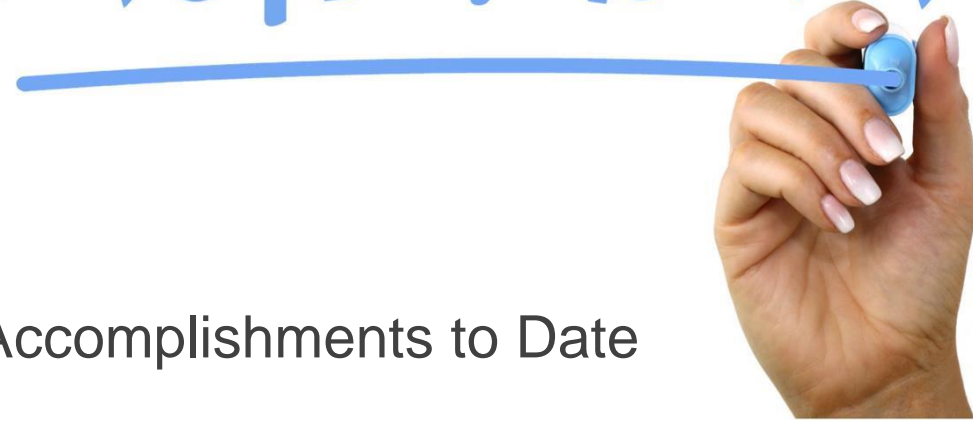


Alliance Water Resources, Inc. Operations Update

Martin County Water District

March 31, 2023

AGENDA



- ▶ Key Accomplishments to Date
- ▶ Deep Freeze Recovery
- ▶ Water Loss Update
- ▶ Critical Needs and CIP
- ▶ Project Updates
- ▶ Discussion/Questions

Key Accomplishments to Date

- ▶ 13 acquired licenses in the District (6 employees scheduled for new or higher licensing exams)
- ▶ Hired 2 water treatment plant operator trainees
- ▶ New starter and overload relay installed in Calloway BPS to restore remote control
- ▶ Implemented CMMS for preventative maintenance- MaxPanda

Review your locations

Show entries

<input type="checkbox"/>	ID #	Name	Preferred Vendors	Building Group
<input type="checkbox"/>	369977	292 BPS (Booster Pump Station)		
<input type="checkbox"/>	369987	292 GST (Water Storage)		
<input type="checkbox"/>	367396	40 East BPS (Booster Pump Station)		
<input type="checkbox"/>	369895	40 West BPS (Booster Pump Station)		
<input type="checkbox"/>	369976	645 BPS (Booster Pump Station)		
<input type="checkbox"/>	369983	645 GST (Water Storage)		
<input type="checkbox"/>	369980	Big Elk BPS (Booster Pump Station)		
<input type="checkbox"/>	369984	Big Elk GST (Water Storage)		
<input type="checkbox"/>	369979	Buffalo Horn BPS (Booster Pump Station)		
<input type="checkbox"/>	369968	High School BPS (Booster Pump Station)		
<input type="checkbox"/>	369985	High School GST (Water Storage)		
<input type="checkbox"/>	369975	Little Petercave BPS (Booster Pump Station)		

Show entries

<input type="checkbox"/>	ID #	WO Title	Type	Ref ID	Priority	Category	Status	Due Date Range	Staff / Vendor	Building Group	Buildings	Asset / Location
<input type="checkbox"/>	3465508	Clean and calibrate Online Turbidimeters	WO		Medium	Lab Equipment and Process Analyzers	Pending	5/8/2023				Martin County Water Treatment Plant
<input type="checkbox"/>	3465449	Clean basket strainers (2)	WO		Medium	Maintenance	In Progress	5/15/2023				40 East BPS, 40 W BPS
<input type="checkbox"/>	3459779	Grease Turkey Pumps 1 & 2	WO		Medium	General	Approved	4/6/2023				Martin County Water Treatment Plant

Key Accomplishments to Date



- ▶ **New Production Meter Installed (issues corrected Feb. 7th)**
- ▶ **Continued QGIS and GEOSYNC CLOUD Implementation. (4,000 values added)**
- ▶ **20+ asphalt and concrete damage sites remediated**
- ▶ **Three previously unmapped sections of main line discovered and documented**

Key Accomplishments to Date

- ▶ **HL160M 1.8 MGD raw water intake pump repairs completed**
- ▶ **MicroComm site visits to restore GST & BPS telemetry function in progress**
- ▶ **Water treatment plant map storage room organized and inventoried for quick reference**
- ▶ **Resumed pumping to USP Big Sandy**
- ▶ **Multiple Hydraulic Restrictions Repaired - Muddy Branch, Cassell Branch, Big Lick, Little Blacklog, Cline Bottom**



Deep Freeze Recovery



- ▶ **Extreme Cold Front and prolonged freezing conditions in late Dec. '22 – early Jan '23**
- ▶ Replaced 30+ busted meters
- ▶ Located 23 customer-side leaks
- ▶ Utilized Mountain Water connection to feed Rt. 292 South
- ▶ Systematically leak detected problematic pressure zones- Marcus Wells, Meathouse, Turkey, Inez
- ▶ Replaced Clearwell tank level transducer feed line and installed heat lamp in transducer pit
- ▶ Team effort from WTP Operators, office staff, sanitation, and distribution

Water Loss Update



- ▶ **55 Leaks Repaired YTD**
- ▶ **Systematically isolated pressure zones including the Inez pressure zone to monitor each branch for water loss**
- ▶ **Line Replacement Projects Necessary for improvement**
- ▶ **Total Meter Replacement Project Necessary for improvement**
- ▶ **Turkey pressure zone water loss down from 84% to EST. 30%**

Turkey Pressure Zone - DM 4

- ▶ Leak repaired on 3/30/23 - 13gpm
- ▶ Leaking hydrant shut down on 3/31/23 (with intent to replace)
- ▶ Daily pumpage should be approximately 35,000gpd or 30%
- ▶ Last date of an average of 62,000gpd for a month was November 2018
- ▶ Leak detection will continue until production is at 20,000gpd or 17% water loss
- ▶ CURRENT WATER LOSS RECOVERED IN TURKEY REPRESENTS 6% OF OUR TOTAL WATER LOSS BASED ON THE HIGHEST MONTH AVERAGE

Month	Gallons pumped (Avg. Daily)
Since 3/21/23	62,175
March	92,066
February	103,583
January	112,591
December 2022	122,237
November	114,609
October	118,205
September	113,027
August	123,946
July	137,632
June	142,450
May	119,301
April	100,089
Mar	100,460
February	101,725
January	115,156

TURKEY PRESSURE ZONE DM4



MARTIN COUNTY WATER DISTRICT 5 YEAR CAPITAL ITEMS						
CAPITAL PROJECTS IN GRANT PROCESS	PRIORITY	GRANT PORTAL YEAR	CONSTRUCTION YEAR	COST	FUNDING SOURCE	COMMENTS
40E SERVICE LINE REPLACEMENT AND 6" ABANDONMENT	1	2023		\$ 760,000	IN GRANT PORTAL	MOVING 50+ CUSTOMERS TO NEWER 10" LINE AND ELIMINATING OLD 6" LINE THAT IS BELIEVED TO BE LEAKING
TURKEY WATER LINE REPLACEMENT	2	2023		\$ 6,822,000	IN GRANT PORTAL	REPLACING LINE FROM THE WATER PLANT TO THE TURKEY TANK. THIS LINE HAS HAD MULTIPLE LEAKS OVER THE YEARS AND IS A CRITICAL POINT FOR A LARGE SERVICE AREA IN THE SYSTEM.
COLDWATER LINE REPLACEMENT	2	2023		\$ 8,419,000	IN GRANT PORTAL	UP TO 4 WATER LINES IN THE SAME AREA WITH MANY WEAK POINTS
WATER PLANT CLARIFIER III REHAB	1	2020	2023	\$ 250,000	AML	THIS PROJECT WILL BE COMPLETED AS PART OF A LARGER PROJECT CURRENTLY UNDERWAY. RAKE DRIVE BEARING IS OUT.
TURKEY STORAGE TANK REHAB	1	2023		\$ -	IN GRANT PORTAL	TANK IS ONE OF THE OLDEST AND IN THE WORST CONDITION IN OUR SYSTEM
Project 113-19-03 Replace Existing Mainline, Water Meters, Service Line, Valves &	3	2019		\$ 1,260,658	AML	EXISTING PROJECT BIDDING SOON
Projects 113-19-05 & 113-19-06 Rehabilitation of Otto Brown Booster Station, Line replacement to Middlefork Tank, Upgrade of Davella Booster Station	1	2019 Scope changed 2022		\$ 750,000		REPLACING FAILING UNDERGROUND BOOSTER STATION IN THE SYSTEM TO ASSIST IN PROVIDING WATER TO THE AIRPORT, PRISON AND DAVELLA REGION.
FEMA BACKUP GENERATOR PROJECT	1	2022		\$ 1,320,000	FEMA	WILL BE GENERATOR AT 40E AND 40W BOOSTER STATIONS AND THE RAW WATER INTAKE
METER REPLACEMENT PROJECT	1	2023		\$ 2,000,000	IN GRANT PORTAL	REDUCE WATER LOSS, EFFECIENCY IN OPERATIONS AND ELIMINATION OF HUMAN ERROR IN METER READING
HIGH SCHOOL PUMP STATION CHECK VALVE	3	2022		\$ 70,000.00		ENABLE THE DISTRICT TO USE THE HIGH SCHOOL TANK TO PROVIDE WATER TO OTHER AREAS OF THE SYSTEM BESIDES THE HIGHSCHOOL

CRITICAL NEEDS AND CIP

CRITICAL NEEDS AND CIP

MARTIN COUNTY WATER DISTRICT CAPITAL ITEMS				
PROJECTS NOT IN GRANT PROCESS	PRIORITY	YEAR	COST	COMMENTS
INEZ WATER LINE AND VALVE REPLACEMENT	1			OLDEST SECTION OF THE SYSTEM CONSISTING OF AC LINE AND OLD SERVICES. 90% WATER LOSS
DISTRIBUTION BUILDING AND PIPE YARD	3			CURRENT STAFF USE THE WATER PLANT PARKING LOT FOR STORAGE OF VEHICLES AND PARTS. THE CURRENT EQUIPMENT AND VEHICLES ARE LEFT IN THE ELEMENTS WHICH CAUSE DAMAGE OVER TIME
292 BOOSTER STATION AND WATER LINE REPLACEMENT	1			BOOSTER STATION HAS PASSED ITS USEFUL LIFE AND NEEDS COMPLETE REHABILITATION
BIG ELK WATER LINE REPLACEMENT AND BOOSTER STATION REHABILITATION	2			UNDER GROUND BOOSTER STATION IS PASSED ITS USEFUL LIFE AND NEEDS TO BE ABOVE GROUND WITH REDUNDANCY
BUFFALO HORN WATER LINE REPLACEMENT AND BOOSTER STATION REHABILITATION	2			UNDERGROUND BOOSTER STATION IS PASSED ITS USEFUL LIFE AND NEEDS TO BE ABOVE GROUND WITH REDUNDANCY
645 WATER LINE REPLACEMENT AND BOOSTER STATION REHABILITATION	3			UNDERGROUND BOOSTER STATION IS PASSED ITS USEFUL LIFE AND NEEDS REHABILITATION. CURRENTLY A HIGH WATER LOSS.
WOLF CREEK/PIGEON ROOST WATER LINE REPLACEMENT	2			HIGH AMOUNT OF BREAKS IN THIS AREA CAUSE REPEATED OUTAGES AND LINES ARE BURIED DEEP
MEATHOUSE WATER LINE REPLACEMENT AND BOOSTER STATION REHABILITATION	3			MEATHOUSE HAS NO REDUNDANCY AND NO SCADA TELEMETRY. THIS STATION NEEDS UPGRADED WITH REDUNDANT PUMPS AND TELEMETRY TO TOGGLE PUMPS ON AND OFF FROM THE PLANT.
HODE WATER LINE REPLACEMENT	2			MANY BREAKS IN THE WATER
CASSELL BRANCH WATER LINE REPLACEMENT AND BOOSTER STATION REHABILITATION	3			BOOSTER STATION HAS ONE PUMP AND NEEDS TO HAVE REDUNDANCY.
CREEK CROSSING REPLACEMENT	2			MANY POINT TO WHICH THE WATER PLANT
VALVE INSERTION	2			MANY VALVES IN THE SYSTEM ARE INOPERABLE AND IN NEED OF REPLACEMENT. ADDITIONALLY, VALVES ARE NEEDED FOR CONTINUED LEAK DETECTION
WATER PLANT HIGH SERVICE PUMP REPLACEMENT	1		\$ 250,000.00	BOTH PUMPS HAVE BEEN IN SERVICE FOR A LONG TIME AND ARE IN MUCH NEED OF REPLACEMENT
PASSENGER TRUCK 4X4	1	2024	\$ 60,000.00	CURRENT VEHICLES ARE INOPERABLE
1 ton 4x4 tool truck with Hoist, Generator, and Compressor	1	2023	\$ 120,000.00	CURRENT TRUCK IS OWNED BY SANITATION DISTRICT
ROAD BORE MACHINE	2		\$ 15,000.00	WOULD ALLOW THE DISTRICT TO DO ITS OWN TAPS AND BORES FOR WATER LINE INSTEAD OF CONTRACTING IT OUT.
ONLINE TURBIDIMETERS AND CONTROLLER	2		\$ 22,626.00	CURRENT TURBIDIMETERS ARE OBSOLETE
BIG LICK WATER LINE REPLACEMENT AND BOOSTER STATION REHAB	3			BOOSTER STATION HAS NO REDUNDANCY AND NEEDS A NEW BUILDING. THIS BOOSTER STATION ALSO HAS NO TELEMETRY AND CANNOT BE MONITORED FROM THE PLANT
PETER CAVE WATER LINE REPLACEMENT AND BOOSTER STATION REHAB	3			BOOSTER STATION HAS NO REDUNDANCY AND SEVERAL LEAKS HAVE CAUSED MANY CUSTOMER OUTAGES. BOOSTER NEEDS REHABILITATED AND LINES NEED REPLACED.
KERMIT WATER LINE CONNECTION	3			INTERCONNECT BETWEEN KERMIT AND MARTIN COUNTY IS BROKEN SOMEWHERE IN THE MIDDLE OF THE TUG RIVER. THIS INTERCONNECT NEEDS REPAIRED OR A NEW LINE NEEDS CONNECTED

MARTIN COUNTY WATER DISTRICT ANNUAL CAPITAL ITEMS			
RECURRING PROJECTS	YEAR	COST	COMMENTS
10% METER REPLACEMENT	ANNUALLY	\$ 80,000.00	AS REQUIRED BY PSC
TANK INSPECTIONS/CLEANING	ANNUALLY	\$ 7,000.00	1 TANK PER YEAR SHOULD HAVE THEM INSPECTED EVERY 10 YEARS
VEHICLE REPLACEMENT	ANNUALLY	\$50,000.00	ROUTINE FLEET MAINTENANCE AND CHANGE OUT NOT EQUIPMENT EXPENSE

Water System Improvements Project Status Update

Martin County Water District

March 31st, 2023

Projects Under Construction

WTP Improvements

► Work This Quarter:

- Tested area below Treatment Unit 1 Filters for Leaks
- Installed 12” Flanged Adapter at High Service Flow Meter
- Installed Valve Box Cover of Plug Valve on Unit 1
- Wired Overload Torque Panel at Treatment Unit 1
- Recalibrated Master Meter
- Completed Preliminary Unit 1 Calibration and Troubleshooting



RWI Improvements

► Work this Quarter:

- Began Switch to Permanent Power



Project to Utilize Remaining ARC Funds

Kentucky 292 South Pumping Station & 292 South Tank Telemetry

► Need for the Project:

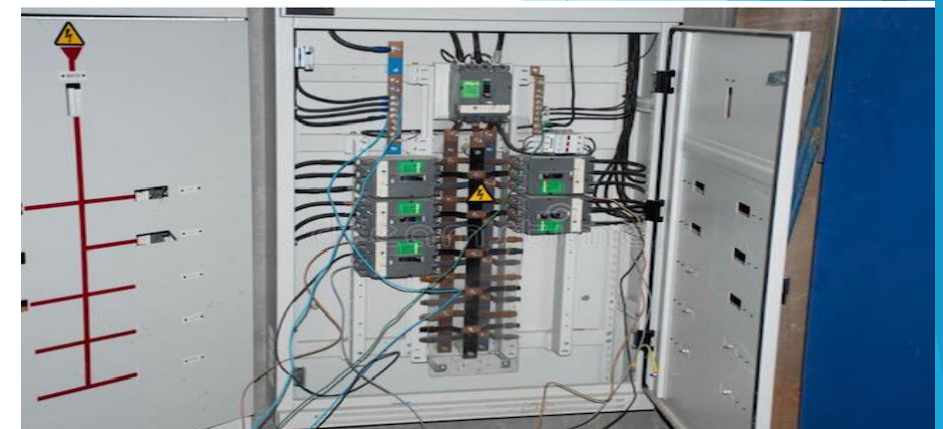
- ARC project has \$85,832 in unspent funds.
- Neither the Pumping Station nor Water Storage Tank it pumps to have operating telemetry.

► Major Items of Work:

- A solar powered tank site PLC-RTU with panel, coax & antenna
- A pump station PLC-RTU with panel, coax & antenna
- Level sensor for monitoring tank level
- Mechanical/Electrical Improvements to the Pumping Station

► Project Status:

- Design is Complete. Bidding Documents are Being Prepared.
- Anticipate Advertising Project April/May 2023.



Designed Projects Awaiting Funding

Mainline, Service Line, Meter Replacement In the Warfield Area

▶ Project will Replace the following in the Warfield Area:

- Existing Mainline
- Existing Meters & Service Line
- Existing Valves & Hydrants

▶ Status:

- Due to overage on the RWI/WTP Project, the District deferred construction of this project to a later date in order to use the funds associated with this project for construction of the RWI/WTP Project.
- Permits and Approvals (DOW, KYTC, Floodplain Management, Corps of Engineers, AML, etc.) required for construction were previously obtained.
- \$1.5M in Additional Project Funding through the Corps of Engineers is now available. Anticipate Rebidding the Project in April/May 2023.



Projects in Design

USP Big Sandy, Eastern Kentucky Business Park & Big Sandy Airport Water Improvements

▶ Components Remaining in Project from Original Scope

- Upgrade of the Existing Davella Pump Station. Construct Master Meter & Booster Chlorination.

▶ Proposed Revised Scope Components:

- Relocate the proposed Pump Station so that it replaces the existing Otto Brown Station. This station is beyond its useful life and subject to confined space constraints.
- Replace existing waterline in the vicinity of the Otto Brown Station that is subject to leaks.
- Provide Modifications to the Middle Fork Tank rather than construct a new tank.

▶ Project Status:

- Numerous trips have been made for Surveying. Monitors were placed on 4 Hydrants to measure pressure. Anticipate Completing Design in April 2023.



High School Pump Station/Tank Piping Modifications

▶ Construct Valve Vault and Check Valve

- Install Valve Vault and Check Valve to allow District to feed additional service areas with the High School Water Storage Tank.

▶ Project Status

- Design will be reviewed by the District and Constructed when Funding is Available.

Projects Seeking Funding

FEMA Backup Generator Project

▶ Project includes the following:

- One Generator to operate 750-HP VFD Controlled RWI Pump
- Two Generators to operate 60-HP VFD Controlled Pumping Stations



▶ Project Status:

- The Kentucky Division of Emergency Management requested Hazard Mitigation Grant Program Approval for the Project from FEMA Region IV on April 25th. The total proposed budget for the project is \$1,320,000.



KYTC Utility Projects Awaiting Funding

Hunters Lane Utility Relocation & KY 908 Guardrail Project

▶ Hunters Lane Utility Relocation:

- Relocation of existing waterline to facilitate construction of a new bridge for the KYTC Bridging Kentucky Program

▶ KY 908 Guardrail:

- Relocation of existing 14” waterline along Route 908 to facilitate installation of new guardrail.

▶ Sester Branch Utility Relocation:

- Relocation of existing waterline to facilitate construction of a new bridge.



Projects in Planning

Opinions of Probable Project Cost Prepared

- ▶ 40 East Water Improvement Project
- ▶ Coldwater Water Improvement Project
- ▶ Old Route 3 Water Improvement Project
- ▶ Water Treatment Plant to Turkey Tank Water Improvement Project
- ▶ Meter Replacement Project
- ▶ Turkey Water Storage Tank Rehabilitation/Painting





Questions?