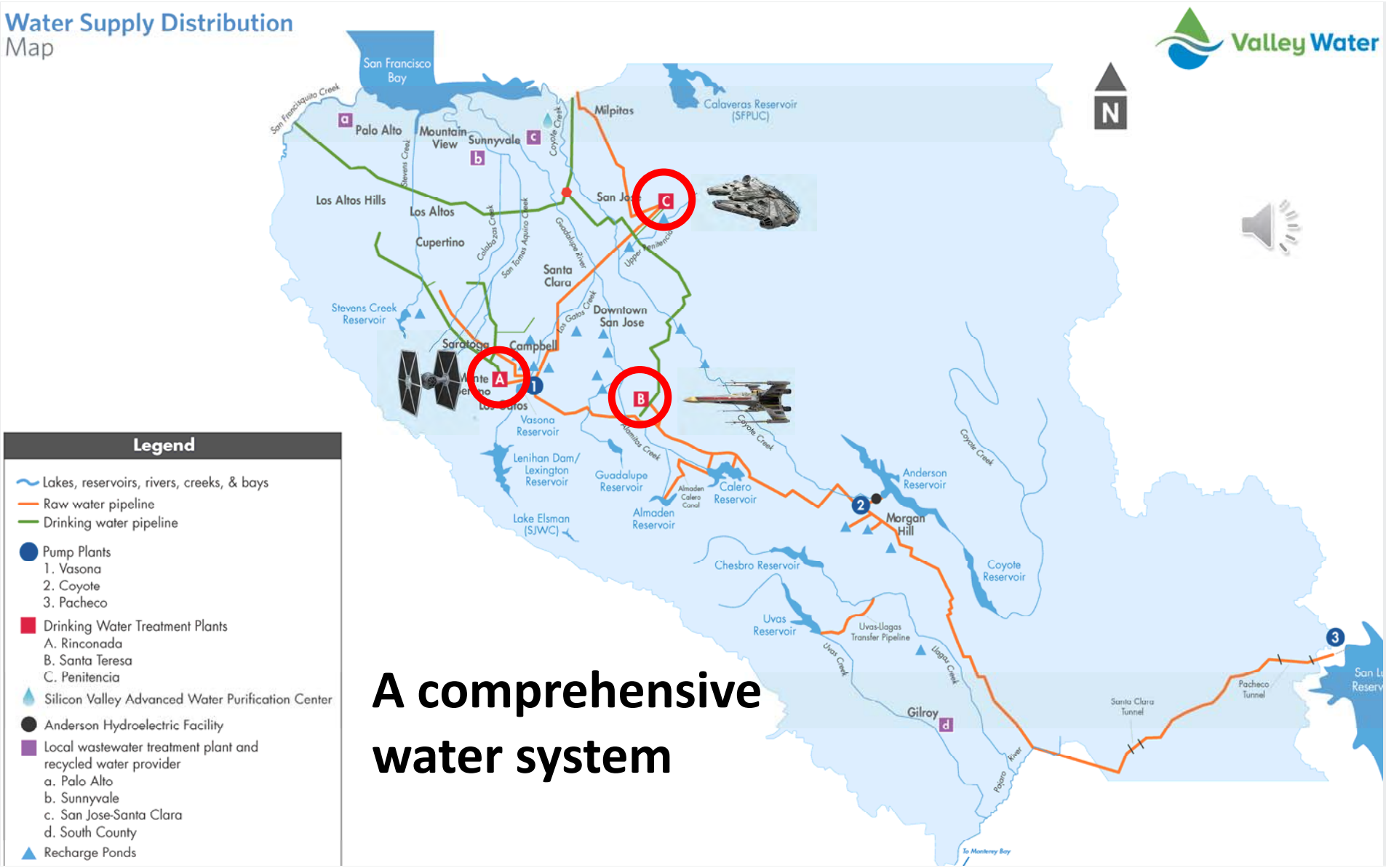
Valley Water

Clean Water • Healthy Environment • Flood Protection

Safe, Clean Water

Water Treatment Plants

Water Supply Distribution Map



A comprehensive water system

Steve Twitchell,
Plant Supervisor

Rinconada Water Treatment Plant

Valley Water

Disinfection

(Rinconada after improvements)

Pre-Ozone (Raw Water Ozonation)

Removing particles and other solids from the water

Flocculation
Solids clump together

Sedimentation
Clumps sink and removed

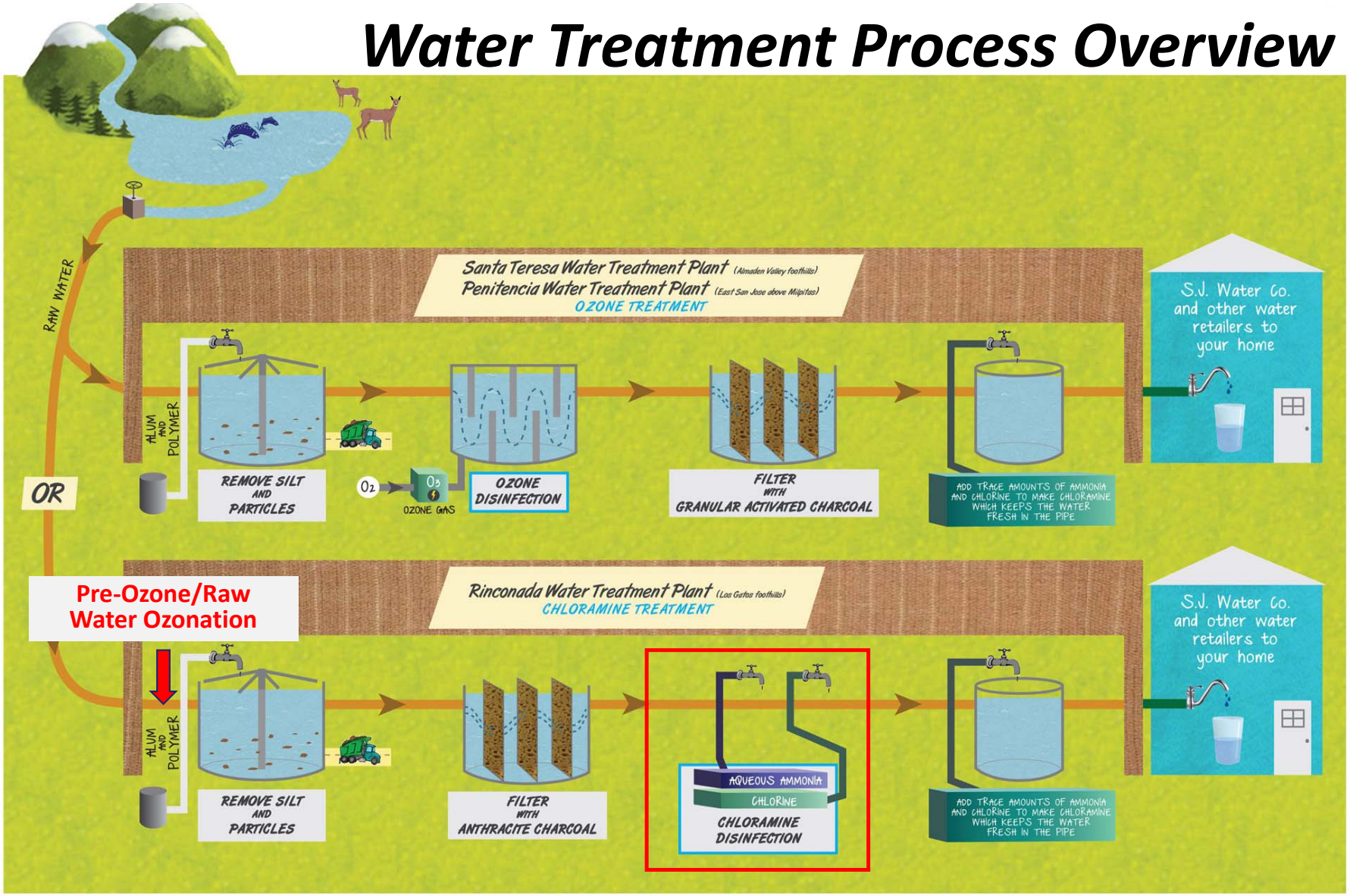
Disinfection
(Santa Teresa and Penitencia)

Intermediate Ozonation

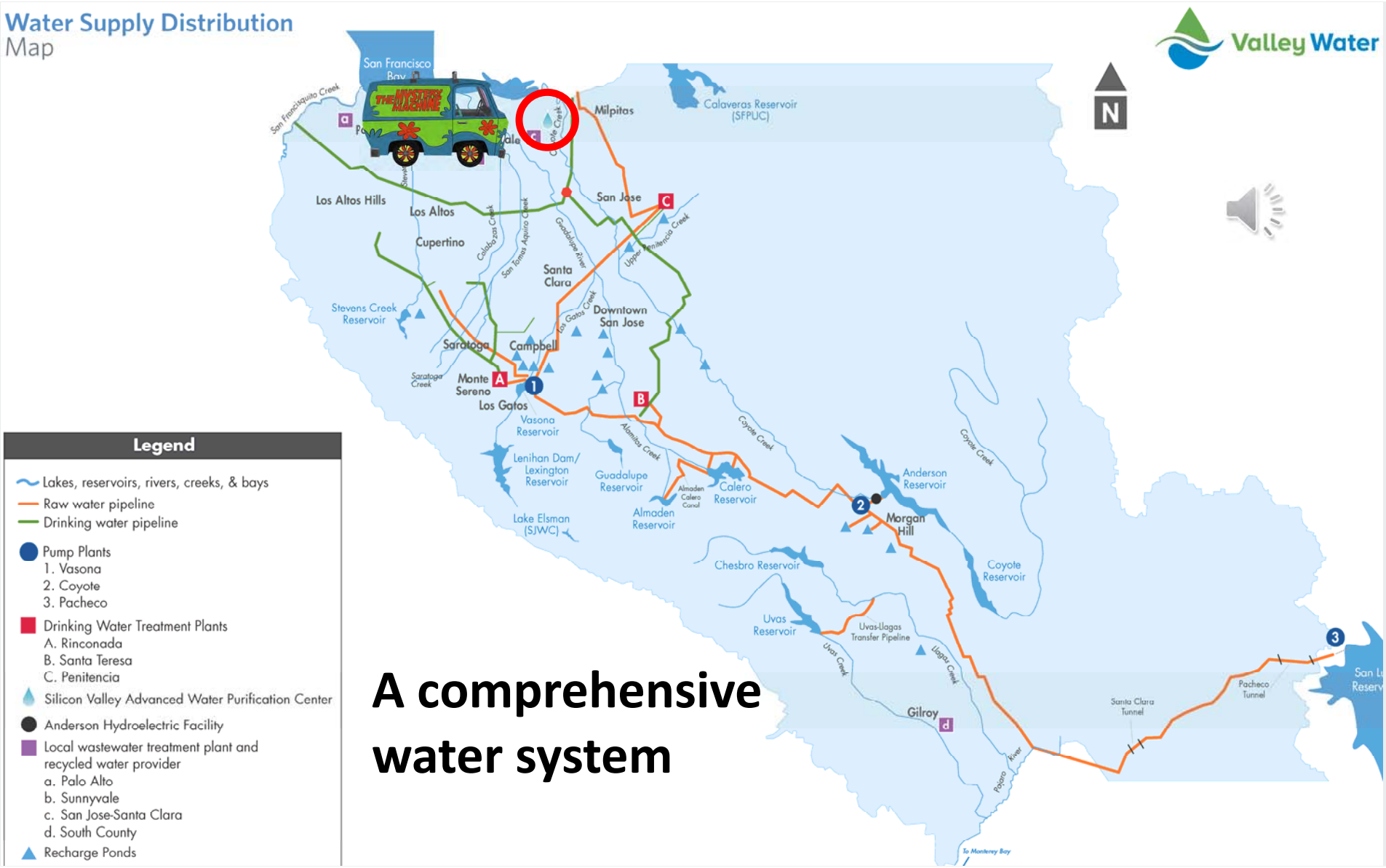
Filtration

Removing microscopic particles

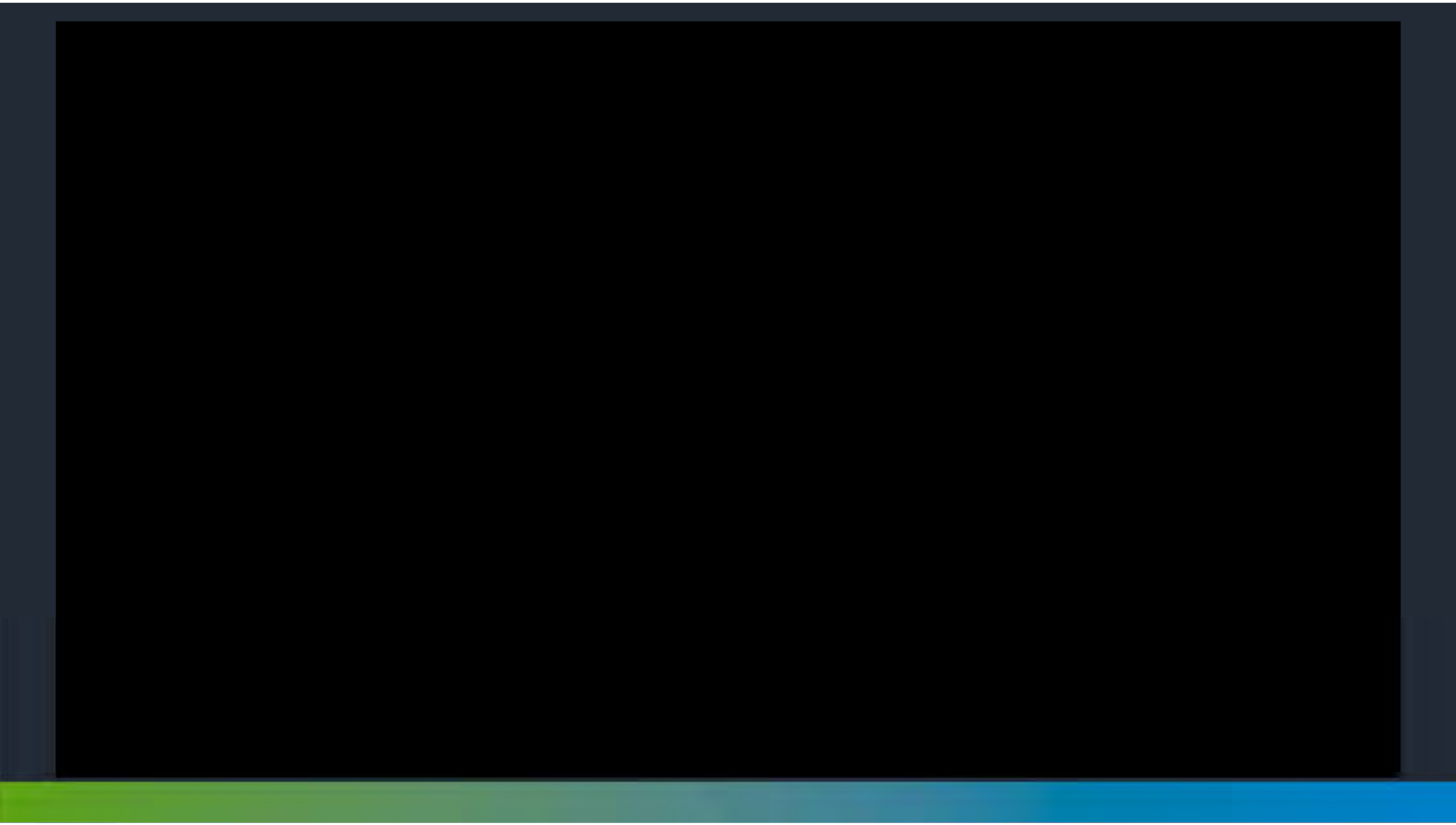
Water Treatment Process Overview



Water Supply Distribution Map



A comprehensive water system



KJ Scott,
Public Information Rep.

Silicon Valley Advanced
Water Purification Center

Valley Water

Purifying Water for a Sustainable Tomorrow

Uses recycled water and is good for the environment

Provides a drought-resistant water supply

Uses state-of-the-art purification processes

Speeds up nature’s process

Pre-Treatment: Intake Pumps and Autostrainer

Intake Pumps – 40 PSI

Auto-Strainers

Microfiltration

"Outside-In" membrane filtration

.1 micron pore size, or 3,000x smaller human hair

Organic and inorganic contaminants stay in vessel

Backwash removes contaminants

Inter-process Tank and RO Transfer Pumps

- 225,000 gallon tank, ½ size of Olympic pool
- Backwash water for microfiltration
- Anti-scaling agent to prevent mineral buildup

Valley Water

Reverse Osmosis Feed Pumps

3x450 horsepower pumps

130-140 psi

$800,000 electricity per year

SVAWPC electricity from Shasta and Oroville Hydropower

Desalination uses RO but would need 1000-1500 psi

Valley Water

Reverse Osmosis

Membrane pores remove substances larger than water molecule

82% permeate/purified

18% concentrate with contaminants

- salts
- viruses and organic matter
- pharmaceuticals
- chemicals and pesticides

Bottle water and baby food production

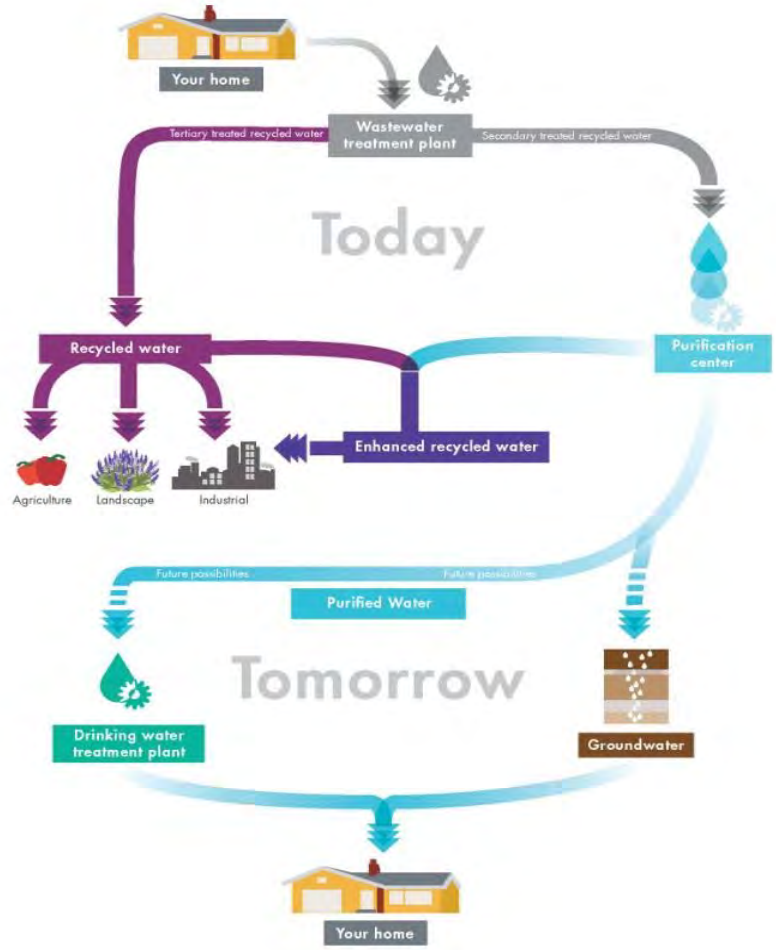
Ultraviolet Light Disinfection

- Ultraviolet disinfection for extra layer of safety
- High intensity UV light destroys organic compounds
- 20,000x more efficient than boiling water

Finishing Tank and Enhanced Recycled Water

- 2,250,000 gallon tank (10x inter-process tank)
- Stores advanced purified water before RWWF
- Enhanced recycled water safer for plants and better for industrial cooling systems

Future of Advanced Purification & Water Reuse



- **Countywide Water Reuse Master Plan**
- **10% water reuse, 24,000 AFY**
- **Long term 45,000 AFY**
- **Indirect potable reuse**
- **Direct potable reuse**
- **Enhanced Recycled Water**

siliconvalley

ADVANCED WATER PURIFICATION CENTER

Valley Water

- Visit: www.purewater4u.org
- Email: info@purewater4u.org
- Valley Water

Questions?

Feedback survey & other questions?

https://www.surveymonkey.com/r/8DJ8MT9

Valley Water

Clean Water • Healthy Environment • Flood Protection