

METROPOLITAN WATER DISTRICT OF SALT LAKE & SANDY

2017 ANNUAL REPORT



GENERAL MANAGER'S MESSAGE



Michael DeVries, General Manager

After 15 years of dedicated service to the District, Michael Wilson retired as General Manager. His leadership was instrumental in many key projects and agreements. For the 7th time in the history of the Metropolitan Water District of Salt Lake & Sandy, a new General Manager has been appointed by the board. I look forward to serving the board, staff, and customers of the District and to assuring the continued delivery of high quality water and services upon which hundreds of thousands of residents in the Salt Lake Valley rely.

In July of 2016, the District implemented a flat rate structure in order to promote the conjunctive use of water. As a result, in 2017 the District's member cities have more efficiently utilized District surface water supplies, allowing member city groundwater aquifers to rest and recover. The flat rate structure has also provided budgetary predictability and stability for the District and its member cities.

The District has continued its commitment to preserving and protecting the watershed. This commitment included ongoing support of the Central Wasatch Commission, contribution towards the protection of Bonanza flats, source water quality analysis, and development monitoring and review. In 2018, there will be ongoing efforts to educate state legislators about the complexity of water and the importance of safeguarding the state's watersheds.

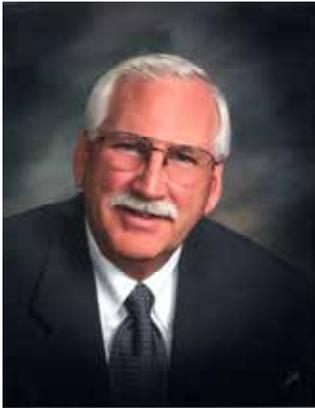
A milestone for the District in 2017 is the nearly completed, fully operational Terminal Reservoir. Aging infrastructure is a major concern across the United States and Terminal Reservoir was no exception. The reservoir was originally placed into service in 1951 and was part of the Provo River Project. The District recognized the importance of replacing this aging and seismically challenged infrastructure and embarked on a five phase, seven year construction plan to systematically tear down and rebuild the 40 million gallon finished water reservoir. All five phases of this project were completed while carefully maintaining critical water storage and fire protection for Salt Lake City throughout the project. The completion of this project is significant and the District is thankful for the board of trustees, staff, contractors, and engineers who made this project possible.



Board Tour of Terminal Reservoir Replacement Project

In September board members and staff toured the Terminal Reservoir Replacement Project. During shutdown of Terminal Reservoir South Cell B, tour participants were able to enter the cell and view the interior structure and piping.

ADMINISTRATION



BOARD OF TRUSTEES

Tom Godfrey, Chair, Salt Lake City

Donald Milne, Vice-Chair, Sandy City

Patricia Comarell, Secretary, Salt Lake City

Arthur Hunter, Sandy City

John Mabey, Salt Lake City

Joan Degiorgio, Salt Lake City

Cindy Cromer, Salt Lake City (not pictured)

The District is citizen-administered through a Board of Trustees comprised of seven individuals; five appointed by the Salt Lake City Council and two appointed by the Sandy City Council.



MICHAEL WILSON RETIREMENT, GENERAL MANAGER FROM 2005-2017

Mike Wilson's career at the District started in 2002 when he was hired as the Assistant General Manager. Three years later, he was promoted to General Manager. For the past 12 years, Mike's leadership was instrumental in negotiating, planning, and construction of many projects including among others, the Little Cottonwood Water Treatment Plant Expansion Project, the Little Cottonwood Water Treatment Plant Onsite Improvements Project, the District's participation in the 150th South Pipeline Project, the Point of the Mountain Water Treatment Plant, the Point of the Mountain Aqueduct, Provo River Aqueduct, the replacement of the Utah Lake Pump Station, Jordan Narrows Pump Station Upgrades Project, and the Terminal Reservoir Replacement Project. Mike was instrumental in title transfer of the Salt Lake Aqueduct, in protecting the District's rights-of-way, facilities and property interests, in protecting the District's watershed through involvement in Mountain Accord, and in refinancing District debt to substantially save public funds. The District is grateful for his dedication and expresses appreciation for his many years of service to the District and to the State of Utah.



Michael Wilson, General Manager

WATER SUPPLY

DELIVERING DISTRICT WATER SUPPLIES

The District supplies water to its 166 square mile service area, through a conveyance and distribution system consisting of the 42-mile-long Salt Lake Aqueduct, the 15-mile-long Point of the Mountain Aqueduct, two water treatment plants, four high volume pump stations, and four finished water reservoirs. The District owns more than 271 million gallons per day of drinking water treatment capacity. This includes the District's 2/7ths capacity in the Jordan Valley Water Treatment Plant. In fiscal year 2017, the District sold 77,177 acre-feet of water with daily system deliveries as high as 160 million gallons per day (MGD) (See Table 1).

Table 1: Water Sources and Deliveries

Water Sources for water years ended October 31st			
Acre Feet			
	2017	2016	2015
Little Cottonwood Creek	23,550	19,257	17,769
Bell Canyon Creek	894	691	258
Ontario Drain Tunnel	3,000	2,867	2,984
Provo River Project	39,249	49,145	47,411
Central Utah Project	20,006	20,000	19,541
Total:	86,699	91,960	87,964
Utah Lake Distributing Exchange Agreement for water years ended Oct 31st			
Acre Feet			
	2017	2016	2015
From Provo River Aqueduct	14,829	21,487	17,274
From Jordan River	11,029	5,094	10,595
Total:	25,858	26,581	27,869
Water Deliveries for fiscal years ended June 30th			
Acre Feet			
	2017	2016	2015
Salt Lake City Department of Public Utilities	50,554	43,923	44,708
Sandy City Department of Public Utilities	23,894	17,233	15,068
Other agencies finished water	1,344	970	1,034
Other agencies raw water (irrigation)	1,385	1,698	1,619
Total:	77,177	63,824	62,429

FINANCIALS

The District's revenue sources are a combination of water sales, property taxes, and capital assessments. Assessments for new capacity and water supply are paid via retail rates imposed by the member cities. Property taxes are levied to properties in Salt Lake City and Sandy City. No property tax is levied to properties in non-member cities or unincorporated areas.

Balance Sheet Summary for fiscal years ended June 30th			
	2017	2016	2015
Assets			
Current	\$197,769,300	\$197,122,936	\$202,087,396
Capital Assets	\$351,170,501	\$348,522,700	\$349,854,920
Deferred outflow of resources	\$26,177,635	\$32,201,761	\$24,964,847
Total assets and deferred outflow of resources	\$575,117,436	\$577,847,397	\$576,907,163
Liabilities & Net Assets			
Current Liabilities	\$15,875,055	\$14,010,991	\$13,658,172
Long-term Liabilities	\$264,446,395	\$277,785,640	\$280,834,285
Deferred inflow of resources	\$373,390	\$243,879	\$232,622
Fund Net Assets	\$294,422,596	\$285,806,887	\$282,182,084
Total Liabilities & Net Assets	\$575,117,436	\$577,847,397	\$576,907,163
Income Statement for fiscal years ended June 30th			
	2017	2016	2015
Revenues			
Water Sales	\$20,259,556	\$17,613,138	\$15,541,662
Water Treatment	\$1,049,095	\$748,096	\$581,247
Property Tax Revenues	\$11,717,539	\$11,645,715	\$11,094,954
Special Assessment Revenue	\$12,248,671	\$12,246,768	\$12,238,943
Other Revenues	\$1,531,861	\$516,421	\$104,730,463
Total Revenues	\$46,806,722	\$42,770,138	\$144,187,269
Expenses			
Cost of Sales and Services	\$11,141,747	\$10,948,959	\$10,887,426
General & Administrative	\$1,851,563	\$2,060,071	\$1,832,579
Depreciation & Amortization	\$10,686,523	\$10,751,104	\$10,679,989
Non-Operating Interest Expense	\$8,432,739	\$9,923,111	\$10,258,442
Other Non-Operating Expenses	\$5,096,955	\$4,407,656	\$0
Contributions to Other Governments	\$981,486	\$1,054,434	\$957,681
Total Expenses	\$38,191,013	\$39,145,335	\$33,616,117
Net Income	\$8,615,709	\$3,624,803	\$109,571,152

OPERATIONS

Anniversary of Point of the Mountain Water Treatment Plant

August 10, 2017 was the 10-year anniversary of the Point of the Mountain Water Treatment Plant (POMWTP). This plant is a state-of-the art water treatment facility and has the capacity to treat 70 million gallons per day (MGD) with the capability to increase to 151 MGD. This added capacity supports the Little Cottonwood Water Treatment Plant (LCWTP) in meeting summer demands of the member cities.

POMWTP has also allowed the District to take other facilities off-line for projects. One such project was the inspection of the LCWTP and the Raw Water sections of the Salt Lake Aqueduct. Both inspections required shutdown of the LCWTP. The POMWTP produced drinking water during this time frame.

POMWTP has also produced drinking water for emergency make up supply with connections to Salt Lake County's East and West sides. The first decade has been a learning experience for staff. It is expected this plant will have many added benefits for decades to come.

Supply Chain Resilience

Hurricanes Irma (August 30 – September 16, 2017) and Harvey (August 17 – September 2, 2017) had an effect on the water treatment chemical availability. Irma affected the area of Florida and Georgia which in turn delayed cationic polymer deliveries to the Little Cottonwood Water Treatment Plant (LCWTP). The District obtained enough product via transfer from Point of the Mountain Water Treatment Plant (POMWTP) to safeguard the extent of these delays. POMWTP demand and chemical use were reduced by utilizing the District's additional capacity in the Jordan Valley Water Treatment Plant. Hurricane Harvey affected the Houston area where the District's current chlorine vendor (DPC Industries, Inc.) lost production capacity. With some resourcefulness, DPC's distribution network was able to continue to make delivery. These events paralleled the District's peak system demand. Managing inventory for the unknowns and having redundancy becomes critical in customer service.



OPERATIONS

Plant (Location)	Process	Rated Capacity (MGD)
Little Cottonwood Water Treatment Plant	Conventional treatment with ozone	150
Point of the Mountain Water Treatment Plant	Conventional treatment with ozone and ultra violet (UV) disinfection	70
Jordan Valley Water Treatment Plant (2/7ths capacity)	Conventional treatment	51
Aqueduct	Diameter/Type	Length
Salt Lake Aqueduct	69" inside diameter/reinforced concrete	42 miles
Point of the Mountain Aqueduct	60" diameter/steel	15 miles

TREATMENT PLANTS



AQUEDUCTS



ENGINEERING & MAINTENANCE

The Engineering & Maintenance (E&M) Department is focused towards ensuring the reliability of the District's infrastructure to meet the needs of its customers. This is accomplished through managing, monitoring, repairing, protecting and assessing the District's treatment plants, storage reservoirs, pump stations, and aqueducts. This stewardship is the focus in meeting the District's mission of providing high quality water and reliable services to our customers.

Engineering & Maintenance 2017 Projects

The following list includes the notable projects that have been accomplished this past year:

- Terminal Reservoir Replacement Project including:
 - Final tie-in of Salt Lake Aqueduct
 - Final structural concrete placement
 - Hydrotest of Terminal Reservoir South Cell B
 - Replacement of Sam Park Bypass line
 - Backfill and final grading at site
- Refurbishment of the Little Cottonwood Water Treatment Plant Fluoride Storage and Feed Facilities
- Salt Lake Aqueduct Shutdown Project
 - Salt Lake Aqueduct Valve Replacement Project
 - 10 MG Reservoir Joint Repair Project
 - Salt Lake Aqueduct inspection from Little Cottonwood Water Treatment Plant to Terminal Reservoir (8.4 miles of aqueduct)
- Aqueduct corridor licensing program

Terminal Reservoir Replacement Project

The Terminal Reservoir Replacement Project involves the sequencing of constructing 48.8 million gallons of new storage facilities while maintaining service to Salt Lake City over a seven-year construction window. The project began in November of 2011 and was completed over five phases. In phase 5, the contractor completed work on Terminal Reservoir South Cell B and this cell was prepared for service. At the end of 2017, the entire project infrastructure was complete leaving the final civil site work to be completed in 2018. This multi-year project will be completed in 2018.



ENGINEERING & MAINTENANCE

Little Cottonwood Water Treatment Plant Fluoride Storage

An interim fluoride storage facility was built in 2003. At that time, the District was preparing for the Metro Water Project that had considered a post treatment chemical building; a portion of which was to house fluoride storage and feed equipment. The planned post treatment chemical building remains a decade out for implementation. Now, fourteen years from initial implementation, the existing system was in need of significant repairs, replacements (including the enlargement of storage tanks) and other safety considerations. The fluoride building improvement project addressed the concerns of the existing system by replacing and increasing the size of the storage tank, installed new chemical feed pumps and piping, relocated operational controls outside and away from the hazardous environment and other general improvements. The new fluoride building was completed and restored fluoride service on September 27, 2017.



Aqueduct Corridor Licensing Program

The District continues to be actively engaged with the public to increase the awareness of the Salt Lake Aqueduct (SLA) and Point of the Mountain Aqueduct (POMA). The E&M Department provides aqueduct inspection services for the SLA and POMA to prevent new unauthorized uses, correct existing unauthorized uses, and provide construction inspection and direction as well as respond to Bluestake inquires within the aqueduct corridors.



Public awareness of the corridor is important in order for the District to operate, maintain, repair and replace the aqueducts.

Public involvement activities have included:

- Distribution of a newsletter to all affected property owners along the corridor
- Open House at LCWTP in May
- Presentations to city staff and councilmembers
- Implementation of title searches and boundary surveys of the corridor that become recorded when complete



INFORMATION SERVICES

The Information Services (IS) Department carries the essential responsibility to keep track of and care for a very broad and technical range of systems, equipment, and services that are critical in the process of treating water. If it has an electron running through it IS takes care of it. Some of these systems are, the Process Control/Supervisory Control and Data Acquisition system (PC/S), Electrical, telecommunications, instrumentation, physical and cyber security, various computer, server and software systems, radio communications, etc. A considerable amount of effort goes into design, installation, and maintenance of these systems.

Information Services 2017 Projects

The following list includes a few of the notable improvements that have been accomplished this past year:

- Deer Creek sample panel rebuild and improvements;
- 10 Million Gallon Reservoir Radio replacement upgrade;
- Physical security system server and workstation upgrade;
- Little Cottonwood influent actuator replacement;
- Virtual server infrastructure upgrade; and
- Point of the Mountain electrical building communications upgrade

Some of the benefits of the abovementioned improvement projects include:

- Early warning of potential pH, turbidity, temperature, or dissolved oxygen related issues that could be present at Deer Creek
- Reliable radio communications to the 10 Million Gallon Reservoir site
- A more stable security server environment that manages physical access to District facilities
- Up to date, consistent filter actuators that we will be able to support and maintain for years to come
- A Virtual Server infrastructure that is consolidated, easier to manage, and more robust
- The ability to connect to essential remote sites through a more reliable private radio system

Preventative and Routine Maintenance

To go along with the accomplishments that have been listed, the IS Department has worked on and accomplished many more routine tasks that are just as important in the goal of keeping essential equipment and processes running. The IS Department completed a total of 1203 work orders, the bulk of which represent preventative and routine maintenance tasks. About 145 of the work requests originated from other departments asking for assistance to resolve IS related issues.

Information Services Support of District's Mission

The systems and services that are supported and provided by the IS Department help contribute to the District's mission which, in part, is to provide "high quality water and reliable services to our customers". Information Services staff are proud to serve the District and help in achieving its mission.

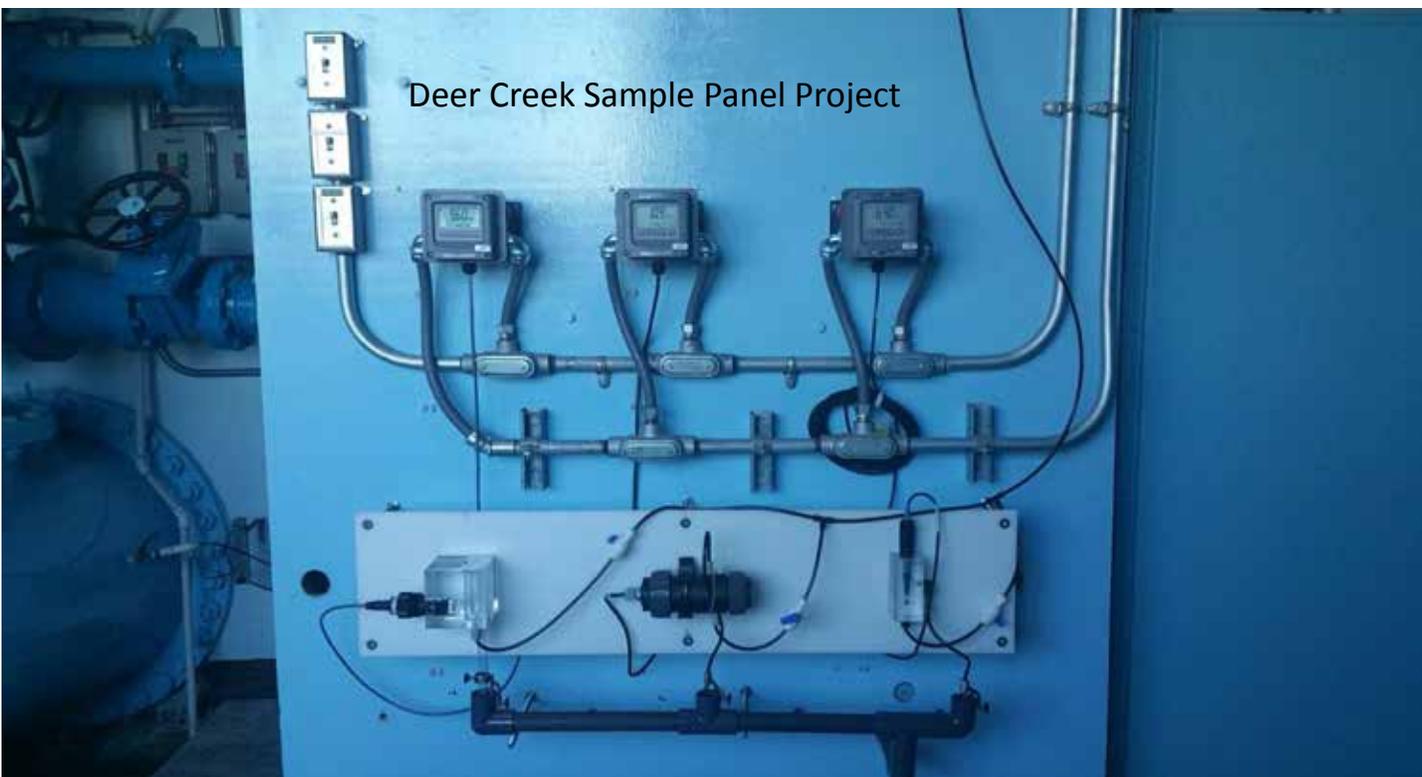
INFORMATION SERVICES

10 Million Gallon Reservoir Radio Project



Influent Actuators Project

Deer Creek Sample Panel Project



LABORATORY

NELAP Certified Environmental Laboratory

The District's Environmental Laboratory is certified by the National Environmental Laboratory Accreditation Program (NELAP); conforming with the 2009 National Institute Standard. The laboratory is certified for twenty tests and fifty three parameters. There are several requirements the laboratory must meet in order to maintain certification. One of these requirements is annual internal audits of all laboratory certified methods conducted by the laboratory supervisor and/or manager. Another requirement is that laboratory staff must pass bi-annual blind proficiency audits to assess whether they can produce analytical results within specified acceptance criteria.

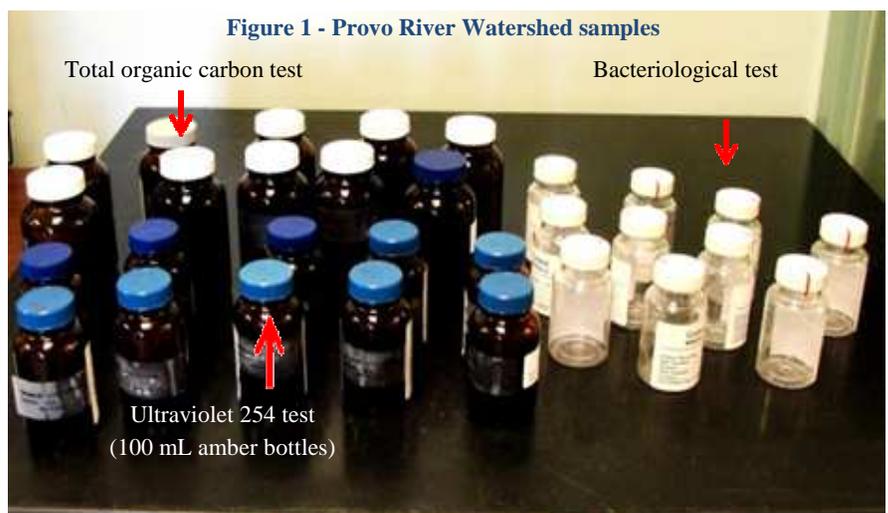
Furthermore, every two years (on even years) an on-site assessment of the Laboratory is performed by the Utah State Health Department. Certification officers from the Utah Environmental Laboratory Certification Program (ELCP) conduct this assessment. During the on-site assessment, certification officers review Laboratory documentation (e.g.; standard operating procedures, chain-of-custodies, training records, annual internal audit records, blind audit records, etc.); observe laboratory personnel performing tests, asking questions related to the test being run; and interview both the Laboratory Supervisor and Manager.

It is imperative that the laboratory maintain its NELAP certification since it provides critical support for the District's member cities and the District. In 2017, the laboratory ran 9,022 tests for its members' cities and 8,939 for the District, an increase of fourteen percent from 2016. The laboratory tests pre-treated water (raw water), water at intermediate stages of treatment, treatment plants effluent water and treated water throughout the distribution system; ensuring safe drinking water is delivered to the consumer.

Laboratory Support

The following are examples of the support the laboratory provided in 2017.

- Laboratory staff collected samples and tested for turbidity, pH, chlorine residual, total suspended solids, and metals prior to the conditional assessments of the Salt Lake Aqueduct during the draining process to ensure the District is meeting the Division of Water Quality.
- Due to higher than normal levels of natural occurring organic matter in Deer Creek water, the laboratory ran additional haloacetic acids (HAA5) and total trihalomethanes (TTHMs) tests, providing crucial data for operations when evaluating the treatment process and also to Salt Lake City Department of Public Utilities in making system wide decisions.
- The laboratory started receiving monthly samples from the Provo River Watershed. Samples are collected for total organic carbon, ultraviolet 254, and bacteriological parameters at several locations in the Provo River and delivered to the laboratory (Figure 1).



HUMAN RESOURCES

DISTRICT EMPLOYEES (AS OF 12/31/17)

Ammon Allen ♦Cláudia Bauleth ♦Blake Bowles ♦Russ Brusch ♦Blake Burch ♦Jimmy Cappel ♦Tom Chalmers ♦Scot Collier ♦Gordon Cook ♦Lynn Coon ♦Mike DeVries ♦McKenzie Ericksen ♦Ken Fritz ♦Bret Goodwin ♦Danny Hall
Colin Hirayama ♦Mike Hone ♦Jon Jeffries ♦Darin Klemin ♦Joey Luna ♦Matt Marcek ♦Jeff Matheson ♦Jeff T.
Matheson ♦Jake McGill ♦Mike McMahon ♦Brice Meier ♦Hal Miller ♦Duane Mitchell ♦Bryan Montague ♦Orlando
Montoya ♦Annalee Munsey ♦Ky Neves ♦Ryan Nicholes ♦Zack Oldham ♦Gardner Olson ♦Ron Payne ♦Jonathan
Peters ♦Chrystle Poss ♦Michael Reese ♦Alex Reidling ♦Andy Reidling ♦Brandon Rodeback ♦Jared Rose ♦Mark
Sarvela ♦Nathan Scown ♦Sonya Shepherd ♦Troy Simmons ♦Steve Slack ♦Gordon Smith ♦Cinnamon Smith ♦Eric
Sorensen ♦Fred Strickland ♦Josie Taber ♦Brady Taylor ♦Matt Tietje ♦Pat Tom ♦Todd Tucker ♦Francisco Vasquez
Ricky Velez ♦Tom Williamson ♦Wayne Winsor ♦Terry Worley ♦Taylor Workman

2017 SERVICE ANNIVERSARIES



Left to Right: Fred Strickland (15), Steve Slack (15), Gardner Olson (15), Annalee Munsey (10),
Zack Oldham (10), Josie Taber (5), and Ky Neves (5), Not pictured: Darin Klemin (10)

Hal Miller (15)



DAREL GAGON RETIREMENT

Darel Gagon retired from the District on April 30, 2017 after 13 years of dedicated service. Darel came to the District in February of 2004. He had a strong background in mechanics and had worked the previous 14 years as an Electronics Technician. He also earned a Bachelor's degree in Electronics Engineering Technology. His background in electronics served him well as a Water System Operator and he was a valuable member in the Operations Department. The District expresses appreciation for his service and wishes him the very best as he enjoys retirement.

3430 E Danish Road
Cottonwood Heights, UT 84093
www.mwdsis.org

