

City of Angels

Five Year CIP Projects

September 17, 2024

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Principal Engineer

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City of Angels
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Five Year CIP

Wastewater 2024-2028 Capital Projects

Capital Projects Overview

The City of Angels has identified eight critical projects as part of its wastewater system capital improvement program for 2024-2028. The projects are crucial for maintaining and upgrading the wastewater infrastructure to ensure sustainability, compliance, and improved service delivery. Funding for these projects will come from a combination of reserve funds, grants, developer contributions, and debt service. This strategic approach aims to balance financial resources while addressing the most urgent infrastructure needs. A five-year plan for the wastewater capital improvements program has been identified for the fiscal years 2024-2028. The table below summarizes the projects, their scopes, costs, and funding strategies.

Project Designation	Project Title	Project Limits	Length (ft)	Diameter (in)	Construction Cost (\$)	Total Project Cost (\$)	Funding Source
Wastewater Treatment Plant (WWTP)							
WWTP-1	Emergency Storage Basin Improvements	Armoring of side slopes, re-routing of storm drain lines, spillway/outlet modifications	-	-	350,000	550,000	Debt
WWTP-2	Grit Removal System	Construction of grit removal system at plant headworks	-	-	450,000	700,000	PG
Wastewater Collection System (WWCS)							
WWCS-1	Vallecito Road Sewer Rehabilitation Project	SSMH 36 – SSMH 43	1,600	12	640,000	990,000	G
WWCS-2	East Angels Trunk Sewer Rehabilitation Project	SSMH 19 – SSMH 43	3,500	12	1,225,000	1,910,000	PG
WWCS-3	Main Street Sewer Replacement Project	Main Street between Church Street and Vallecito Road	1,500	12	450,000	700,000	PG
WWCS-4	Murphys Grade Road Sewer Rehabilitation Project	SSMH 75 – SSMH 79-4	1,400	12	490,000	760,000	PG
WWCS-5	North Angels Sewer Replacement Project	SSMH 46 – SSMH 74	4,600	12	1,610,000	2,510,000	Dev
Wastewater Pump Station (WWPS)							
WWPS-1	Angel Oaks Pump Station Improvements Project	Emergency generator, pump replacement	-	-	360,000	560,000	Dev

Total Costs
 - Construction Cost: \$5,575,000
 - Total Project Cost: \$8,680,000

Funding Sources Key
 - PG: Pay Go
 - G: Grant
 - Debt: Debt Service
 - Dev: Development

Water 2024-2028 Capital Projects

Capital Projects Overview

The City of Angels has identified eight critical projects as part of its water system capital improvement program for 2024-2028. The projects are crucial for maintaining and upgrading the water infrastructure to ensure sustainability, compliance, and improved service delivery. Funding for these projects will come from a combination of reserve funds, grants, developer contributions, and debt service. This strategic approach aims to balance financial resources while addressing the most urgent infrastructure needs. The following tables summarize the key projects for the water system capital improvement program from 2024 to 2028, detailing the scope, costs, and funding strategies.

Water Treatment Plant (WTP)

Project Designation	Project Title	Project Limits	Length (ft)	Diameter (in)	Construction Cost (\$)	Total Project Cost (\$)	Funding Source
WTP-1	Backwash Handling Improvements	Backwash recovery system, residual dewatering system	-	-	4,270,000	6,660,000	G
WTP-2	Treated Water Transmission Main Replacement	Water Treatment Plant to Murphys Grade Road	3,500	18	1,400,000	2,180,000	Debt

Water Treatment Mains (WTM)

Project Designation	Project Title	Project Limits	Length (ft)	Diameter (in)	Construction Cost (\$)	Total Project Cost (\$)	Funding Source
WTM-1	Murphys Grade Road Transmission Main Upgrade	Murphys Grade Road from WTP-2 project termination to Main Street	4,920	12	1,476,000	2,300,000	Debt
WTM-2	SR-49 Transmission Main Upgrade	SR-49 from Monte Verde Street to Murphys Grade Road and SR-49 from Clifton Lane to Cherokee Creek	2,000	12	650,000	1,015,000	Debt
WTM-3	Stockton Road/Foundry Lane Interconnect Project	Stockton Road from Angels Oak Drive to Main Street and Foundry Lane from SR-496 to Stockton Road	6,600	12	1,980,000	3,090,000	Dev

Water Distribution Pipelines (WDP)

Project Designation	Project Title	Project Limits	Length (ft)	Diameter (in)	Construction Cost (\$)	Total Project Cost (\$)	Funding Source
WDP-1	Mark Twain Road Water System Improvements	Mark Twain Road from Fairview Drive to Hardenbrook Street	1,750	10	438,000	680,000	PG
WDP-2	Hillcrest, Gold Cliff, McCauley Ranch Road Water System Improvements	Fairview Drive to Ratz Alley Hillcrest Street from Gold Cliff Road to West Street Cold Cliff Road from McCauley Ranch Road to Hillcrest Street McCauley Ranch Road from Spyglass Circle to Gold Cliff Road	1,900	8	380,000	590,000	PG
WDP-3	Pressure Relief Valve Replacement	Replace ten PRVs within distribution system	-	-	500,000	780,000	PG

Total Costs
 - Construction Cost: \$11,179,000
 - Total Project Cost: \$18,275,000

Funding Sources Key
 - PG: Pay Go
 - G: Grant
 - Debt: Debt Service

Five Year CIP Wastewater

- WWTP-1 Emergency Storage Basin Improvements \$ 550,000
- WWTP-2 Grit Removal Systems \$ 700,000
- WWCS-1&2 Booster Way/Vallecito/East Angels \$2,900,000
- WWCS-3 Main Street Sewer Replacement \$ 700,000
- WWCS-4 Murphys Grade Road Sewer Rehab \$ 760,000
- I & I Projects \$ 300,000

WASTE WATER TOTAL \$5,910,000

Five Year CIP Water

• WTP-1 Backwash Handling Improvements	\$6,660,000
• WTP-2 Transmission Main Replacement	\$2,180,000
• WTM-1 SR49 Transmission Main Upgrade	\$1,015,000
• WTM-2 M.G. Rd Transmission Main Upgrade	\$2,300,000
• WDP-1 Mark Twain Road	\$ 680,000
• WDP-2 Hillcrest/Gold Cliff/McCauley	\$ 590,000
• WDP-3 Pressure Relief Valve Replacements	\$ 980,000
• Automated Meter Reader Project	\$ 760,000
TOTAL	\$15,165,000

Five Year CIP
Waste Water and Water Totals

Waste Water
\$5,910,000

Water
\$15,165,000

TOTAL
\$21,075,000

Five Year CIP
Waste Water and Water Totals

Waste Water
\$5,910,000

Five Year CIP Wastewater

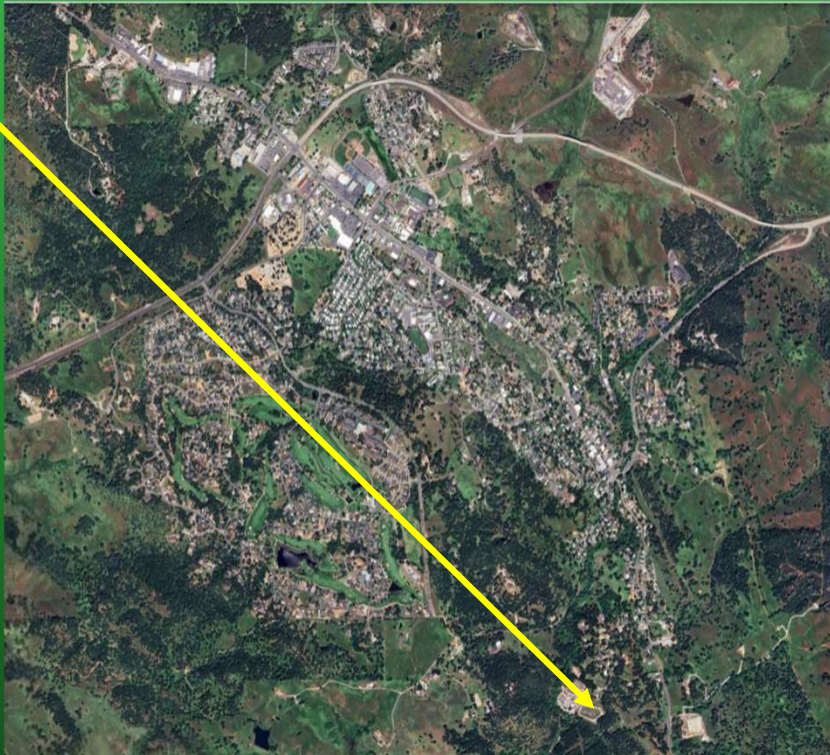
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• WWTP-2 Grit Removal Systems	\$ 700,000
• WWCS-1&2 Booster Way/Vallecito/East Angels	\$2,900,000
• WWCS-3 Main Street Sewer Replacement	\$ 700,000
• WWCS-4 Murphys Grade Road Sewer Rehab	\$ 760,000
I & I Projects	\$ 300,000
WASTE WATER TOTAL	\$5,910,000

Five Year CIP Wastewater

- WWTP-1 Emergency Storage Basin Improvements

\$ 550,000

WWTP-1



Benefits

Increase Flexibility During Weather Events
Improve Resiliency following Emergencies

Priority

Low

Estimated Start

Q1 of 2028

Estimated Complete

Q2 of 2029

Five Year CIP Wastewater

• WWTP-1 Emergency Storage Basin Improvements	\$ 550,000
• WWTP-2 Grit Removal Systems	\$ 700,000
• WWCS-1&2 Booster Way/Vallecito/East Angels	\$2,900,000
• WWCS-3 Main Street Sewer Replacement	\$ 700,000
• WWCS-4 Murphys Grade Road Sewer Rehab	\$ 760,000
• I & I Projects	\$ 300,000
WASTE WATER TOTAL	\$5,910,000

Five Year CIP Wastewater

- WWTP-2 Grit Removal Systems

\$ 700,000



Benefits

Reduce Grit Accumulation
Reduce Plant Maintenance
Extend Life of Equipment

Priority

Low

Estimated Start

Q1 of 2028

Estimated Complete

Q2 of 2029

Five Year CIP Wastewater

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• WWTP-2 Grit Removal Systems	\$ 700,000
• WWCS-1&2 Booster Way/Vallecito/East Angels	\$2,900,000
• WWCS-3 Main Street Sewer Replacement	\$ 700,000
• WWCS-4 Murphys Grade Road Sewer Rehab	\$ 760,000
I & I Projects	\$ 300,000
WASTE WATER TOTAL	\$5,910,000

Five Year CIP Wastewater

- WWCS-1&2 Booster Way/Vallecito/East Angels

\$2,900,000



Benefits

Eliminate Hydraulic Bottlenecks
Increase Capacity of Key Trunk Sewer
Extend Life of Equipment

Priority

High

Estimated Start

Q3 of 2024

Estimated Complete

Q4 of 2025

Five Year CIP Wastewater

• WWTP-1 Emergency Storage Basin Improvements	\$ 550,000
• WWTP-2 Grit Removal Systems	\$ 700,000
• WWCS-1&2 Booster Way/Vallecito/East Angels	\$2,900,000
• WWCS-3 Main Street Sewer Replacement	\$ 700,000
• WWCS-4 Murphys Grade Road Sewer Rehab	\$ 760,000
I & I Projects	\$ 300,000
WASTE WATER TOTAL	\$5,910,000

Five Year CIP Wastewater

- **WWCS-3 Main Street Sewer Replacement**

\$ 700,000



Benefits

Replace “Failed” Sewer Lines
Improve Reliability of Sewer Lines
Reduce Disruption of Downtown Businesses

Priority

High

Estimated Start

Q2 of 2025

Estimated Complete

Q1 of 2026

Five Year CIP Wastewater

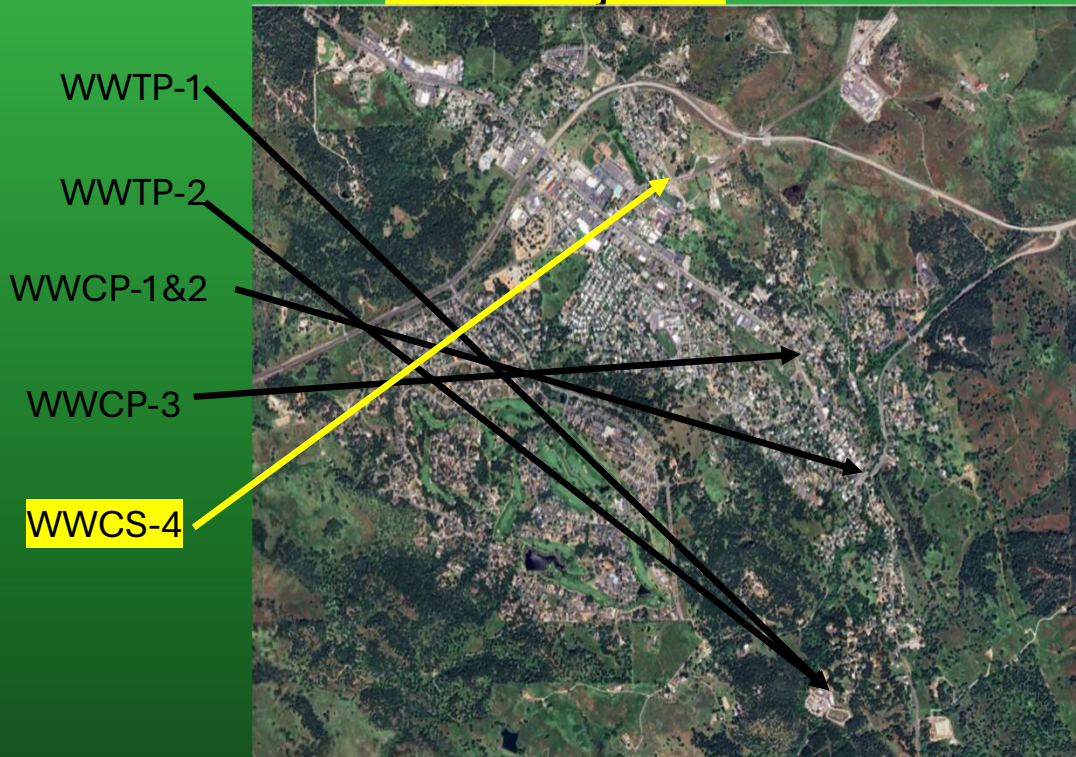
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- WWCS-3 Main Street Sewer Replacement \$ 700,000
- WWCS-4 Murphys Grade Road Sewer Rehab \$ 760,000
I & I Projects \$ 300,000

WASTE WATER TOTAL \$5,910,000

Five Year CIP Wastewater

- **WWCS-4 Murphys Grade Road Sewer Rehab
I & I Projects**

\$ 760,000
\$ 300,000



Benefits

Removes Manholes/Minimizes Overflows
Reduces I&I and Peak Hydraulic Flows
Simplifies Sewer Network near High School

Priority

High

Estimated Start

Q2 of 2025

Estimated Complete

Q1 of 2026

Five Year CIP
Waste Water and Water Totals

Water
\$15,165,000

Five Year CIP Water

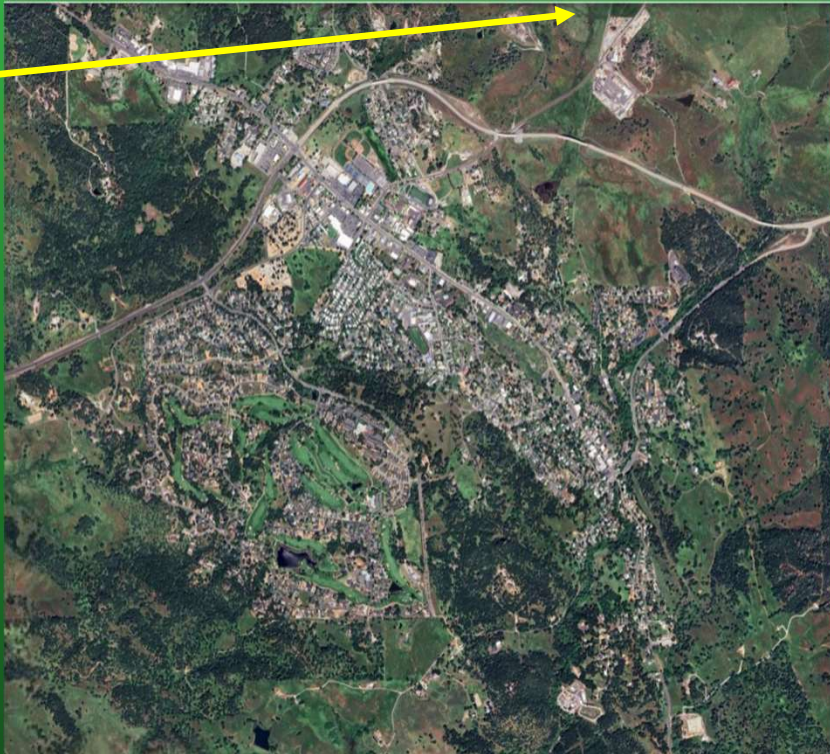
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• WTP-2 Transmission Main Replacement	\$2,180,000
• WTM-1 SR49 Transmission Main Upgrade	\$1,015,000
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• WDP-1 Mark Twain Road	\$ 680,000
• WDP-2 Hillcrest/Gold Cliff/McCauley	\$ 590,000
• WDP-3 Pressure Relief Valve Replacements	\$ 980,000
• Automated Meter Reader Project	\$ 760,000
WASTE WATER TOTAL	\$15,165,000

Five Year CIP Water

- WTP-1 Backwash Handling Improvements

\$6,660,000

WTP-1



Benefits

Increase Efficiency at Water Treatment Plant
Improve Regulatory Compliance
Reduce Maintenance Requirements

Priority

High

Estimated Start

Q3 of 2025

Estimated Complete

Q1 of 2027

Five Year CIP Water

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WASTE WATER TOTAL	\$15,165,000

Five Year CIP Water

- WTP-2 Transmission Main Replacement

\$2,180,000



Benefits

Replace Pipeline / Exceeded Service Life
Improve Reliability of Water Delivery System
Facilitates Future Expansion

Priority

High

Estimated Start

Q1 of 2025

Estimated Complete

Q1 of 2026

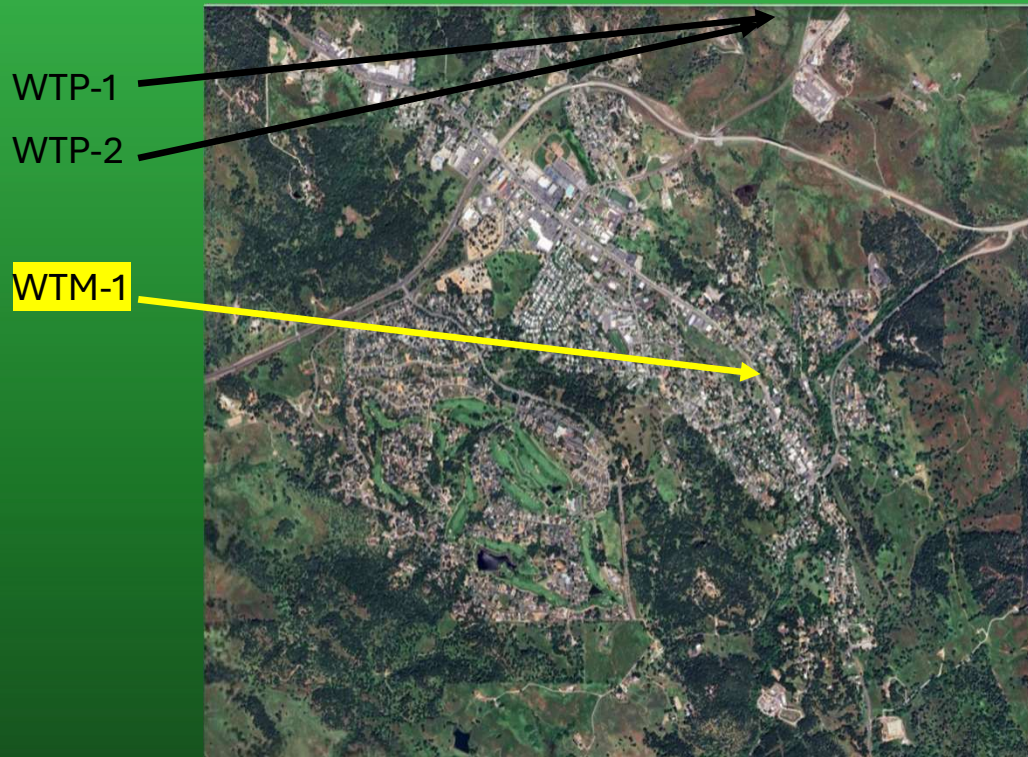
Five Year CIP Water

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WASTE WATER TOTAL	\$15,165,000

Five Year CIP Water

- WTM-1 SR49 Transmission Main Upgrade

\$1,015,000



Benefits

Increase Water Pressure along SR-49
Improves ability to Shunt Water
Facilitates Future Development

Priority

Low

Estimated Start

Q1 of 2029

Estimated Complete

Q1 of 2030

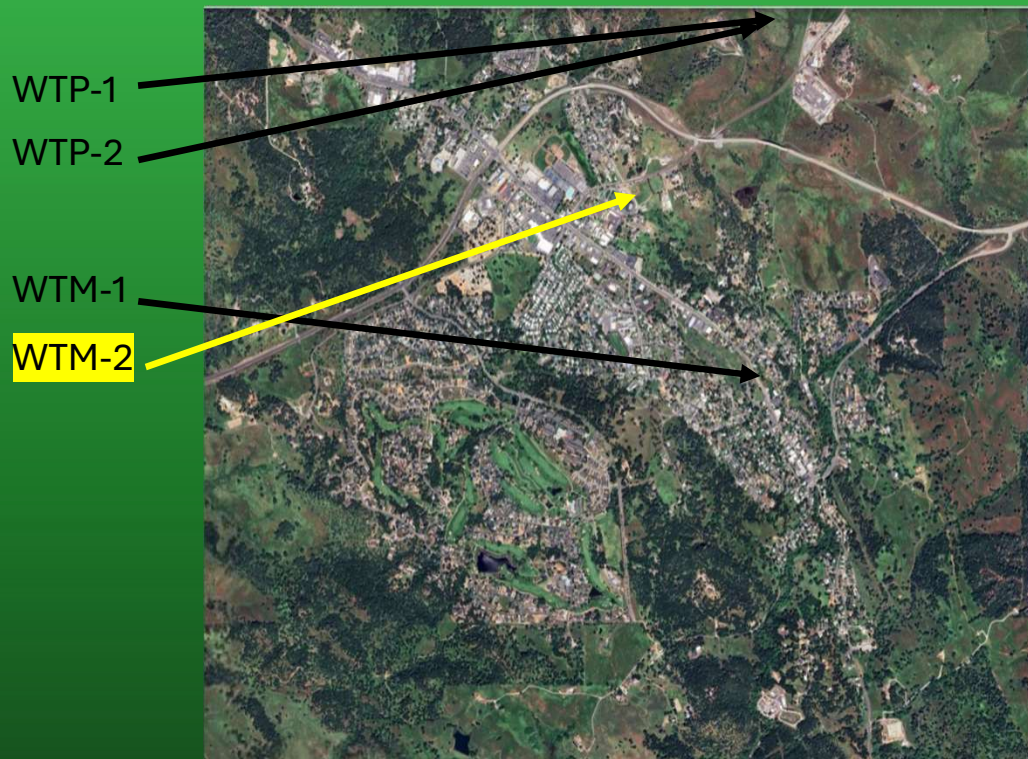
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• Automated Meter Reader Project	\$ 760,000
WASTE WATER TOTAL	\$15,165,000

Five Year CIP Water

- WTM-2 M.G. Rd Transmission Main Upgrade

\$2,300,000



Benefits

Improves Deliveries to the Main System
Improves Fire Protection along SR-49
Increase Resiliency in Event of Emergency

Priority

Medium

Estimated Start

Q2 of 2026

Estimated Complete

Q3 of 2027

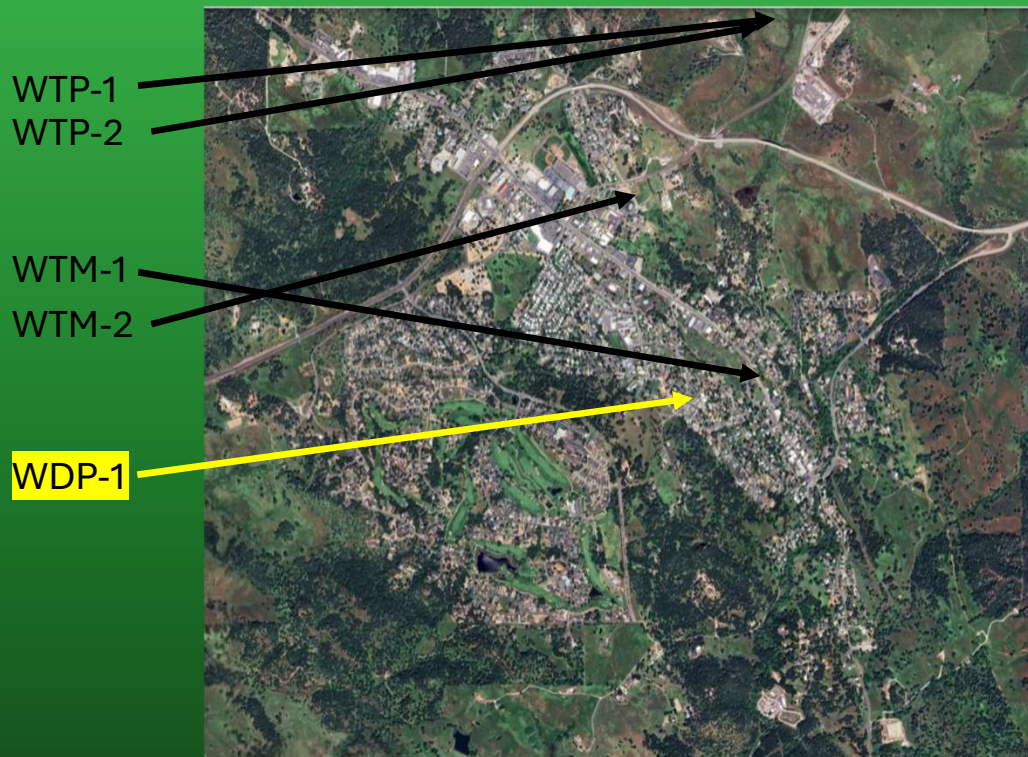
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WASTE WATER TOTAL	\$15,165,000

Five Year CIP Water

- WDP-1 Mark Twain Road

\$ 680,000



Benefits

Eliminates Dead End Line/Min Interruptions
Increases Pressure w/in Local System
Replaces Undersized Pipelines

Priority

Medium

Estimated Start

Q3 of 2024

Estimated Complete

Q2 of 2025

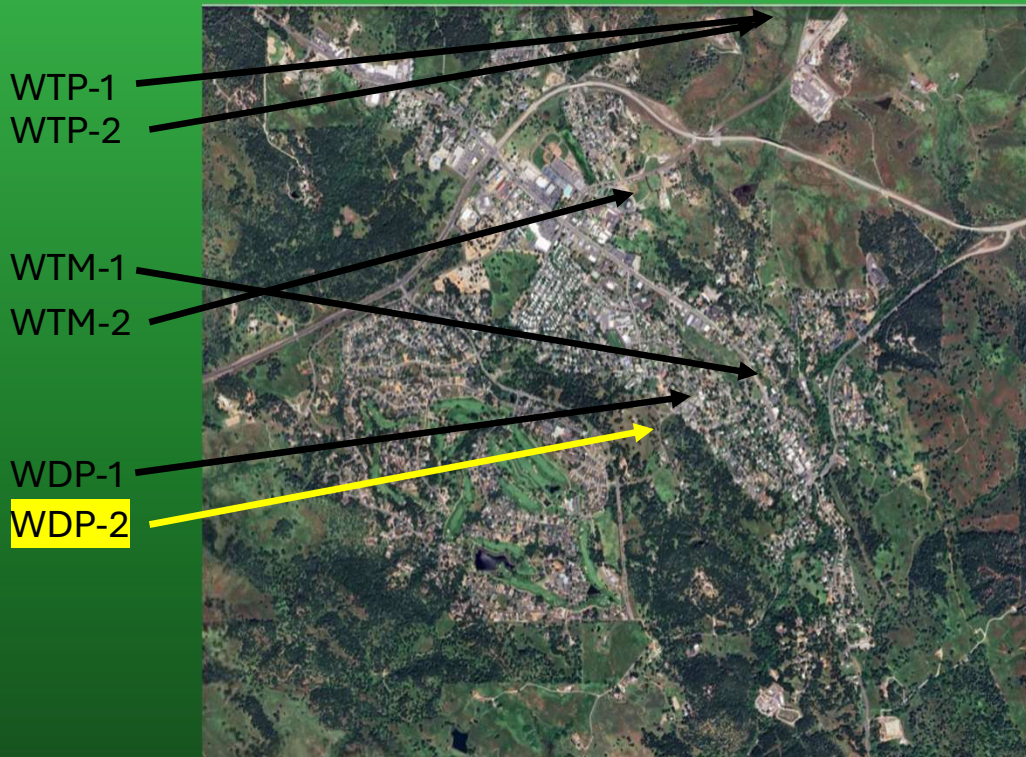
Five Year CIP Water

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• WDP-3 Pressure Relief Valve Replacements	\$ 980,000
• Automated Meter Reader Project	\$ 760,000
WASTE WATER TOTAL	\$15,165,000

Five Year CIP Water

- WDP-2 Hillcrest/Gold Cliff/McCauley

\$ 590,000



Benefits

Increases Water System Delivery
Replaces Undersized Pipelines
Greater Reliability during Emergencies

Priority

Medium

Estimated Start

Q4 of 2027

Estimated Complete

Q1 of 2029

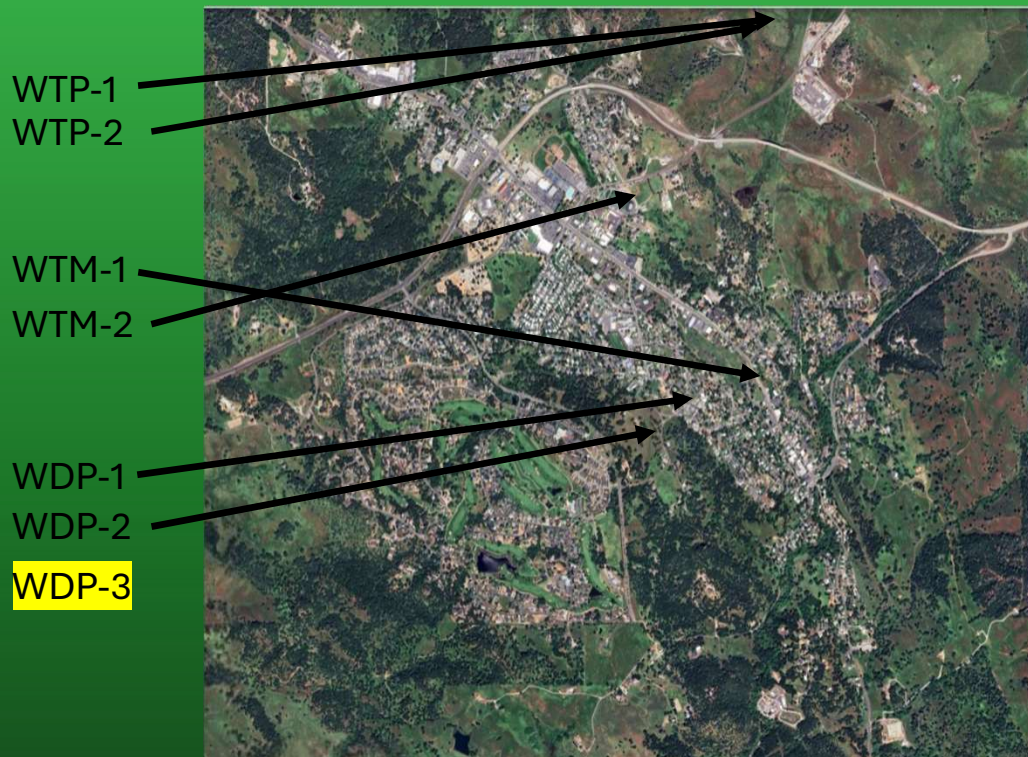
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• WDP-3 Pressure Relief Valve Replacements	\$ 980,000
• Automated Meter Reader Project	\$ 760,000
WASTE WATER TOTAL	\$15,165,000

Five Year CIP Water

- WDP-3 Pressure Relief Valve Replacements

\$ 980,000



Benefits

Replace End of Life Components
Reduce Maintenance Requirements
Improved Control of System Pressures

Priority

Medium

Estimated Start

Q4 of 2024

Estimated Complete

Q1 of 2025

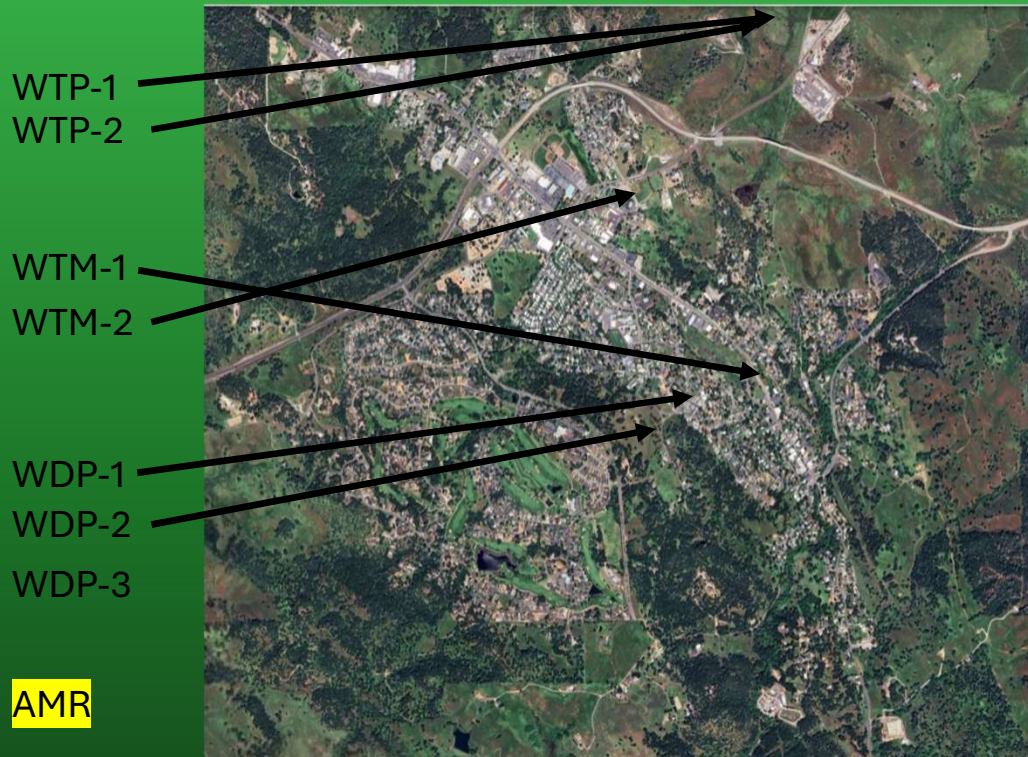
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• WDP-3 Pressure Relief Valve Replacements	\$ 980,000
• Automated Meter Reader Project	\$ 760,000
WASTE WATER TOTAL	\$15,165,000

Five Year CIP Water

- Automated Meter Reader Project

\$ 760,000



Benefits

Improve Efficiency & Accuracy Meter Readings
Reduce Operational Costs
Improve Ability to Manage Water System

Priority

Medium

Estimated Start

Q4 of 2024

Estimated Complete

Q1 of 2025

Five Year CIP
Waste Water and Water Totals

Priority and Timeline

Five Year CIP Wastewater and Water

	Start	End	Priority		
1	Q3 2024	Q4 2025	High	• WWCS-1&2 Booster Way/Vallecito/East Angels	\$ 2,900,000
2	Q4 2024	Q1 2025	Medium	• WDP-3 Pressure Relief Valve Replacements	\$ 980,000
3	Q4 2024	Q1 2025	Medium	• Automated Meter Reader Project	\$ 760,000
4	Q1 2025	Q1 2026	High	• WTP-2 Transmission Main Replacement	\$ 2,180,000
5	Q2 2025	Q1 2026	High	• WWCS-3 Main Street Sewer Replacement	\$ 700,000
6	Q2 2025	Q1 2026	High	• WWCS-4 Murphys Grade Road Sewer Rehab	\$ 760,000
7	Q2 2025	Q1 2026	High	I & I Projects	\$ 300,000
8	Q3 2025	Q2 2025	High	• WTP-1 Backwash Handling Improvements	\$ 6,660,000
9	Q3 2024	Q2 2025	Medium	• WDP-1 Mark Twain Road	\$ 680,000
10	Q2 2026	Q3 2027	Medium	• WTM-2 M.G. Rd Transmission Main Upgrade	\$ 2,300,000
11	Q4 2027	Q1 2029	Medium	• WDP-2 Hillcrest/Gold Cliff/McCauley	\$ 590,000
12	Q1 2028	Q2 2029	Low	• WWTP-1 Emergency Storage Basin Improvements	\$ 550,000
13	Q1 2028	Q2 2029	Low	• WWTP-2 Grit Removal Systems	\$ 700,000
14	Q1 2029	Q1 2030	Low	• WTM-1 SR49 Transmission Main Upgrade	\$ 1,015,000

TOTAL \$21,075,000