

**TRUCKEE MEADOWS WATER AUTHORITY
FISCAL YEARS 2012-2016 FIVE YEAR CAPITAL IMPROVEMENT PLAN**

Project Summary

Title/Description: Highland Canal – Upgrades - Downstream
Category: Raw Water Supply Improvements
Ranking: Priority 1-Mandatory
Fiscal Year: 2012 through 2016

Project Description

TMWA has completed most of the major improvements to the Highland Canal which will allow for up to 95 million gallons a day of gravity fed water to the Chalk Bluff Water Treatment Plant. The improvements that are reflected in the capital improvement plan are for betterments along the canal downstream of the plant between the CBWTP and the Rancho San Rafael Park. These efforts are rehabilitative in nature and also address access and security concerns.

Cost/Funding Source(s)

Funding Source: Existing Customers Funding 100%

Cost:

Project Cost: \$625,000

Funding Timetable:

Funding FY 11/12	Project Cost	\$125,000
Funding FY 12/13	Project Cost	\$125,000
Funding FY 13/14	Project Cost	\$125,000
Funding FY 14/15	Project Cost	\$125,000
Funding FY 15/16	Project Cost	\$125,000

**TRUCKEE MEADOWS WATER AUTHORITY
FISCAL YEARS 2012-2016 FIVE YEAR CAPITAL IMPROVEMENT PLAN**

Project Summary

Title/Description: Highland Canal – Upgrades – US 40
Category: Raw Water Supply Improvements
Ranking: Priority 1-Mandatory
Fiscal Year: 2012 through 2016

Project Description

After placing the Highland Canal back into service following the completion of the Mogul Bypass Siphon, significant seepage was observed along the toe of the slope on W. Fourth Street below the section of the Highland Canal at Burks Blvd. The canal was subsequently taken out of service for patching and repairs; however, follow-up geotechnical investigations concluded that there is a high probability that the slope will fail in the future. Failure of the slope would likely result in destruction of the Highland Canal which is located at the top of the slope. This scenario would negatively impact supply to the Chalk Bluff treatment plant and also represents significant public safety concerns and exposure to liability for potential damages to public and personal property. The scope of this project involves an easterly shift of the canal alignment into the hillside along with construction of about 630 lineal feet of 12'x5' reinforced concrete box; replacement of about 500 lineal feet of trapezoidal channel with the standard rectangular geometry immediately downstream of the RCB to correct leakage and freeboard issues; and drainage improvements in the area between Anselmo Drive and Mesa Parke Road. This project has been approved for funding through a Drinking Water State Revolving Fund loan at an attractive interest rate.

Cost/Funding Source(s)

Funding Source: Existing Customers Funding 58%; Development 42%

Cost:

Project Cost: \$3,500,000

Funding Timetable:

Funding FY 11/12 Project Cost \$3,500,000

**TRUCKEE MEADOWS WATER AUTHORITY
FISCAL YEARS 2012-2016 FIVE YEAR CAPITAL IMPROVEMENT PLAN**

Project Summary

Title/Description: Donner Dam Improvements
Category: Raw Water Supply Improvements
Ranking: Priority 1-Mandatory
Fiscal Year: 2012

Project Description

During the annual inspection of the Donner Dam facility the Division of Safety of Dams (DSOD) noted areas of the structure that are suffering from deteriorating concrete. TMWA has scheduled structural inspections and requested recommendations on repair alternatives. Construction of the repairs is anticipated in the fall of 2011.

Cost/Funding Source(s)

Funding Source: Existing Customer Funding 100%

Cost:

Project Cost: \$ 250,000

Funding Timetable:

Funding FY 11/12 Project Cost \$250,000

**TRUCKEE MEADOWS WATER AUTHORITY
FISCAL YEARS 2012-2016 FIVE YEAR CAPITAL IMPROVEMENT PLAN**

Project Summary

Title/Description: TROA Drought Storage/Implementation
Category: Raw Water Supply Improvements
Ranking: Priority 1-Mandatory
Fiscal Year: 2012 through 2016

Project Description

The Truckee River Operating Agreement (TROA) was signed by the mandatory parties in September 2008. Since then activities have centered on transferring water rights upstream to federally controlled reservoirs to provide for future drought storage and also to implement the operating regime of TROA. Future activities include construction of flow measuring/recording facilities and development of computerized flow models. TMWA has in the past obtained and will continue to pursue federal grant funding to offset the costs of these activities. Final date for implementation is still uncertain.

Cost/Funding Source(s)

Funding Source: Customer Rates if Grant funding is not available

Cost:

Project Cost: \$ 1,500,000

Funding Timetable:

Funding FY 11/12	Project Cost	\$500,000
Funding FY 12/13	Project Cost	\$400,000
Funding FY 13/14	Project Cost	\$200,000
Funding FY 14/15	Project Cost	\$200,000
Funding FY 15/16	Project Cost	\$200,000

**TRUCKEE MEADOWS WATER AUTHORITY
FISCAL YEARS 2012-2016 FIVE YEAR CAPITAL IMPROVEMENT PLAN**

Project Summary

Title/Description: Well Rehabilitation & Improvements
Category: Supply Improvements-Groundwater Development
Ranking: Priority 1-Mandatory
Fiscal Year: 2012 through 2016

Project Description

Funds are budgeted to rehabilitate TMWA production wells as required. Typically, four wells are inspected, tested and evaluated every year to determine if rehabilitation is required. Typical rehab activities include but are not limited to, pump and pump column pipe replacements, electrical upgrades, telemetry upgrades, rehabilitation of well casing, disinfection equipment upgrades, air gap improvements, wellhead protection and other enhancements to maintain well quality and capacities. Spending in fiscal years 2012-2015 will include improvements at several wells to provide for air-gaps in discharge piping (NAC 445A compliance issue) and conversion of disinfection treatment from chlorine gas disinfection to sodium hypochlorite. Work on the Reno High, Pezzi, Terminal, and Lakeside wells is planned for 2012. A complete replacement of the Air Guard Well is scheduled for FY 2014. TMWA has thirty-two water 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.

Cost/Funding Source(s)

Funding Source: Existing Customers Funding 100%

Cost:

Project Cost: \$4,800,000

Funding Timetable:

Funding FY 11/12	Project Cost	\$ 800,000
Funding FY 12/13	Project Cost	\$ 800,000
Funding FY 13/14	Project Cost	\$1,800,000
Funding FY 14/15	Project Cost	\$ 800,000
Funding FY 15/16	Project Cost	\$ 600,000

**TRUCKEE MEADOWS WATER AUTHORITY
FISCAL YEARS 2012-2016 FIVE YEAR CAPITAL IMPROVEMENT PLAN**

Project Summary

Title/Description: Treatment Plants Fix and Finish
Category: Treatment Improvements
Ranking: Priority 2-Necessary
Fiscal Year: 2013 through 2016

Project Description

TMWA operates surface water treatment plants at Chalk Bluff and Glendale. Improvements are necessary from time to time to keep these facilities in very good condition. The Chalk Bluff Treatment Plant is almost 20 years old and the Glendale treatment plant is over 30 years old. Each plant requires a certain amount of rehabilitation and improvements now and in the future. The Chalk Bluff plant will require raw water basin improvements, chemical system improvements, chlorine contact chamber curtain replacements, finished water pump replacements, filter media change out, improvement to solids handling improvements, filter valve and actuator replacements, instrumentation and control upgrades, roof rehabilitation/replacement, additional standby generation capacity and paving replacement. The Glendale Treatment Plant will require the addition of standby generation, replacement of turbidity meters, instrumentation upgrades, filter valve and actuator replacements, programming improvements for filter operation, replacement of raw water and finished water pumps, filter media change out, building improvements and paving replacement. This spending is classified as contingency since specific projects are not identified until the budget is developed.

Cost/Funding Source(s)

Funding Source: Existing Customers Funding 100%

Cost:	Funding Timetable:												
Project Cost: \$5,000,000	<table border="0" style="width: 100%;"> <tr> <td style="width: 33%;">Funding FY 12/13</td> <td style="width: 33%;">Project Cost</td> <td style="width: 33%;">\$1,250,000</td> </tr> <tr> <td>Funding FY 13/14</td> <td>Project Cost</td> <td>\$1,250,000</td> </tr> <tr> <td>Funding FY 14/15</td> <td>Project Cost</td> <td>\$1,250,000</td> </tr> <tr> <td>Funding FY 15/16</td> <td>Project Cost</td> <td>\$1,250,000</td> </tr> </table>	Funding FY 12/13	Project Cost	\$1,250,000	Funding FY 13/14	Project Cost	\$1,250,000	Funding FY 14/15	Project Cost	\$1,250,000	Funding FY 15/16	Project Cost	\$1,250,000
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Funding FY 13/14	Project Cost	\$1,250,000											
Funding FY 14/15	Project Cost	\$1,250,000											
Funding FY 15/16	Project Cost	\$1,250,000											

**TRUCKEE MEADOWS WATER AUTHORITY
FISCAL YEARS 2012-2016 FIVE YEAR CAPITAL IMPROVEMENT PLAN**

Project Summary

Title/Description: SCADA System Upgrades/Rehabilitation
Category: Treatment Improvements
Ranking: Priority 1-Mandatory
Fiscal Year: 2012 - 2016

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 the SCADA system is primarily monitored at the treatment plants, but the system equipment and technology is spread throughout the water system infrastructure. Some of the technology is approaching obsolescence and needs to be replaced. Therefore, TMWA has settled on a systematic approach to updating the equipment by providing an annual spending level in each year of the plan. The spike in spending scheduled for fiscal year 2014 signifies a potential major upgrade to the next version of SCADA technology and the attendant equipment needed to accommodate that objective.

Cost/Funding Source(s)

Funding Source: Existing Customers Funding 100%

Cost:

Project Cost: \$1,750,000

Funding Timetable:

Funding FY 11/12	Project Cost	\$	200,000
Funding FY 12/13	Project Cost	\$	200,000
Funding FY 13/14	Project Cost	\$1,150,000	
Funding FY 14/15	Project Cost	\$	100,000
Funding FY 15/16	Project Cost	\$	100,000

**TRUCKEE MEADOWS WATER AUTHORITY
FISCAL YEARS 2012-2016 FIVE YEAR CAPITAL IMPROVEMENT PLAN**

Project Summary

Title/Description: Chalk Bluff/Glendale Projects Fix & Finish
Category: Treatment Improvements
Ranking: Priority 1-Mandatory
Fiscal Year: 2012

Project Description

The Chalk Bluff and Glendale Water Treatment Plants are aging. Certain fix and finish spending is required to maintain them in proper working order. Items envisioned for 2012 spending include roofing improvements, pump rehabs, particle counter replacements, filter replacements, and equipment upgrades and repairs.

Due to the economic climate the spending levels in future fiscal years has been reduced. Current fiscal year spending will be done on an as necessary basis.

Cost/Funding Source(s)

Funding Source: Existing Customers Funding 100%

Cost:

Project Cost: \$750,000

Funding Timetable:

Funding FY 11/12 Project Cost \$750,000

**TRUCKEE MEADOWS WATER AUTHORITY
FISCAL YEARS 2012-2016 FIVE YEAR CAPITAL IMPROVEMENT PLAN**

Project Summary

Title/Description: Glendale Treatment Plant Diversion Improvements
Category: Treatment Improvements
Ranking: Priority 1-Mandatory & Priority 2-Necessary
Fiscal Year: 2012

Project Description

The old rock rubble weir structure for raw water diversion for the Glendale treatment plant was replaced in FY 2011. The improvements allow for utilization of the full treatment capacity of the Glendale plant in non-drought years, full diversion of POSW into the plant, fish passage and other recreational benefits as well as integrate the diversion into the overall flood control program for the Truckee River. Funding was obtained through a loan with the Drinking Water State Revolving Loan Program (DWSRF). Spending in 2012 consists of required post-construction fish passage studies and completion of work on the Eastman Ditch control/diversion structure that was delayed because the required permit was not issued until the spring runoff season had begun.

Cost/Funding Source(s)

Funding Source: Existing Customers Funding 74%, Development 26%, DWSRF loan obtained.

Cost:

Project Cost: \$150,000

Funding Timetable:

Funding FY 11/12 Project Cost \$150,000

**TRUCKEE MEADOWS WATER AUTHORITY
FISCAL YEARS 2012-2016 FIVE YEAR CAPITAL IMPROVEMENT PLAN**

Project Summary

Title/Description: Pressure Regulator Rehabilitation
Category: Distribution Improvements-Pressure
Ranking: Priority 1-Mandatory
Fiscal Year: 2012 through 2016

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 100 pressure regulator stations currently in service and has identified a number of pressure regulator stations requiring a certain amount of rehabilitation. TMWA is projecting the refurbishment of at least two to three pressure regulator stations a year if required. Some of the rehabilitation projects will also require piping improvements which can improve reliability and/or pressures in certain pressure zones. Projects identified for rehab in the next few years include Vassar, Sunnyside, Pioneer, Harvard, Barry M, Stoker and Meadowood.

Cost/Funding Source(s)

Funding Source: Existing Customers Funding 100%

Cost:

Project Cost: \$1,500,000

Funding Timetable:

Funding FY 11/12	Project Cost	\$300,000
Funding FY 12/13	Project Cost	\$300,000
Funding FY 13/14	Project Cost	\$300,000
Funding FY 14/15	Project Cost	\$300,000
Funding FY 15/16	Project Cost	\$300,000

**TRUCKEE MEADOWS WATER AUTHORITY
FISCAL YEARS 2012-2016 FIVE YEAR CAPITAL IMPROVEMENT PLAN**

Project Summary

Title/Description: Pump Station Rehabilitations, Rebuilds
Category: Distribution Improvements-Pressure
Ranking: Priority 1-Mandatory
Fiscal Year: 2012 through 2016

Project Description

TMWA has over 100 pump stations in service. An amount is budgeted annually for rehabilitation of TMWA's older pump stations. Pump stations scheduled for rehabilitation in the next couple of fiscal years include Caughlin #3 & #4, Lakeridge, Lakeside, Plumas and Meadowview. Additional funding in FY 2012 has been provided to acquire property and complete permitting to allow replacement of the existing Daniel Webster underground pump station with a new above ground pump station in the future.

Cost/Funding Source(s)

Funding Source: Existing Customers Funding 100%

Cost:

Project Cost: \$3,850,000

Funding Timetable:

Funding FY 11/12	Project Cost	\$850,000
Funding FY 12/13	Project Cost	\$750,000
Funding FY 13/14	Project Cost	\$750,000
Funding FY 14/15	Project Cost	\$750,000
Funding FY 15/16	Project Cost	\$750,000

**TRUCKEE MEADOWS WATER AUTHORITY
FISCAL YEARS 2012-2016 FIVE YEAR CAPITAL IMPROVEMENT PLAN**

Project Summary

Title/Description: Standby Generator Replacements
Category: Distribution Improvements-Pressure
Ranking: Priority 3-Contingency
Fiscal Year: 2012 through 2016

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 Department requires additional 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. Future pump station standby power improvements include Chalk Bluff-Northgate in FY 2014 and Sun Valley #1 in FY 2015.

Cost/Funding Source(s)

Funding Source: Existing Customers Funding 100%

Cost:

Project Cost: \$850,000

Funding Timetable:

Funding FY 11/12	Project Cost	\$ 75,000
Funding FY 12/13	Project Cost	\$ 75,000
Funding FY 13/14	Project Cost	\$500,000
Funding FY 14/15	Project Cost	\$125,000
Funding FY 15/16	Project Cost	\$75,000

**TRUCKEE MEADOWS WATER AUTHORITY
FISCAL YEARS 2012-2016 FIVE YEAR CAPITAL IMPROVEMENT PLAN**

Project Summary

Title/Description: General Distribution Line Oversizing
Category: Distribution Improvements-Mains
Ranking: Priority 3-Contingency
Fiscal Year: 2014; 2015; 2016

Project Description

Provision is made each year in the capital improvement plan to partner with developers on applicant installed distribution mains. By oversizing such mains, TMWA can provide for additional future distribution capacity without having to install expensive parallel mains for future development. Spending for main oversizing is not expected in fiscal years 2012 or 2013 due to the anticipated continuation of the slump in residential development.

Cost/Funding Source(s)

Funding Source: Developers Funding 100%

Cost:

Project Cost: \$600,000

Funding Timetable:

Funding FY 13/14 Project Cost \$200,000

Funding FY 14/15 Project Cost \$200,000

Funding FY 15/16 Project Cost \$200,000

**TRUCKEE MEADOWS WATER AUTHORITY
FISCAL YEARS 2012-2016 FIVE YEAR CAPITAL IMPROVEMENT PLAN**

Project Summary

Title/Description: Street & Highway Main Replacements
Category: Distribution Improvements-Mains
Ranking: Priority 1-Mandatory
Fiscal Year: 2012 through 2016

Project Description

Provision is made each year for water main replacements in conjunction with repaving efforts by the City of Reno, City of Sparks, and RTC. In addition to repaving projects, TMWA coordinates water main replacements with sewer main replacements in areas where TMWA also has old water lines. TMWA has planned for about \$9.0 million in fiscal year 2012 in water main replacements in community neighborhoods as a result of increased activity with Regional Transportation Authority RTC initiatives. The remaining four years are reflective of historical activity.

Cost/Funding Source(s)

Funding Source: Existing Customers Funding 100%

Cost:	Funding Timetable:															
Project Cost: \$31,000,000	<table border="0" style="width: 100%;"> <tr> <td style="width: 30%;">Funding FY 11/12</td> <td style="width: 30%;">Project Cost</td> <td style="width: 30%;">\$9,000,000</td> </tr> <tr> <td>Funding FY 12/13</td> <td>Project Cost</td> <td>\$5,500,000</td> </tr> <tr> <td>Funding FY 13/14</td> <td>Project Cost</td> <td>\$5,500,000</td> </tr> <tr> <td>Funding FY 14/15</td> <td>Project Cost</td> <td>\$5,500,000</td> </tr> <tr> <td>Funding FY 15/16</td> <td>Project Cost</td> <td>\$5,500,000</td> </tr> </table>	Funding FY 11/12	Project Cost	\$9,000,000	Funding FY 12/13	Project Cost	\$5,500,000	Funding FY 13/14	Project Cost	\$5,500,000	Funding FY 14/15	Project Cost	\$5,500,000	Funding FY 15/16	Project Cost	\$5,500,000
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Funding FY 12/13	Project Cost	\$5,500,000														
Funding FY 13/14	Project Cost	\$5,500,000														
Funding FY 14/15	Project Cost	\$5,500,000														
Funding FY 15/16	Project Cost	\$5,500,000														

**TRUCKEE MEADOWS WATER AUTHORITY
FISCAL YEARS 2012-2016 FIVE YEAR CAPITAL IMPROVEMENT PLAN**

Project Summary

Title/Description: Stead Main Replacement Phase II
Category: Distribution Improvements-Mains
Ranking: Priority 2 - Necessary
Fiscal Year: 2016

Project Description

The Stead Main was originally constructed in the early 1950's to serve the Stead Air Force Base. The nature of the numerous leak repairs that have been required in recent years indicate that a significant amount of finished water has been lost through the pipeline. The pipeline is approaching the end of its useful life and is in need of replacement.

Phase 1 of the Stead Main Replacement project was completed in FY 2009 in conjunction with a rebuild of the North Virginia pumping system. Phase 2 includes replacement of the remaining three miles of the Stead Main between Golden Valley Drive and the Stead Tanks. This section of main is where the majority of the leaks have occurred and significant corrosion issues have been identified.

Cost/Funding Source(s)

Funding Source: Existing Customers Funding 100%

Cost:

Project Cost: \$5,500,000

Funding Timetable:

Funding FY 15/16 Project Cost \$5,500,000

**TRUCKEE MEADOWS WATER AUTHORITY
FISCAL YEARS 2012-2016 FIVE YEAR CAPITAL IMPROVEMENT PLAN**

Project Summary

Title/Description: Galv/Poly Service Line Replacements
Category: Distribution Improvements-Service Lines
Ranking: Priority 2 - Necessary
Fiscal Year: 2012 through 2016

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.

Cost/Funding Source(s)

Funding Source: Existing Customers Funding 100%

Cost:

Project Cost: \$2,200,000

Funding Timetable:

Funding FY 11/12	Project Cost	\$500,000
Funding FY 12/13	Project Cost	\$500,000
Funding FY 13/14	Project Cost	\$400,000
Funding FY 14/15	Project Cost	\$400,000
Funding FY 15/16	Project Cost	\$400,000

**TRUCKEE MEADOWS WATER AUTHORITY
FISCAL YEARS 2012-2016 FIVE YEAR CAPITAL IMPROVEMENT PLAN**

Project Summary

Title/Description: Highland Reservoir Liner/ Cover Replacement
Category: Storage Improvements
Ranking: Priority 1 - Mandatory
Fiscal Year: 2014

Project Description

The Highland Reservoir is a 20 million gallon storage facility located near Rancho San Rafael Park. This facility is one of the primary feeds of water into TMWA's gravity distribution system. The original liner put into service in the mid 1990's has a useful life of about 20 years and is expected to be replaced in fiscal year 2014. The existing liner is constructed of high density polyethylene (HDPE) and the cover is constructed of polypropylene. Recent experience has proven that polypropylene and Hypalon perform much better as respective liner and cover materials.

Cost/Funding Source(s)

Funding Source: Existing Customers Funding 100%

Cost:	Funding Timetable:
Project Cost: \$1,400,000	Funding FY 13/14 Project Cost \$1,400,000

**TRUCKEE MEADOWS WATER AUTHORITY
FISCAL YEARS 2012-2016 FIVE YEAR CAPITAL IMPROVEMENT PLAN**

Project Summary

Title/Description: Peavine Tank Replacement
Category: Storage Improvements
Ranking: Priority 2-Necessary
Fiscal Year: 2016

Project Description

The Peavine Tank is an existing 2.0 MG pre-stressed concrete tank constructed by the Silver Lake Water Company in 1978. A 2008 inspection of the tank interior revealed significant areas of spalled concrete and exposed reinforcing steel in the tank roof. Repairs were attempted in 2009. The repair process required chipping and cleaning of damaged areas which revealed much more extensive deterioration than was initially estimated. Over 1400 square feet of damage to the roof dome structure was actually repaired as compared to the original estimate of 400 square feet. Significant delamination of the roof structure is expected to continue. In addition, closer inspection during the roof repair work indicated moderate cracking of the dome ring and walls. Damage to the pre-stressed dome ring is of special concern since it resists the thrust of the arched roof in tension. For these reasons, it is recommended that the tank be replaced. The replacement tank will be a 2.5 MG above ground steel tank. The additional volume will accommodate future storage needs of the Stead system and eliminate a future storage tank project.

Cost/Funding Source(s)

Funding Source: Existing Customers Funding 100%

Cost:

Funding Timetable:

Project Cost: \$2,500,000

Funding FY 15/16 Project Cost \$2,500,000

**TRUCKEE MEADOWS WATER AUTHORITY
FISCAL YEARS 2012-2016 FIVE YEAR CAPITAL IMPROVEMENT PLAN**

Project Summary

Title/Description: Storage Tank/Reservoir Fix and Finish
Category: Storage Improvements
Ranking: Priority 1-Mandatory
Fiscal Year: 2012 through 2016

Project Description

TMWA has a very proactive tank reservoir maintenance program whereby 20% of all tanks are inspected annually on a rotating basis. Based upon 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 42 storage tanks in service, with combined storage of nearly 81 million gallons. Interior coating/liners are generally replaced every 15 years resulting in about two tanks per year having this work performed. The budget and plan also includes exterior painting of steel tanks and any replacement of any interior components that may be corroded.

Cost/Funding Source(s)

Funding Source: Existing Customers Funding 100%

Cost:

Project Cost: \$1,700,000

Funding Timetable:

Funding FY 11/12	Project Cost	\$500,000
Funding FY 12/13	Project Cost	\$300,000
Funding FY 13/14	Project Cost	\$300,000
Funding FY 14/15	Project Cost	\$300,000
Funding FY 15/16	Project Cost	\$300,000

**TRUCKEE MEADOWS WATER AUTHORITY
FISCAL YEARS 2012-2016 FIVE YEAR CAPITAL IMPROVEMENT PLAN**

Project Summary

Title/Description: Acquisition of Farad Hydro Plant
Category: Hydroelectric Improvements
Ranking: Priority 2-Necessary
Fiscal Year: 2014

Project Description

Pursuant to the Asset Purchase Agreement, TMWA was to purchase the four run of river hydroelectric plants when regulatory approval was secured in California and NV Energy has completed the reconstruction of the Farad dam and flume. TMWA has completed the purchases of three of the four plants. The purchase of the Farad plant will be consummated upon completion of the reconstruction. The timing of final construction is still uncertain.

Cost/Funding Source(s)

Funding Source: Proceeds from TMWA Series 2001 A and B Bonds

Cost:

Project Cost: \$2,000,000

Funding Timetable:

Funding FY 11/12 Project Cost \$2,000,000

**TRUCKEE MEADOWS WATER AUTHORITY
FISCAL YEARS 2012-2016 FIVE YEAR CAPITAL IMPROVEMENT PLAN**

Project Summary

Title/Description: Flume Reconstruction – Fleisch, Fleisch Footbridge, Verdi
Category: Hydroelectric Flume-Improvements
Ranking: Priority 1- Mandatory
Fiscal Year: 2012 through 2016

Project Description

Provision is made each year for hydroelectric flume reconstruction from unexpected rock falls, ice expansion damage, and penstock reconstruction. Operation of hydroelectric facilities provides power generation revenue, which significantly offsets the power costs of TMWA. TMWA’s three operating hydroelectric facilities have nearly 12,150 feet of flume and 13,125 feet of canal combined. TMWA average service life for flume structures is 35 years using treated timbers, at an average replacement cost of \$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. For the initial years of the five year plan, TMWA will be reducing spending in light of current economic conditions and the extensive amount of work that has been completed since the inception of TMWA. Also included in the fiscal year 2012 is spending on rehabilitation of the Fleisch foot bridge to accommodate Tahoe Pyramid Bikeway (TPB) traffic. TPB is funding the majority of these improvements.

Cost/Funding Source(s)

Funding Source: Hydroelectric Revenues

Cost:

Project Cost: \$1,200,000

Funding Timetable:

Funding FY 11/12	Project Cost	\$150,000
Funding FY 12/13	Project Cost	\$350,000
Funding FY 13/14	Project Cost	\$150,000
Funding FY 14/15	Project Cost	\$150,000
Funding FY 15/16	Project Cost	\$400,000

**TRUCKEE MEADOWS WATER AUTHORITY
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Project Summary

Title/Description: Hydro Plant Equipment Replacement
Category: Hydroelectric Plant
Ranking: Priority-1 Mandatory
Fiscal Year: 2012 through 2015

Project Description

Provision is made each year to provide expenditure authority for emergency replacements or betterments to hydroelectric plants and turbines. If no unscheduled replacements are required, spending will not occur. For fiscal year 2012 TMWA plans to rebuild Washoe Unit #2 turbine and rewind the Washoe #2 Generator in order to achieve greater electrical production. It is expected that these investments will provide a suitable return on investment.

Cost/Funding Source(s)

Funding Source: Hydroelectric Revenues

Cost:

Project Cost: \$1,332,000

Funding Timetable:

Funding FY 11/12	Project Cost	\$531,000
Funding FY 12/13	Project Cost	\$ 65,000
Funding FY 13/14	Project Cost	\$350,000
Funding FY 14/15	Project Cost	\$386,000

**TRUCKEE MEADOWS WATER AUTHORITY
FISCAL YEARS 2012-2016 FIVE YEAR CAPITAL IMPROVEMENT PLAN**

Project Summary

Title/Description: Meter Reading Equipment Data Paks
Category: Customer Service
Ranking: Priority 2-Necessary
Fiscal Year:

Project Description

TMWA utilizes a drive-by meter reading system in which the transmitters attached to the meters send a signal out to be collected by a data collector. These collectors are mounted in the meter reading vehicles. TMWA is anticipating replacing units that have worn or broken down in 2013 and 2015.

Cost/Funding Source(s)

Funding Source: Existing Customers Funding 100%

Cost:

Project Cost: \$100,000

Funding Timetable:

Funding FY 12/13 Project Cost \$ 50,000

Funding FY 14/15 Project Cost \$ 50,000

**TRUCKEE MEADOWS WATER AUTHORITY
FISCAL YEARS 2012-2016 FIVE YEAR CAPITAL IMPROVEMENT PLAN**

Project Summary

Title/Description: New Business Meters
Category: Customer Service
Ranking: Priority 2 - Necessary
Fiscal Year: 2012 through 2016

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.

Cost/Funding Source(s)

Funding Source: Developers Funding 100% – New Business Fees

Cost:

Project Cost: \$500,000

Funding Timetable:

Funding FY 11/12	Project Cost	\$ 50,000
Funding FY 12/13	Project Cost	\$ 50,000
Funding FY 13/14	Project Cost	\$ 50,000
Funding FY 14/15	Project Cost	\$100,000
Funding FY 15/16	Project Cost	\$250,000

**TRUCKEE MEADOWS WATER AUTHORITY
FISCAL YEARS 2012-2016 FIVE YEAR CAPITAL IMPROVEMENT PLAN**

Project Summary

Title/Description: Meter Replacements
Category: Customer Service
Ranking: Priority 1-Mandatory
Fiscal Year: 2012 through 2016

Project Description

Meter replacements are required annually for approximately 7% of TMWA's metered services. Meters have an expected service life of 15-20 years. To protect TMWA's revenue stream and to insure that current and future water rate studies are prepared with accurate water usage data, TMWA has budgeted and planned for future meter replacements consistent with the expected service life of the meter. Meters less than 3" in size are primarily for small commercial and residential premises. Also TMWA performs annual demand studies for engineering design and operational purposes, also requiring accurate meter reading. Due to TMWA nearly completing the retrofitting of the water system coupled with a very significant meter change out program the plan has allowed for less than average change outs in the next several years. Beginning in fiscal year 2010 TMWA has targeted for replacement those meters installed in early 1990's. TMWA risks significant revenue losses if meters are not replaced in a systematic fashion. TMWA is replacing large meters on a systematic basis based upon expected service lives of the meters.

Cost/Funding Source(s)

Funding Source: Existing Customers Funding 100%

Cost:

Project Cost: \$5,700,000

Funding Timetable:

Funding FY 11/12	Project Cost	\$ 500,000
Funding FY 12/13	Project Cost	\$1,000,000
Funding FY 13/14	Project Cost	\$1,400,000
Funding FY 14/15	Project Cost	\$1,400,000
Funding FY 15/16	Project Cost	\$1,400,000

**TRUCKEE MEADOWS WATER AUTHORITY
FISCAL YEARS 2012-2016 FIVE YEAR CAPITAL IMPROVEMENT PLAN**

Project Summary

Title/Description: GIS Mapping Equipment
Category: Administrative
Ranking: Priority 2-Necessary
Fiscal Year: 2012 - 2016

Project Description

TMWA will have to update mapping equipment on a periodic basis to keep up with changes in technology; in addition, the current equipment is reaching obsolescence.

Cost/Funding Source(s)

Funding Source: Existing Customers Funding 100%

Cost:

Project Cost: \$85,000

Funding Timetable:

Funding FY 11/12	Project Cost	\$ 17,000
Funding FY 12/13	Project Cost	\$ 17,000
Funding FY 13/14	Project Cost	\$ 17,000
Funding FY 14/15	Project Cost	\$ 17,000
Funding FY 15/16	Project Cost	\$17,000

**TRUCKEE MEADOWS WATER AUTHORITY
FISCAL YEARS 2012-2016 FIVE YEAR CAPITAL IMPROVEMENT PLAN**

Project Summary

Title/Description: Desktop Computer Upgrades
Category: Administrative
Ranking: Priority 2-Necessary
Fiscal Year: 2012 through 2016

Project Description

TMWA utilizes a personal computer (PC) refresh program similar to the local governments. TMWA has over 130 PC's in service with approximately ¼, or 33, to be changed out each year dependent upon warranty arrangements. Spending would be determined on an as needed basis. TMWA annually completes a full inventory of all IT equipment and conditions.

Cost/Funding Source(s)

Funding Source: Existing Customers and Developers Funding (overhead to capital projects)

Cost:

Project Cost: \$250,000

Funding Timetable:

Funding FY 11/12 Project Cost \$ 50,000

Funding FY 12/13 Project Cost \$ 50,000

Funding FY 13/14 Project Cost \$ 50,000

Funding FY 14/15 Project Cost \$ 50,000

Funding FY 15/16 Project Cost \$50,000

**TRUCKEE MEADOWS WATER AUTHORITY
FISCAL YEARS 2012-2016 FIVE YEAR CAPITAL IMPROVEMENT PLAN**

Project Summary

Title/Description: Network Server/Software/Storage Upgrades
Category: Administrative
Ranking: Priority 2-Necessary
Fiscal Year: 2012 through 2016

Project Description

TMWA currently has 37 network servers hosting a variety of software applications. These servers normally come with three year warranties and would eventually require replacement on a three to four year cycle. TMWA will seek out extended warranties if cost effective, rather than replace servers. **Spending is only on an as needed basis.**

Cost/Funding Source(s)

Funding Source: Existing Customers and Developers Funding (overhead to capital projects)

Cost:

Project Cost: \$ 1,050,000

Funding Timetable:

Funding FY 11/12 Project Cost \$275,000

Funding FY 12/13 Project Cost \$175,000

Funding FY 13/14 Project Cost \$175,000

Funding FY 14/15 Project Cost \$175,000

Funding FY 15/16 Project Cost \$250,000

**TRUCKEE MEADOWS WATER AUTHORITY
FISCAL YEARS 2012-2016 FIVE YEAR CAPITAL IMPROVEMENT PLAN**

Project Summary

Title/Description: Network Security Upgrades
Category: Administrative
Ranking: Priority 2-Necessary
Fiscal Year: 2012 through 2016

Project Description

TMWA is very internet dependent. TMWA’s website hosts a variety of web pages that are user friendly and provide a great detail of information without customers having to call TMWA personnel with routine questions. TMWA also hosts its construction standards for builders. TMWA uses the internet to allow customers access to their account information. By virtue of using productivity enhancements such as the internet, it also creates a variety of security challenges. TMWA is scanned and is attacked by network crippling events and is subject to over 10,000 internet scans a day. TMWA uses various hardware and software applications in a configuration called depth in defense security to protect the network.

Cost/Funding Source(s)

Funding Source: Existing Customers and Developers Funding (overhead to capital projects)

Cost:

Project Cost: \$ 825,000

Funding Timetable:

Funding FY 11/12	Project Cost	\$150,000
Funding FY 12/13	Project Cost	\$150,000
Funding FY 13/14	Project Cost	\$150,000
Funding FY 14/15	Project Cost	\$150,000
Funding FY 15/16	Project Cost	\$225,000

**TRUCKEE MEADOWS WATER AUTHORITY
FISCAL YEARS 2012-2016 FIVE YEAR CAPITAL IMPROVEMENT PLAN**

Project Summary

Title/Description: Engineering Computer/Software Upgrades
Category: Administrative
Ranking: Priority 2-Necessary
Fiscal Year: 2011 through 2015

Project Description

TMWA performs a significant amount of design functions for various construction projects whether infrastructure rehabilitation projects or new capacity projects. TMWA uses various hardware and software for engineering design and hydraulic modeling, to serve various customers. Computers that are replaced in engineering are trickled down to other users. GIS activities also require significant computing capacity.

Cost/Funding Source(s)

Funding Source: Existing Customers and Developers Funding (overhead to capital projects)

Cost:

Project Cost: \$150,000

Funding Timetable:

Funding FY 11/12	Project Cost	\$ 25,000
Funding FY 12/13	Project Cost	\$ 25,000
Funding FY 13/14	Project Cost	\$ 25,000
Funding FY 14/15	Project Cost	\$ 25,000
Funding FY 15/16	Project Cost	\$50,000

**TRUCKEE MEADOWS WATER AUTHORITY
FISCAL YEARS 2012-2016 FIVE YEAR CAPITAL IMPROVEMENT PLAN**

Project Summary

Title/Description: Computer Network Licensing
Category: Administrative
Ranking: Priority 2-Necessary
Fiscal Year: 2010 through 2014

Project Description

The local area network connects the Chalk Bluff Treatment Plant to the Glendale Treatment Plant with the Operations Center at Capital Blvd. This network allows backup of any one location with computer resources at the other two locations. Upgrades are planned on an annual basis to maintain this system.

Cost/Funding Source(s)

Funding Source: Existing Customers Funding

Cost:

Project Cost: \$955,000

Funding Timetable:

Funding FY 11/12 Project Cost \$330,000

Funding FY 12/13 Project Cost \$150,000

Funding FY 13/14 Project Cost \$150,000

Funding FY 14/15 Project Cost \$150,000

Funding FY 15/16 Project Cost \$175,000

**TRUCKEE MEADOWS WATER AUTHORITY
FISCAL YEARS 2012-2016 FIVE YEAR CAPITAL IMPROVEMENT PLAN**

Project Summary

Title/Description: Heavy Equipment
Category: Administrative
Ranking: Priority 2 - Necessary
Fiscal Year: 2014; 2016

Project Description

TMWA employs dump trucks with backhoe trailers to move backhoes to water main leak sites, meter retrofit sites and other tasks reducing travel wear and tear on backhoes. Dump truck/backhoe equipment configurations are essential for efficient field tasks. TMWA added a new dump truck in fiscal year 2008, and is not planning to purchase another one until 2014. TMWA's practice is to retain older dump trucks so they may be used at times when significant excavations are in process to maximize debris/spoil removal. It was determined that two dump trucks tied to one backhoe is a far more efficient configuration when excavating major leaks. Any replacement of dump trucks, backhoes, and trailers will be made on an as needed basis and after a cost/benefit analysis which includes consideration of annual maintenance expenses and equipment availability factors.

Cost/Funding Source(s)

Funding Source: Existing Customers Funding 100%

Cost:

Project Cost: \$250,000

Funding Timetable:

Funding FY 13/14 Project Cost \$125,000

Funding FY 15/16 Project Cost \$125,000

**TRUCKEE MEADOWS WATER AUTHORITY
FISCAL YEARS 2012-2016 FIVE YEAR CAPITAL IMPROVEMENT PLAN**

Project Summary

Title/Description: Light Crew Trucks
Category: Administrative
Ranking: Priority 2-Necessary
Fiscal Year: 2012 through 2016

Project (Outlay) 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. TMWA has scaled back spending on light vehicles for the past two years and a number of vehicles will be in excess of ten years old and greater than 120,000 miles of duty so spending is expected to be heavier in fiscal year 2012 and beyond.

Cost/Funding Sources(s)

Funding Source: Existing Customers Funding 100%

Cost:	Funding Timetable:
Project Cost: \$684,000	Funding FY 11/12 Project Cost \$128,000
	Funding FY 12/13 Project Cost \$146,000
	Funding FY 13/14 Project Cost \$110,000
	Funding FY 14/15 Project Cost \$215,000
	Funding FY 15/16 Project Cost \$ 85,000

**TRUCKEE MEADOWS WATER AUTHORITY
FISCAL YEARS 2012-2016 FIVE YEAR CAPITAL IMPROVEMENT PLAN**

Project Summary

Title/Description: Heavy Crew Trucks
Category: Administrative
Ranking: Priority 2-Necessary
Fiscal Years: 2012 and 2013

Project (Outlay) Description

TMWA has evaluated its need for additional heavy crew vehicles and has determined that additional vehicles will be needed in 2012 and 2013. Annual evaluations are made to determine if heavy crew vehicles need to be replaced and are only replaced if conditions warrant a replacement.

Cost/Funding Source(s)

Funding Source: Existing Customers Funding 100%

Cost:

Project Cost: \$147,000

Funding Timetable:

Funding FY 11/12 Project Cost \$ 92,000

Funding FY 12/13 Project Cost \$ 55,000

**TRUCKEE MEADOWS WATER AUTHORITY
FISCAL YEARS 2012-2016 FIVE YEAR CAPITAL IMPROVEMENT PLAN**

Project Summary

Title/Description: Security Vulnerability Assessment Project
Category: Administrative
Ranking: Priority 2-Necessary
Fiscal Year: 2012 through 2016

Project Description

TMWA performed a vulnerability assessment with grant support from the Department of Environmental Protection. This assessment outlined various security improvements that TMWA proceeded with at various TMWA locations. Security improvements at the Highland Reservoir have been completed as well as security improvements at the Hunter Creek Reservoir. Work will continue on the recommended improvements as required and if deemed necessary.

Cost/Funding Source(s)

Funding Source: Existing Customers Funding 100%

Cost:	Funding Timetable:
Project Cost: \$250,000	Funding FY 11/12 Project Cost \$ 50,000
	Funding FY 12/13 Project Cost \$ 50,000
	Funding FY 13/14 Project Cost \$ 50,000
	Funding FY 14/15 Project Cost \$ 50,000
	Funding FY 15/16 Project Cost \$ 50,000