

601 N. Moapa Valley Boulevard * Post Office Box 257
Logandale, Nevada * 89021
Telephone (702) 397-6893 * Facsimile (702) 397-6894

To: Chairman Ken Staton and MVWD Board of Directors
From: Joseph Davis, General Manager
Date: October 31, 2019
Subject: FY21 Budget Preparation PowerPoint

Subject

The Fiscal Year 2021 budget cycle is fast approaching. Staff is taking a different approach to the way the budget is prepared this year. Hopefully starting earlier in the year with the higher capital outlay projects will give the Director's and staff an opportunity to institute the projected capital improvement costs into WaterWorth.

If the Directors recall, WaterWorth is the web-based platform that helps enable the District to achieve financial sustainability through optimized water rates and budget for infrastructure upgrades in the distribution system. This program was underutilized during the last budget cycle.

Staff has taken the liberty to prepare a PowerPoint presentation of the District's current 5 year capital improvement plan and incorporate a partially updated plan with a few narratives from the *2017 MVWD Capital Improvement Plan completed by Sunrise Engineering Inc.* and a *2018 Water Main Break Rates in the USA and Canada*. This study is a comprehensive study conducted by Utah State University. The study can be used as an asset management planning tool for water utilities.

Staff is seeking input and direction concerning the identified projects in the 5 year capital improvement plan.

Moapa Valley Water District

Capital Improvement Plan Update
Fiscal Year 2021

Moapa Valley Water District

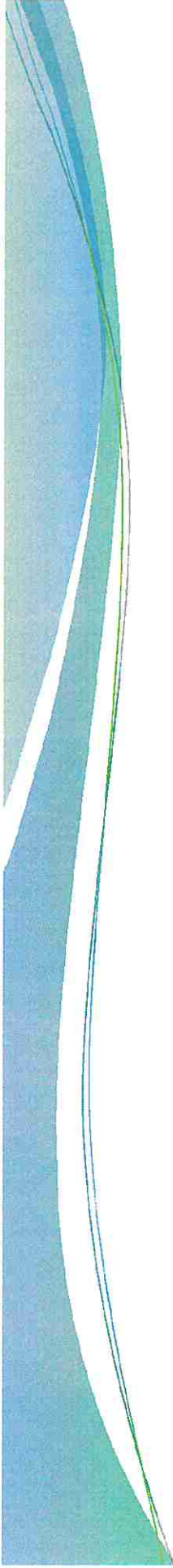
2017 Capital Improvement Plan

Top 25 Priority List

The Moapa Valley Water District hired Sunrise Engineering, Inc. to prepare a *Culinary Water System Capital Improvement Plan*. This plan was commissioned for the purpose of serving the District as a guidance document with critical information relative to current and future system conditions. The need for the plan is based in the value of an objective review of the system and its ability to serve existing and future water demands.

The District operates on the premise that it seeks to sustainably provide water in sufficient quantity and quality to residents and enterprises within its service area in the near term and throughout build-out. This objective is supported by occasional short-term and long-term planning efforts, including updating capital improvement plans as the need arises.

- 1 Build repair material inventory for "bottleneck" pipelines
- 2 Rehabilitate Arrow Canyon Well #2
- 3 Install 20-inch Meadow Valley Wash pipeline crossing
- 4 Replace Baldwin Springs booster pumps
- 5 Install 16-inch Baldwin Springs transmission line replacement
- 6 Acquire ownership or long-term lease of MX-6 Well assets
- 7 Install a 0.5 million gallon storage tank at Arrow Canyon
- 8 Install Arrow Canyon Well #3
- 9 Certify Arrow Canyon Well water rights
- 10 Complete ongoing SCADA system maintenance and upgrades
- 11 Implement a PRV/PSV/ACV control valve maintenance program
- 12 Complete regular tank condition inspections
- 13 Budget for five year interval capital improvements planning
- 14 Implement an ongoing meter replacement program
- 15 Implement a 20-year cycle ongoing valve replacement program
- 16 Budget annually for fixed asset replacements
- 17 Replace arsenic media at the arsenic treatment facilities
- 18 Pursue water resource development
- 19 Refurbish the Logandale East Tank
- 20 Install a 3.1 million gallon storage tank in "The Narrows"
- 21 Install backwash basins for the arsenic treatment facilities
- 22 Install 16-inch pipeline with appurtenances (Waite St River Crossing)
- 23 Install 16-inch pipeline with appurtenances (Pioneer Road 14" Loop Line)
- 24 Install 20-inch JM Eagle PVC pipe replacement
- 25 Replace existing standpipes with fire hydrants



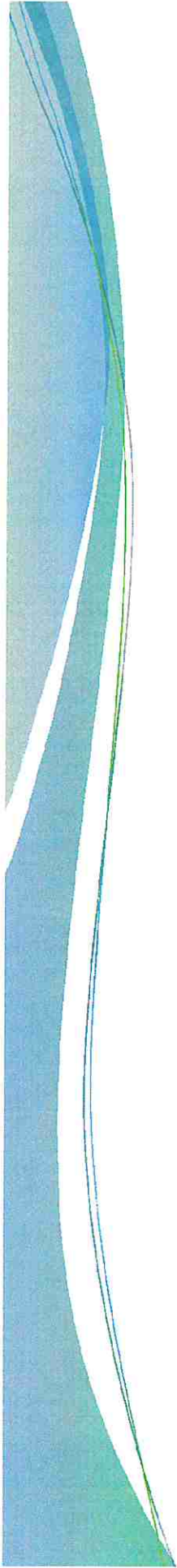
Current 2017 Capital Improvement Plan Project Status

Build repair material inventory for "bottleneck" pipelines
Rehabilitate Arrow Canyon Well #2
Install 20-inch Meadow Valley Wash pipeline crossing
Replace Baldwin Springs booster pumps
Install 16-inch Baldwin Springs transmission line replacement
Acquire ownership or long-term lease of MX-6 Well assets
Install a 0.5 million gallon storage tank at Arrow Canyon
Install Arrow Canyon Well #3
Certificate Arrow Canyon Well water rights
Complete ongoing SCADA system maintenance and upgrades
Implement a PRV/PSV/ACV control valve maintenance program
Complete regular tank condition inspections
Budget for five year interval capital improvements planning
Implement an ongoing meter replacement program
Implement a 20-year cycle ongoing valve replacement program
Budget annually for fixed asset replacements
Replace arsenic media at the arsenic treatment facilities
Pursue water resource development
Refurbish the Logandale East Tank
Install a 3.1 million gallon storage tank in "The Narrows"
Install backwash basins for the arsenic treatment facilities
Install 16-inch pipeline with appurtenances - Waite St River Crossing
Install 16-inch pipeline with appurtenances - Pioneer Road 14" Loop Line
Install 20-inch JM Eagle PVC pipe replacement
Replace existing standpipes with fire hydrants

Programs & Projects Currently Implemented or Completed

Projects Listed on the Current 5 Year Capital Improvement Plan

Projects That Have Been Modified to Better Fit the Districts Needs
 *Yamashita St. 12" & Gubler Ave. 12" gives the District 2 separate river crossings allowing for better operational resource delivery redundancy



Current Projected 5 Year Capital Improvement Plan

Account-#	NAME	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY31	FY32	FY33
2020-IRA-01	WATER MAIN REPLACEMENT (YAMASHITA)	355,000	380,000	400,000	420,000	440,000	480,000	500,000			
2020-IRA-02	METER REPLACEMENT PROGRAM	200,000	200,000	200,000	200,000						
2020-IRA-03	VALVE REPLACEMENT PROGRAM	110,000	110,000	110,000	110,000	110,000	110,000	110,000			
2020-IRA-04	ARROW CANYON BASIN	100,000									
2020-IRA-05	SCADA UPGRADES	30,000	40,000	40,000	40,000						
2020-IRA-06	PRV UPGRADES	40,000	30,000	30,000	30,000	30,000					
2020-IRA-07	MEADOW VALLEY WASH	70,000									
2020-IRA-08	NARROWS/WARM SPRINGS WATER STORAGE SITE ACQUISITION	75,000	75,000								
2020-IRA-09	WARM SPRINGS TANK 500K			911,400							
2020-IRA-10	NARROWS TANK 2 MILLION			420,000	433,733			1,549,050			
2020-IRA-11	LOGANDALE TANK RECOAT										
2020-IRA-12	BALDWIN 14" A/C LINE			198,600							
2020-IRA-13	ARROW CANYON 20" (JM PIPE)										
2020-IRA-14	ARROW CANYON #3 WELL										
	With Meadow Valley Wash boring costs adjustment										
	TOTAL CAPITAL IMPROVEMENT	980,000	1,255,000	1,890,000	1,233,733	650,000	1,520,000	2,159,050			

Project Permitting Time Requirements Through BLM Require CIP Modification

Updated Projected 5 Year Capital Improvement Plan

red highlighted project cost increased by 20%

Account-#	NAME	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY31	FY32	FY33
2020-IRA-01	WATER MAIN REPLACEMENT (YAMASHITA)	355,000	380,000	400,000	420,000	440,000	480,000	500,000			
2020-IRA-02	METER REPLACEMENT PROGRAM	200,000	200,000	200,000	200,000						
2020-IRA-03	VALVE REPLACEMENT PROGRAM	110,000	110,000	110,000	110,000	110,000	110,000	110,000			
2020-IRA-04	ARROW CANYON BASIN	100,000									
2020-IRA-05	SCADA UPGRADES	30,000	40,000	40,000	40,000						
2020-IRA-06	PRV UPGRADES	40,000	30,000	30,000	30,000	30,000					
2020-IRA-07	MEADOW VALLEY WASH	70,000									
2020-IRA-08	NARROWS/WARM SPRINGS WATER STORAGE SITE ACQUISITION	75,000	75,000								
2020-IRA-09	WARM SPRINGS TANK 500K				260,000		1,100,000				
2020-IRA-10	NARROWS TANK 2 MILLION					260,000					1,860,000
2020-IRA-11	LOGANDALE TANK RECOAT				505,000						
2020-IRA-12	BALDWIN 14" A/C LINE			550,000							
2020-IRA-13	ARROW CANYON 20" (JM PIPE)						70,000				
2020-IRA-14	ARROW CANYON #3 WELL						990,000				
TOTAL CAPITAL IMPROVEMENT		980,000	835,000	1,330,000	1,635,000	1,770,000	1,690,000	610,000			1,860,000

UTAH STATE UNIVERSITY MARCH 2018 WATER MAIN COMPREHENSIVE STUDY

- Overall Pipe Breaks Are Up 27%
- Nationwide one mile of installed main serves 308 people (MVWD 48 people)
- 85% of water mains are less than 12" & 67% of water mains are less than 8" (MVWD 12" and under 76% and 8" and under 69%)
 - Small utilities have two times more breaks than large utilities
 - 45% of cities are experiencing more than 50 breaks annually
- An average of 0.8% of installed pipe is replaced each year, this equates to a 125-year replacement schedule
 - Pipe replacement rates should be between 1% and 1.6%
- MVWD used to replace 5,000 feet a year = 190-year replacement schedule