TRUCKEE MEADOWS WATER AUTHORITY

Quality. Delivered.

Photo: Traveling Screen 1 Rebuild, Chalk Bluff Water Treatment Plant

Photo By: Jackie Heidelberger, Maintenance Supervisor

Five Year Capital Improvement Plan

Fiscal Year 2024-2028

Truckee Meadows Water Authority is a not-for-profit, community-owned water utility, overseen by elected officials and citizens from Reno, Sparks and Washoe County

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INTRODUCTION

The Truckee Meadows Water Authority's (TMWA's) Five-Year Capital Improvement Plan 2024-2028 (CIP), describes all infrastructure construction and major capital outlays that will take place between July 1, 2023 and June 30, 2028. Guidance for identifying and scheduling projects in the CIP is provided by TMWA's 2015-2035 Water Facility Plan (WFP) and the 2020-2040 Water Resource Plan (WRP).

TMWA is a joint powers authority formed in November 2000, pursuant to a Cooperative Agreement (as amended and restated as of February 3, 2010, the "Cooperative Agreement") among the City of Reno, Nevada ("Reno"), the City of Sparks, Nevada ("Sparks") and Washoe County, Nevada (the "County"). The Authority owns and operates a water system (the "Water System") and develops, manages and maintains supplies of water for the benefit of the Truckee Meadows communities. On January 1, 2015, TMWA, the Washoe County Water Utility (WCWU) and South Truckee Meadows General Improvement District (STMGID) consolidated to create a regional water system under TMWA. TMWA has a total of 171 square miles of service area, which includes the cities of Reno and Sparks and other surrounding populated areas of the County (except certain areas in the vicinity of Lake Tahoe and other small areas bordering California). TMWA has no authority to provide water service outside of its service area; however, may provide service in the future to developments that are annexed into its service area.

The CIP incorporates a comprehensive compilation of water system improvements for TMWA. A major feature of the CIP is the construction of several projects that will expand the conjunctive use of the region's water resources. The philosophy behind conjunctive use of local water resources is to maximize the use of surface water while preserving the integrity of groundwater resources which are drawn upon during periods of persistently dry weather. Another aspect of the CIP is to expand the Aquifer Storage and Recovery Program (ASR Program) which is the recharge of groundwater basins with treated surface water, and explore the possibilities related to Advanced Purified Water (APW). In addition, this CIP includes several major projects to extend full conjunctive use water service to the Verdi area, made possible by approved development and cost effective oversizing. The estimated costs of the new backbone water facilities is $20.0 million and is being borne largely by regional developments in the area.

The CIP constitutes an essential component in TMWA's system of planning, monitoring and managing the activities of purveying water and generating hydroelectric power. The CIP is incorporated into a broader, constantly-updated Five-Year Funding Plan ("Funding Plan") for a comparable period. This Funding Plan will determine adequate levels and sources of funding for projects contained in the CIP.

The 2023-2027 Funding Plan indicates a nominal funding gap in each year, however, due to adequate treasury and ongoing revenues from various sources, TMWA can fund the CIP.

Water Conservation TMWA is a steward of the region's water resources and promotes the efficient use of water in drought and non-drought years. Due to TMWA's ongoing conservation programs, among other factors, municipal residential per capita demand has decreased by 30% since the early 2000s, helping to offset total water use as TMWA's customer base has grown by approximately 30%. Capital spending represents a key aspect of TMWA's conservation program. Projects such as meter replacements, conjunctive use and recently the Advanced Purified Water Facility at American Flat represent projects which help to ensure TMWA has the appropriate infrastructure in place to allow for efficient water use. Specifically, projects included in the CIP having significant conservation impacts are as follows: Advanced Purified Water Facility at American Flat ($112.0 million), Automated Meter Infrastructure ($13.3 million), Well Head TTHM Mitigation ($1.0 million), STMGID Conjunctive Use Facilities (Arrowcreek BPS) ($0.4 million), and Lazy 5 Pump Station ($2.7 million).

The CIP includes total spending of $445.6 million with approximately 56.3% or $250.9 million dedicated to upgrades or replacement of existing infrastructure, and approximately 38.5% or $171.5 million allocated to construction of new water system capacity projects, conjunctive use construction projects, retrofit of remaining unmetered services, and potential opportunistic acquisition of water rights. Of the total projected spending over the next five years 4.9% or $21.8 million is considered contingency spending which is dependent on certain events occurring to trigger spending. The $445.6 million in projected spending is grouped into broad categories of improvements and spending outlays. These categories are described below with detailed project descriptions to be found in the Project Description Section.

Raw Water Supply Improvements contains 26.6% or approximately $118.3 million of total spending in the CIP. Comprising nearly all of the spending in this category is the construction of an Advanced Purified Water (APW) Facility at American Flat which will be built as a follow up to the OneWater NV advanced purified water feasibility study, and will be a joint effort with other agencies. Through an interlocal agreement, TMWA has partnered with City of Reno who will reimburse TMWA for 70% of the construction costs. There will be immediate benefit to City of Reno resulting from increased capacity at the Reno Stead Water Reclamation Facility. Other projects in this category include improvements to the Highland Canal/Siphon raw water conveyance infrastructure, upstream storage improvements for Donner Lakes where TMWA stores Privately-Owned Stored Water (POSW) and expenses associated with the storage and implementation of the Truckee River Operating Agreement (TROA).

Ground Water Supply Improvements contains 4.9% or approximately $22.0 million of total spending in the CIP. These projects focus on preserving existing well capacities, drilling and equipping of new wells and at times complete replacement of existing wells.

Treatment Plant Improvements contains 15.3% or approximately $68.2 million of total spending in the CIP. The Orr Ditch pump station/Hydro Facility project will increase redundancy and reliability by enhancing the Truckee River source of supply to the Chalk Bluff Water Treatment Plant and directly offset power costs. Other spending in this category targets fix and finish projects with the primary focus on the Chalk Bluff and Glendale Surface Water Treatment

Plants located on the Truckee River. Other improvements include installation of a new disinfection process at two wells historically treated by the Longley Lane ground water treatment plant and a complete upgrade of the Supervisory Control and Data Acquisition (SCADA) system which provides centralized automated system control and data storage for the distribution system and treatment plants.

Distribution System Pressure Improvements contains 12.9% or approximately $57.4 million of total spending. This spending primarily includes pump and pressure regulating station rebuilds and new construction, correction of pressure or fire flow deficiencies, as well as reconstruction of pressure regulating valves.

Water Main Distribution & Service Line Improvements contains 15.2% or approximately $67.6 million of total spending in the CIP. These improvements include replacement of aged water mains reaching end of service life, installation of new mains for new and expanded service, water main oversizing and extensions, off-river supply improvements, and conjunctive use projects to extend surface water supplies to the areas that rely heavily on year round groundwater pumping. This last set of projects furthers the conjunctive use philosophy of water resource management and includes the Boomtown water system improvements.

Potable Water Storage Improvements contains 11.5% or approximately $51.3 million of total spending in the CIP. These projects are comprised mainly of new treated water storage tank to increase system redundancy and reliability (Sun Valley #2 Tank and Caughlin 2 Tanks) and construction to serve new and expanded service (STMGID Tank East Zone 11 Tank), some replacement of existing treated water tank capacity as well as systematic recoating of treated water tank interiors and exteriors to extend service life of these facilities.

Hydroelectric Improvements contains 4.0% or approximately $17.7 million of total spending in the CIP. These improvement center on the three run-of-river hydroelectric facilities currently owned by TMWA. Efforts on these facilities focus primarily on flume, forebay, diversion and canal improvements as well as equipment upgrades.

Customer Service Outlays contains 3.5% or approximately $15.7 million of total spending in the CIP. The majority of spending in this category is for Automated Meter Infrastructure (AMI) meter replacements, providing more accurate and real time usage information which can be leveraged for billing, conservation and cost efficiencies. Also, in this category is a spending provision for new business meters which is funded by development.

Administrative Outlays contains 3.4% or approximately $15.0 million of total spending in the CIP. These outlays are primarily for the purchase of heavy and light vehicles, excavation equipment and fleet upgrades. Other spending in this category are for asphalt rehabilitation and replacement at various locations. Also, in this category is spending for security improvements such as fencing, intrusion detection, security cameras, lighting.

Special Programs Funded by Development include outlays for opportunistic water rights purchases. They are separated from a presentation standpoint because in the case of water right acquisitions, spending is currently driven by pricing opportunity. This comprises 2.8% or approximately $12.5 million of total spending in the CIP.

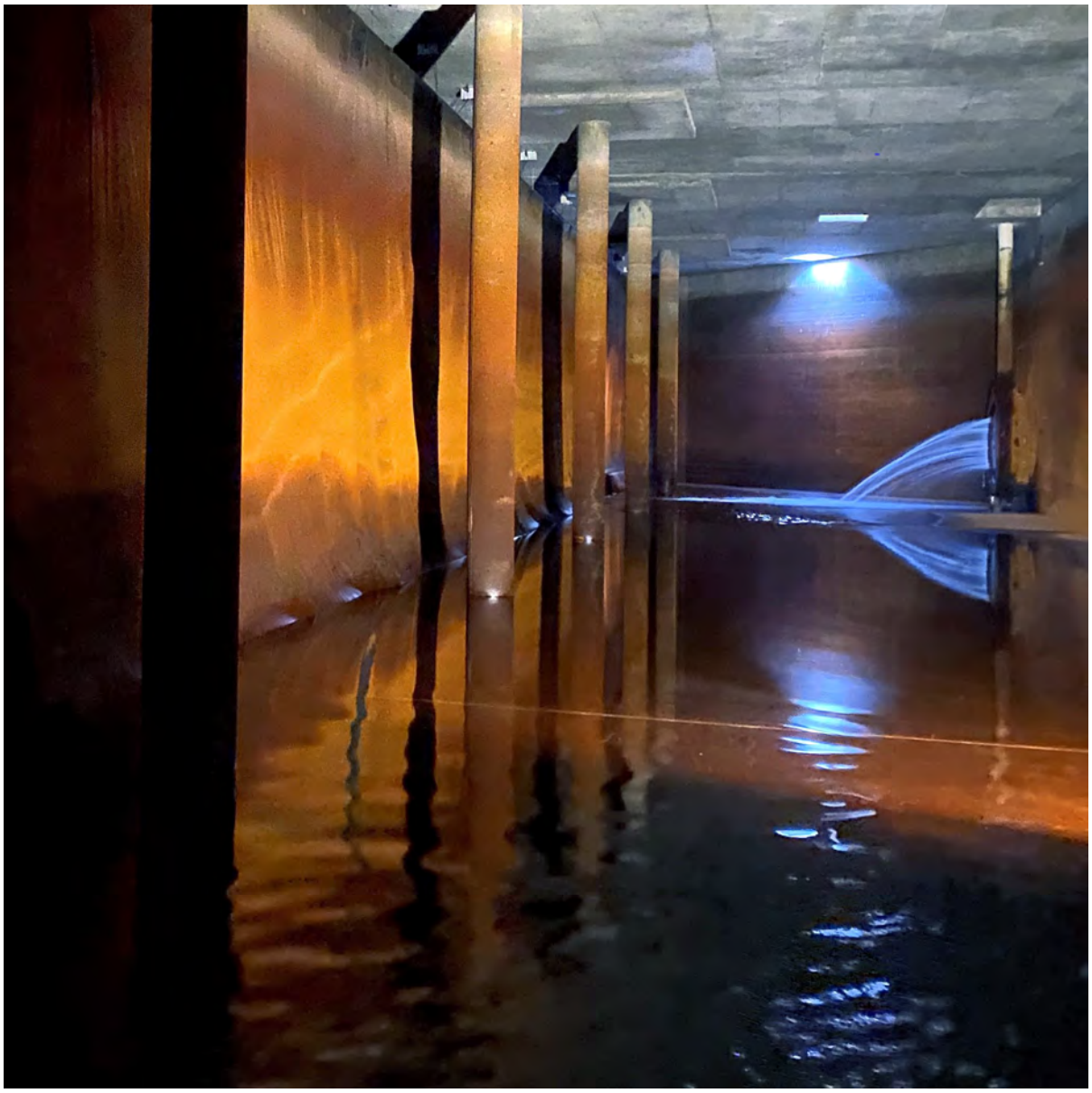


Photo: Chalk Bluff Clearwell
Photo By: Kes Vitkus, Senior Design Engineer

DEFINITIONS

Capital Improvement Program Definitions

The Five-Year CIP is a planning and budgeting tool, which provides information about TMWA's infrastructure needs for a five-year time frame. Each year, the list of projects is reviewed for cost and priority. New projects may be added and other projects delayed or deleted entirely. Since most projects are mandatory or necessary, deletion of a project would be rare with the exception of contingency spending. However, capital spending plans must remain flexible, and it is often necessary to take revisions to the approved fiscal year's CIP back to the TMWA Board for approval. If construction or outlays can be deferred, TMWA will defer spending in order to preserve cash reserves, regardless whether or not there are difficult economic times. These decisions are made on a case by case basis.

Generally, capital improvements/outlays are defined as physical assets, constructed or purchased, that have a useful life greater than one year and a cost of $5,000 or more.

Definition of Capital Outlays

"Capital Outlays," which are in TMWA's capital budget, include construction projects that improve the life of current TMWA infrastructure or are new additions to TMWA infrastructure. Other outlays include computer equipment and software, vehicles, and heavy equipment which are generally found in the Administrative category of projects. Outlays for meter installations and related infrastructure and equipment are generally included in the Customer Service cateogry.

PRIORITIZATION OF PROJECTS/OUTLAYS

TMWA may not have sufficient funding to meet all its capital needs each year or may divert funding to meet unexpected capital improvements. If such conditions arise, projects are prioritized based on the effect each project has on TMWA's ability to meet customer demand and maintain water system reliability. TMWA's Five-Year Funding Plan is used to analyze total spending, identify various funding alternatives, and determine whether or not water rate adjustments will be required.

The priority categories represent a relative degree of need for any particular project and are described below.

* **PRIORITY 1 MANDATORY:** These are considered absolutely required, and are the highest priority of all capital projects. Mandatory projects include those in final design or already under construction, or those required by legislation or regulation for protection of public health and safety. These projects are generally found in the first fiscal year of the CIP. Based on current water demands and infrastructure conditions, if the project is not completed, there is risk of eventually being unable to reliably provide water service to its existing customers and/or new and expanded service, or incur extended outages.

* **PRIORITY 2 NECESSARY:** A project that is important for providing water service to customers, yet timing of construction or spending outlay is not as critical as a mandatory project. These projects are required and are generally found in the last four years of the CIP. External factors such as the pace of new development or the condition of existing infrastructure may delay or accelerate the timing of project construction.

* **PRIORITY 3 CONTINGENCY:** These projects or capital outlays are not immediately critical to the operation of the water system. Expenditures in this category generally require a business case study or specific criteria to be met before spending can occur. If such criteria are not met, then spending may or may not be justified. Also, some projects can be deferred if spending is required in an area of higher priority. Even though these projects and outlays are in the CIP, the likelihood that spending will occur may be remote and is based upon future conditions that are difficult to predict.

FUNDING OF CAPITAL SPENDING

Funding Sources

The CIP will rely on various funding sources to pay for capital projects/capital outlays. TMWA relies heavily on revenues generated from water sales, hydroelectric, and other operating sales to fund the majority of projects. Developer contributions have historically been an important funding source for certain construction projects for new and expanded water system capacity. Investment income is also available to augment other revenue sources but is minor in relation to other funding sources. Funding from developer contributions can vary year to year and dependent on the local economy and pace of new construction in TMWA's service territory. For this reason, TMWA does not rely on these fees to fund operations or fund annual principal and interest payments on TMWA's outstanding debt. TMWA may rely on the issuance of debt to fund large levels of capital spending in a particular period. Although, historically, TMWA has funded certain capital projects through the issuance of debt, there is no plan to issue debt to fund any portion of this CIP.

Developer Contributions

TMWA looks to the development community for developer contributions in the form of system development charges or direct reimbursements to fund capital expenditures related to new or expanded water service, including pump station construction or expansions and feeder main extension projects. In June 2003, the TMWA Board adopted facility charges to pay for new treatment/supply capacity projects and new storage capacity projects. TMWA began collecting these facility charges in January 2004. Under TMWA's Rule 5 these proceeds are used to support new capacity construction. Rule 7 governs the purchase of water rights and reimbursement by developers for issuance of will-serve commitments for water service. However, because of the timing of certain growth driven capital projects, additional financial resources may be called upon as needed. The most recent update to the water system facility charges, which updated area fees, supply and treatment fees, as well as storage unit costs was approved by the TMWA Board in August, 2019 with an effective date of January, 2022. These fees are subject to periodic review for funding adequacy.

Financing Background

Revenue bond issuance has been an integral part of funding construction spending. TMWA has historically taken advantage of lower rate, subordinated debt financing obtained through the Drinking Water State Revolving Loan Fund (DWSRF) and a tax-exempt commercial paper program (TECP) due to lower cost of capital and repayment subordination features of these funding vehicles. Federal and State Grants and loan forgiveness programs have also been identified in the past to fund projects. In the event customer water sales and developer funding is not sufficient to cover immediate infrastructure needs, TMWA maintains the ability to access the credit market and issue debt. However, TMWA has no intent to issue debt to fund any portion of

this CIP. TMWA has been able to reduce debt by over $86.5 million, and 19% during the last 5 years, and currently has no plan to increase debt to fund projects in this plan.

Rule 5 and Rule 7 Fees

These fees are collected from the development community. Rule 5 fees are paid by developers to TMWA for the construction of new water feeder mains, new treatment/supply capacity, new storage capacity, and for new or rebuilt pump stations to meet demand resulting from new and expanded service. Rule 7 Fees are derived from will-serve sales to development. TMWA historically purchased water rights on the open market and reserves these rights for will-serve letters to be sold to development. TMWA also recovers the applicable administrative and financing costs with the sale of each will-serve. The title to water rights are retained by and dedicated to TMWA. TMWA has sufficient inventory of water rights to meet the demands for new and expanded service for the foreseeable future.

Water Meter Retrofit Fees

Pursuant to Resolution 272 passed by the Board of Directors on January 16, 2019, the Water Meter Retrofit Fee was replaced by the Water Resource Sustainability Fee. The remaining balance of $5.7 million will be allocated entirely to the Automated Meter Infrastructure project.

Water Resource Sustainability Fund Fees

Resolution 272, passed by the Board of Directors on January 16, 2019, broadened the purpose of the Water Meter Retrofit Fee to support projects such as expanded conjunctive use, aquifer storage and recovery, demonstration and validation of advanced purified water treatment processes, future water resource identification and acquisition, and other projects that enhance water resource sustainability and drought resiliency. The fee has been reduced from $1,830 to $1,600 for each acre-foot of demand when will-serve commitments based on surface water right dedications are issued for new or expanded service.

Capital Contributions from Other Governments

TMWA is a water wholesaler to the Sun Valley General Improvement District (SVGID). From time to time, new infrastructure must be constructed to service this retail water-service provider. There are no expectations of any need for reimbursement from this source in the CIP although historically SVGID has made contributions to TMWA.

Reserves from the Water Utility Consolidation

TMWA, the WCWU and STMGID consolidated on January 1, 2015. As a result of the consolidation, the respective treasuries of the WCWU and STMGID were transferred to TMWA. The WCWU treasury that was transferred to TMWA amounted to approximately $43.4 million while the STMGID treasury transferred to TMWA was approximately $15.7 million of which zero remains. These cash and investment reserves will continue to be used to make necessary improvements in the former water utility service areas including conjunctive use enhancements.

Other Resources

One method of generating additional funds for capital improvements is to increase existing fees/ charges or to add new fees/charges. However, future increases are expected to be nominal if TMWA is able to meet revenue requirements and maintain bond coverage ratios that will suffice to maintain strong investment-grade credit ratings. TMWA has obtained many benefits of Aa2 from Moodys, AA+ from S&P, and AAA from Fitch. The Board approved a five-year customer water rate plan in early 2017 which included a water rate increase of 3.0% in May of 2017 and 2018. TMWA Board deferred the 2.5% rate increases scheduled for 2019 through 2021 to 2020 through 2022, effectively delaying the rate increase plan by one year. Due to the pandemic, the Board again deferred the 2.5% water rate increases scheduled for 2020 through 2022 to 2021 through 2023. Water rate increases are essential for TMWA to maintain sound credit ratings and to preserve access to opportunities in the capital markets.

FISCAL YEAR 2024 CAPITAL SPENDING-THE CAPITAL BUDGET

TMWA expects to spend $103.7 million in fiscal year 2024, the first year of the FY 2024-2028 CIP. Of this total, $61.6 million will be funded by customer rates for water system rehabilitation, hydroelectric improvements, pressure system improvements, water main distribution service line improvements, and administrative and customer service outlays. Another $33.5 million will be funded by developer fees for water system expansion, limited opportunistic acquisition of water rights. The water meter retrofit fund will pay for $2.0 million for meter replacements, and the sustainability fund will pay for $1.6 million in projects. Insurance settlements will pay for $5.0 million in hydroelectric improvements.

SUMMARY OF PROJECTS FOR THE FISCAL YEAR 2024 BUDGET

TMWA has established the following projects for the capital budget in fiscal year 2024 (Amounts presented in thousands of dollars):

Summary of Projects for FY 2024	Amount
Raw Water Supply Improvements	
Highland Canal-Upgrades-Downstream	225
Highland Canal-Upgrades-Diversion to Chalk Bluff	500
TROA Drought Storage / Implementation	100
Advanced Purified Water Facility at American Flat	20,000
Washoe Lake System Improvements	150
Total Raw Water Supply	**20,975**
Ground Water Supply Improvements	
Well Rehabilitation Improvements	200
Double Diamond #5 and Equipping	450
Well Fix & Finish	350
Brush Well Replacement and Spring Creek 8	342
Callamont Well North Equipping	60
Spring Creek Well #10 - Donovan	1,000
Fish Springs Ranch TDS Monitoring Wells	250
Spring Creek Well 9 (Spring Creek 4 Replacement)	1,700
Spring Creek Wells pH Adjustment	650
Total Ground Water Supply	**5,002**
Treatment Plant Improvements	
Chalk Bluff Treatment Plant Improvements	365
Chalk Bluff Sedimentation Rehab	620
Chalk Bluff Clearwell 1 Rehab	854
Glendale Treatment Plant Improvements	1,000

Summary of Projects for FY 2024 (continued)	Amount
Mt Rose Treatment Plant Efficiency Improvements	492
Chalk Bluff Filter Underdrains	1,400
Glendale Filter Underdrains	500
Chalk Bluff Lighting Upgrade	350
Glendale Treatment Plant Flocculator Rehab	590
Glendale Office Expansion	300
Orr Ditch Pump Station Rehab and Hydro Facility	19,800
Truckee Canyon Water Treatment Improvements	100
Lightning W Treatment Improvements	20
SCADA Rehab / Plant Operating Software	1,000
Longley Water Treatment Plant Retrofit	250
Spanish Springs Nitrate Treatment Facility	2,100
Chalk Bluff Electrical System Upgrades	150
Total Treatment Plant	**29,891**
Pressure Improvements	
Pressure Regulators Rehabilitation	1,200
Land Acquisitions	150
Desert Fox Standby Generator	150
Longley Booster Pump Station / Double R Capacity Increase	250
Pump Station Oversizing	100
Pump Station Rebuilds, Rehabilitations	150
Standby Generator Improvements	50
Idlewild Booster Pump Station Improvements	800
Lazy 5 Low Head Pump Station & Mains	1,900
7th Street High & Low BPS Replacement	3,650
Verdi 1 BPS	2,500
Santerra Quilici 1 BPS	450
Santerra Quilici 2 BPS	30
STMGID Conjunctive Use Facilities - Arrowcreek BPS	400
STMGID Conjunctive Use Facilities - Whites Creek Ln	1,000
Tappan 2 PRS	250
Total Pressure Improvements	**13,030**
Water Main-Distribution-Service Line Improvements	
Street & Highway Main Replacements	1,000
Golden Parkway Main & Check Valve Tie	180
McCarran/Greenbrae SS Relocations	400
Boise Drive Main Replacement	20
Holcomb Ave Main Replacements	20

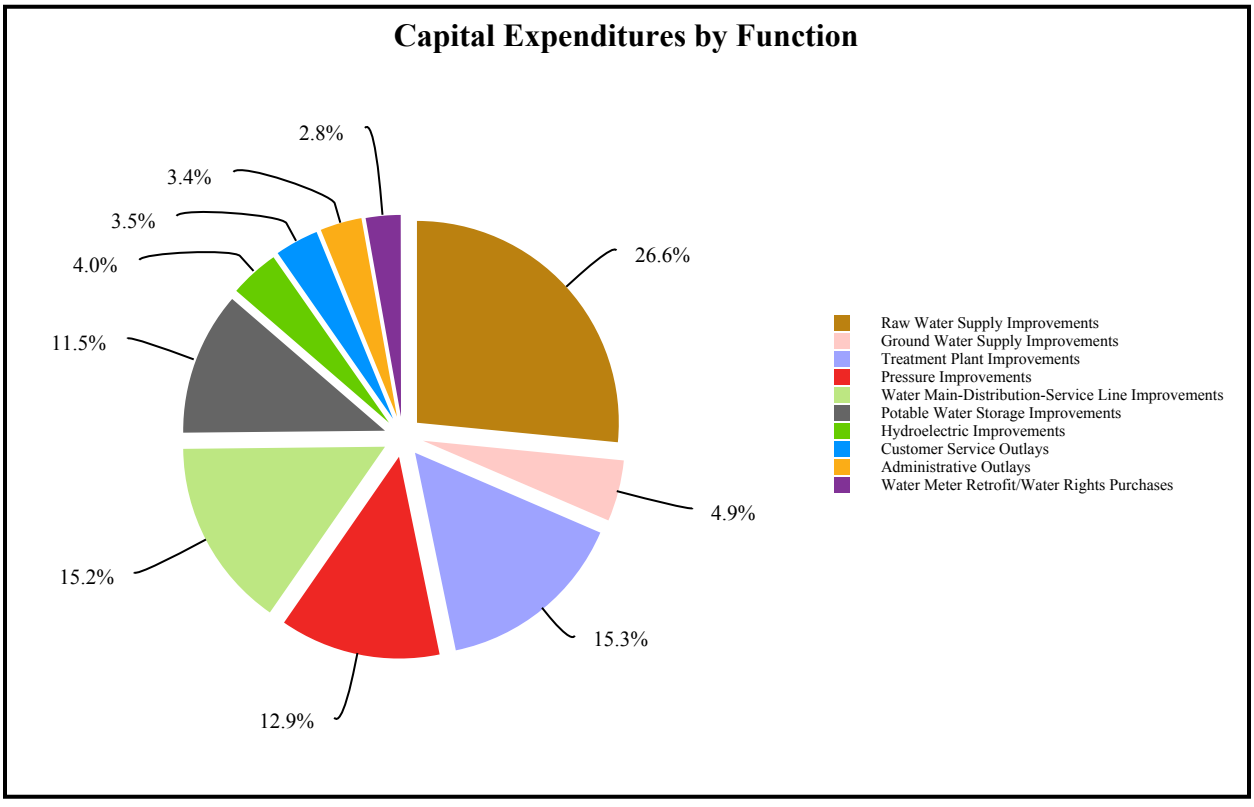
Summary of Projects for FY 2024 (continued)	Amount
Oddie-Sullivan Crossing	150
1st and Arlington Main Replacement	87
2150 Victorian Ave Service Relocation	100
1st and Sierra St. Main Replacement	250
Yori & E. University Main Replacement	2,500
Kate Smith Area Main Replacment-6"	1,900
Kate Smith Sparks Feeder Main-36"	1,500
CDBG Phase 2 and 3 Main Replacement	700
Thomas Jefferson Area Main Replacements	150
Thomas Jefferson - Sharon 24" Main Replacement	150
N. Virginia Street 6" Main Retirement	100
5th, 6th & 7th St. Water Main Replacements	20
Wright Way, E St, 5th, 6th & 7th Replacements	20
Oddie Wells Main Replacement	20
Spring Creek South Zone Conversion	200
Booth, Sharon Way, Monroe 24" Main Replacements	2,000
Trademark 14" Main Tie	470
Mount Rose 5 Distribution / Pressure Improvements	750
Goldenrod Main	100
Boomtown Water System Improvements	500
South Truckee Meadows Capacity Improvements	800
Total Water Main-Distribution-Service Line	**14,087**
Potable Water Storage Improvements	
Storage Tank Recoats; Access; Drainage Improvements	6,000
Boomtown System Improvements Ph 4 - Boomtown Tank	445
US 40 Tank & Feeder Main	2,150
Spanish Springs Altitude Valves (SC6 & DS3)	300
Hidden Valley Tank Altitude Valve	350
Lemmon Valley Tank #1 Replacement and Patrician PRS	1,850
Hidden Valley Tank #4 Outage Improvements	250
Total Potable Water Storage	**11,345**
Hydroelectric Improvements	
Forebay, Diversion, and Canal Improvements	100
Verdi Penstock Repairs	200
Washoe Plant_Turbine Rebuild and Rebuild/Replacement Unit 1	200
Washoe Plant_Turbine Rebuild and Rebuild/Replacement Unit 2	200
Total Hydroelectric	**700**

Summary of Projects for FY 2024 (continued)	Amount
Customer Service Outlays	
Meter Reading Equipment	75
New Business Meters	100
Mueller Pit Replacements former Washoe County	125
Galvanized / Poly Service Line Replacements	250
Automated Meter Infrastructure (AMI)	2,650
Total Customer Service Outlays	**3,200**
Administrative Outlays	
GIS / GPS System Mapping Equipment	20
IT Server Hardware and Equipment	230
IT Network Security Upgrades	10
IT Physical Access Security Upgrades	60
Printer / Scanner Replacement	100
Crew Trucks / Vehicles	950
Sand Yard Cover	250
Replacement HCM System (Ceridian Dayforce)	100
Corporate Office Expansion	500
Emergency Management Projects	150
Physical Site Security Improvements	550
Total Administrative Outlays	**2,920**
Special Projects Funded by Development	
Water Right Purchases	2,500
Total Special Projects	**2,500**
Total Capital Spend for FY 2024	**103,650**

Detailed project descriptions are provided for all projects in the CIP. These descriptions cover the fiscal year 2024 capital budget as well as the four additional years from 2025-2028.

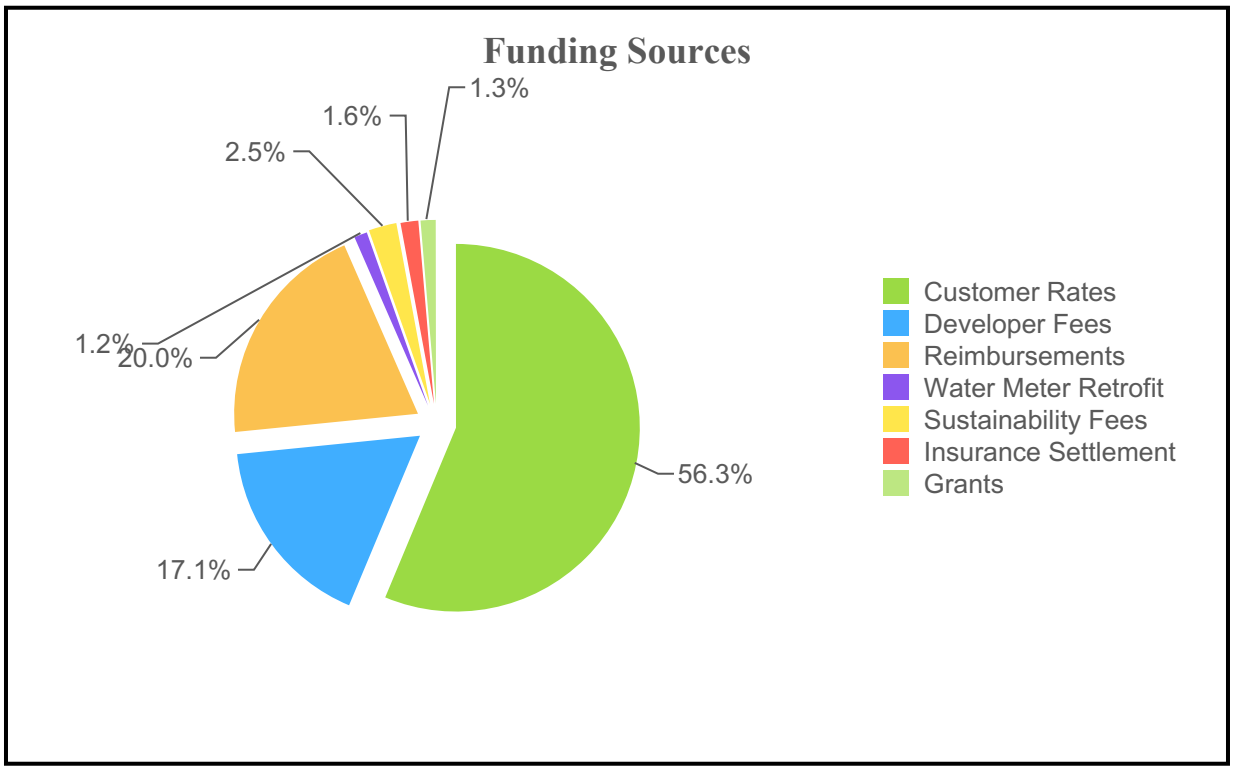
CAPITAL EXPENDITURES BY FUNCTION
(Amounts in thousands of dollars)

Summary of Capital Expenditures by Function	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
Raw Water Supply Improvements	20,975	64,325	31,675	675	675	118,325
Ground Water Supply Improvements	5,002	8,000	2,690	4,650	1,610	21,952
Treatment Plant Improvements	29,891	21,605	10,895	3,700	2,065	68,156
Distribution System Pressure Improvements	13,030	13,940	12,500	6,040	11,930	57,440
Water Main Distribution Service Line Improvements	14,087	18,270	12,975	11,160	11,150	67,642
Potable Water Storage Improvements	11,345	9,950	13,355	9,440	7,160	51,250
Hydroelectric Improvements	700	6,600	1,000	9,290	100	17,690
Customer Service Outlays	3,200	3,125	3,125	3,125	3,125	15,700
Administrative Outlays	2,920	4,850	1,900	3,600	1,700	14,970
Water Meter Retrofit / Water Rights Purchases	2,500	2,500	2,500	2,500	2,500	12,500
Total Projected Capital Spending	**103,650**	**153,165**	**92,615**	**54,180**	**42,015**	**445,625**



PRELIMINARY FUNDING PLAN
FUNDING SOURCES
(Amounts in thousands of dollars)

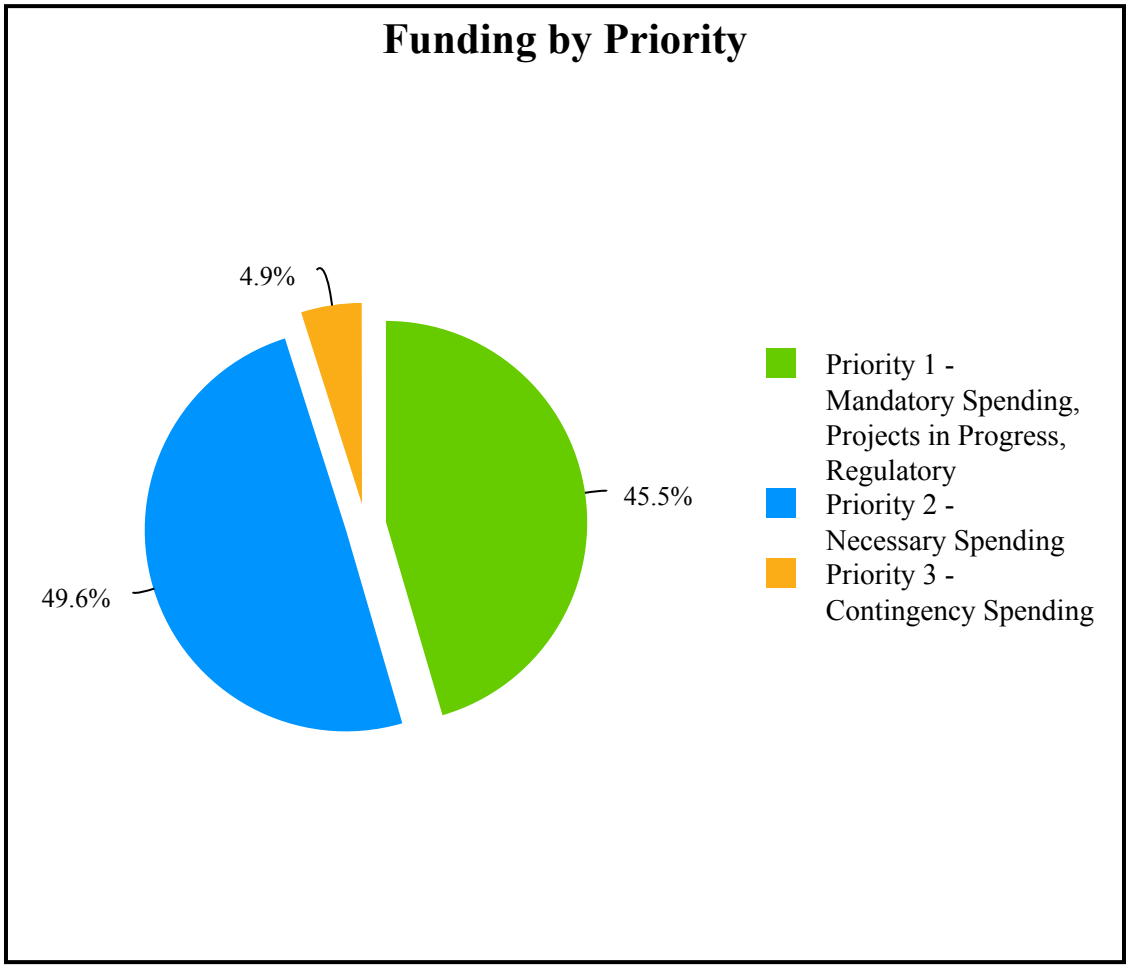
Summary of Funding Sources	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
Customer Rates	61,602	64,504	50,700	45,293	28,849	250,948
Developer Fees	13,356	26,021	16,139	7,537	13,166	76,219
Reimbursements	15,610	49,760	22,800	1,100	—	89,270
Water Meter Retrofit / Water Rights Purchases	2,000	3,211	—	—	—	5,211
Sustainability Fees	1,632	6,106	2,976	250	—	10,964
Insurance Settlement - Applied to Orr Ditch Hydro	4,950	2,063	—	—	—	7,013
Grants	4,500	1,500	—	—	—	6,000
Total Projected Capital Spending	**103,650**	**153,165**	**92,615**	**54,180**	**42,015**	**445,625**



FUNDING BY PRIORITY
(Amounts in thousands of dollars)

Summary of Funding by Priority	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
Priority 1 - Mandatory Spending, Projects in Progress, Regulatory	50,646	60,040	37,075	33,365	21,540	202,666
Priority 2 - Necessary Spending	48,754	89,050	50,915	16,150	16,300	221,169
Priority 3 - Contingency Spending	4,250	4,075	4,625	4,665	4,175	21,790
Total Projected Capital Spending	**103,650**	**153,165**	**92,615**	**54,180**	**42,015**	**445,625**

For additional information about how TMWA classifies it's projects, see Prioritization of Projects/Outlays on Page 6.



PROJECT FUNCTIONS AND DESCRIPTIONS
RAW WATER SUPPLY IMPROVEMENTS
Summary

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
3	Customer Rates	Highland Canal-Upgrades-Downstream	225	225	225	225	225	1,125
1	Customer Rates	Highland Canal-Upgrades-Diversion to Chalk Bluff	500	2,500	100	100	100	3,300
1	Customer Rates	TROA Drought Storage / Implementation	100	100	100	100	100	500
2	Customer Rates	Donner Lake Outlet Improvements Phase 2	—	250	—	—	—	250
2	Developer Fees / Sustainability Fees / Grants/ Reimbursements	Advanced Purified Water Facility at American Flat	20,000	61,000	31,000	—	—	112,000
1	Customer Rates	Washoe Lake System Improvements	150	250	250	250	250	1,150
Subtotal Raw Water Supply			**20,975**	**64,325**	**31,675**	**675**	**675**	**118,325**

Project Locations: Map of all *Raw Water Supply Improvements* projects are highlighted in the following map.


ADVANCED PURIFIED WATER FACILITY AT AMERICAN FLAT
HIGHLAND CANAL UPGRADES
HIGHLAND CANAL DIVERSION
TROA DROUGHT STORAGE/IMPLEMENTATION
DONNER LAKE OUTLET IMPROVEMENTS PHASE 2
WASHOE LAKE SYSTEM IMPROVEMENTS
Sun Valley
Sparks
Reno
Truckee
Kings Beach
Dayton
Carson City
Minden
Lake Tahoe
TRUCKEE RIVER
TRUCKEE MEADOWS WATER AUTHORITY
Quality. Delivered.
FY 2024-2028 CIP
RAW WATER SUPPLY IMPROVEMENTS
SUMMARY
DATE 4/6/2023
MAP BY: JK
REQUESTED BY: ST
SCALE: 1 in = 6 miles
NORTH
NAD 83 NEVADA STATE PLANE WEST FEET

Raw Water Supply Improvements
Highland Canal-Upgrades-Downstream

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
3	Customer Rates	Highland Canal-Upgrades-Downstream	225	225	225	225	225	1,125

PROJECT DESCRIPTION: The improvements reflected in this capital project item are for improvements along the canal downstream of the Chalk Bluff Water Treatment Plant to the Rancho San Rafael Park. Approximately 2,000 feet of "smart ditch" (a molded plastic trapezoidal channel section) has been installed downstream of Chalk Bluff in recent years. This product reduces leakage and maintenance and it is planned to continue to extend the installation in the future. Other efforts are rehabilitative in nature and may address access and security concerns.

SCHEDULE: Projects are identified and prioritized on an annual basis.

Raw Water Supply Improvements
Highland Canal – Upgrades – Diversion to Chalk Bluff

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	Highland Canal-Upgrades-Diversion to Chalk Bluff	500	2,500	100	100	100	3,300

PROJECT DESCRIPTION: These improvements are for the stretch of canal between the diversion on the Truckee River and Chalk Bluff Water Treatment Plant. The proposed spending is to secure the canal from trespass to enhance public safety and prevent encroachment on TMWA property. TMWA will also complete fencing along the canal for public safety, install security cameras and access barriers. The proposed budget is for replacement of the existing 54-inch siphon pipe under the Truckee River just downstream of the diversion installed in 1954.

SCHEDULE: Projects are identified and prioritized on an annual basis.

Raw Water Supply Improvements
TROA Drought Storage/Implementation

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	TROA Drought Storage / Implementation	100	100	100	100	100	500

PROJECT DESCRIPTION: TROA became effective and TMWA began implementation officially on December 1, 2015.

SCHEDULE: Ongoing budget under TROA implementation is for additional stream gauges in new locations as required, as well as improving the monitoring capabilities of existing gauges as needed on an annual basis. Other smaller capital improvements are related to the operation of reservoir sites.

Raw Water Supply Improvements
Donner Lake Outlet Improvements Phase 2

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Customer Rates	Donner Lake Outlet Improvements Phase 2	—	250	—	—	—	250

PROJECT DESCRIPTION: Dredging of a portion of the Donner Lake outlet channel was completed in FY 2019. The project was scaled back to fit within the California Environmental Quality Act emergency permitting requirements. Additional work is required to extend and improve the outlet channel further into the lake, including possible bank stabilization improvements to minimize future dredging requirements.

SCHEDULE: Permitting and preliminary design will be conducted over the next three years. Construction of improvements is scheduled to begin in FY 2025.

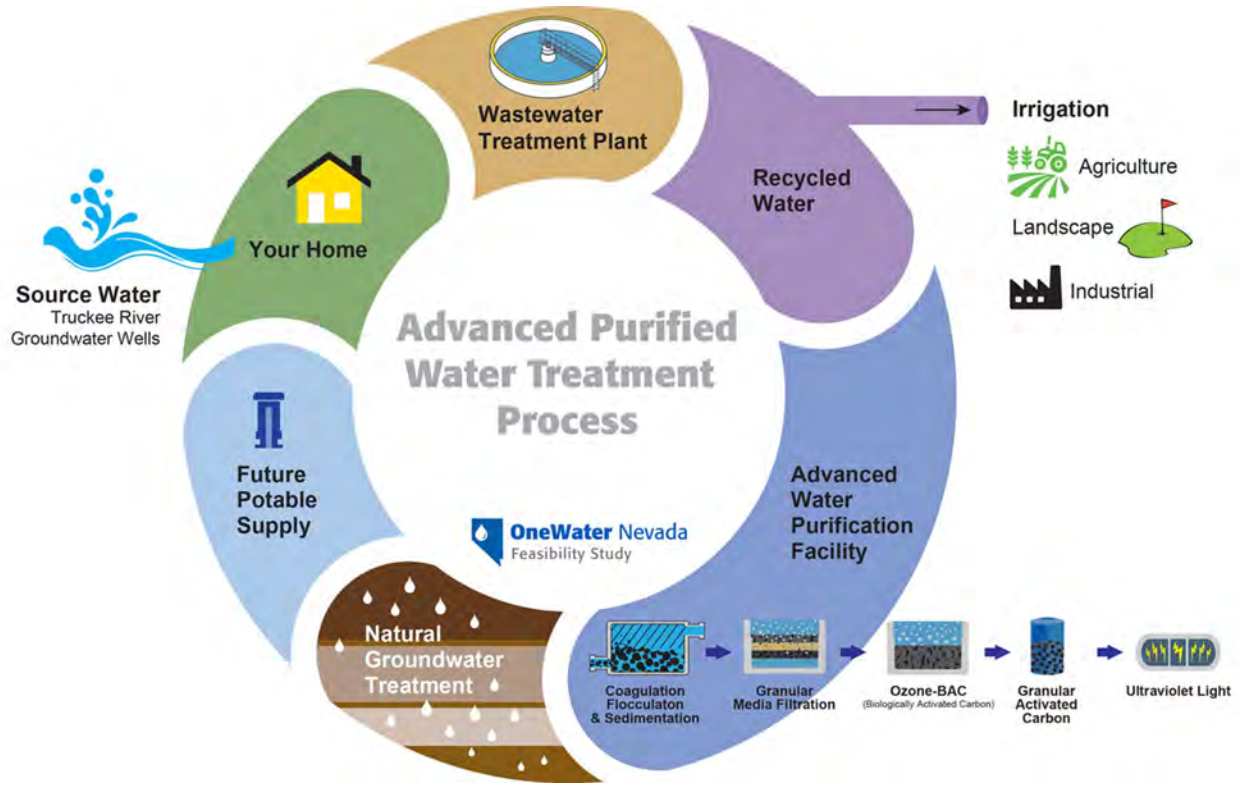
Raw Water Supply Improvements
Advanced Purified Water Facility at American Flat

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Developer Fees / Sustainability Fees / Grants/ Reimbursements	Advanced Purified Water Facility at American Flat	20,000	61,000	31,000	—	—	112,000

PROJECT DESCRIPTION: The Advanced Purified Water Facility at American Flat will be Nevada's first Advanced Purified Water project achieving category A+ reclaimed water quality. Category A+ reclaimed water is suitable for all Nevada water recycling practices, including augmenting groundwater aquifers. The Project's core element is a 2 million gallons per day (MGD) advanced purified water facility (APWF) producing 2,000 acre-feet (AF) of water annually for groundwater augmentation to provide a sustainable regional drought proof supply and crucially enhance the region's water supply resiliency to help address future climate change impacts. TMWA is partnering with City of Reno who will be reimbursing TMWA for 70% of the total construction costs of the project.

SCHEDULE: Construction for this project will begin in FY 2024.



Raw Water Supply Improvements
Washoe Lake System Improvements

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	Washoe Lake System Improvements	150	250	250	250	250	1,150

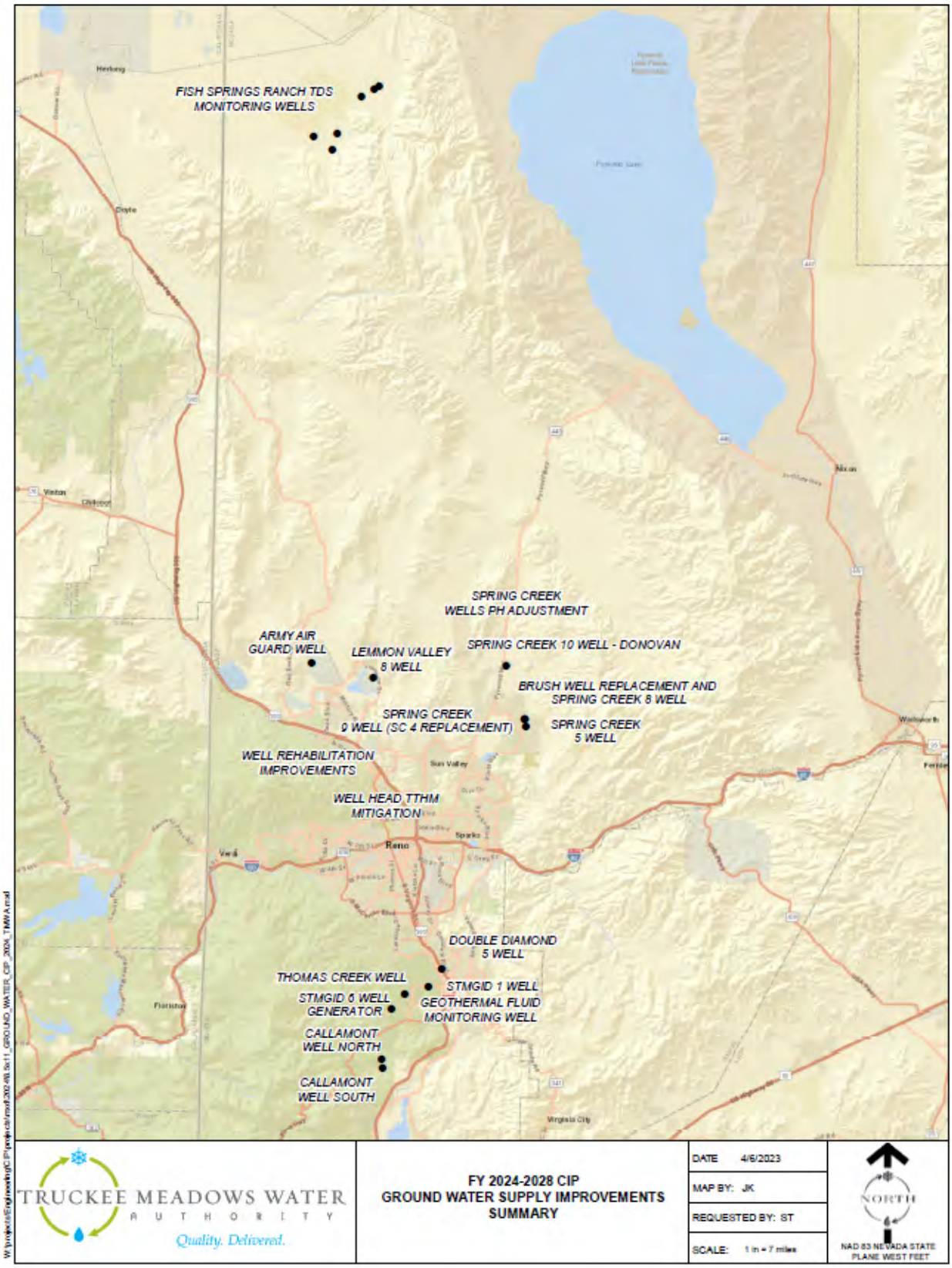
PROJECT DESCRIPTION: Improvements as necessary to Washoe Lake Dam and related infrastructure to monitor, capture, store and deliver raw water as necessary to meet regional water supply objectives.

SCHEDULE: Projects are identified and prioritized on an annual basis.

GROUND WATER SUPPLY IMPROVEMENTS
Summary

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	Well Rehabilitation Improvements	200	200	200	200	200	1,000
2	Developer Fees	Double Diamond #5 and Equipping	450	—	—	—	60	510
2	Developer Fees	Callamont Well South Equipping	—	60	1,140	—	—	1,200
2	Customer Rates	Air Guard Well Replacement Equipping	—	—	—	1,100	—	1,100
1	Customer Rates	Lemmon Valley Well #8 Replacement	—	250	1,000	—	—	1,250
1	Customer Rates	Well Fix & Finish	350	350	350	350	350	1,750
1	Customer Rates	Brush Well Replacement and Spring Creek 8	342	—	—	1,500	—	1,842
1	Customer Rates / Sustainability Fees	Well Head TTHM Mitigation	—	500	—	500	—	1,000
2	Developer Fees	Callamont Well North Equipping	60	1,140	—	—	—	1,200
1	Developer Fees	Spring Creek Well #10 - Donovan	1,000	2,700	—	—	—	3,700
1	Customer Rates	Fish Springs Ranch TDS Monitoring Wells	250	—	—	—	—	250
1	Customer Rates	Spring Creek Well 9 (Spring Creek 4 Replacement)	1,700	2,800	—	—	—	4,500
1	Customer Rates	Spring Creek Wells pH Adjustment	650	—	—	—	—	650
2	Customer Rates	STMGID Well #1 Re-Drill and Equipping	—	—	—	1,000	1,000	2,000
Subtotal Ground Water Supply			**5,002**	**8,000**	**2,690**	**4,650**	**1,610**	**21,952**

Project Locations: Map of all *Ground Water Supply Improvements* projects are highlighted in the following map.


FISH SPRINGS RANCH TDS MONITORING WELLS
SPRING CREEK WELLS PH ADJUSTMENT
ARMY AIR GUARD WELL
LEMMON VALLEY 8 WELL
SPRING CREEK 10 WELL - DONOVAN
BRUSH WELL REPLACEMENT AND SPRING CREEK 8 WELL
SPRING CREEK 9 WELL (SC 4 REPLACEMENT)
SPRING CREEK 5 WELL
WELL REHABILITATION IMPROVEMENTS
WELL HEAD TTHM MITIGATION
DOUBLE DIAMOND 5 WELL
THOMAS CREEK WELL
STMGID 6 WELL GENERATOR
STMGID 1 WELL
GEOTHERMAL FLUID MONITORING WELL
CALLAMONT WELL NORTH
CALLAMONT WELL SOUTH
Reno
Sparks
Sun Valley
Verdi
Fernley
Virginia City
TRUCKEE MEADOWS WATER AUTHORITY
Quality. Delivered.
FY 2024-2028 CIP
GROUND WATER SUPPLY IMPROVEMENTS
SUMMARY
DATE 4/6/2023
MAP BY: JK
REQUESTED BY: ST
SCALE: 1 in = 7 miles
NORTH
NAD 83 NEVADA STATE PLANE WEST FEET

Ground Water Supply Improvements
Well Rehabilitation Improvements

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	Well Rehabilitation Improvements	200	200	200	200	200	1,000

PROJECT DESCRIPTION: Funds are budgeted to rehabilitate TMWA production wells as required. Typically for subgrade rehabilitation efforts, five to six wells are inspected, tested and evaluated every year to determine if rehabilitation is required. Typical subgrade rehab activities include but are not limited to pump and pump column pipe replacements; rehabilitation of well casing and screen; and other enhancements to maintain well function and capacities. Spending in fiscal years 2024-2028 will include improvements at several wells to provide general above grade well equipment and building and/or electrical upgrades. Some of the spending will go towards converting an oil lubed shaft vertical turbine to water lubed and eliminate any standing oil in the well. TMWA has over 90 production wells operating throughout the water system. TMWA relies on these wells to provide drought and emergency supply and as a supplemental source to meet peak demands on the water system.

SCHEDULE: Wells targeted for rehabilitation improvements in FY 2024 include Lakeside Well, STMGID 5 Well, and Glenn Hare Well.

Ground Water Supply Improvements
Double Diamond #5 and Equipping

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Developer Fees	Double Diamond #5 and Equipping	450	—	—	—	60	510

PROJECT DESCRIPTION: Construct pumping facilities for the existing Double Diamond Well #5 including the pump house building, electrical power, pump/motor and valves and piping to provide an additional 1,200 gallons per minute of peak period supply to the Double Diamond area. The project also includes construction of a blending main between Double Diamond Wells #4 & #5.

SCHEDULE: Based on current growth rates, it is anticipated that the additional capacity from the new well will be needed in the summer of FY 2029.

Ground Water Supply Improvements
Callamont Well South Equipping

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Developer Fees	Callamont Well South Equipping	—	60	1,140	—	—	1,200

PROJECT DESCRIPTION: Construct pumping facilities for one of the existing Callamont wells in the Mt. Rose system including the pump house building, electrical power, pump/motor and valves and piping to provide an additional 500 gallons per minute of peak period supply to the area.

SCHEDULE: This project is currently scheduled for construction in FY 2026, but may be constructed sooner (or later) depending on the actual schedule for the proposed 210 unit Callamont residential development.

Ground Water Supply Improvements
Air Guard Well Replacement Equipping

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Customer Rates	Air Guard Well Replacement Equipping	—	—	—	1,100	—	1,100

PROJECT DESCRIPTION: Replacement of the Air Guard Well in Stead was necessary to reduce sanding and provide additional capacity to the Stead system. The new/replacement well was drilled and constructed in FY 2016. Test pumping indicates the new well will have a capacity of about 2,500 gallons per minute which is twice the capacity of the old well. The budget for FY 2027 is for constructing the pumping facilities including the well building, pump and motor, valves and piping, electrical and controls, etc.

SCHEDULE: The pumping facilities are scheduled for construction in FY 2027.

Ground Water Supply Improvements
Lemmon Valley Well #8 Replacement

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	Lemmon Valley Well #8 Replacement	—	250	1,000	—	—	1,250

PROJECT DESCRIPTION: The existing Lemmon Valley 8 Well has been in service since 1974, making it one of the older wells in the East Lemmon Valley system. The existing well casing and screens show signs of significant corrosion. With the potential for a well casing failure, TMWA intends to drill and equip a replacement well on the existing well property. In addition, the replacement well is expected to have similar construction while producing at least 20 percent more capacity than the original Lemmon Valley 8 Well. The additional capacity will provide supply to support base load supplied from the Fish Springs groundwater system.

SCHEDULE: Well drilling will occur in FY 2025 and well equipping in FY 2026.

Ground Water Supply Improvements
Well Fix & Finish

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	Well Fix & Finish	350	350	350	350	350	1,750

PROJECT DESCRIPTION: Equipment improvements are expected to bring existing wells up to modern standards, including antiquated equipment replacements and improvements for water quality purposes. This project includes improvements to sodium hypochlorite rooms, pump to waste lines and drainage improvements. It also includes well retrofit for recharge where needed.

SCHEDULE: Projects are identified and prioritized on an annual basis.

Ground Water Supply Improvements
Brush Well & Spring Creek 8 Equipping

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	Brush Well Replacement and Spring Creek 8	342	—	—	1,500	—	1,842

PROJECT DESCRIPTION: The Brush and Spring Creek 8 production wells were both replaced in FY 2019. Each well will require new infrastructure prior to use. Allocated funds will be utilized for engineering and construction activities required to bring the wells online.

SCHEDULE: This project requires new well infrastructure in FY 2024 and well equipping in FY 2027.

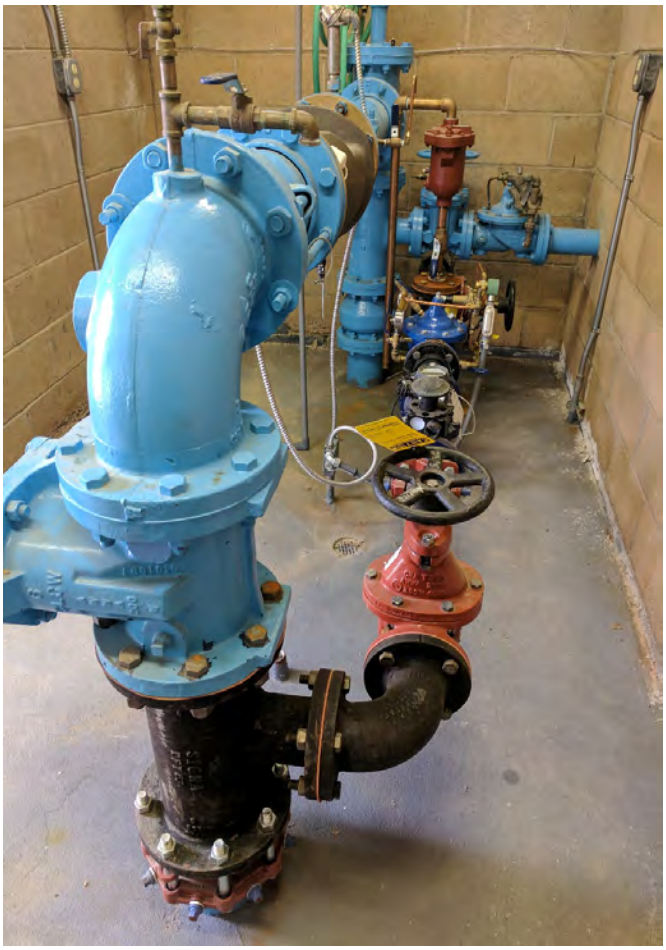
Ground Water Supply Improvements
Well Head TTHM Mitigation

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates / Sustainability Fees	Well Head TTHM Mitigation	—	500	—	500	—	1,000

PROJECT DESCRIPTION: Planning, permitting and implementation of tank mixers and ventilation equipment technologies to reduce disinfection byproduct (DBP) formation in recharged water and receiving groundwater.

SCHEDULE: Planning and design began in FY 2018 and is ongoing. Construction of tank mixers and ventilation equipment at Zolezzi and Verdi Business Park tanks were completed in FY 2019 . Other technologies will be implemented at key recharge well sites in subsequent years based on priority.



Ground Water Supply Improvements
Callamont Well North Equipping

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Developer Fees	Callamont Well North Equipping	60	1,140	—	—	—	1,200

PROJECT DESCRIPTION: Construct pumping facilities for the remaining existing Callamont well in the Mt. Rose system including the pump house building, electrical power, pump/motor and valves and piping to provide an additional 500 gallons per minute of peak period supply to the area.

SCHEDULE: This project is currently scheduled for construction in FY 2025, but may be constructed sooner (or later) depending on the actual schedule for the proposed 210 unit Callamont residential development.

Ground Water Supply Improvements
Spring Creek Well #10 - Donovan

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Developer Fees	Spring Creek Well #10 - Donovan	1,000	2,700	—	—	—	3,700

PROJECT DESCRIPTION: The project involves construction and equipping of a new production well located just south of Indian Sage Court in Spanish Springs Valley. TMWA owns a 6,000 square feet parcel at this location where a test well was previously constructed but will need access and pipeline/utility easements. It is anticipated that the new well will produce up to 500 gallons per minute of new supply for the area.

SCHEDULE: This project schedule assumes the new well is drilled and constructed in FY 2024 and the pumping facilities are constructed in FY 2025.

Ground Water Supply Improvements
Fish Springs Ranch TDS Monitoring Wells

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	Fish Springs Ranch TDS Monitoring Wells	250	—	—	—	—	250

PROJECT DESCRIPTION: This project involves installing a network of wells that will monitor TDS concentrations and vertical gradients near the Fish Springs Ranch production wellfield in Honey Lake Valley. These monitoring locations will provide critical water quality information associated with increased groundwater production at Fish Springs Ranch. Allocated funds will be utilized to drill and construct three nested monitoring wells completed to approximately 450-feet below land surface.

SCHEDULE: Design and construction for the project is scheduled to be completed in FY 2024.

Ground Water Supply Improvements
Spring Creek 9 (Spring Creek 4 Replacement)

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	Spring Creek Well 9 (Spring Creek 4 Replacement)	1,700	2,800	—	—	—	4,500

PROJECT DESCRIPTION: The project involves construction and equipping of a new production well in Spanish Springs Valley, located north of the intersection of La Posada Dr. and La Posada Ct (pending land approvals). The well will be a dual purpose ASR/Production Well and it is anticipated that the new well will produce up to 1,500 gpm with about one third of the capacity bringing new supply to the area.

SCHEDULE: Drilling and installation will being in FY2024 and equipping in FY2025.

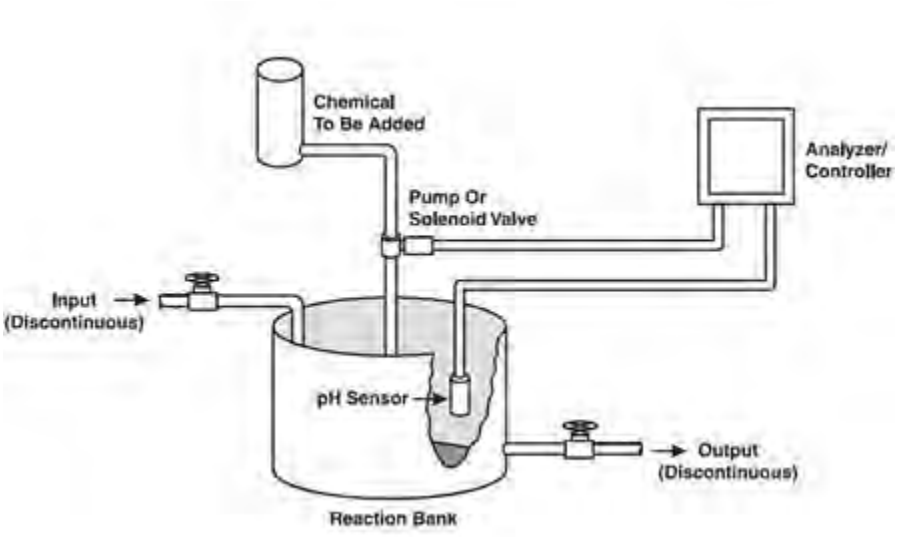
Ground Water Supply Improvements
Spring Creek Wells pH Adjustment

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	Spring Creek Wells pH Adjustment	650	—	—	—	—	650

PROJECT DESCRIPTION: This project involves design, permit, and construction of pH control systems at Spring Creek 6 & Spring Creek 7 wells.

SCHEDULE: The project is scheduled to begin in FY 2024.



Ground Water Supply Improvements
STMGID Well #1 Re-Drill and Equipping

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Customer Rates	STMGID Well #1 Re-Drill and Equipping	—	—	—	1,000	1,000	2,000

PROJECT DESCRIPTION: This project involves the complete replacement of STMGID well 1. Recent rehabilitation work on the production well indicated the screens have deteriorated enough to allow sediment and gravel pack to pass through. The well is a critical groundwater supply asset as it currently accounts for approximately 24% of the max day demand in STMGID Tank Zone 1.

SCHEDULE: The well is estimated to be drilled in FY 2027 and constructed in FY's 2027-2028.

TREATMENT PLANT IMPROVEMENTS
Summary

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	Chalk Bluff Treatment Plant Improvements	365	360	350	525	425	2,025
1	Customer Rates	Chalk Bluff Sedimentation Rehab	620	—	—	—	—	620
2	Customer Rates	Chalk Bluff Clearwell 1 Rehab	854	—	—	—	—	854
1	Customer Rates	Glendale Treatment Plant Improvements	1,000	375	325	405	360	2,465
1	Customer Rates	Mt Rose Treatment Plant Efficiency Improvements	492	—	—	—	—	492
1	Customer Rates	Chalk Bluff Filter Underdrains	1,400	1,000	1,000	—	—	3,400
1	Customer Rates	Glendale Filter Underdrains	500	500	500	500	500	2,500
3	Customer Rates	Chalk Bluff Lighting Upgrade	350	—	—	—	—	350
1	Customer Rates	Glendale Treatment Plant Flocculator Rehab	590	—	—	—	—	590
1	Customer Rates	Glendale Office Expansion	300	1,750	—	—	—	2,050
2	Customer Rates / Insurance Settlement	Orr Ditch Pump Station Rehab and Hydro Facility	19,800	8,250	—	—	—	28,050
1	Customer Rates	Truckee Canyon Water Treatment Improvements	100	20	10	10	20	160
1	Customer Rates	Lightning W Treatment Improvements	20	150	10	10	10	200
1	Customer Rates	SCADA Rehab / Plant Operating Software	1,000	1,000	1,000	750	750	4,500
2	Customer Rates	Longley Water Treatment Plant Retrofit	250	500	3,500	1,500	—	5,750
2	Customer Rates/Grants	Spanish Springs Nitrate Treatment Facility	2,100	7,700	4,200	—	—	14,000
1	Customer Rates	Chalk Bluff Electrical System Upgrades	150	—	—	—	—	150
Subtotal Treatment Improvements			**29,891**	**21,605**	**10,895**	**3,700**	**2,065**	**68,156**

Project Locations: Map of all *Treatment Plant Improvements* projects are highlighted in the following map.


SPANISH SPRINGS NITRATE TREATMENT FACILITY
Sun Valley
Sparks
Reno
Verdi
CHALK BLUFF TREATMENT PLANT
ORR DITCH PUMP STATION
GLENDALE TREATMENT PLANT
LONGLEY TREATMENT PLANT
TRUCKEE CANYON
MT ROSE TREATMENT PLANT
LIGHTNING W
Virginia City
Washoe Valley
Incline Village
Crystal Bay
Dayton
TRUCKEE MEADOWS WATER AUTHORITY
Quality. Delivered.
FY 2024-2028 CIP
TREATMENT PLANT IMPROVEMENTS
SUMMARY
DATE 4/6/2023
MAP BY: JK
REQUESTED BY: ST
SCALE: 1 in = 4 miles
NORTH
NAD 83 NEVADA STATE PLANE WEST FEET

Treatment Plant Improvements
Chalk Bluff Treatment Plant Improvements

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	Chalk Bluff Treatment Plant Improvements	365	360	350	525	425	2,025

PROJECT DESCRIPTION: The Chalk Bluff Water Treatment Plant is over 20 years old and requires ongoing rehabilitation work to remain fully operational. This spending is classified as necessary due to the criticality of maintaining plant operations during rehabilitation work. Plant improvements include, but are not limited to, plate settlers inspections, valve and instrument replacement, filter media replacement, UPS upgrades, Trac Vac/sludge removal improvements, treatment train isolation valves, flow meter improvements and safety improvements.

SCHEDULE: Major projects and timelines include: ice fighting improvements to maintain raw water supply via the Highland Canal in FY 2024, instrumentation upgrades will continue within the next five years as obsolete instruments are no longer supported by suppliers. Work to isolate sections of the treatment plant influent trains began in FY 2019. Filter media replacement will occur when yearly filter media evaluation indicates that replacement will soon be necessary.

Treatment Plant Improvements
Chalk Bluff Sedimentation Rehab

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	Chalk Bluff Sedimentation Rehab	620	—	—	—	—	620

PROJECT DESCRIPTION: This project includes the replacement of all 6 solids collection system mechanisms with upgraded units to improve the reliability of the sedimentation system at Chalk Bluff Water Treatment Plant.

SCHEDULE: Improvements are scheduled for FY 2024.

Treatment Plant Improvements
Chalk Bluff Clearwell 1 Rehab

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Customer Rates	Chalk Bluff Clearwell 1 Rehab	854	—	—	—	—	854

PROJECT DESCRIPTION: This project includes epoxy coating of 36 concrete support columns, caulk joint replacement & improvement for all 6 expansion joints, vertical extension of the influent concrete baffle wall, full replacement of the 5 baffle wall curtains, roof curb repair as needed, and other misc. incidental repairs.

SCHEDULE: The improvements are scheduled for FY 2024.

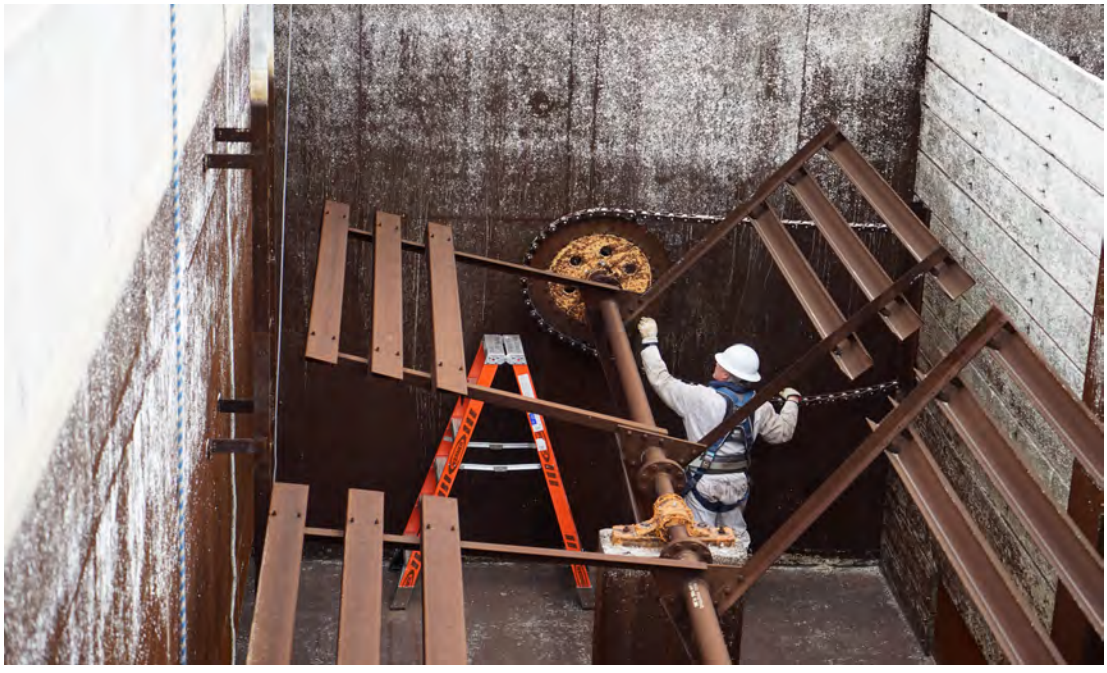
Treatment Plant Improvements
Glendale Treatment Plant Improvements

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	Glendale Treatment Plant Improvements	1,000	375	325	405	360	2,465

PROJECT DESCRIPTION: The Glendale Water Treatment Plant is 40 years old and remains a significant piece of the water supply portfolio by operating 24/7 typically during the months of April through October. Glendale plays an important role due to its availability to treat off-river water supplies, such as groundwater wells that cannot pump straight to the distribution system. This spending is classified as necessary due to the criticality of maintaining plant operations. Plant improvements include, but are not limited to, plate settler inspections, valve and instrument replacement, Trac Vac improvements, flow meter improvements, treatment chemical upgrades and maintenance storage/shop upgrades.

SCHEDULE: The treatment plant maintenance shop and storage improvements are currently scheduled in FY 2024. Instrumentation upgrades will continue within the next five years as obsolete instruments are no longer supported by suppliers. Filter media replacement will occur when yearly filter media evaluation indicates that replacement will soon be necessary. Since the Glendale plant is used seasonally, most work will continue over the course of the five-year CIP and during the periods that the plant is not operating.



Treatment Plant Improvements
Mt Rose Treatment Plant Efficiency Improvements

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	Mt Rose Treatment Plant Efficiency Improvements	492	—	—	—	—	492

PROJECT DESCRIPTION: This project contains several efficiency and remote operations improvements identifying during startup and testing of the Mt. Rose Water Treatment Plant (MRWTP). One larger task is adding a permanent air compressor to the creek diversion backwash cycle to support remote operations, use less power and disturb less wildlife by using air for scour instead of pumping water through the screens for backwash. The other improvements include various flow measurement and process control improvements to make remote operations more feasible by reducing on site operations labor hours and reducing downtime.

SCHEDULE: Improvements started in FY 2023 and are scheduled to be completed in FY 2024.

Treatment Plant Improvements
Chalk Bluff Filter Underdrains

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	Chalk Bluff Filter Underdrains	1,400	1,000	1,000	—	—	3,400

PROJECT DESCRIPTION: The dual media filters at Chalk Bluff are nearing the end of its useful life and maintenance and/or repairs are needed on filters that have experienced recent underdrain performance issues. An engineering evaluation of the filters has been completed and an entire replacement of one or more filter underdrains is recommended.

SCHEDULE: Due to cost and operational complexities associated with taking a filter out of service, this will be a multi-year effort beginning with design and bidding in FY 2024 and construction taking place in FY's 2024-2026.

Treatment Plant Improvements
Glendale Filter Underdrains

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	Glendale Filter Underdrains	500	500	500	500	500	2,500

PROJECT DESCRIPTION: The dual media filters at Glendale are nearing the end of its useful life and maintenance and/or repairs are needed on filters that have experienced recent underdrain performance issues. An engineering evaluation of the filters has been completed and an entire replacement of one or more filter underdrains is recommended.

SCHEDULE: Due to cost and operational complexities associated with taking a filter out of service, this will be a multi-year effort beginning with design and bidding in FY 2024 and construction taking place in FY's 2024-2028.

Treatment Plant Improvements
Chalk Bluff Lighting Upgrade

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
3	Customer Rates	Chalk Bluff Lighting Upgrade	350	—	—	—	—	350

PROJECT DESCRIPTION: Upgrade lighting at the Chalk Bluff Water Treatment Plant. Work will include all areas and buildings outside of the most recent remodel areas as well as upgrades to outside area lighting.

SCHEDULE: Lighting upgrade is scheduled to begin in FY 2024.

Treatment Plant Improvements
Glendale Treatment Plant Flocculator Rehab

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	Glendale Treatment Plant Flocculator Rehab	590	—	—	—	—	590

PROJECT DESCRIPTION: This project includes replacement of all bearings/shafts to the existing flocculators at the Glendale Water Treatment Plant.

SCHEDULE: Replacement of bearings/shafts is scheduled to begin in FY 2024.

Treatment Plant Improvements
Glendale Office Expansion

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	Glendale Office Expansion	300	1,750	—	—	—	2,050

PROJECT DESCRIPTION: This project includes the additions of four offices and the necessary HVAC and lighting improvements in the Glendale Water Treatment Plant ready room.

SCHEDULE: Design is scheduled for FY 2024 and construction is scheduled for FY 2025.

Treatment Plant Improvements
Orr Ditch Pump Station Rehabilitation and Hydro Facility

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Customer Rates / Insurance Settlement	Orr Ditch Pump Station Rehab and Hydro Facility	19,800	8,250	—	—	—	28,050

PROJECT DESCRIPTION: This project will increase redundancy and reliability by enhancing the Truckee River source of supply to the Chalk Bluff Water Treatment Plant. Currently, there are very limited options to facilitate repairs or conduct preventative maintenance due to the location and arrangement of the intake structure and wet well. The project design will include modifying the existing proprietary wet well submersible pump design into a pedestal-style vertical turbine pump arrangement with non-submerged motors, the construction of a building over the top of the wet well to increase security and allow a safer means of performing maintenance activities, and incorporate a system to eliminate silting issues within the intake structure. During periods of low demand, the Highland Canal has available capacity to bring water to the Chalk Bluff Facility. An existing pipeline brings water from the river via the Orr Ditch Pump Station up to Chalk Bluff. During winter months, excess water from the Highland Canal can be sent down the hill to the pump station to generate hydroelectric power that can be used at the facility to offset power costs during those months.

SCHEDULE: Construction will commence in FY's 2024-2025 and scheduled to be completed in FY 2025.

Treatment Plant Improvements
Truckee Canyon Water Treatment Improvements

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	Truckee Canyon Water Treatment Improvements	100	20	10	10	20	160

PROJECT DESCRIPTION: The current treatment system which removes arsenic, iron, and manganese consists of a greensand filter system and an evaporation pond for backwash water with a total capacity of about 100 gallons per minute. Scheduled improvements may include the addition of a polymer feed system to improve filter performance, fine tuning of the treatment process to reflect chemical changes in the raw water and replacement of miscellaneous components and control upgrades.

SCHEDULE: Expenditures in FY's 2024-2028 are contingent spending related to treatment efficiency and for chemical changes in the raw water.

Treatment Plant Improvements
Lightning W Treatment Improvements

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	Lightning W Treatment Improvements	20	150	10	10	10	200

PROJECT DESCRIPTION: The existing treatment process consists of two ion exchange resin pressure vessels to remove uranium. Previous work included change out/replacement of the filter media, disposal of the spent media. The remaining work includes miscellaneous improvements to the building that houses the treatment equipment.

SCHEDULE: The FY 2025 work includes miscellaneous building improvements.

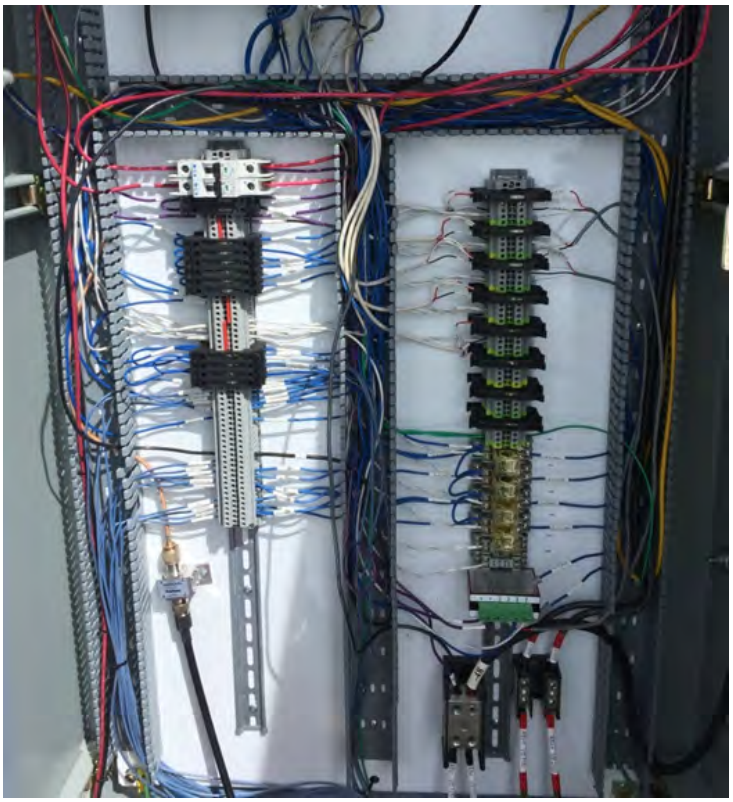
Treatment Plant Improvements
SCADA Rehab/Plant Operating Software

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	SCADA Rehab / Plant Operating Software	1,000	1,000	1,000	750	750	4,500

PROJECT DESCRIPTION: SCADA (Supervisory Control and Data Acquisition) is the system by which TMWA monitors, records and controls the water system inputs, outputs, flows and pressures. Data acquired by these system controls are primarily monitored at the treatment plants, but the system equipment and technology are spread throughout the water system infrastructure. Much of the technology is approaching obsolescence and needs to be replaced with emphasis on standardization of programmable logic controllers (PLC) and other equipment. Therefore, TMWA decided on a systematic approach to updating the equipment and operating software starting in fiscal year 2015 with telemetry improvement in the ensuing four years to convert to wireless transmission of data feeds where possible.

SCHEDULE: The improvements and replacements of the equipment and operating software will continue through FY 2028.



Treatment Plant Improvements
Longley Water Treatment Plant Retrofit

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Customer Rates	Longley Water Treatment Plant Retrofit	250	500	3,500	1,500	—	5,750

PROJECT DESCRIPTION: This project will include the determination of what improvements and costs would be needed to convert the existing Longley Lane Water Treatment Plant from a micro filtration process to a greensand arsenic/iron/manganese treatment process.

SCHEDULE: Planning and permitting to be completed in FY 2024. Design is scheduled for FY 2025 and construction is scheduled to begin in FY 2026.

Treatment Plant Improvements
Spanish Springs Nitrate Treatment Facility

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Customer Rates/ Grants	Spanish Springs Nitrate Treatment Facility	2,100	7,700	4,200	—	—	14,000

PROJECT DESCRIPTION: Initiation of planning, permitting, site acquisition and design for a 3 MGD biological water treatment process to treat several groundwater wells in Spanish Springs that are out of service due to elevated nitrate and arsenic. Treatment is required to maintain and restore the service capacity of the wells.

TMWA completed the operation and testing of a 5 GPM pilot treatment plant in 2018. Biological treatment of nitrate in potable water is currently not permitted in Nevada. TMWA, working with Carollo Engineers, UNR and WaterStart, has evaluated this innovative technology and determined it to be a cost-effective treatment solution compared to traditional, high cost alternatives such as ion exchange.

SCHEDULE: Planning, permitting, site acquisition and design was conducted in FY 2023 with construction scheduled to begin in FY2024.

Treatment Plant Improvements
Chalk Bluff Electrical System Upgrades

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	Chalk Bluff Electrical System Upgrades	150	—	—	—	—	150

PROJECT DESCRIPTION: Evaluation of the existing electrical system at the Chalk Bluff Treatment Plant to identify the cause of main breaker power disruption when electrical faults occur in auxiliary plant equipment.

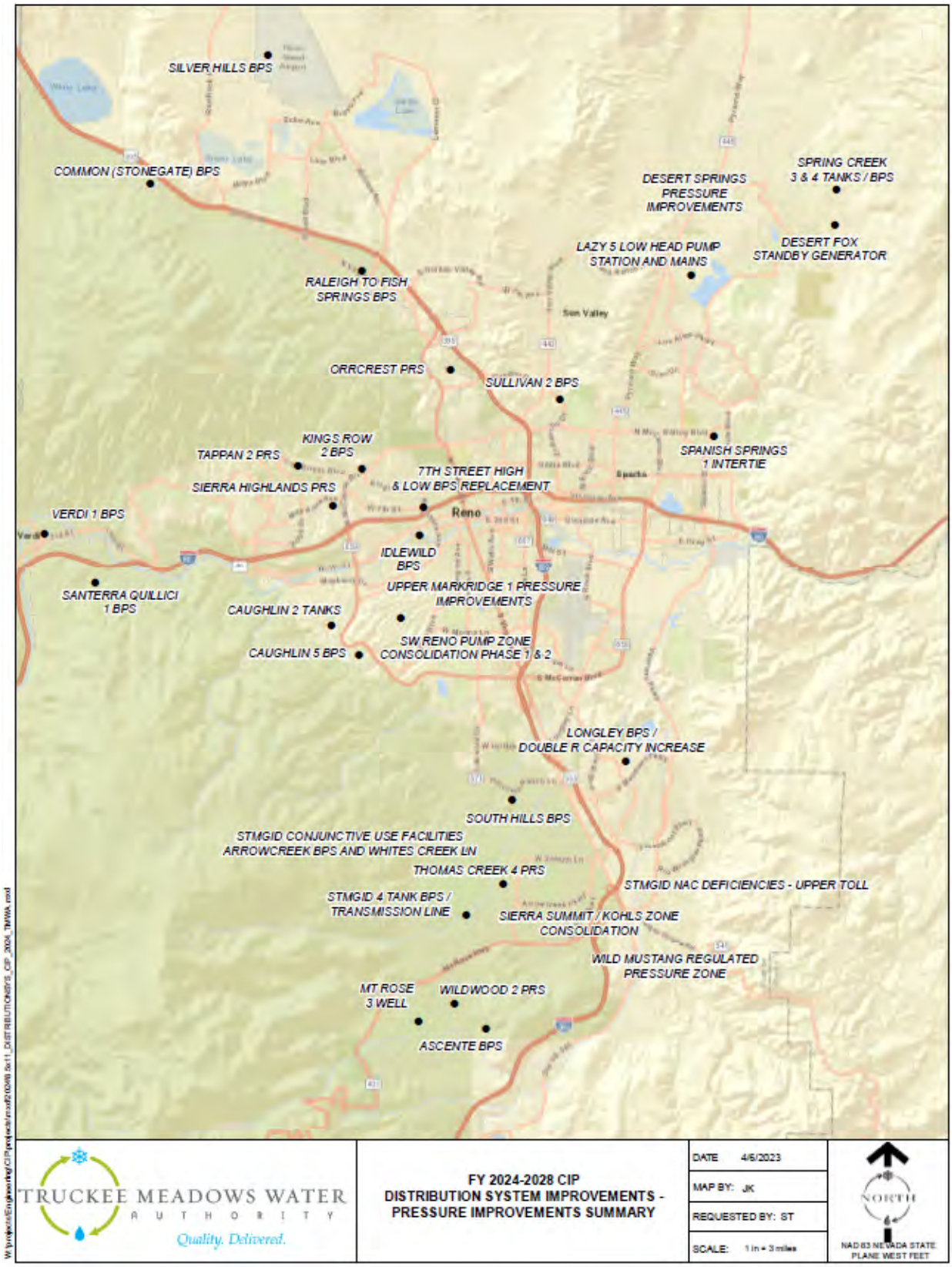
SCHEDULE: Electrical System upgrades are scheduled to be completed in FY 2024.

DISTRIBUTION SYSTEM PRESSURE IMPROVEMENTS
Summary

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	Pressure Regulators Rehabilitation	1,200	500	500	500	500	3,200
2	Customer Rates	Land Acquisitions	150	150	150	150	250	850
2	Customer Rates	Desert Fox Standby Generator	150	—	—	—	—	150
1	Developer Fees	Longley Booster Pump Station / Double R Capacity Increase	250	1,000	—	—	—	1,250
3	Customer Rates	Pump Station Oversizing	100	100	100	100	100	500
1	Customer Rates	Pump Station Rebuilds, Rehabilitations	150	150	150	150	250	850
2	Customer Rates / Developer Fees	Sullivan #2 Booster Pump Station Replacement	—	—	—	80	1,150	1,230
2	Customer Rates	Mount Rose Well #3 Pump Station Improvements	—	250	—	—	—	250
3	Customer Rates	Standby Generator Improvements	50	50	50	50	150	350
1	Customer Rates	PSOM Standby Generator Additions	—	2,100	2,100	—	—	4,200
1	Customer Rates	Idlewild Booster Pump Station Improvements	800	1,190	1,750	—	—	3,740
2	Developer Fees	Raleigh to Fish Springs Booster Pump Station	—	—	—	300	1,600	1,900
2	Customer Rates / Developer Fees	South-West Pump Zone Consolidation Phase 1	—	—	—	330	3,660	3,990
2	Developer Fees	STMGID Tank #4 Booster Pump Station / Transmission Line	—	300	1,000	250	1,000	2,550
2	Developer Fees	Wildwood 2 Pressure Regulating Station SCADA Control	—	100	—	—	—	100
2	Customer Rates / Developer Fees	South-West Pump Zone Consolidation Phase 2	—	—	—	50	990	1,040
2	Customer Rates	Sierra Summit-Kohl's Zone Consolidation	—	—	—	380	400	780
2	Customer Rates	Wild Mustang Regulated Pressure Zone	—	—	—	50	380	430
2	Customer Rates	Thomas Creek #4 PRS	—	170	—	—	—	170

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Customer Rates	Kings Row 2 Booster Pump Station	—	—	150	150	1,500	1,800
2	Developer Fees	Spring Creek Tanks #3&4 Booster Pump Station Modifications	—	—	200	900	—	1,100
1	Developer Fees	Lazy 5 Low Head Pump Station & Mains	1,900	800	—	—	—	2,700
1	Reimbursements	Common (Stonegate) Booster Pump Station	—	1,100	1,100	1,100	—	3,300
1	Customer Rates	South Hills BPS Replacement	—	70	2,750	1,500	—	4,320
2	Customer Rates	Sierra Highlands PRS	—	210	—	—	—	210
1	Customer Rates	7th Street High & Low BPS Replacement	3,650	—	—	—	—	3,650
1	Customer Rates	STMGID NAC Deficiencies - Upper Toll	—	600	2,500	—	—	3,100
1	Reimbursements	Verdi 1 BPS	2,500	—	—	—	—	2,500
1	Reimbursements	Santerra Quilici 1 BPS	450	—	—	—	—	450
1	Reimbursements	Santerra Quilici 2 BPS	30	—	—	—	—	30
1	Reimbursements	Silver Hills BPS	—	3,000	—	—	—	3,000
1	Reimbursements	Ascente BPS	—	2,100	—	—	—	2,100
2	Customer Rates	Tappan 2 PRS	250	—	—	—	—	250
1	Customer Rates	STMGID Conjunctive Use Facilities - Arrowcreek BPS	400	—	—	—	—	400
1	Customer Rates	STMGID Conjunctive Use Facilities - Whites Creek Ln	1,000	—	—	—	—	1,000
Sub-Total Pressure Improvements			**13,030**	**13,940**	**12,500**	**6,040**	**11,930**	**57,440**

Project Locations: Map of all *Distribution System Pressure Improvements* projects are highlighted in the following map.


SILVER HILLS BPS
COMMON (STONEGATE) BPS
SPRING CREEK 3 & 4 TANKS / BPS
DESERT SPRINGS PRESSURE IMPROVEMENTS
DESERT FOX STANDBY GENERATOR
LAZY 5 LOW HEAD PUMP STATION AND MAINS
RALEIGH TO FISH SPRINGS BPS
Sun Valley
ORRCREST PRS
SULLIVAN 2 BPS
KINGS ROW 2 BPS
TAPPAN 2 PRS
SPANISH SPRINGS 1 INTERTIE
7TH STREET HIGH & LOW BPS REPLACEMENT
SIERRA HIGHLANDS PRS
Reno
VERDI 1 BPS
IDLEWILD BPS
SANTERRA QUILLICI 1 BPS
UPPER MARKRIDGE 1 PRESSURE IMPROVEMENTS
CAUGHLIN 2 TANKS
SW RENO PUMP ZONE CONSOLIDATION PHASE 1 & 2
CAUGHLIN 5 BPS
LONGLEY BPS / DOUBLE R CAPACITY INCREASE
SOUTH HILLS BPS
STMGID CONJUNCTIVE USE FACILITIES ARROWCREEK BPS AND WHITES CREEK LN
THOMAS CREEK 4 PRS
STMGID NAC DEFICIENCIES - UPPER TOLL
STMGID 4 TANK BPS / TRANSMISSION LINE
SIERRA SUMMIT / KOHLS ZONE CONSOLIDATION
WILD MUSTANG REGULATED PRESSURE ZONE
MT ROSE 3 WELL
WILDWOOD 2 PRS
ASCENTE BPS
TRUCKEE MEADOWS WATER AUTHORITY
Quality. Delivered.
FY 2024-2028 CIP
DISTRIBUTION SYSTEM IMPROVEMENTS - PRESSURE IMPROVEMENTS SUMMARY
DATE 4/6/2023
MAP BY: JK
REQUESTED BY: ST
SCALE: 1 in = 3 miles
NORTH
NAD 83 NEVADA STATE PLANE WEST FEET

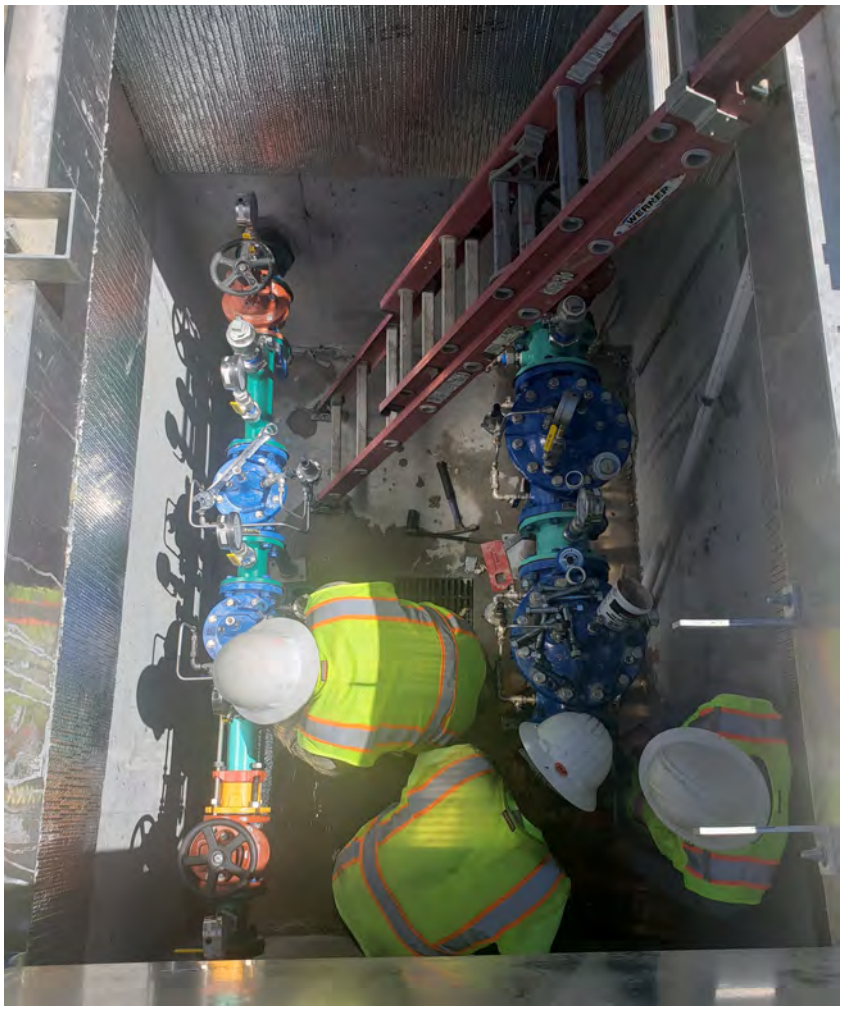
Distribution System Pressure Improvements
Pressure Regulators Rehabilitation

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	Pressure Regulators Rehabilitation	1,200	500	500	500	500	3,200

PROJECT DESCRIPTION: Provision is made in the annual budget for major rehabilitation or complete reconstruction of several pressure regulators in the distribution system. TMWA has evaluated nearly 130 pressure regulator stations currently in service and has identified a number of pressure regulator stations requiring a certain amount of rehabilitation on an annual basis.

SCHEDULE: This is an ongoing rehabilitation project with about 130 individual stations identified as requiring rehabilitation or replacement over the next fifteen years.



Distribution System Pressure Improvements
Land Acquisitions

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Customer Rates	Land Acquisitions	150	150	150	150	250	850

PROJECT DESCRIPTION: TMWA has over 120 pump stations in service. Many of these pump stations have 480 volt electrical services and are underground (below grade) in locations that allows for water infiltration. Many underground pump stations will be reaching the end of their service life, which will require replacement of the underground vault. Rather than replace the stations in place TMWA is planning to acquire other sites so these stations can be rebuilt above grade improving access and safety. Acquisition of sites may be time consuming and may not be purchased in a particular year.

SCHEDULE: This is an ongoing project with funding to allow purchase of 3-4 sites per year depending on location and market conditions.

Distribution System Pressure Improvements
Desert Fox Standby Generator

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Customer Rates	Desert Fox Standby Generator	150	—	—	—	—	150

PROJECT DESCRIPTION: This project involves furnishing and installing a new standby generator and ATS to power one 50 Hp pump at the existing Desert Fox booster pump station. This alternative pumping capacity is needed when the existing 0.5 MG Spring Creek #5A Tank is out of service for recoating or other maintenance or if an extended power outage occurs in the area.

SCHEDULE: The installation of the generator is scheduled in FY 2024.

Distribution System Pressure Improvements
Longley Booster Pump Station/Double R Capacity Increase

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Developer Fees	Longley Booster Pump Station / Double R Capacity Increase	250	1,000	—	—	—	1,250

PROJECT DESCRIPTION: Increase pumping capacity at the existing Longley Lane Booster Pump Station and make improvements at the Double R Intertie to provide additional peak supply to the Double Diamond area. The improvements at the Longley pump station will consist of replacing one of the existing pumps/motors with a new higher capacity unit along with electrical and motor starter upgrades. Certain components of the Double R Intertie will be replaced to provide the additional capacity without excessive friction losses.

SCHEDULE: The improvements are scheduled for FY's 2024-2025. The improvements are necessary when supply through the Double R Intertie must exceed 5,400 gallons per minute.

Distribution System Pressure Improvements
Pump Station Oversizing

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
3	Customer Rates	Pump Station Oversizing	100	100	100	100	100	500

PROJECT DESCRIPTION: The project may consist of cash contributions towards construction of a new above ground booster pump stations. From time to time, TMWA may provide oversizing to certain booster stations that are development driven. Each is reviewed on a case by case basis.

SCHEDULE: The improvements are ongoing, but the schedule is subject to change based on development & operational needs.

Distribution System Pressure Improvements
Pump Station Rebuilds, Rehabilitations

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	Pump Station Rebuilds, Rehabilitations	150	150	150	150	250	850

PROJECT DESCRIPTION: TMWA has over 120 pump stations in service. An amount is budgeted annually for rehabilitation of TMWA's older pump stations. Other pump stations may require pump, motor, and electrical upgrades. Budget for future years will allow TMWA to complete up to one above ground replacement project per year if suitable sites can be acquired. Otherwise, normal rehabilitation work will be performed per the priorities established by the study at a lower overall annual cost.

SCHEDULE: In FY 2024, TMWA is preparing to reconstruct a number of booster stations above ground. Depending on land acquisition timing and priorities of rehabilitation, it could be the Scottsdale BPS, Kings Row #2 Pump Station or the South Hills BPS.

Distribution System Pressure Improvements
Sullivan #2 Booster Pump Station Replacement

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Customer Rates / Developer Fees	Sullivan #2 Booster Pump Station Replacement	—	—	—	80	1,150	1,230

PROJECT DESCRIPTION: The project involves construction of a new above grade pump station at the site of the existing Sullivan Tank on El Rancho. The new pump station will pump to the proposed Sun Valley #2 Tank tentatively located off of Dandini Drive near the TMCC/ DRI complex. Completion of these facilities should allow the retirement of the existing Sun Valley #1 pump station.

SCHEDULE: Construction is scheduled to begin in FY 2028 to reflect delays in obtaining a tank site due to unknowns with the US 395 Connector Project.

Distribution System Pressure Improvements
Mt. Rose Well #3 Pump Station Improvements

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Customer Rates	Mount Rose Well #3 Pump Station Improvements	—	250	—	—	—	250

PROJECT DESCRIPTION: The project involves rehab of the building, removal of pipe and valves that will no longer be necessary following completion of the Mt. Rose Well #3 improvements and upgrades to electrical and control systems.

SCHEDULE: Construction is scheduled in FY 2025.

Distribution System Pressure Improvements
Standby Generator Improvements

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
3	Customer Rates	Standby Generator Improvements	50	50	50	50	150	350

PROJECT DESCRIPTION: A number of TMWA pumps stations have backup generation in case of power failures. TMWA incorporates a contingency for replacement of a generator in case of failure or if the Washoe County Health District requires backup generation at a particular site. No spending will occur unless necessary. This spending does not include backup generation for new pump stations required by and paid for by growth.

SCHEDULE: No single project has been identified for the current 5-year CIP and no funds will be expended unless necessary.

Distribution System Pressure Improvements
PSOM Standby Generator Additions

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	PSOM Standby Generator Additions	—	2,100	2,100	—	—	4,200

PROJECT DESCRIPTION: In 2021, NV Energy began their efforts to de-risk their infrastructure during periods of high fire risk (high winds, low humidity). Those efforts culminated in the "Public Safety Outage Management" or "PSOM" events where NV Energy proactively de-energizes their grid for up to 72 hours per event. TMWA has initially responded by renting several large trailer mounted generators and modified various facilities to accept the electrical connections from these generators. This project will procure and install permanent generators for these sites: Caughlin 2 BPS, Caughlin 3 BPS, Caughlin 4 BPS, Mt. Rose 5 BPS and Well, US 40 BPS, Mae Anne 1 BPS, Mt. Rose Tank 1 BPS.

SCHEDULE: TMWA will prioritize the Caughlin pump systems and US 40 BPS in FY 2025 and the balance of the stations in FY 2026. A review of the financial viability of continuing to rent the trailer mounted generators will occur prior to procurement.

Distribution System Pressure Improvements
Idlewild Booster Pump Station Improvements

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	Idlewild Booster Pump Station Improvements	800	1,190	1,750	—	—	3,740

PROJECT DESCRIPTION: The project will replace existing pumps and motors at the Idlewild BPS Transfer Station to insure adequate and reliable emergency capacity. It is the only booster station that is capable of transferring water from the Highland Reservoir Zone to the Hunter Creek Reservoir Zone. The station was originally constructed as part of the Idlewild WTP, and was never designed specifically for the purpose that it is used for today. Improvements identified in the project include: Properly sizing new pumps and motors for today's application, upgrading antiquated electrical systems and HVAC systems and bringing building up to modern construction codes. Evaluations by TMWA indicated this was the most cost effective alternative to provide a redundant supply for the zone and allowed retirement of the old 24-inch transmission pipeline on Plumb Lane to the Hunter Creek Reservoir.

SCHEDULE: Design is scheduled for FY 2023 with construction scheduled to begin in FY 2024.

Distribution System Pressure Improvements
Raleigh to Fish Springs Booster Pump Station

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Developer Fees	Raleigh to Fish Springs Booster Pump Station	—	—	—	300	1,600	1,900

PROJECT DESCRIPTION: The project involves construction of a new pump station to pump water from the Raleigh Heights zone to the Fish Springs terminal tank when the Fish Springs Wells are off-line or if a main break occurs on the Fish Springs transmission line. In the future, there will be a number of customers served directly from the Fish Springs terminal tank; therefore, it is necessary to provide a secondary supply to maintain continuous water service.

SCHEDULE: Implementation will begin in FY 2027 and construction in FY 2028.

Distribution System Pressure Improvements
South-West Reno Pump Zone Consolidation Phase 1

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Customer Rates / Developer Fees	South-West Pump Zone Consolidation Phase 1	—	—	—	330	3,660	3,990

PROJECT DESCRIPTION: The project includes a new high head booster pump station located on Lakeridge golf course property adjacent to Plumas; a new 12-inch suction pipeline from Lakeside Dr.; a high pressure transmission pipeline from the pump station across golf course property to Greensboro and McCarran Blvd.; and another 12-inch pipeline tie to the Ridgeview #1 pump zone. The completion of Phase 1 will allow the retirement of four existing below ground pump stations (Lakeside, Lakeridge, Plumas, Ridgeview #1).

SCHEDULE: Design of the improvements is scheduled to begin in FY 2027. Construction is scheduled for FY 2028.

Distribution System Pressure Improvements
STMGID Tank #4 Booster Pump Station / Transmission Line

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Developer Fees	STMGID Tank #4 Booster Pump Station / Transmission Line	—	300	1,000	250	1,000	2,550

PROJECT DESCRIPTION: The project includes a new booster pump station located near the STMGID Tank 4/5 site and approximately 6,000 feet of 12-inch discharge main to the Mt Rose Water Treatment Plant (WTP). The facilities will provide a supplemental source to the Mt Rose WTP that will back up plant production on the maximum day during drought and will also provide another source of supply for implementing conjunctive use in the area.

SCHEDULE: Design of the pipeline and pressure regulating station will begin in FY 2025 and construction will begin in FY 2026. The design and construction of the pump station will begin in FY 2027 with construction following in FY 2028. The need for the pump station may elevate based on an extended drought and source supply to the Mt. Rose WTP.

Distribution System Pressure Improvements
Wildwood Pressure Regulating Station/SCADA Control

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Developer Fees	Wildwood 2 Pressure Regulating Station SCADA Control	—	100	—	—	—	100

PROJECT DESCRIPTION: The project involves retrofitting an existing pressure regulating station to SCADA (remote) control to provide additional transfer capacity into the Mt Rose Tank #2 zone. It will be necessary to obtain electrical service to the existing vault; install a new PLC; and to equip the existing pressure regulating valve with solenoid control to allow the valve to be remotely operated from the Glendale control room.

SCHEDULE: The project is scheduled for FY 2025 but may be delayed or accelerated depending on the timing of growth and the need for the additional tank fill capacity.

Distribution System Pressure Improvements
South-West Reno Pump Zone Consolidation Phase #2

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Customer Rates / Developer Fees	South-West Pump Zone Consolidation Phase 2	—	—	—	50	990	1,040

PROJECT DESCRIPTION: The project is a continuation of Phase 1 and involves construction of additional water main to further integrate the new South-West Reno pump station and allow the retirement of one more existing underground pump station plus provide backup to two other pump zones.

SCHEDULE: Design of the facilities is scheduled to begin in FY 2027. Construction is scheduled to start in FY 2028.

Distribution System Pressure Improvements
Sierra Summit-Kohl's Zone Consolidation

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Customer Rates	Sierra Summit-Kohl's Zone Consolidation	—	—	—	380	400	780

PROJECT DESCRIPTION: The project involves construction of a new pressure regulating station (PRS) at Old Virginia and Sutherland; a short main tie between the former STMGID Well #9 site and the distribution system; and about 950 feet of 8-inch main in Sutherland from the PRS to Sage Hill Road. The improvements will convert an area with very high distribution system pressures to the existing Kohl's Regulated Zone and would expand the regulated zone by consolidating the Kohl's, Walmart and Old Virginia #2 regulated pressure zones.

SCHEDULE: The project is scheduled for construction in FY 2027.

Distribution System Pressure Improvements
Wild Mustang Regulated Pressure Zone

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Customer Rates	Wild Mustang Regulated Pressure Zone	—	—	—	50	380	430

PROJECT DESCRIPTION: The project involves construction of a new pressure regulator station and approximately 750 linear feet of water main to create a new pressure zone in the Geiger Grade area of the South Truckee Meadows to reduce distribution system pressures in the area.

SCHEDULE: Design of the construction is scheduled to begin in FY 2027. Construction is scheduled to start in FY 2028.

Distribution System Pressure Improvements
Thomas Creek #4 PRS

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Customer Rates	Thomas Creek #4 PRS	—	170	—	—	—	170

PROJECT DESCRIPTION: The project involves construction of a new pressure regulator station and approximately 160 liner feet of water main to increase capacity to the Moonrise pressure zone. The increase in capacity will help with replenishing storage in the STMGID Tank and increase fire flow within the zone.

SCHEDULE: The project is scheduled for FY 2025.

Distribution System Pressure Improvements
Kings Row 2 Booster Pump Station

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Customer Rates	Kings Row 2 Booster Pump Station	—	—	150	150	1,500	1,800

PROJECT DESCRIPTION: This project will replace the existing underground Kings Row #1 pump station with a new above ground pump station on TMWA property. The project is part of annual booster pump station rehabilitation/replacement program focused on reconstructing existing pump stations above grade.

SCHEDULE: Planning and design will occur in FY's 2026-2027 with construction scheduled in FY 2028.

Distribution System Pressure Improvements
Spring Creek Tanks #3&4 Booster Pump Station Modifications

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Developer Fees	Spring Creek Tanks #3&4 Booster Pump Station Modifications	—	—	200	900	—	1,100

PROJECT DESCRIPTION: This project will replace an existing 200 GPM pump with a new pump/motor rated for 1,800 GPM at the existing Spring Creek 3/4 Tanks site in Spanish Springs Valley. The existing regulated bypass will also be equipped for SCADA control. The improvements will provide redundant supply to the Desert Springs 3 and Spring Creek 6 tank zones.

SCHEDULE: Planning and design will occur in FY 2026 with construction scheduled in FY 2027.

Distribution System Pressure Improvements
Lazy 5 Low Head Pump Station & Mains

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Developer Fees	Lazy 5 Low Head Pump Station & Mains	1,900	800	—	—	—	2,700

PROJECT DESCRIPTION: The project involves construction of a new low head pump station located near the existing Lazy 5 Intertie in NE Sparks/Spanish Springs Valley along with suction and discharge mains. TMWA will need to acquire a parcel of land and pipeline easements out to the Pyramid Hwy. The project will increase TMWA's ability to transfer surface water to the Spanish Springs Valley and may defer more costly groundwater treatment options to increase capacity for growth.

SCHEDULE: Construction scheduled to begin in FY 2024 with the project completing in FY 2025.

Distribution System Pressure Improvements
Common (Stonegate) Booster Pump Station

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Reimbursements	Common (Stonegate) Booster Pump Station	—	1,100	1,100	1,100	—	3,300

PROJECT DESCRIPTION: The project consists of design and construction of a new booster pump station to deliver the water supply for the proposed Stonegate development in Cold Springs. Suction and discharge pipelines on North Virginia and terminal storage facilities in Cold Springs will be constructed by Stonegate as applicant-installed projects. The pump station will be located on a parcel on North Virginia that has already been acquired by Stonegate. Stonegate is responsible for 100 percent of the project costs.

SCHEDULE: Design was initiated in FY 2020 with construction scheduled in FY's 2025-2027.

Distribution System Pressure Improvements
South Hills BPS Replacement

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	South Hills BPS Replacement	—	70	2,750	1,500	—	4,320

PROJECT DESCRIPTION: The project involves construction of a new, above grade booster pump station with genset; 3,700 liner feet of l6-inch main, 250 liner feet of l4-inch main and 2,300 linear feet of l2-inch main on Broken Hills Rd, Foothill Rd and Broili; a new Caribou pressure regulator station; and 9 each individual PRV'S on customer service lines.

SCHEDULE: Planning and design is scheduled to begin in FY 2025 and construction is scheduled to begin in FY 2026 with the project completing in FY 2027.

Distribution System Pressure Improvements
Sierra Highlands Pressure Regulator System

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Customer Rates	Sierra Highlands PRS	—	210	—	—	—	210

PROJECT DESCRIPTION: The project involves construction of a new pressure regulator station located near the intersection of Sierra Highlands Drive and North McCarran Blvd. to provide a secondary/supplemental supply from the Mae Anne-McCarran zone to the Chalk Bluff zone.

SCHEDULE: Construction for the project is scheduled for FY 2025.

Distribution System Pressure Improvements
7th Street High & Low Booster Pump Station Replacement

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	7th Street High & Low BPS Replacement	3,650	—	—	—	—	3,650

PROJECT DESCRIPTION: The project will replace 2 underground booster pump stations in the intersection of Keystone Avenue and 7th Street in Northwest Reno. The booster pump stations need rehabilitation and accessing them for maintenance is unsafe and requires major traffic control in the highly traveled intersection. TMWA has been in discussions with NDOT for purchasing a remnant parcel on 7th street east of Keystone Avenue and West of Vine Street.

SCHEDULE: Construction for the project is scheduled for FY 2024.

Distribution System Pressure Improvements
STMGID NAC Deficiencies - Upper Toll

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	STMGID NAC Deficiencies - Upper Toll	—	600	2,500	—	—	3,100

PROJECT DESCRIPTION: The project consists of main ties, hydrant installations and individual booster pump systems to be constructed in multiple locations in former STMGID service areas to correct NAC pressure and fire flow deficiencies. In order to correct deficiencies in the upper Toll Road area, it will be necessary to create a new higher pressure zone by constructing a new tank, booster pump station and approximately 6,300 linear feet of 12-inch main.

SCHEDULE: The new pressure zone on upper Toll Road will be constructed in FY 2026 subject to acquisition of the tank site property which may be private or on BLM property.

Distribution System Pressure Improvements
Verdi 1 Booster Pump Station

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Reimbursements	Verdi 1 BPS	2,500	—	—	—	—	2,500

PROJECT DESCRIPTION: This booster pump station is part of the 'backbone facilities' necessary to bring more surface water to the Verdi area and meet planned/approved growth via various housing projects underway. The planned capacity is 3,500 gpm.

SCHEDULE: Design will begin in FY 2023 and construction will occur in FY 2024.

Distribution System Pressure Improvements
Santerra Quillici 1 Booster Pump Station

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Reimbursements	Santerra Quilici 1 BPS	450	—	—	—	—	450

PROJECT DESCRIPTION: This booster pump station will be located next to the Boomtown Tanks to provide service to the portions of Santerra Quillici project located higher in elevation than can be served by existing infrastructure. The planned capacity is 1,000 gpm.

SCHEDULE: Design will begin in FY 2023 and construction will occur in FY 2024.

Distribution System Pressure Improvements
Santerra Quillici 2 Booster Pump Station

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Reimbursements	Santerra Quilici 2 BPS	30	—	—	—	—	30

PROJECT DESCRIPTION: This pump station will be located next to the Boomtown Tanks to provide service to the portions of Santerra Quillici project located higher in elevation than can be served by existing infrastructure. The planned capacity is 415 gpm.

SCHEDULE: Design and construction will occur in FY 2024.

Distribution System Pressure Improvements
Silver Hills Booster Pump Station

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Reimbursements	Silver Hills BPS	—	3,000	—	—	—	3,000

PROJECT DESCRIPTION: The booster pump station will be located next to the Army Air well at the Reno Stead Airport to provide service to the Silver Hills project located to the west of the Airport and on either side of Red Rock Road. The planned capacity is 2,000 gpm.

SCHEDULE: Construction will occur in FY 2025.

Distribution System Pressure Improvements
Ascente BPS

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Reimbursements	Ascente BPS	—	2,100	—	—	—	2,100

PROJECT DESCRIPTION: The Ascente Pump Station will be located within the Ascente development in South Truckee Meadows. It will pump from the existing Mt. Rose 2 tank to the new Ascente Tank. The planned capacity will be 250 gpm but will also have fire pump capacity in the event of a tank outage. The pump station is located in a NV Energy PSOM (preventative maintenance outage management) area and will require a backup generator.

SCHEDULE: Design and Construction is scheduled for FY 2025.

Distribution System Pressure Improvements
STMGID Conjunctive Use Facilities - Arrowcreek BPS

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	STMGID Conjunctive Use Facilities - Arrowcreek BPS	400	—	—	—	—	400

PROJECT DESCRIPTION: The project involves construction of a new booster pump station on the reclaim water reservoir site on Arrowcreek Parkway and approximately 8,100 linear feet of 14-inch discharge pipe on Arrowcreek Parkway to the STMGID Tank 4/5 pressure zone. The facilities will provide off-peak supply which will allow TMWA to implement conjunctive use in the STMGID West system.

SCHEDULE: Construction of the pipeline was completed in FY 2019 and the booster pump station design/construction is scheduled to be completed in FY 2024.

Distribution System Pressure Improvements
STMGID Conjunctive Use Facilities - Whites Creek Ln

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	STMGID Conjunctive Use Facilities - Whites Creek Ln	1,000	—	—	—	—	1,000

PROJECT DESCRIPTION: This project includes the completion of pressure zone improvements for the new Whites Creek Zone. The pipeline and check valve improvements will serve to complete improvements necessary for fire flows at the highest elevation hydrant on Whites Creek Lane.

SCHEDULE: Construction is schedule for FY2024.

Distribution System Pressure Improvements
Tappan 2 Pressure Regulator System

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Customer Rates	Tappan 2 PRS	250	—	—	—	—	250

PROJECT DESCRIPTION: The project will provide the Tappan Reg zone with more redundancy and a second source of supply. The location is approximate and subject to easement acquisition and timing.

SCHEDULE: Planned for design/construction in FY 2024 if land acquisition timing allows.

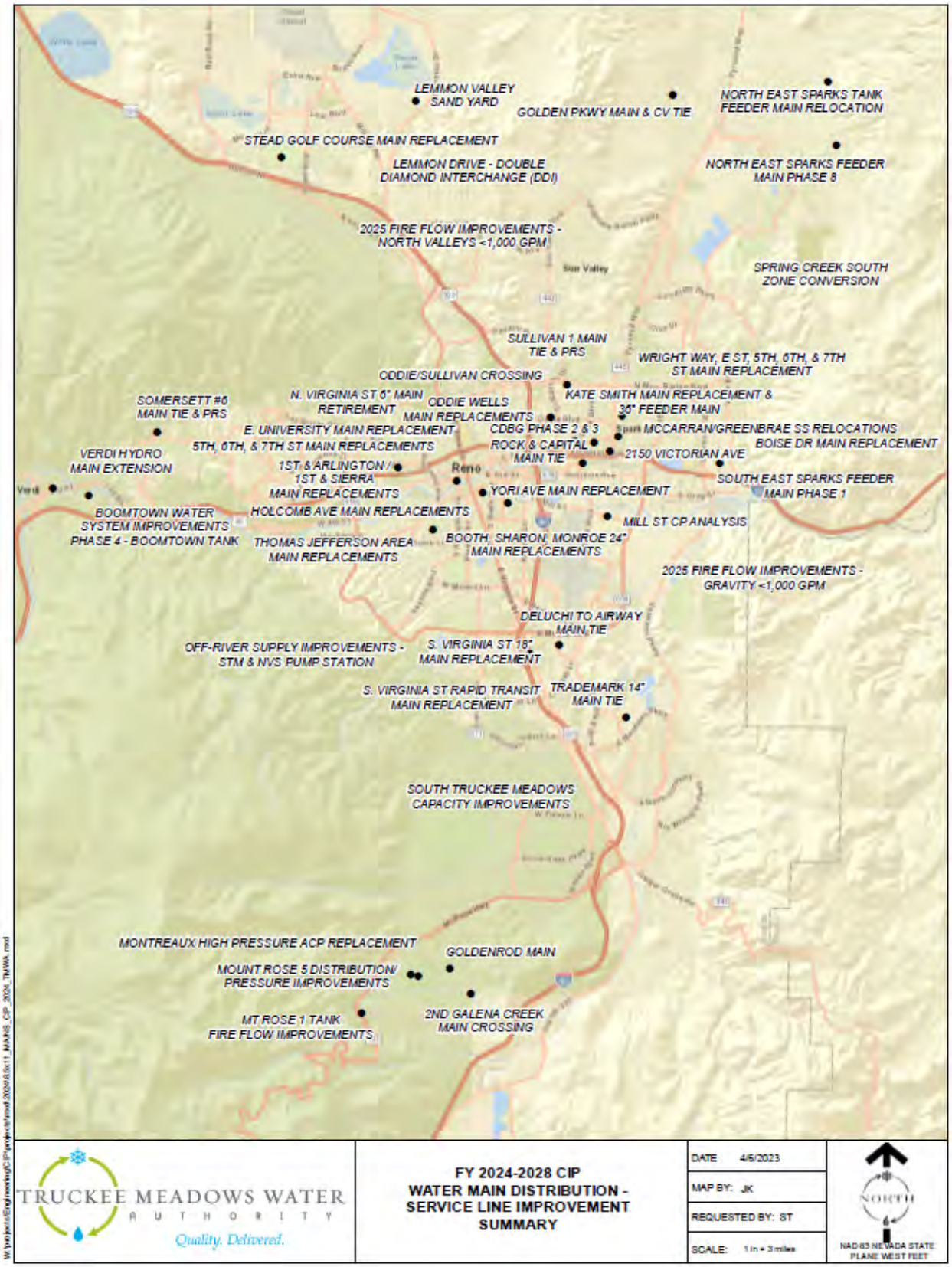
WATER MAIN DISTRIBUTION & SERVICE LINE IMPROVEMENTS

Summary

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	Street & Highway Main Replacements	1,000	4,000	5,000	5,000	5,000	20,000
1	Customer Rates	Golden Parkway Main & Check Valve Tie	180	—	—	—	—	180
1	Customer Rates	McCarran/Greenbrae SS Relocations	400	—	—	—	—	400
1	Customer Rates	Boise Drive Main Replacement	20	—	—	—	—	20
1	Customer Rates	Holcomb Ave Main Replacements	20	—	—	—	—	20
1	Customer Rates	Oddie-Sullivan Crossing	150	—	—	—	—	150
1	Customer Rates	1st and Arlington Main Replacement	87	—	—	—	—	87
1	Customer Rates	2150 Victorian Ave Service Relocation	100	—	—	—	—	100
1	Customer Rates	1st and Sierra St. Main Replacement	250	—	—	—	—	250
1	Customer Rates	Yori & E. University Main Replacement	2,500	—	—	—	—	2,500
1	Customer Rates	Kate Smith Area Main Replacment-6"	1,900	1,900	1,900	—	—	5,700
1	Customer Rates	Kate Smith Sparks Feeder Main-36"	1,500	—	—	—	—	1,500
1	Customer Rates	CDBG Phase 2 and 3 Main Replacement	700	—	—	—	—	700
1	Customer Rates	Thomas Jefferson Area Main Replacements	150	3,800	—	—	—	3,950
1	Customer Rates	Thomas Jefferson - Sharon 24" Main Replacement	150	3,100		—	—	3,250
1	Customer Rates	N. Virginia Street 6" Main Retirement	100	—	—	—	—	100
1	Customer Rates	S. Virginia Rapid Transit Main Replacement	—	150	—	—	—	150
1	Customer Rates	5th, 6th & 7th St. Water Main Replacements	20	—	—	—	—	20
1	Customer Rates	Wright Way, E St, 5th, 6th & 7th Replacements	20	—	—	—	—	20
1	Developer Fees	Oddie Wells Main Replacement	20	—	—	—	—	20
2	Customer Rates	Spring Creek South Zone Conversion	200	—	—	—	—	200
2	Customer Rates	Booth, Sharon Way, Monroe 24" Main Replacements	2,000	2,000	1,000	—	—	5,000
2	Developer Fees	North-East Sparks Tank Feeder Main Relocation	—	—	975	—	—	975

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Developer Fees	Trademark 14" Main Tie	470	—	—	—	—	470
2	Customer Rates	Mount Rose Tank 1 Fire Flow Improvements	—	—	400	570	—	970
2	Customer Rates / Developer Fees	Stead Golf Course Main Replacement	—	—	170	2,400	—	2,570
1	Developer Fees	North-East Sparks Feeder Main Ph. 8	—	50	2,050	—	—	2,100
1	Developer Fees	Mount Rose 5 Distribution / Pressure Improvements	750	—	—	—	—	750
2	Developer Fees	Goldenrod Main	100	1,200	—	—	—	1,300
1	Developer Fees	Boomtown Water System Improvements	500	1,750	—	—	—	2,250
1	Customer Rates / Developer Fees	Boomtown System Improvements Ph 4 - Boomtown Tank	445	—	—	—	—	445
2	Customer Rates / Developer Fees	Sullivan #1 Main Tie & PRS	—	—	—	100	650	750
2	Customer Rates	Montreux High Pressure ACP Replacement	—	—	520	1,060	—	1,580
2	Customer Rates	2nd Galena Creek Main Crossing	—	40	560	—	—	600
2	Customer Rates	Off-River Supply Improvements - South Truckee Meadows	—	—	—	50	1,050	1,100
2	Customer Rates	Off-River Supply Improvements - North Virginia-Stead Pump Station	—	—	400	—	—	400
2	Customer Rates	Somersett #6 Main Tie & PRS	—	280	—	—	—	280
1	Customer Rates	2025 Fire Flow Improvements - Gravity <1,000 GPM	—	—	—	550	—	550
1	Customer Rates	2025 Fire Flow Improvements - North Valleys <1,000 GPM	—	—	—	940	—	940
2	Developer Fees	Deluchi to Airway Main Tie	—	—	—	440	—	440
1	Developer Fees	South-East Sparks Feeder Main Phase 1	—	—	—	50	4,450	4,500
1	Developer Fees	South Truckee Meadows Capacity Improvements	800	—	—	—	—	800
Subtotal Water Main Distribution Improvements			**14,532**	**18,270**	**12,975**	**11,160**	**11,150**	**68,087**

Project Locations: Map of all *Water Main Distribution Service Line Improvements* projects are highlighted in the following map.


LEMMON VALLEY SAND YARD
GOLDEN PKWY MAIN & CV TIE
NORTH EAST SPARKS TANK FEEDER MAIN RELOCATION
STEAD GOLF COURSE MAIN REPLACEMENT
LEMMON DRIVE - DOUBLE DIAMOND INTERCHANGE (DDI)
NORTH EAST SPARKS FEEDER MAIN PHASE 8
2025 FIRE FLOW IMPROVEMENTS - NORTH VALLEYS <1,000 GPM
Sun Valley
SPRING CREEK SOUTH ZONE CONVERSION
SULLIVAN 1 MAIN TIE & PRS
WRIGHT WAY, E ST, 5TH, 6TH, & 7TH ST MAIN REPLACEMENT
ODDIE/SULLIVAN CROSSING
KATE SMITH MAIN REPLACEMENT & 36" FEEDER MAIN
SOMERSETT #6 MAIN TIE & PRS
N. VIRGINIA ST 6" MAIN RETIREMENT
ODDIE WELLS MAIN REPLACEMENTS
E. UNIVERSITY MAIN REPLACEMENT
CDBG PHASE 2 & 3
MCCARRAN/GREENBRAE SS RELOCATIONS
BOISE DR MAIN REPLACEMENT
5TH, 6TH, & 7TH ST MAIN REPLACEMENTS
ROCK & CAPITAL MAIN TIE
2150 VICTORIAN AVE
VERDI HYDRO MAIN EXTENSION
1ST & ARLINGTON / 1ST & SIERRA MAIN REPLACEMENTS
Reno
SOUTH EAST SPARKS FEEDER MAIN PHASE 1
YORI AVE MAIN REPLACEMENT
Verdi
BOOMTOWN WATER SYSTEM IMPROVEMENTS PHASE 4 - BOOMTOWN TANK
HOLCOMB AVE MAIN REPLACEMENTS
MILL ST CP ANALYSIS
THOMAS JEFFERSON AREA MAIN REPLACEMENTS
BOOTH, SHARON, MONROE 24" MAIN REPLACEMENTS
2025 FIRE FLOW IMPROVEMENTS - GRAVITY <1,000 GPM
DELUCHI TO AIRWAY MAIN TIE
OFF-RIVER SUPPLY IMPROVEMENTS - STM & NVS PUMP STATION
S. VIRGINIA ST 18" MAIN REPLACEMENT
S. VIRGINIA ST RAPID TRANSIT MAIN REPLACEMENT
TRADEMARK 14" MAIN TIE
SOUTH TRUCKEE MEADOWS CAPACITY IMPROVEMENTS
MONTREAUX HIGH PRESSURE ACP REPLACEMENT
GOLDENROD MAIN
MOUNT ROSE 5 DISTRIBUTION/ PRESSURE IMPROVEMENTS
2ND GALENA CREEK MAIN CROSSING
MT ROSE 1 TANK FIRE FLOW IMPROVEMENTS
TRUCKEE MEADOWS WATER AUTHORITY
Quality. Delivered.
FY 2024-2028 CIP
WATER MAIN DISTRIBUTION - SERVICE LINE IMPROVEMENT SUMMARY
DATE 4/6/2023
MAP BY: JK
REQUESTED BY: ST
SCALE: 1 in = 3 miles
NORTH
NAD 83 NEVADA STATE PLANE WEST FEET

Water Main-Distribution Service Line Improvements
Street & Highway Main Replacements

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	Street & Highway Main Replacements	1,000	4,000	5,000	5,000	5,000	20,000

PROJECT DESCRIPTION: Provision is made each year for water main replacements in conjunction with repaving efforts by the City of Reno, City of Sparks, Washoe County and RTC. In addition to repaving projects, TMWA coordinates water main replacements with sewer main replacements in areas where TMWA also has older water lines. TMWA plans for up to $5.0 million annually for these efforts, so that TMWA can capitalize on repaving projects planned by other entities. Anticipated spending in the out years is reflective of historical activity. Levels of spending can vary year to year and are difficult to predict. These efforts by far are the largest expenditure in the water system rehabilitation category.

SCHEDULE: Projects are identified and prioritized on an annual basis.

Water Main-Distribution Service Line Improvements
Golden Parkway Main & Check Valve Tie

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	Golden Parkway Main & Check Valve Tie	180	—	—	—	—	180

PROJECT DESCRIPTION: This project will establish water system redundancy in the Spanish Springs area and includes the construction of 350 linear feet of 8-inch diameter main and an associated check valve adjacent to the Eagle Canyon Pressure Reducing Station (PRS).

SCHEDULE: Construction is scheduled for FY 2024.

Water Main-Distribution Service Line Improvements
McCarran/Greenbrae SS Relocations

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	McCarran/Greenbrae SS Relocations	400	—	—	—	—	400

PROJECT DESCRIPTION: Section replacements ahead of, and in coordination with, the City of Sparks Sanitary Sewer (SS) Rehabilitation project along McCarran Blvd between Prater Way and Greenbrae Drive.

SCHEDULE: Construction is scheduled for FY 2024.

Water Main-Distribution Service Line Improvements
Boise Drive Main Replacement

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	Boise Drive Main Replacement	20	—	—	—	—	20

PROJECT DESCRIPTION: Relocate approximate 1,300 linear feet of 6-inch AC/transite pipe due to close proximity of new deep, 24-inch sanitary sewer. Remove and dispose of retired AC/ transite pipe.

SCHEDULE: Construction is scheduled for FY 2024.

Water Main-Distribution Service Line Improvements
Holcomb Ave Main Replacements

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	Holcomb Ave Main Replacements	20	—	—	—	—	20

PROJECT DESCRIPTION: Replace approximately 800 linear feet of old cast iron water main ahead of upcoming RTC road reconstruction project. Includes upsize existing 4-inch cast iron water main to 6-inch for fire flow as identified in TMWA CIP plan.

SCHEDULE: Construction is scheduled for FY 2024.

Water Main-Distribution Service Line Improvements
Oddie-Sullivan Crossing

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	Oddie-Sullivan Crossing	150	—	—	—	—	150

PROJECT DESCRIPTION: Replace existing 20-inch main crossing at Oddie-Sullivan intersection due to RTC storm drain conflict. Also included is 8-inch connection from Sullivan to Merchant Street.

SCHEDULE: Construction is scheduled for FY 2024.

Water Main-Distribution Service Line Improvements
1st and Arlington Main Replacement

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	1st and Arlington Main Replacement	87	—	—	—	—	87

PROJECT DESCRIPTION: This project includes the removal and replacement of 75 linear feet of cast iron (1939) pipe and 40 linear feet of transite with new ductile iron pipe under the 1st Street and Arlington Ave Intersection. Replace exciting 6-inch cast iron water service (main to face of curb) for 100 N. Arlington Ave and adjacent fire service.

SCHEDULE: Construction is scheduled to be completed in FY 2024.

Water Main-Distribution Service Line Improvements
2150 Victorian Ave Service Relocation

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	2150 Victorian Ave Service Relocation	100	—	—	—	—	100

PROJECT DESCRIPTION: This project is in conjunction with E Street alley reconstruct and sanitary sewer work to retire existing 4-inch cast iron main. The main currently has one service off of it for 2150 Victorian Ave. This service will be relocated to come off of Victorian Ave.

SCHEDULE: Construction is scheduled for FY 2024.

Water Main-Distribution Service Line Improvements
1st and Sierra St. Main Replacement

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	1st and Sierra St. Main Replacement	250	—	—	—	—	250

PROJECT DESCRIPTION: The project involves relocating approximately 100 linear fee of 6-inch main and replace approximately 50 linear fee of 12-inch main. Tie over mains and services with work included with the RTC street reconstruction contract.

SCHEDULE: Construction is scheduled for FY 2024.

Water Main-Distribution Service Line Improvements
Yori & E. University Main Replacement

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	Yori & E. University Main Replacement	2,500	—	—	—	—	2,500

PROJECT DESCRIPTION: The project involves replacing approximately 5,000 linear feet of older cast iron pipe ahead of 2024 City of Reno street rehabilitation work. Includes railroad crossing at 8th and Record Street.

SCHEDULE: Construction is scheduled for FY 2024.

Water Main-Distribution Service Line Improvements
Kate Smith Area Main Replacment-6"

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	Kate Smith Area Main Replacment-6"	1,900	1,900	1,900	—	—	5,700

PROJECT DESCRIPTION: Replacement of approximately 9,000 linear feet of older 6-inch and 8-inch cast iron and transite mains. This work is in coordination with the City of Sparks Kate Smith Area road reconstruction projects.

SCHEDULE: Construction is scheduled for FY's 2024-2026.

Water Main-Distribution Service Line Improvements
Kate Smith Sparks Feeder Main-36"

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	Kate Smith Sparks Feeder Main-36"	1,500	—	—	—	—	1,500

PROJECT DESCRIPTION: Installation of approximately 1,500 linear feet of 36-inch ductile iron pipe on F Street from Rock Blvd to 19th Street and 19th Street from Prater Way to F Street. This work is in coordination with the City of Sparks Kate Smith School Area street reconstruction projects.

SCHEDULE: Construction is scheduled for FY 2024.

Water Main-Distribution Service Line Improvements
CDBG Phase 2 and 3 Main Replacement

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	CDBG Phase 2 and 3 Main Replacement	700	—	—	—	—	700

PROJECT DESCRIPTION: Replacement of approximately 2,000 linear feet of older 4-inch and 6-inch cast iron mains in conjunction with the City of Sparks Community Development Block Grant (CDBG) street reconstruction projects.

SCHEDULE: Construction is scheduled for FY 2024.

Water Main-Distribution Service Line Improvements
Thomas Jefferson Area Main Replacements

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	Thomas Jefferson Area Main Replacements	150	3,800	—	—	—	3,950

PROJECT DESCRIPTION: Replacement of approximately 8,500 liner feet of older 4-inch, 6-inch and 8-inch cast iron mains. This work is in coordination with the City of Reno Thomas Jefferson, California and Sharon/Marsh road reconstruction projects.

SCHEDULE: Planning and design will be completed in FY 2024. Construction will be completed in FY 2025.

Water Main-Distribution Service Line Improvements
Thomas Jefferson - Sharon 24" Main Replacement

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	Thomas Jefferson - Sharon 24" Main Replacement	150	3,100		—	—	3,250

PROJECT DESCRIPTION: Replacement of approximately 3,100 linear feet of 24-inch steel main on Sharon Way from Plumb Lane to Marsh Avenue. This work is in coordination with the City of Reno Thomas Jefferson, California and Sharon/Marsh road reconstruction projects.

SCHEDULE: Planning and design will be completed in FY 2024. Construction will be completed in FY 2025.

Water Main-Distribution Service Line Improvements
N. Virginia Street 6" Main Retirement

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	N. Virginia Street 6" Main Retirement	100	—	—	—	—	100

PROJECT DESCRIPTION: Retirement of approximately 1,200 linear feet of 6-inch cast iron pipe and related service work. This work is in coordination with RTC's roadway reconstruction project on N. Virginia Street from 15th Street to McCarran Blvd.

SCHEDULE: Construction is scheduled for FY 2024.

Water Main-Distribution Service Line Improvements
S. Virginia Rapid Transit Main Replacement

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	S. Virginia Rapid Transit Main Replacement	—	150	—	—	—	150

PROJECT DESCRIPTION: Replacement of a minimum 2,000 linear feet to a maximum of 5,100 linear feet of older 6-inch, 8-inch and 12-inch cast iron main. Final scope to be determined. This work is in coordination with RTC's Rapid Transit Project on S. Virginia Street from Moana Lane to Plumb Lane.

SCHEDULE: Construction is scheduled for FY 2025.

Water Main-Distribution Service Line Improvements
5th, 6th & 7th St. Water Main Replacements

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	5th, 6th & 7th St. Water Main Replacements	20	—	—	—	—	20

PROJECT DESCRIPTION: Replace approximately 1,600 linear feet of 4-inch and 6-inch cast iron main on 5th, 6th and 7th Streets between G and H Street. Work to be completed prior to City of Sparks road reconstruct on same same streets.

SCHEDULE: Construction is scheduled for FY 2023 completing in FY 2024.

Water Main-Distribution Service Line Improvements
Wright Way, E St, 5th, 6th & 7th Replacements

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	Wright Way, E St, 5th, 6th & 7th Replacements	20	—	—	—	—	20

PROJECT DESCRIPTION: Replace approximately 5,800 linear feet of 4-inch and 6-inch cast iron and transite water main with ductile iron. Perform tie overs, service connections and replacements as needed.

SCHEDULE: Construction is scheduled for FY 2023 completing in FY2024.

Water Main-Distribution Service Line Improvements
Oddie Wells Main Replacement

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Developer Fees	Oddie Wells Main Replacement	20	—	—	—	—	20

PROJECT DESCRIPTION: The project involves replacing approximately 3,500 linear feet of cast iron water main. Existing water main to be grouted in place.

SCHEDULE: Construction is scheduled for FY 2023 completing in FY 2024.

Water Main-Distribution Service Line Improvements
Spring Creek South Zone Conversion

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Customer Rates	Spring Creek South Zone Conversion	200	—	—	—	—	200

PROJECT DESCRIPTION: The project involves construction of approximately 2,800 linear feed of various size water mains, several interties, retirement of several mains and facilities including the existing Spring Creek Tanks. New water mains include 2,060 linear feet of 12-inch on Pyramid Highway and 300 linear feet of 8-inch main across Pyramid Highway at Spring Ridge.

SCHEDULE: Implementation and construction will be completed in FY 2024.

Water Main-Distribution Service Line Improvements
Booth, Sharon Way, Monroe 24" Main Replacements

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Customer Rates	Booth, Sharon Way, Monroe 24" Main Replacements	2,000	2,000	1,000	—	—	5,000

PROJECT DESCRIPTION: This project is a continuation of the previously constructed California-Marsh Intertie to provide reliable emergency capacity to the Hunter Creek gravity zone. The project consists of about 6,900 linear feet of 24-inch main on Booth, Sharon to Plumb Lane and on Monroe between Sharon and Nixon to supply the Nixon-Monroe regulator.

SCHEDULE: Construction is scheduled for FY's 2024-2026. TMWA will attempt to coordinate construction with other municipal infrastructure projects if possible, but the existing pipes will be 74-years old by the proposed construction date.

Water Main-Distribution Service Line Improvements
North-East Sparks Tank Feeder Main Relocation

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Developer Fees	North-East Sparks Tank Feeder Main Relocation	—	—	975	—	—	975

PROJECT DESCRIPTION: The North-East Sparks Tank Feeder Main was constructed in 1988 within private easements several years prior to the construction of South Los Altos Parkway. The final alignment selected for South Los Altos Parkway does not follow the alignment of the tank feeder main. As a result, the tank feeder main now runs through developed properties next to buildings, under parking areas and at considerable depth in some locations. This situation presents potential problems for access to the pipe for maintenance and repair of the critical pipeline. This project will relocate approximately 3,000 linear feet of the 18-inch tank feeder main out into the public right-of-way in South Los Altos Parkway.

SCHEDULE: Design and the improvements are scheduled for FY 2026.

Water Main-Distribution Service Line Improvements
Trademark 14" Main Tie

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Developer Fees	Trademark 14" Main Tie	470	—	—	—	—	470

PROJECT DESCRIPTION: This project involves construction of approximately 350 linear feet of 14-inch water main from Trademark to South Meadows Parkway, including crossing of an existing major drainage channel. The project will increase transmission capacity in the Double Diamond system to meet the needs of growth.

SCHEDULE: Construction is scheduled to be completed in FY 2024.

Water Main-Distribution Service Line Improvements
Mount Rose Tank 1 Fire Flow Improvements

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Customer Rates	Mount Rose Tank 1 Fire Flow Improvements	—	—	400	570	—	970

PROJECT DESCRIPTION: The project involves reconstruction of an existing pressure regulator station at Mt. Rose Tank #1, a new pressure regulator station on Blue Spruce and approximately 3,100 linear feet of 10-inch water main on Blue Spruce and Douglas Fir to increase system pressure and fire flow capacity to existing customers in Galena Forest Estates. Existing fire flows are currently less than 1,000 GPM in the area.

SCHEDULE: Planning and design will be completed in FY 2026. Construction will occur in FY's 2026-2027.

Water Main-Distribution Service Line Improvements
Stead Golf Course Main Replacement

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Customer Rates / Developer Fees	Stead Golf Course Main Replacement	—	—	170	2,400	—	2,570

PROJECT DESCRIPTION: The project consists of replacement of about 10,000 linear feet of 14-inch steel pipe installed around 1945. The pipe provides an important hydraulic tie between the Stead tanks and the northeast extremities of the Stead distribution system. The pipeline may also be useful to alleviate an existing bottleneck between the Stead wells and the distribution system.

SCHEDULE: The project is scheduled for construction to be completed in FY 2027.

Water Main-Distribution Service Line Improvements
North-East Sparks Feeder Main Ph. 8

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Developer Fees	North-East Sparks Feeder Main Ph. 8	—	50	2,050	—	—	2,100

PROJECT DESCRIPTION: The project involves construction of approximately 6,400 linear feet of 14-inch water main on Satellite Drive from Vista Blvd to Sparks Blvd to increase capacity for growth in Spanish Springs and maintain adequate suction pressure at the Satellite Hills booster pump station.

SCHEDULE: Design is scheduled for FY 2025 and the improvements will be constructed in FY 2026.

Water Main-Distribution Service Line Improvements
Mount Rose 5 Distribution / Pressure Improvements

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Developer Fees	Mount Rose 5 Distribution / Pressure Improvements	750	—	—	—	—	750

PROJECT DESCRIPTION: Improvements are intended to provide off-peak conjunctive use supply. The proposed improvements are intended to be consistent with future improvements to improve peaking supply to the Mt. Rose system and will reduce pressure in the high pressure pipeline downhill of Mt. Rose Well 5. It will also increase the off-peak pumping capacity of surface water into the Mt. Rose 1 and 4 tanks to 650 GPM from 400 GPM. Future phases are intended to increase system redundancy and further reduce high pressures in the system.

SCHEDULE: Construction is scheduled to be completed in FY 2024.

Water Main-Distribution Service Line Improvements
Goldenrod Main

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Developer Fees	Goldenrod Main	100	1,200	—	—	—	1,300

PROJECT DESCRIPTION: The project involves construction of approximately 4,500 linear feet of 12-inch water main from the Tessa West Well to the intersection of Goldenrod and Mountain Meadows Lane. This project will provide additional capacity between the Arrowcreek and Mt. Rose systems for Mt. Rose 2 tank fills and for on-peak supply from the Mt. Rose Water Treatment Plant.

SCHEDULE: Design is planned in FY 2024 and construction is planned in FY 2025.

Water Main-Distribution Service Line Improvements
Boomtown Water System Improvements

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Developer Fees	Boomtown Water System Improvements	500	1,750	—	—	—	2,250

PROJECT DESCRIPTION: The Boomtown system requires several high priority improvements to bring the system into compliance with NAC 445A regulations and TMWA standards and to allow efficient operation and maintenance of the water facilities. The improvements consist of upgrades to three existing wells (pump to waste facilities, SCADA, new pumps, new motors, new starters and arc flash analyses), tank site improvements (grading, drainage, overflow, fencing, paving, sampling vault, SCADA) and tank access improvements.

SCHEDULE: The improvements will be designed and constructed in FY's 2024-2025.

Water Main-Distribution Service Line Improvements
Sullivan #1 Main Tie & PRS

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Customer Rates / Developer Fees	Sullivan #1 Main Tie & PRS	—	—	—	100	650	750

PROJECT DESCRIPTION: The project involves construction of about 1,300 linear feet of 10-inch main on El Rancho and a new pressure regulator station to supply the Sullivan #1 zone. The project timeline assumes that the proposed Sun Valley #2 Tank and Sullivan #2 pump station are in service.

SCHEDULE: Planning and design is scheduled to begin in FY 2027 with construction scheduled in FY 2028.

Water Main-Distribution Service Line Improvements
Montreux High Pressure ACP Replacement

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Customer Rates	Montreux High Pressure ACP Replacement	—	—	520	1,060	—	1,580

PROJECT DESCRIPTION: The project involves replacement of approximately 6,500 linear feet of existing 10-inch transite water main between Mt Rose Well #5 and Joy Lake Road. The existing ACP pipe installed in the 1970's is currently operated at pressures between 120-250 psi.

SCHEDULE: Planning and design will occur in FY 2026 with construction to be completed in FY 2027.

Water Main-Distribution Service Line Improvements
2nd Galena Creek Main Crossing

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Customer Rates	2nd Galena Creek Main Crossing	—	40	560	—	—	600

PROJECT DESCRIPTION: The project involves construction of approximately 2,200 linear feet of 10-inch ductile iron water main between Breithorn Cir. and Piney Creek Parklet including a crossing of Galena Creek. The existing 10" ACP pipe that crosses Galena Creek is currently the only tie between well sources and storage tanks.

SCHEDULE: Design will occur in FY 2025 with construction to be completed in FY 2026.

Water Main-Distribution Service Line Improvements
Off-River Supply Improvements - South Truckee Meadows

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Customer Rates	Off-River Supply Improvements - South Truckee Meadows	—	—	—	50	1,050	1,100

PROJECT DESCRIPTION: The project involves construction of four SCADA controlled, pressure reducing bypass stations in strategic locations in the South Truckee Meadows to allow excess well capacity and excess Mt. Rose Water Treatment Plant capacity to be provided to the Highland gravity zone in case of loss supply from the Truckee River. Two additional bypasses (Arrowcreek BPS & future Veteran's BPS) will be constructed separately under the budget for those facilities.

SCHEDULE: Planning and design will occur in FY 2027 with construction to be completed in FY 2028.

Water Main-Distribution Service Line Improvements
Off-River Supply Improvements - North Virginia-Stead Pump Station

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Customer Rates	Off-River Supply Improvements - North Virginia-Stead Pump Station	—	—	400	—	—	400

PROJECT DESCRIPTION: The project involves construction of a SCADA controlled, pressure reducing bypass station at the North Virginia-Stead booster pump station to allow excess Fish Springs well capacity to be provided to the Highland gravity zone in case of loss supply from the Truckee River.

SCHEDULE: Project implementation and construction will occur in FY 2026.

Water Main-Distribution Service Line Improvements
Somersett #6 Main Tie & PRS

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Customer Rates	Somersett #6 Main Tie & PRS	—	280	—	—	—	280

PROJECT DESCRIPTION: The project involves construction of about 600 linear feet of 10-inch main within improved paved pathway and a new pressure regulator station to provide a secondary source to Somersett Village 6.

SCHEDULE: Project implementation and construction will occur in FY 2025.

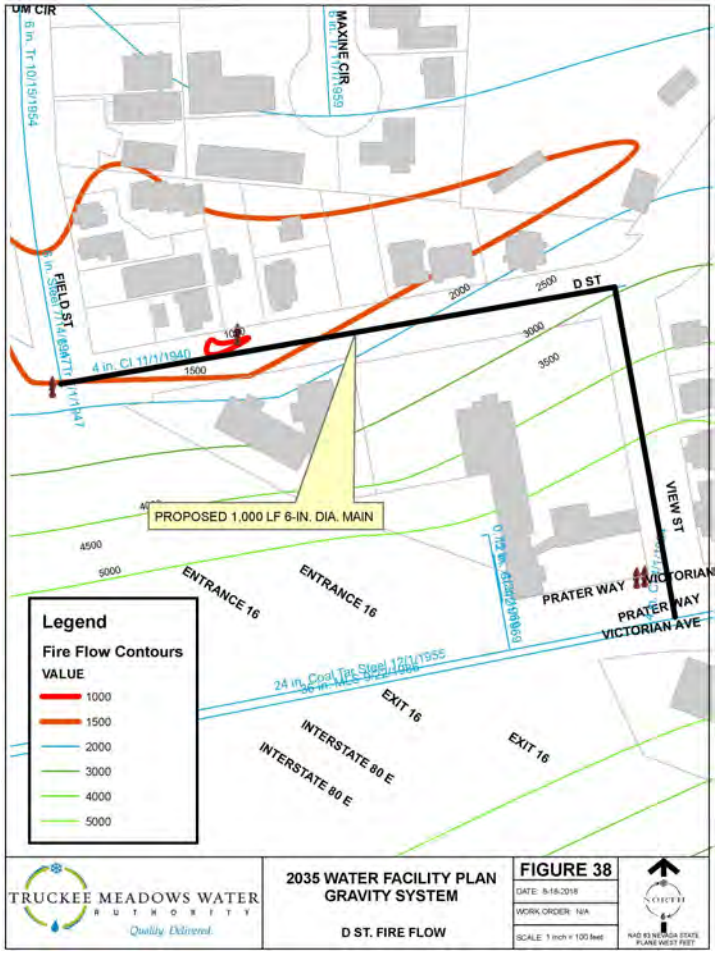
Water Main-Distribution Service Line Improvements
2025 Fire Flow Improvements - Gravity <1,000 GPM

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	2025 Fire Flow Improvements - Gravity <1,000 GPM	—	—	—	550	—	550

PROJECT DESCRIPTION: The project involves improvements at five separate locations in the gravity zone that have an available fire flow of less than 1,000 GPM. Reference Pages 20-22 of the 2035 WFP – Items 14,18,20,25,31 (also Figures 38,42,44,49,55). Construction consists of approximately 1,900 linear feet of new 6-inch and 8-inch main including new hydrant taps and laterals.

SCHEDULE: The improvements are scheduled for construction in FY 2027.



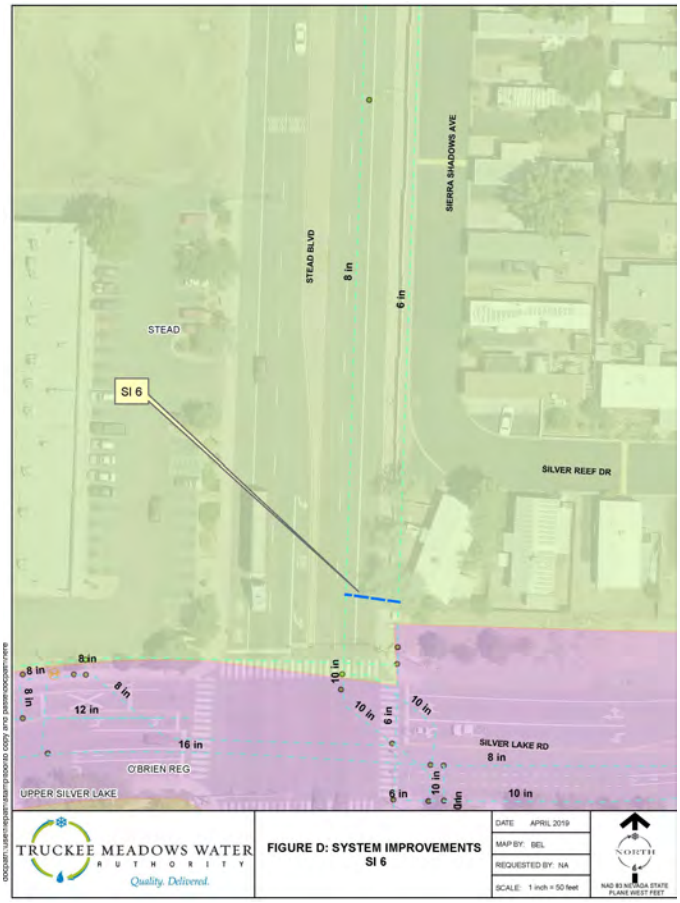
Water Main-Distribution Service Line Improvements
2025 Fire Flow Improvements - North Valleys <1,000 GPM

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	2025 Fire Flow Improvements - North Valleys <1,000 GPM	—	—	—	940	—	940

PROJECT DESCRIPTION: This project involves improvements at two separate locations that have an available fire flow of less than 1,000 GPM. Reference Items SI6 and SI7 on pages 6-7 of the North Valleys section of the 2035 Water Facilities Plan (also Figures D and E). Construction of approximately 3,500 linear feet of new 6-inch and 8-inch main and new high pressure Regulating Station.

SCHEDULE: The improvements are scheduled for construction in FY 2027.



Water Main-Distribution Service Line Improvements
Deluchi to Airway Main Tie

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Developer Fees	Deluchi to Airway Main Tie	—	—	—	440	—	440

PROJECT DESCRIPTION: The project involves construction of approximately 1,200 linear feet of l4-inch main from Deluchi to Airway including crossing a major storm drainage channel. The project promotes looping of the distribution system and provides additional North to South peak period capacity.

SCHEDULE: The project is scheduled for construction in FY 2027.

Water Main-Distribution Service Line Improvements
South-East Sparks Feeder Main Phase 1

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Developer Fees	South-East Sparks Feeder Main Phase 1	—	—	—	50	4,450	4,500

PROJECT DESCRIPTION: The project involves construction of approximately 9,700 linear feet of 24-inch main on Greg Street between 21st Street and Stanford to provide additional capacity for future growth and to lower peak period pressure in the area.

SCHEDULE: Planning and design are scheduled to begin in FY 2027 and construction is scheduled to begin in FY 2028.

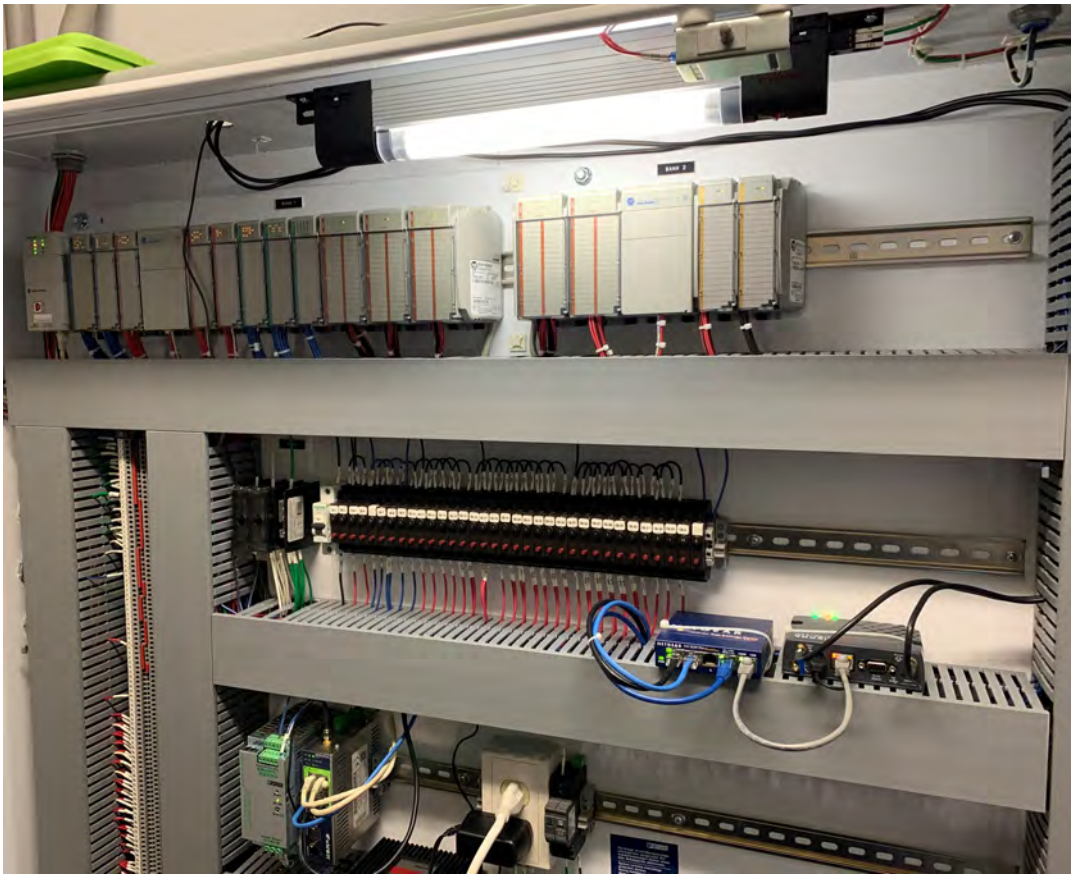
Water Main-Distribution Service Line Improvements
South Truckee Meadows Capacity Improvements

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Developer Fees	South Truckee Meadows Capacity Improvements	800	—	—	—	—	800

PROJECT DESCRIPTION: The project involves construction of approximately 1,500 linear feet of l4-inch main on Offenhauser and Gateway with a SCADA controlled valve installed in an underground vault to provide an intertie between the Longley and Double Diamond systems. Also included is a short 8-inch main tie at Bluestone and Portman.The improvements increase capacity to the South Truckee Meadows system.

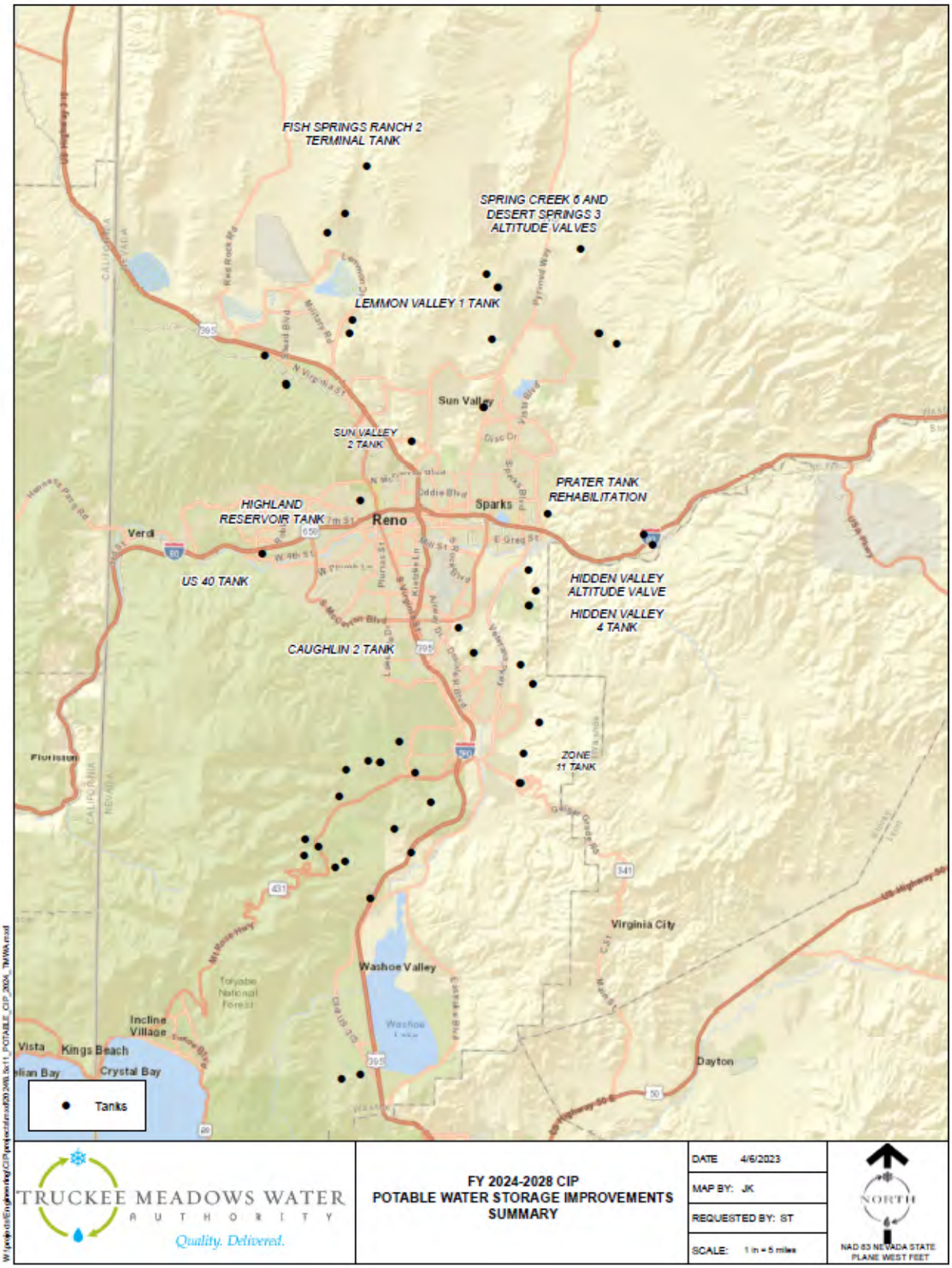
SCHEDULE: Construction is scheduled for FY 2024.



POTABLE WATER STORAGE IMPROVEMENTS
Summary

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates / Developer Fees	Sun Valley #2 Tank	—	420	2,980	—	—	3,400
2	Developer Fees	Fish Springs Terminal Tank #2	—	—	—	40	2,160	2,200
1	Customer Rates	Storage Tank Recoats; Access; Drainage Improvements	6,000	4,500	4,500	5,000	5,000	25,000
1	Customer Rates	Caughlin 2 Tanks	—	500	1,000	1,500	—	3,000
2	Customer Rates / Developer Fees	Highland Reservoir Tank	—	2,000	4,700	—	—	6,700
1	Customer Rates / Developer Fees	STMGID Tank East Zone 11 Tank	—	—	175	2,900	—	3,075
1	Customer Rates / Reimbursements / Developer Fees	US 40 Tank & Feeder Main	2,150	2,530	—	—	—	4,680
2	Customer Rates / Developer Fees	Spanish Springs Altitude Valves (SC6 & DS3)	300	—	—	—	—	300
2	Customer Rates	Hidden Valley Tank Altitude Valve	350	—	—	—	—	350
1	Customer Rates	Lemmon Valley Tank #1 Replacement and Patrician PRS	1,850	—	—	—	—	1,850
1	Customer Rates	Hidden Valley Tank #4 Outage Improvements	250	—	—	—	—	250
Subtotal Storage Improvements			**10,900**	**9,950**	**13,355**	**9,440**	**7,160**	**50,805**

Project Locations: Map of all *Potable Water Storage Improvements* projects are highlighted in the following map.


FISH SPRINGS RANCH 2 TERMINAL TANK
SPRING CREEK 6 AND DESERT SPRINGS 3 ALTITUDE VALVES
LEMMON VALLEY 1 TANK
Sun Valley
SUN VALLEY 2 TANK
PRATER TANK REHABILITATION
HIGHLAND RESERVOIR TANK
Reno
Sparks
Verdi
US 40 TANK
HIDDEN VALLEY ALTITUDE VALVE
HIDDEN VALLEY 4 TANK
CAUGHLIN 2 TANK
ZONE 11 TANK
Virginia City
Washoe Valley
Incline Village
Crystal Bay
Kings Beach
Dayton
Tanks
TRUCKEE MEADOWS WATER AUTHORITY
Quality. Delivered.
FY 2024-2028 CIP
POTABLE WATER STORAGE IMPROVEMENTS
SUMMARY
DATE 4/6/2023
MAP BY: JK
REQUESTED BY: ST
SCALE: 1 in = 5 miles
NORTH
NAD 83 NEVADA STATE PLANE WEST FEET

Potable Water Storage Improvements
Sun Valley #2 Tank

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates / Developer Fees	Sun Valley #2 Tank	—	420	2,980	—	—	3,400

PROJECT DESCRIPTION: TMWA continues to analyze opportunities to consolidate pump zones to eliminate future pump station replacement costs and to increase reliability to continuous pumping zones. Several years ago, TMWA consolidated the Sutro #1 pump zone with the Sun Valley/Sullivan pump zone, placing additional capacity requirements on the Sun Valley zone. This tank is needed to provide the required emergency storage capacity to the expanded zone and will also provide the capacity for the Sun Valley zone to reach build-out.

SCHEDULE: The project is scheduled for construction in FY 2026 subject to successful acquisition of a suitable tank site which is elevation sensitive and is complicated by the US 395 Connector project alignment.

Potable Water Storage Improvements
Fish Springs Terminal Tank #2

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Developer Fees	Fish Springs Terminal Tank #2	—	—	—	40	2,160	2,200

PROJECT DESCRIPTION: This project involves a second 2.5 MG storage tank that is needed at the terminus of the Fish Springs pipeline at the north end of Lemmon Valley to equalize demand and supply during peak use periods.

SCHEDULE: The project is currently scheduled for design in FY 2027 with construction scheduled in FY 2028. The actual schedule will be dependent upon the rate of growth in the North Valleys.

Potable Water Storage Improvements
Storage Tank Recoats; Access; Drainage Improvements

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	Storage Tank Recoats; Access; Drainage Improvements	6,000	4,500	4,500	5,000	5,000	25,000

PROJECT DESCRIPTION: TMWA has a very proactive tank reservoir maintenance program where 20% of all tanks are inspected annually on a rotating basis. Based on these inspection observations, a determination is made as to whether interior tank coatings (for steel tanks) or other fix and finish work is required. TMWA has 97 storage tanks in service, with combined storage of approximately 123 million gallons. Interior coating/liners are generally replaced every 20 years resulting in the need to recoat several tanks per year to maintain the rehabilitation cycle. The budget and plan also includes exterior painting of steel tanks and any replacement of any interior components that may be corroded.

SCHEDULE: This is an ongoing annual project. It is anticipated that several tanks will need to be recoated every year.

Water Main-Distribution Service Line Improvements
Boomtown System Improvements Ph 4 - Boomtown Tank

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates / Developer Fees	Boomtown System Improvements Ph 4 - Boomtown Tank	445	—	—	—	—	445

PROJECT DESCRIPTION: Boomtown 1 tank (500,000 gallons), which was originally constructed in 1986, was acquired by TMWA from the Boomtown Water System. As part of the acquisition, TMWA made provisions to bring the tank up to current NAC And TMWA standards, thus, this project will make these improvements. Improvements may also include replacement of any corroded structural components. Additionally, the tank will be used to provide suction to the proposed Santerra Quilici 1 BPS; therefore, piping and other modifications will be made to accommodate this future use. Finally, the tank will receive full interior and exterior blasting and recoat.

SCHEDULE: The improvements are scheduled for FY 2024.

Distribution System Pressure Improvements
Caughlin 2 Tanks

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	Caughlin 2 Tanks	—	500	1,000	1,500	—	3,000

PROJECT DESCRIPTION: The project involves the proposed Caughlin 2 tanks that will provide redundancy for an existing continuous pumping zone and will expand emergency storage for the entire southwest area. The tanks will also provide a greater level of redundancy to a fire prone area by relying less on pumping and power, and more on elevated storage.

SCHEDULE: Construction for the project is scheduled to begin in FY 2025.

Potable Water Storage Improvements
Highland Reservoir Tank

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Customer Rates / Developer Fees	Highland Reservoir Tank	—	2,000	4,700	—	—	6,700

PROJECT DESCRIPTION: TMWA has two large finished water storage reservoirs, one at Hunter Creek and one at the Highland site just west of the intersection of Washington and College Drive. These reservoirs are lined and covered with flexible polyethylene or hypalon membranes. As such, they are more maintenance intensive and susceptible to damage than a conventional steel or concrete tank. To provide reliability during repairs or during extended outages for inspection and cleaning, it is proposed to construct a conventional 4 million gallon water storage tank at the reservoir site. Due to topography and proximity to residential areas the tank may need to be a buried pre-stressed concrete tank, which is reflected in the project budget. The tank will also provide additional storage capacity to meet future system requirements as required by the NAC regulations.

SCHEDULE: The tank is scheduled for construction in FY's 2025-2026.

Potable Water Storage Improvements
STMGID Tank East (Zone 11 Tank)

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates / Developer Fees	STMGID Tank East Zone 11 Tank	—	—	175	2,900	—	3,075

PROJECT DESCRIPTION: The project involves construction of a 3.7 MG above ground welded steel storage tank in the South Truckee Meadows area off of Geiger Grade formerly owned by STMGID. Due to growth in the area over the last several years, additional storage is required to meet the requirements of the NAC 445A regulations and TMWA standards. The tank will replace an existing 0.75 MG tank providing a net increase in storage of about 3 MG.

SCHEDULE: The project is currently scheduled for construction in FY 2027, subject to acquisition of the Special Use Permit and Bureau of Land Management (BLM) permitting.

Potable Water Storage Improvements
US 40 Tank & Feeder Main

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates / Reimbursements / Developer Fees	US 40 Tank & Feeder Main	2,150	2,530	—	—	—	4,680

PROJECT DESCRIPTION: The project involves construction of two 800,000 gallon steel tanks with site improvements, utilities, drain line and access road including about 2,100 linear feet of 20-inch feeder main. The project will improve reliability and hydraulic performance in the zone which experiences a lot of surge issues due to cycling of the Mae Anne pump train and the closed system on the Mogul end. This situation is only expected to worsen when pumping to Verdi begins.

SCHEDULE: The project is currently scheduled for design in FY's 2024-2025 and construction to begin in FY 2024.

Potable Water Storage Improvements
Spanish Springs Altitude Valves

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Customer Rates / Developer Fees	Spanish Springs Altitude Valves (SC6 & DS3)	300	—	—	—	—	300

PROJECT DESCRIPTION: The project involves the construction of altitude valves in underground vaults at the Desert Springs Tank #3 and at Spring Creek Tank #6. The altitude valves will keep the existing tanks from overflowing when well recharge operations are conducted in Spanish Springs Valley.

SCHEDULE: The project is schedule for construction in FY 2024

Potable Water Storage Improvements
Hidden Valley Tank Altitude Valve

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Customer Rates	Hidden Valley Tank Altitude Valve	350	—	—	—	—	350

PROJECT DESCRIPTION: The project involves installation of a new altitude valve in a vault on the Hidden Valley Tank #l in/out line. Requires cutting into and rerouting existing piping, addition of new valves, etc.

SCHEDULE: The project is schedule for construction in FY 2024.

Potable Water Storage Improvements
Lemmon Valley Tank #1 Replacement and Patrician PRS

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	Lemmon Valley Tank #1 Replacement and Patrician PRS	1,850	—	—	—	—	1,850

PROJECT DESCRIPTION: Lemmon Valley Tank 1 is at the end of it's useful life and needs to be replaced. The tank can't be taken out of service without improvements to the system. The Patrician pressure regulator station would provide supply with the tank out of service and allow the existing tank to be demolished and the new tank to be constructed.

SCHEDULE: Construction is scheduled in FY 2024.

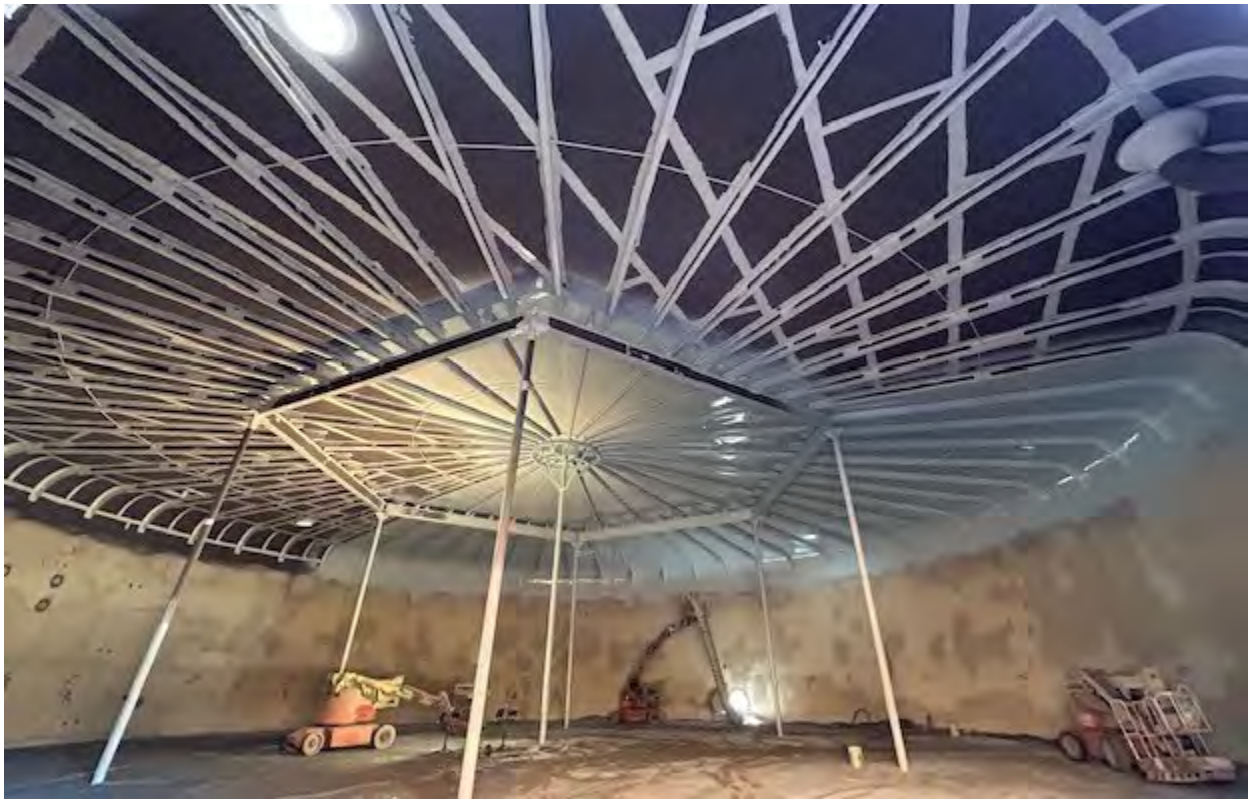
Potable Water Storage Improvements
Hidden Valley Tank #4 Outage Improvements

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	Hidden Valley Tank #4 Outage Improvements	250	—	—	—	—	250

PROJECT DESCRIPTION: Hidden Valley Tank #4 is due for rehabilitation and recoating in the next year. The tank cannot be taken out of service and meet all NAC requirements including fire flow. This project will improve redundancy and supply to the zone with the tank out of service.

SCHEDULE: Construction is scheduled in FY 2024.

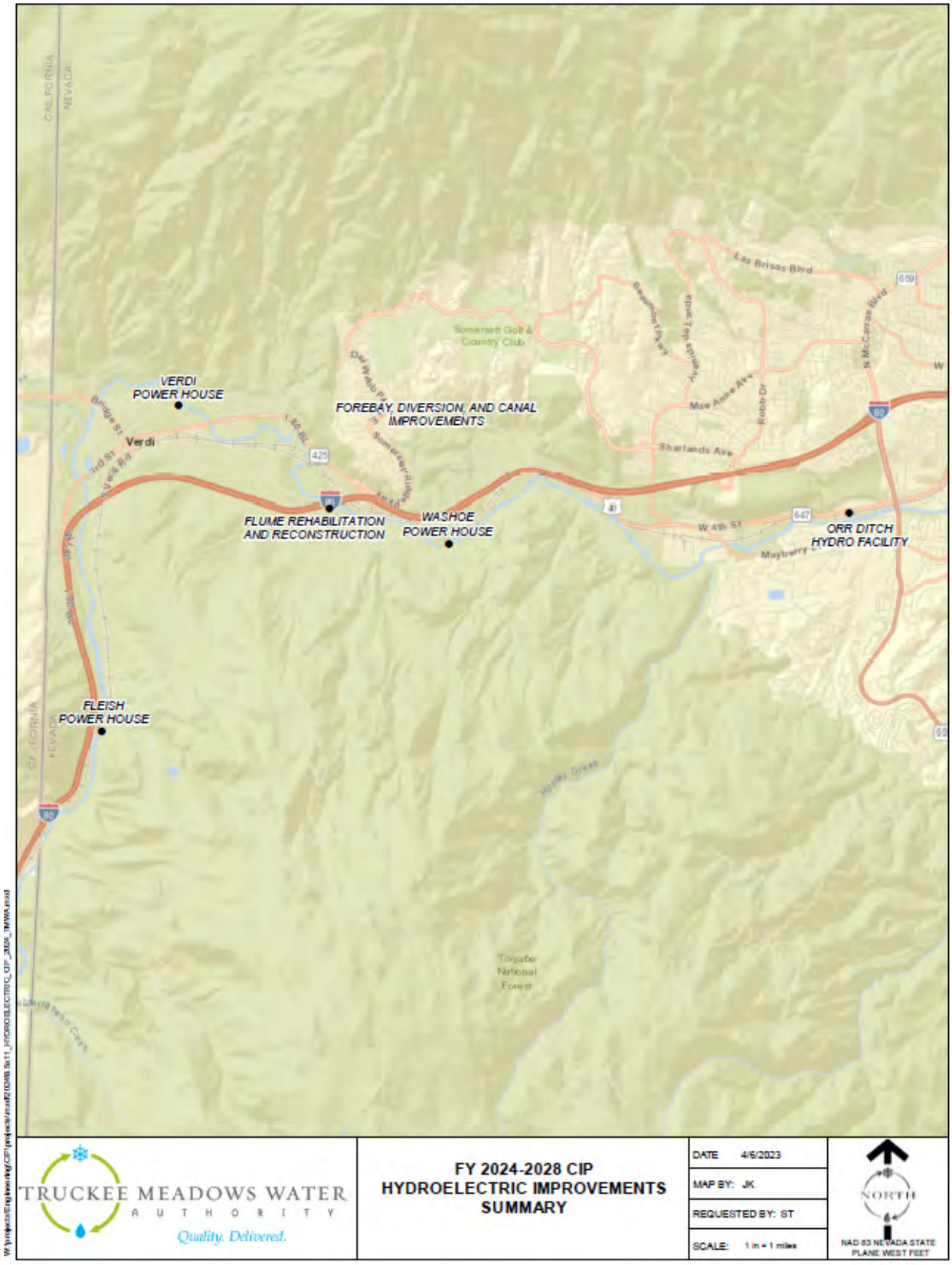


HYDROELECTRIC IMPROVEMENTS

Summary

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Customer Rates	Forebay, Diversion, and Canal Improvements	100	100	100	100	100	500
3	Customer Rates	Flume Rehabilitation	—	150	150	—	—	300
3	Customer Rates	Fleish Generator Rewind	—	—	—	690	—	690
1	Customer Rates	Fleish Flume Replacement	—	—	—	5,700	—	5,700
2	Customer Rates	Fleish Powerhouse Building Forebay and Radial Gate Improvements	—	—	—	2,800	—	2,800
3	Customer Rates	Verdi Powerhouse Building Improvements	—	100	—	—	—	100
2	Customer Rates	Verdi Penstock Repairs	200	—	—	—	—	200
1	Customer Rates	Verdi Canal Sandgate Improvements	—	250	—	—	—	250
1	Customer Rates	Verdi Bypass Valve Replacement	—	500	—	—	—	500
3	Customer Rates	Washoe Powerhouse Building Improvements	—	—	600	—	—	600
2	Customer Rates	Washoe Transformer Replacement	—	—	150	—	—	150
1	Customer Rates	Washoe Plant_Turbine Rebuild and Rebuild/ Replacement Unit 1	200	2,750	—	—	—	2,950
2	Customer Rates	Washoe Plant_Turbine Rebuild and Rebuild/ Replacement Unit 2	200	2,750	—	—	—	2,950
Subtotal Hydroelectric Improvements			**700**	**6,600**	**1,000**	**9,290**	**100**	**17,690**

Project Locations: Map of all *Hydroelectric Improvements* projects are highlighted in the following map.


VERDI
POWER HOUSE
FOREBAY, DIVERSION, AND CANAL
IMPROVEMENTS
FLUME REHABILITATION
AND RECONSTRUCTION
WASHOE
POWER HOUSE
ORR DITCH
HYDRO FACILITY
FLEISH
POWER HOUSE
Verdi
CALIFORNIA
NEVADA
Somersett Golf & Country Club
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TRUCKEE MEADOWS WATER AUTHORITY
Quality. Delivered.
FY 2024-2028 CIP
HYDROELECTRIC IMPROVEMENTS
SUMMARY
DATE 4/6/2023
MAP BY: JK
REQUESTED BY: ST
SCALE: 1 in = 1 miles
NORTH
NAD 83 NEVADA STATE PLANE WEST FEET

Hydroelectric Improvements
Forebay, Diversion, and Canal Improvements

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Customer Rates	Forebay, Diversion, and Canal Improvements	100	100	100	100	100	500

PROJECT DESCRIPTION:

Provision is made each year for hydroelectric flume reconstruction to mitigate damage from unexpected rock falls, landslides and/or flooding events. Diversion structures including gates, canals, flumes, forebays and all hydro-plant water conveyance structures are monitored and evaluated for reliable and safe operation.

SCHEDULE: Ongoing annual evaluation and prioritization of forebay and canal conditions in the early spring (winter weather can change priorities) to identify projects for fall construction when historically, river flows are lower.

Hydroelectric Improvements
Flume Rehabilitation

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
3	Customer Rates	Flume Rehabilitation	—	150	150	—	—	300

PROJECT DESCRIPTION: TMWA's three operating hydroelectric facilities have nearly 12,150 feet of flume. The average service life for flume structures is 35 years using treated timbers, at an average replacement cost of approximately $1,000 per lineal foot of flume. The present cost to replace a linear foot of flume depends on the location and height of the flume structure.

SCHEDULE: Ongoing annual evaluation and prioritization of flume condition in the early spring (winter weather can change priorities) to identify projects for fall construction when historically, river flows are lower.

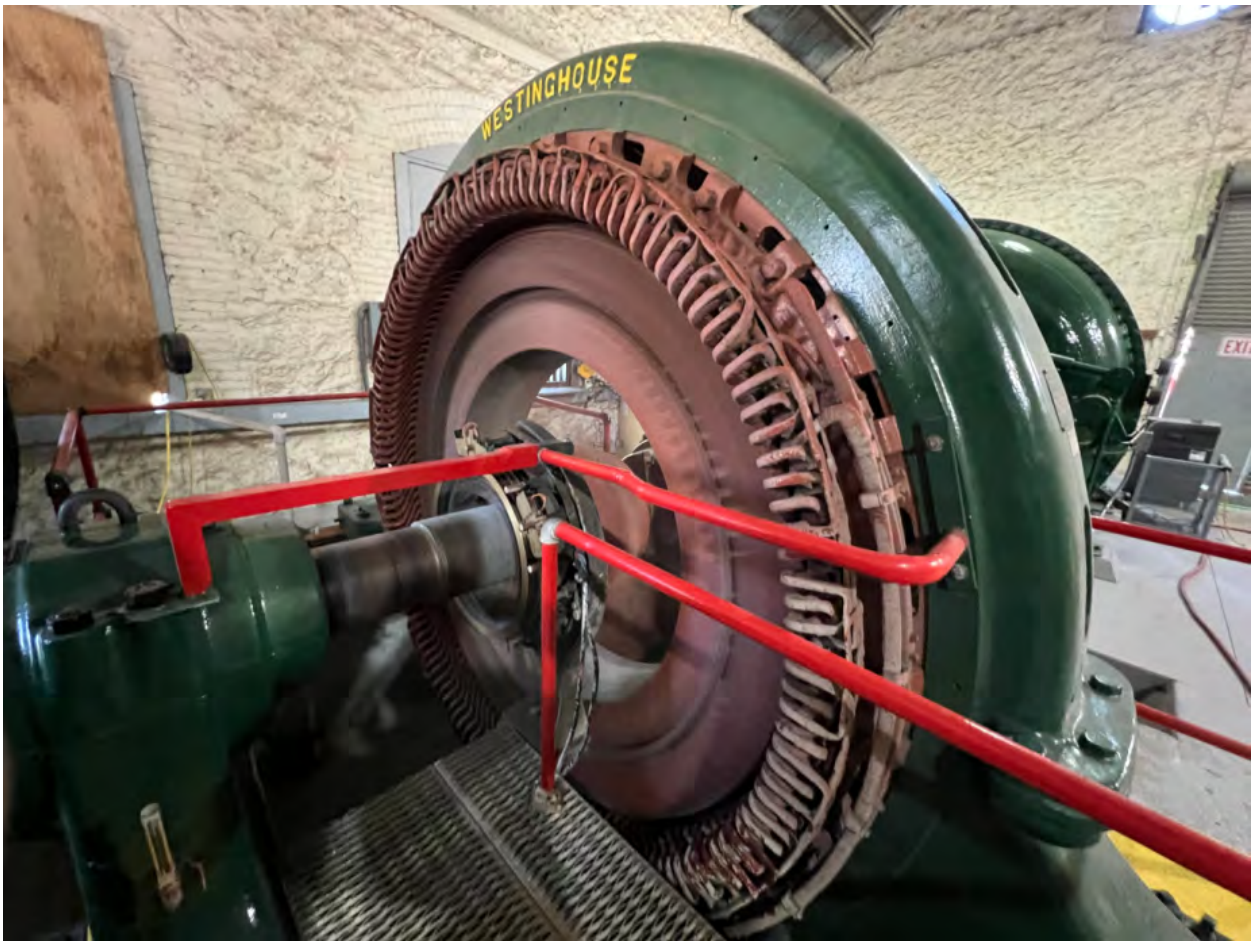
Hydroelectric Improvements
Fleish Generator Rewind

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
3	Customer Rates	Fleish Generator Rewind	—	—	—	690	—	690

PROJECT DESCRIPTION: Generator stator windings have a typical lifespan of 50 years before degradation of the winds begins to cause increased heating and a possibility of a stator winding short circuit to occur. Rewind of the generator stator is required to improve efficiency and to match the kilowatt capacity of the turbines and conveyance system.

SCHEDULE: Improvements are scheduled for FY 2027.



Hydroelectric Improvements
Fleish Flume Replacement

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	Fleish Flume Replacement	—	—	—	5,700	—	5,700

PROJECT DESCRIPTION: The Flume substructure life is more than 40 years old and in need of replacement. Replacement of approximately 2,500 feet of flume boxes and substructure is required.

SCHEDULE: Replacement of the flume is scheduled for FY 2027.

Hydroelectric Improvements
Fleish Powerhouse Building Forebay and Radial Gate Improvements

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Customer Rates	Fleish Powerhouse Building Forebay and Radial Gate Improvements	—	—	—	2,800	—	2,800

PROJECT DESCRIPTION: The Fleish Hydroelectic Plant was commissioned in 1905. Roofing, HVAC improvements and aging infrastructure is in need of repair, improvement, and replacement to match the increased capacity of the conveyance system.

SCHEDULE: Improvements are scheduled for FY 2027.

Hydroelectric Improvements
Verdi Powerhouse Building Improvements

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
3	Customer Rates	Verdi Powerhouse Building Improvements	—	100	—	—	—	100

PROJECT DESCRIPTION: The Verdi Hydroelectric Plant was commissioned in 1912. Improvements to the building and the HVAC system to allow for continued operation into the future.

SCHEDULE: Improvements are scheduled for FY 2025.

Hydroelectric Improvements
Verdi Penstock Repairs

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Customer Rates	Verdi Penstock Repairs	200	—	—	—	—	200

PROJECT DESCRIPTION: Erosion of the coatings and underlying steel require improvements to protect the integrity of the structure.

SCHEDULE: Improvements are scheduled for FY 2024.

Hydroelectric Improvements
Verdi Canal Sandgate Improvements

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	Verdi Canal Sandgate Improvements	—	250	—	—	—	250

PROJECT DESCRIPTION: Water loss through the canal has resulted in loss generation, cavitation, and failure of the existing structure requiring an emergency repair. A more significant failure could result in a lengthy and costly outage resulting in lost generation. Replacement of the sandgate and structural improvements and lining to prevent the loss of water through the structure is required for reliability of the conveyance system.

SCHEDULE: Improvements are scheduled for FY 2025.

Hydroelectric Improvements
Verdi Bypass Valve Replacement

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	Verdi Bypass Valve Replacement	—	500	—	—	—	500

PROJECT DESCRIPTION: The concrete structure below the existing valve has degraded and is no longer properly supporting the valve. The valve is original to the plant and is being held closed by the plant crane. Replacement of the valve will allow for electronic operation and use of the plant crane when the facility is online. This project will replace the valve, associated piping, and improve the structure supporting the valve.

SCHEDULE: Replacement of the valve is scheduled for FY 2025.

Hydroelectric Improvements
Washoe Powerhouse Building Improvements

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
3	Customer Rates	Washoe Powerhouse Building Improvements	—	—	600	—	—	600

PROJECT DESCRIPTION: The Washoe Hydroelectric Plant was commissioned in 1904. The Structure is in need of improvements to the windows, HVAC and other structural components.

SCHEDULE: Improvements are scheduled for FY 2026.

Hydroelectric Improvements
Washoe Transformer Replacement

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Customer Rates	Washoe Transformer Replacement	—	—	150	—	—	150

PROJECT DESCRIPTION: The existing Washoe Hydroelectric Facility Transformer was built in 1968 and lacks transformer mechanical and electrical protection. Past testing of the transformer oil has revealed contamination indicating the transformer is near end of life.

SCHEDULE: Improvements are scheduled for FY 2026.

Hydroelectric Improvements
Washoe Plant Turbine Rebuild and Rebuild/Replacement of Unit 1

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	Washoe Plant_Turbine Rebuild and Rebuild/ Replacement Unit 1	200	2,750	—	—	—	2,950

PROJECT DESCRIPTION: The project involves replacing the No. 1 Hydroelectric Turbine, complete a rewind of the Unit 1 Generator. To expedite completion of the project and minimize the plant outage time, procurement of the new No. 1 Turbine as well as fabrication of the two new Tailraces will be completed first as a separate project. The turbine will be dismantled with the pressure case and Turbine appurtenances removed from the building. Work for rewinding the No. 1 Generator will commence as soon as the plant is taken off line for the project. The new No. 1 Turbine will be installed and the associated rewound generator re-installed.

SCHEDULE: Construction is scheduled for FY 2025.

Hydroelectric Improvements
Washoe Plant Turbine Rebuild and Rebuild/Replacement of Unit 2

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Customer Rates	Washoe Plant_Turbine Rebuild and Rebuild/ Replacement Unit 2	200	2,750	—	—	—	2,950

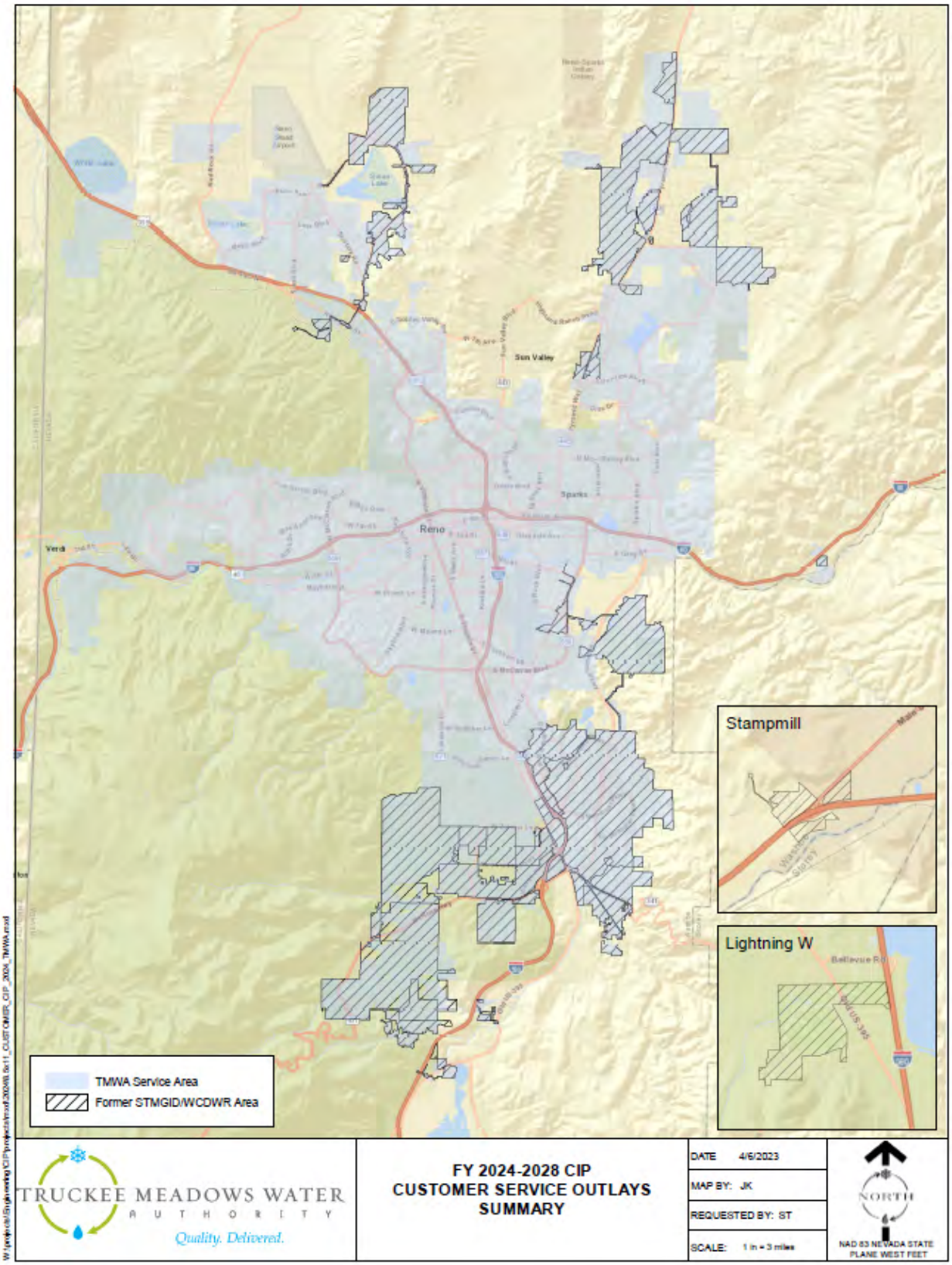
PROJECT DESCRIPTION: This project will replace the No. 2 Hydroelectric Turbine and complete a rewind of the Unit 2 Generator. To expedite completion of the project and minimize the unit outage time, the No. 2 Turbine will be procured before work begins. Once equipment is procured, work will begin for completing the Unit 2 Generator rewind and dismantling of the No. 2 Turbine pressure cases and appurtenances. The new No. 2 Turbine will be installed and the rewound generator re-installed.

SCHEDULE: Construction is scheduled for FY 2025.

CUSTOMER SERVICE OUTLAYS
Summary

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
3	Customer Rates	Meter Reading Equipment	75	—	—	—	—	75
2	Developer Fees	New Business Meters	100	100	100	100	100	500
1	Customer Rates	Mueller Pit Replacements former Washoe County	125	125	125	125	125	625
2	Customer Rates	Galvanized / Poly Service Line Replacements	250	250	250	250	250	1,250
1	Customer Rates / Meter Retrofit Fees	Automated Meter Infrastructure (AMI)	2,650	2,650	2,650	2,650	2,650	13,250
Subtotal Customer Service			**3,200**	**3,125**	**3,125**	**3,125**	**3,125**	**15,700**

Project Locations: Map of all *Customer Service Outlays* projects are highlighted in the following map.


Sun Valley
Sparks
Reno
Verdi
Stampmill
Lightning W
TMWA Service Area
Former STMGID/WCDWR Area
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FY 2024-2028 CIP
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DATE 4/6/2023
MAP BY: JK
REQUESTED BY: ST
SCALE: 1 in = 3 miles
NORTH
NAD 83 NEVADA STATE PLANE WEST FEET

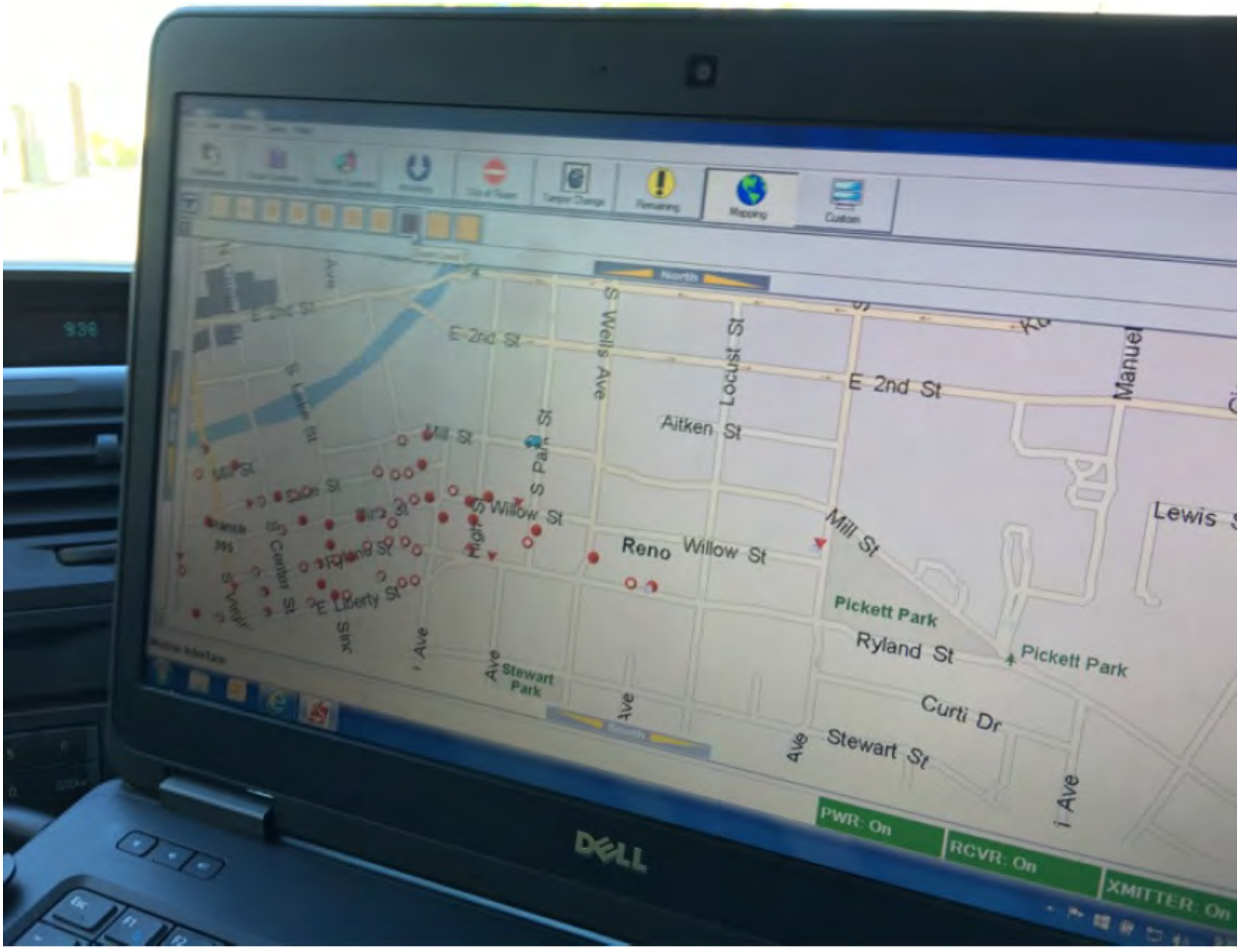
Customer Service Outlays
Meter Reading Equipment

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
3	Customer Rates	Meter Reading Equipment	75	—	—	—	—	75

PROJECT DESCRIPTION: TMWA utilizes a multiple meter reading systems in which the transmitters attached to the meters send a signal out to be collected by data collectors. These collectors are mounted in the meter reading vehicles or on various mountain peaks surrounding the valley. TMWA is anticipating replacing units that have degraded.

SCHEDULE: Will need to purchase equipment on an as needed basis.



Customer Service Outlays
New Business Meters

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Developer Fees	New Business Meters	100	100	100	100	100	500

PROJECT DESCRIPTION: All new water services are required to be metered. Meters are purchased by TMWA and installed for new development. New business fees pay for these installations.

SCHEDULE: Dependent on the pace of development in the service territory.

Customer Service Outlays
Mueller Pit Replacements Former Washoe County

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	Mueller Pit Replacements former Washoe County	125	125	125	125	125	625

PROJECT DESCRIPTION: The Mueller metering pits are a very high maintenance metering facility and are prone to leaks and failures. TMWA plans to replace these facilities in response to leaks and or subsidence of these facilities.

SCHEDULE: Equipment and employee needs are evaluated and updated annually**.**

Customer Service Outlays
Galvanized / Poly Service Line Replacements

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Customer Rates	Galvanized / Poly Service Line Replacements	250	250	250	250	250	1,250

PROJECT DESCRIPTION: TMWA has shifted from just repairing service lines from the street main to the curb valve or meter box to completely replacing service lines that are galvanized steel or polybutylene. These two materials are responsible for many after-hours call outs which escalate overtime expenses to repair leaks in the street because the galvanized lines are corroded, and polybutylene once thought very durable, becomes brittle and cracks or splits very easily. Just repairing these lines does not prevent them from leaking in the near future, escalating repair costs while further damaging city streets. Complete replacement provides a permanent repair in a cost effective manner and prevents further water system losses.

SCHEDULE: This is an ongoing annual project budget. Service lines will be replaced as they are identified.

Customer Service Outlays
AMI Automated Meter Infrastructure

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates / Meter Retrofit Fees	Automated Meter Infrastructure (AMI)	2,650	2,650	2,650	2,650	2,650	13,250

PROJECT DESCRIPTION: TMWA utilizes multiple meter reading systems in which the transmitters attached to the meters send a signal out to be collected by data collectors. Over the next five years, TMWA will be installing new meters or retrofitting existing meters with technology that will allow for remote readings. This is expected to assist in quickly identifying leaks for customers, more accurate billing, and long-term cost savings.

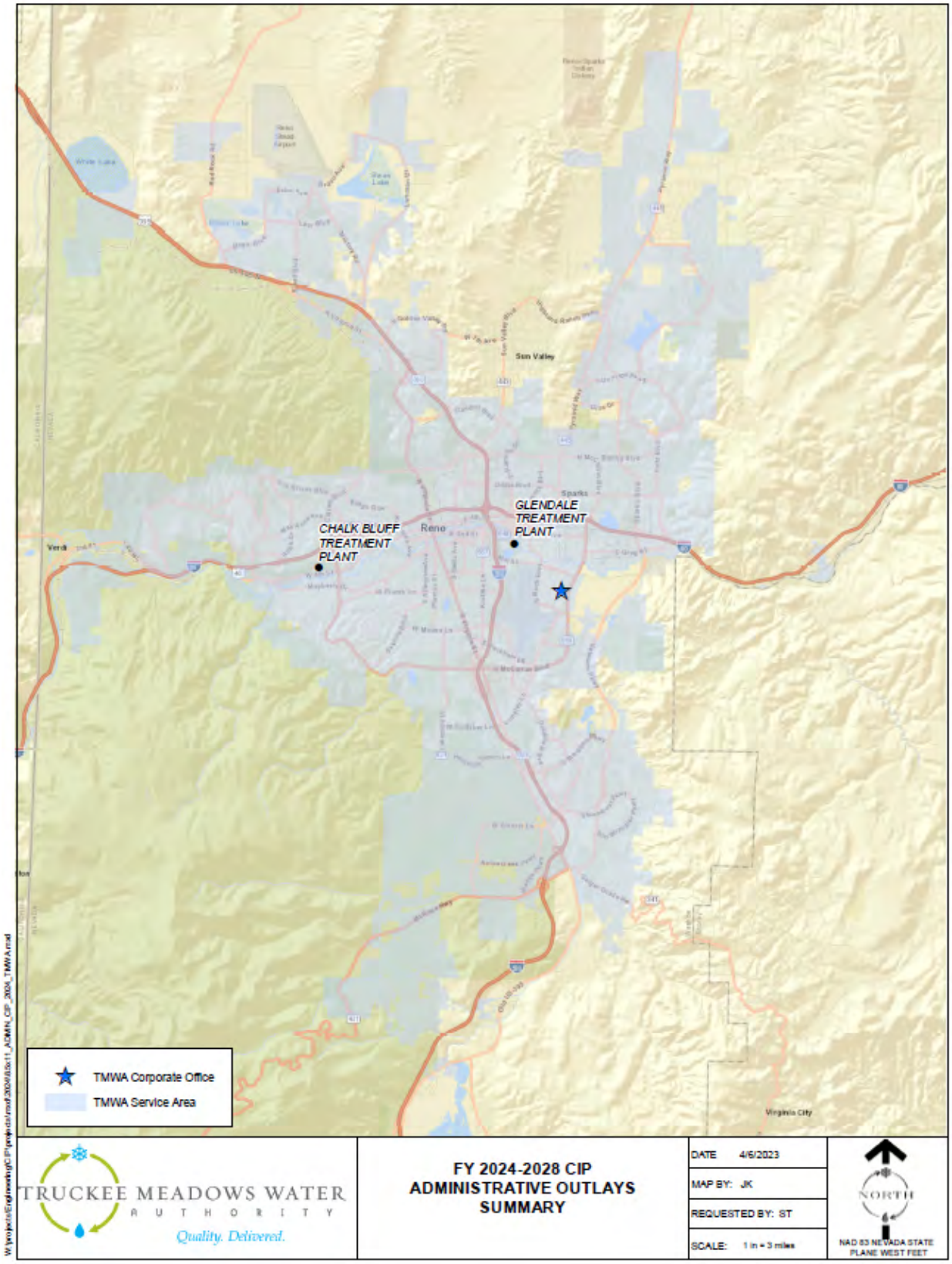
SCHEDULE: This project began in FY 2022 and is expected to be completed in FY 2028.

ADMINISTRATIVE OUTLAYS

Summary

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Customer Rates	GIS / GPS System Mapping Equipment	20	—	—	—	—	20
2	Customer Rates	IT Server Hardware and Equipment	230	—	—	—	—	230
2	Customer Rates	IT Network Security Upgrades	10	—	—	—	—	10
2	Customer Rates	IT Physical Access Security Upgrades	60	—	—	—	—	60
2	Customer Rates	Printer / Scanner Replacement	100	—	—	—	—	100
3	Customer Rates	Crew Trucks / Vehicles	950	950	1,000	1,100	1,200	5,200
1	Customer Rates	Replacement HCM System (Ceridian Dayforce)	100	—	—	—	—	100
1	Customer Rates	Corporate Office Expansion	500	3,000	—	—	—	3,500
1	Customer Rates	Emergency Management Projects	150	150	150	150	150	750
2	Customer Rates	Emergency Operations Annex Design / Construction	—	250	250	2,000	—	2,500
1	Customer Rates	Physical Site Security Improvements	550	500	500	350	350	2,250
Subtotal Administrative Outlays			**2,670**	**4,850**	**1,900**	**3,600**	**1,700**	**14,720**

Project Locations: Map of all *Administrative Outlays* projects are highlighted in the following map.


CHALK BLUFF TREATMENT PLANT
GLENDALE TREATMENT PLANT
Reno
Sparks
Verdi
Sun Valley
Virginia City
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SCALE: 1 in = 3 miles
NORTH
NAD 83 NEVADA STATE PLANE WEST FEET

Administrative Outlays
GIS/GPS System Mapping Equipment

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Customer Rates	GIS / GPS System Mapping Equipment	20	—	—	—	—	20

PROJECT DESCRIPTION: TMWA will have to update mapping equipment on a periodic basis to keep up with changes in technology; and to replace existing equipment as it reaches obsolescence.

SCHEDULE: Equipment is replaced and/or purchased as needed.

Administrative Outlays
IT Server Hardware

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Customer Rates	IT Server Hardware and Equipment	230	—	—	—	—	230

PROJECT DESCRIPTION: TMWA currently has over 50 physical servers and 130 virtual servers, hosting a variety of enterprise software applications that support TMWA's daily business operations. All physical servers are typically purchased with a three year warranty, with the expectation that they will reach the end of their system life cycle in a three to five year time frame, requiring a replacement. TMWA annually reviews its server platforms and can option a strategy of warranty extension, if cost effective, rather than outright hardware replacement. All servers require an Operating System Software license to run. Operating System Software is upgraded only when the current release is obsolete or a newer version offers a significant advantage over the current iteration.

SCHEDULE: Spending would be determined on an as needed basis.

Administrative Outlays
IT Network Security Upgrades

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Customer Rates	IT Network Security Upgrades	10	—	—	—	—	10

PROJECT DESCRIPTION: As a leading water purveyor for a major metropolitan area, TMWA is reliant on the internet for employee productivity enhancement and providing valuable customer information and outreach. Such dependency on the internet also carries a significant degree of risk, as it makes TMWA a major target for external security threats looming within globalized networks. To offset this risk and combat network threats, a variety of security specific hardware and software solutions are used, weaving them into a layered deployment strategy called Defense in Depth. In order to continually evolve and reinforce this Defense in Depth strategy and effectively fight new unforeseen threats, TMWA must continually acquire new security platforms that adapt to the continually changing security landscape.

SCHEDULE: Spending occurs only on an as needed basis**.**

Administrative Outlays
IT Physical Security Upgrades

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Customer Rates	IT Physical Access Security Upgrades	60	—	—	—	—	60

PROJECT DESCRIPTION: Security measures that are designed to deny unauthorized access to facilities, equipment and resources to protect personnel from damage or harm such as theft or attacks. Physical security involves the use of multiple layers of interdependent systems which can include surveillance, security guards, protective barriers, locks and other techniques.

SCHEDULE: Equipment is replaced and/or purchased as needed.

Administrative Outlays
Printer / Scanner Replacement

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Customer Rates	Printer / Scanner Replacement	100	—	—	—	—	100

PROJECT DESCRIPTION: TMWA currently has variety of printers and scanners that support TMWA's daily business operations. All printers are typically purchased with a three-year warranty, with the expectation that they will reach the end of their system life cycle in a three to five year time frame, requiring a replacement. TMWA annually reviews its printer/scanner performance and business needs and can option a strategy of warranty extension, if cost effective, rather than outright replacement.

SCHEDULE: Equipment is replaced and/or purchased as needed.

Administrative Outlays
Crew Trucks/Vehicles

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
3	Customer Rates	Crew Trucks / Vehicles	950	950	1,000	1,100	1,200	5,200

PROJECT DESCRIPTION: TMWA's service fleet consists of light duty and heavy duty crew trucks. TMWA plans to cycle the light crew fleet over a period of seven to ten years. Spending is determined annually depending on vehicle availabilities and other factors. Spending only occurs if justified. TMWA's fleet cycles older vehicles to the treatment plants or other less demanding activities prior to disposal at auction.

SCHEDULE: Equipment and employee needs are evaluated and updated annually**.**

Administrative Outlays
Sand Yard Cover

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	Sand Yard Cover	250	—	—	—	—	250

PROJECT DESCRIPTION: TMWA's Material and Sand Yard is currently open to the elements. This is where we store material for backfilling excavations made when repairing water leaks. There have been issues throughout the years of material being too wet or too dry, however this last year the problem magnified with the exceptional winter. A shed/cover needs to be built to keep moisture off of the material in the winter, and to keep the sun from drying it out in the summer.

SCHEDULE: The project is scheduled for FY 2024.

Administrative Outlays
Replacement HCM System (Ceridian Dayforce)

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	Replacement HCM System (Ceridian Dayforce)	100	—	—	—	—	100

PROJECT DESCRIPTION: TMWA is implementing a new Human Capital Management (HCM) system. This system will be provide tools for employee timekeeping, payroll, recruiting and onboarding, and human resources. The system is expected to be live in fiscal year 2024.

SCHEDULE: The system is expected to be fully implemented in FY 2024.

Administrative Outlays
Corporate Office Expansion

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	Corporate Office Expansion	500	3,000	—	—	—	3,500

PROJECT DESCRIPTION: TMWA's corporate office expanded in 2017 to account for the new staff associated with the merger of the STMGID and WCWU systems. The headcount has steadily grown for office and field staff since then to a point where the office will be full in a couple of years. This project is to construct another expansion similar in square footage to the 2017 expansion. The site is constrained by operational parking and TMWA staff is exploring key land purchases of neighboring parcels to allow continued growth of our staff and vehicle needs into the future.

SCHEDULE: Planning and design is scheduled for FY 2024 and Construction is scheduled for FY 2025.

Administrative Outlays
Emergency Management Projects

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	Emergency Management Projects	150	150	150	150	150	750

PROJECT DESCRIPTION: Various ongoing improvements to security infrastructure are required to protect TMWA facilities. TMWA has performed vulnerability assessment studies in the past and reviews the applicability of the findings to continually improve physical security as needed. In addition, TMWA is preparing a new disaster recovery plan with procedures to recover and protect water system operations.

SCHEDULE: Upgrades to security projects is ongoing and completed on a review of priorities each year.

PROJECT LOCATION: Various locations at treatment plants, at well sites, storage area for water fill station manifolds.

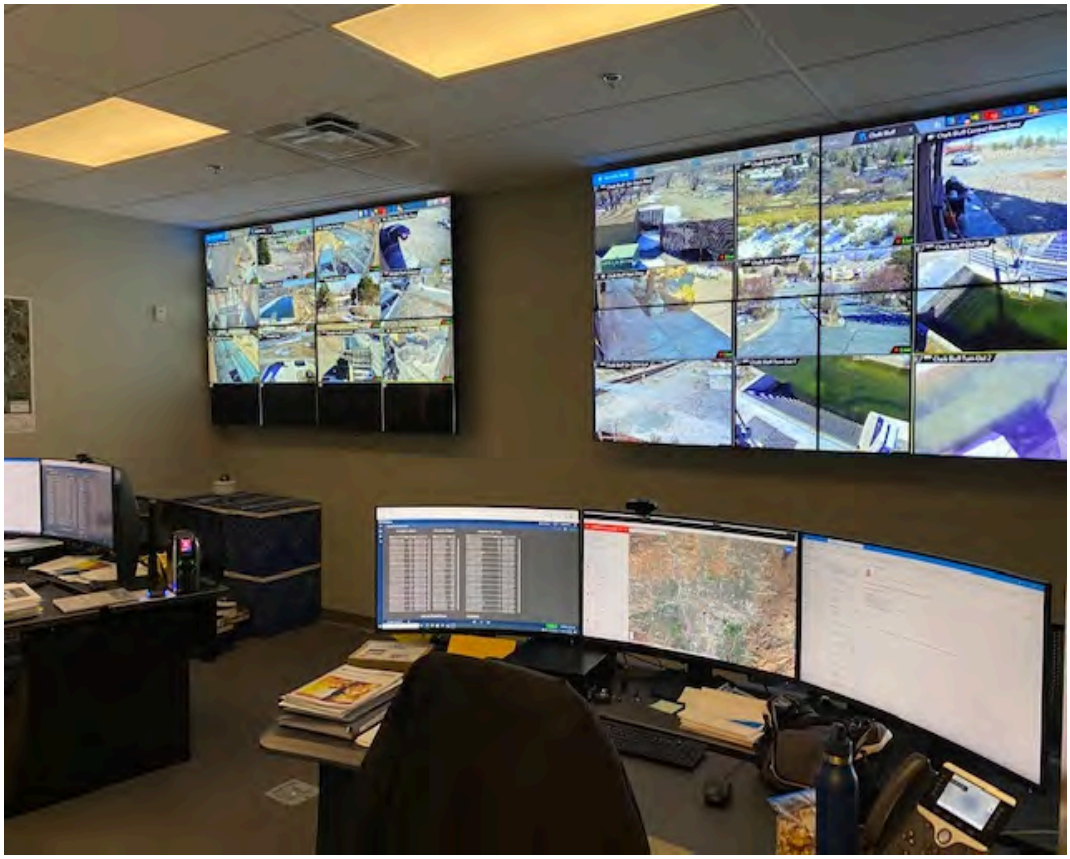
Administrative Outlays
Emergency Operations Annex-Design / Construction

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
2	Customer Rates	Emergency Operations Annex Design / Construction	—	250	250	2,000	—	2,500

PROJECT DESCRIPTION: TMWA is currently in the planning and conceptual design phase for a Primary Emergency Operations Center (EOC) including Disaster Recovery (DR) capacity. TMWA's EOC will relocate from the current location at the corporate office to the Chalk Bluff Water Treatment Plant. Which includes scope review, design, and contract bid packages, bid and award, construction, and testing. Potential emergency operations would include responding to earthquakes, floods, or other emergency related events.

SCHEDULE: Construction of water fill stations at four tank sites, standby power retrofits at four existing wells and ten portable water fill manifold stations to be completed in FY's 2025-2027.



Administrative Outlays
Physical Site Security Improvements

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	CIP Total
1	Customer Rates	Physical Site Security Improvements	550	500	500	350	350	2,250

PROJECT DESCRIPTION: Physical site security improvements for Chalk Bluff, Glendale and Corporate sites are based on Department of Homeland Security (DHS) Vulnerability Assessments. Recommended priorities included bringing site perimeter fencing up to DHS minimum standards, expanding our security camera network for better site perimeter coverage, general exterior lighting improvement throughout both treatment plants and the use of intrusion detection systems. Landscaping improvements were also noted to help prevent unauthorized access, improve overall visibility, and protect TMWA personnel and buildings.

SCHEDULE: The project began in FY 2021 and will continue annually.

Photo: Ice Flume at Verdi
Photo By: Joshua Cairns, Water Plant Operator Apprentice