



Martin County Water District

August 31, 2022



A TRIP DOWN MEMORY LANE

2021 DISASTER

- ▶ February 16th Ice Storm - Power Lost to Inez Water Treatment Plant, 40 East Booster Station, and 40 West Booster Station.
 - ▶ Power Back at Treatment Plant - Pumping water
 - ▶ 40 East Booster Station Receiving Single Phased Power - Caused the VFD to fail
 - ▶ 40 West Booster Station Power Out
- ▶ Received Generator with Assistance From KRWA for the 40 West Booster Station
- ▶ VFD Moved from 40 West to 40 East to get Pump Station Running



2021 DISASTER



- ▶ Sunday February 28th - Flood
 - ▶ 40 East Booster Station Power Out
 - ▶ Multiple Slips Throughout the System Causing Water Line Failures
 - ▶ Turkey Hill - 6 Different Breaks in Main Line from Slip
 - ▶ 292 Multiple Slips Causing Water Line Failures
 - ▶ Poplar Fork Slip
 - ▶ Power Outages caused VFD Failure on 40 East Booster

2021 DISASTER



- ▶ Alliance Division's in Cape Girardeau, and Lincoln County Responded with Staff and Equipment for Assistance
- ▶ Poplar Fork Repaired with a Temporary Line Installation. Self Restraining Yellowmine was installed by Alliance Staff
- ▶ Turkey Creek Repaired Leaks in 6 different locations. A broken valve in the closed position was found with a 2" bypass.
- ▶ Emergency Connection with Mountain Water District was opened to provide water for customers on the southern side of 292.

DISASTER STRIKES ANEW

Martin County Water & Sanitation District



▶ ADMINISTRATION

Martin County Water & Sanitation District

Jonathan Ridings - Local Manager

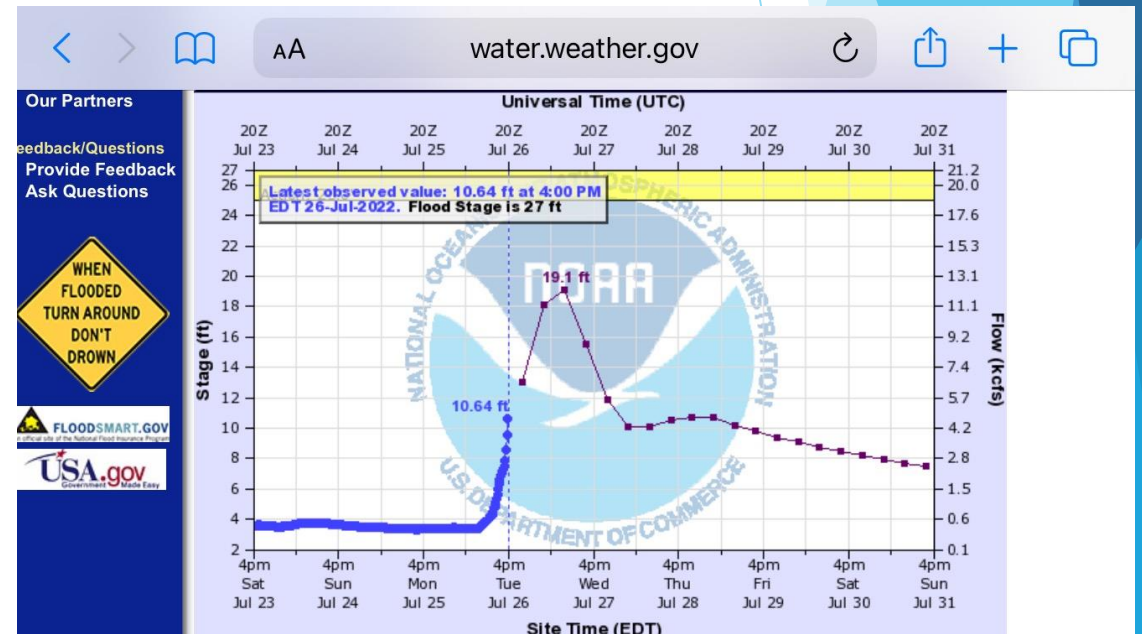
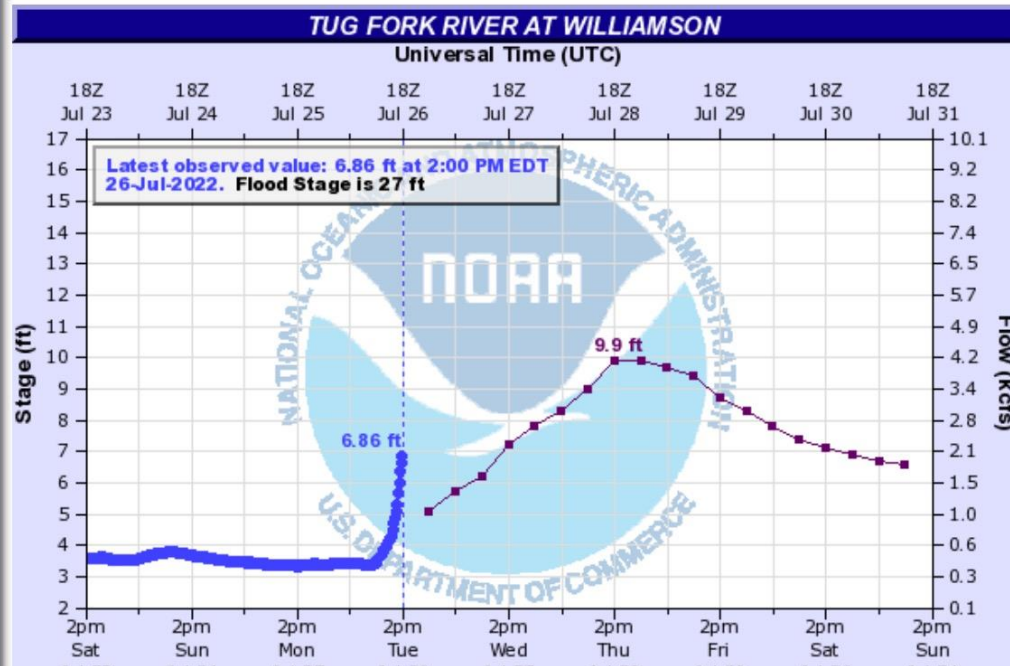


Intake Pump

Flood Indicator

2pm

4pm



AHPS?
Partners
Feedback/Questions
Provide Feedback
Ask Questions

WHEN FLOODED TURN AROUND DON'T DROWN

FLOODSMART.GOV
SA.gov
Government Made Easy

9pm

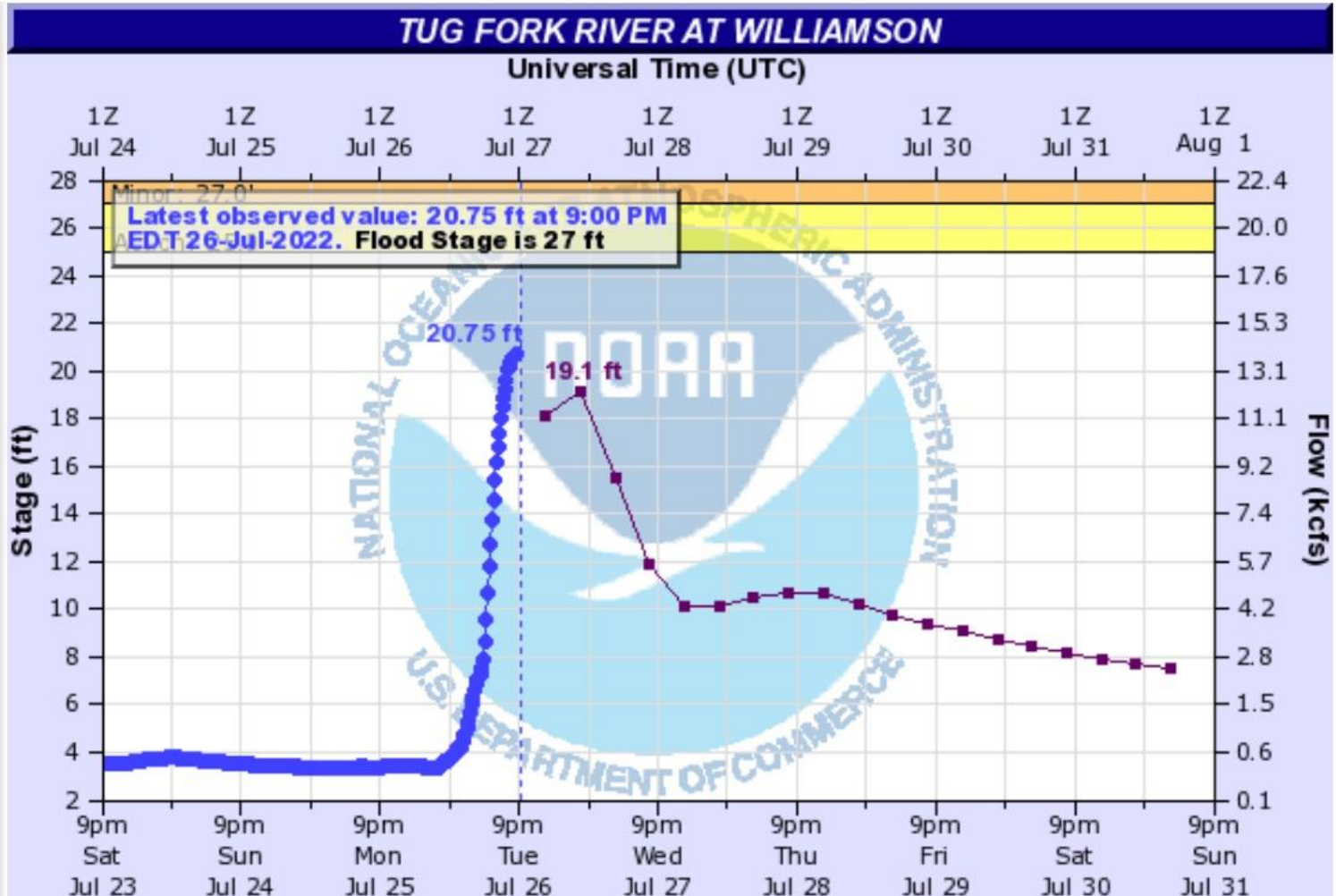
Partners

Questions
Feedback
Questions



SMART.GOV
National Flood Insurance Program

.gov
Government Made Easy



Purchased pallets of water in case things turned for the worse





AFTERMATH

- RIVER PUMP AND VFD REMOVED
- ENTIRE INTAKE UNDER WATER
- RESERVOIR FILLED IN LESS THAN 18 HOURS
- REPEATED POWER OUTAGES AT PLANT
- MULTIPLE LEAKS REPORTED THROUGHOUT SYSTEM
- CLEARWELLS AT 3.5 FT
- ALL TANKS STRUGGLING TO MAINTAIN
- ONE EXCEPTION BUCK CREEK AND 292





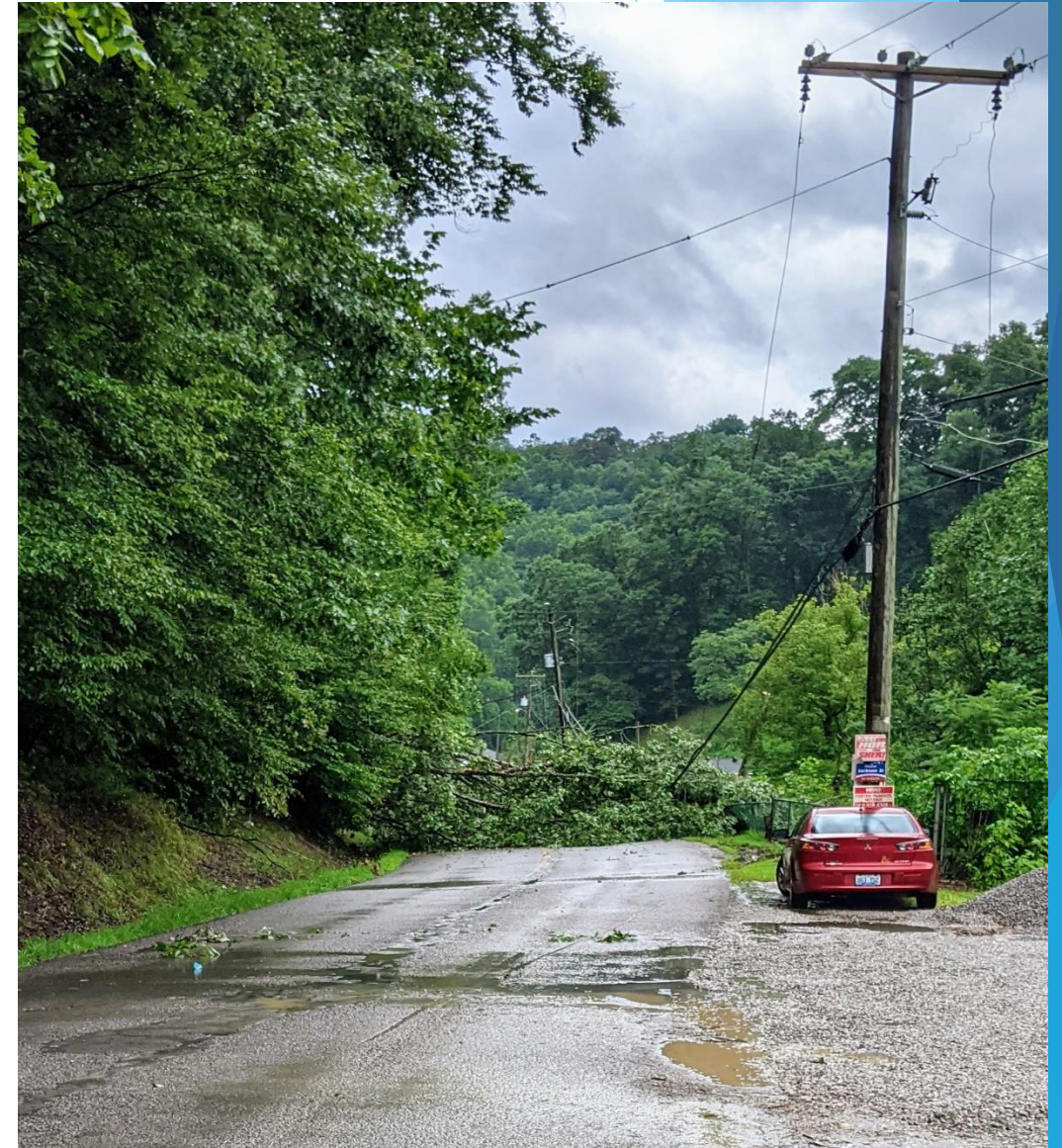
WATER TREATMENT PLANT

Martin County Water & Sanitation District

Tyler Hall - Treatment Superintendent

Power Outages

- July 6th - 3.25 hours
- July 9th - 0.5 hours
- July 27th - 5.75 hours
- July 28th - 11 hours
- Backup generator is essential for continuous operation during severe weather events





- Nearly 3” of rainfall in the span of a few hours- unprecedented raw water turbidity on Jul. 29th
- Highest turbidity encountered by plant supervisor in previous 20+ years - 130 NTU
- Treatment challenges- exponential increase in coagulant demand, increased strain on filters, sludge wasting increase

DISTRIBUTION

Martin County Water & Sanitation District

Jason Damron - Local Manager (East Sevier County Utility District)



MUDDY BRANCH

- ▶ This project was already under construction prior to disasters
- ▶ Multiple customers were being fed by a 3/4in service line
- ▶ Multiple customers, in the same neighborhood, using a different 1in service as a main
- ▶ Had contractor replace 3/4in service line and 1in service line
- ▶ Bored and pulled in 4in poly and 2in SDR11
- ▶ Customers have better water pressure than they have had in years



THE HITS JUST KEEP ON COMING

- ▶ July 14th a 10” main was hit by a construction crew at the industrial park
- ▶ August 1st seven leaks were fixed in the system
- ▶ A 6” main was hit by the local gas company construction crew
- ▶ Late in the evening a hydrant was destroyed in a hit and run

THE BIG ONE



- ▶ August 2nd - Major leak on Turkey located and fixed
- ▶ Detection was difficult because of inclement weather
- ▶ Leak was causing us to lose water at almost 70 gpm

Billing Office

Martin County Water & Sanitation District

Cassandra Moore - Office Manager



No Water: 71 Complaints

Low/High Pressure: 9 Complaints

Flooding Issues with lines: 7 Complaints

Pump Station: 3 Complaints

Customer Complaint Report July
20th - August 1st



County Wide Boil Advisory

- **JULY 28TH - MCWD issued a county wide BWA**
 - Approximately 3,400 customers
 - Posted update on myruralwater.org and mcub.org (This sends out text messages and email alerts to customers that have signed up for MCWD notifications via webpage).
- **AUGUST 8TH - All BWA in Martin County were lifted**
 - Posted update on myruralwater.org and mcub.org (This sends out text messages and email alerts to customers that have signed up for MCWD notifications via webpage).

Projects Under Construction

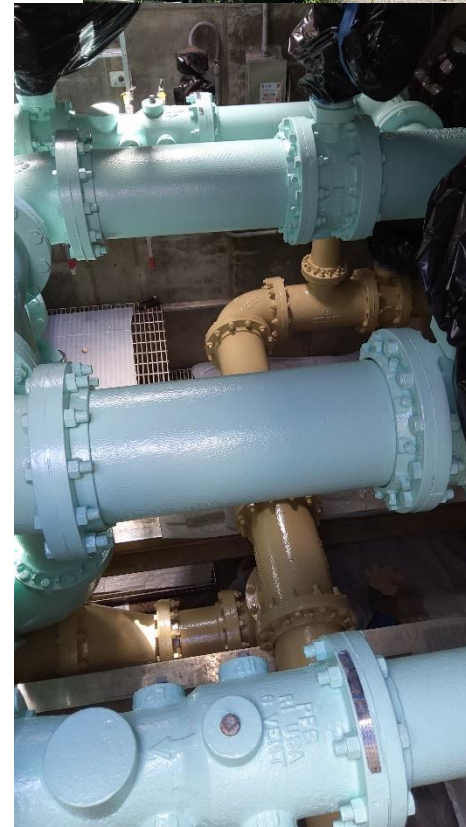
WTP Improvements

► Work This Quarter:

- Repaired and Painted Outer Walls of Treatment Units 1 & 2
- Painted Valve Vault 1 Process Pipe
- Installed Treatment Unit 1 Steel Mechanism
- Blasted and Painted Steel for Treatment Unit 1
- Installed Buried Conduit for Generator

► Projected Major Equipment Delivery Dates:

- Panels: End of August, 2022
- Switchgear: End of August, 2022
- Generator: October, 2022
- Transfer Switch for Generator: January, 2023



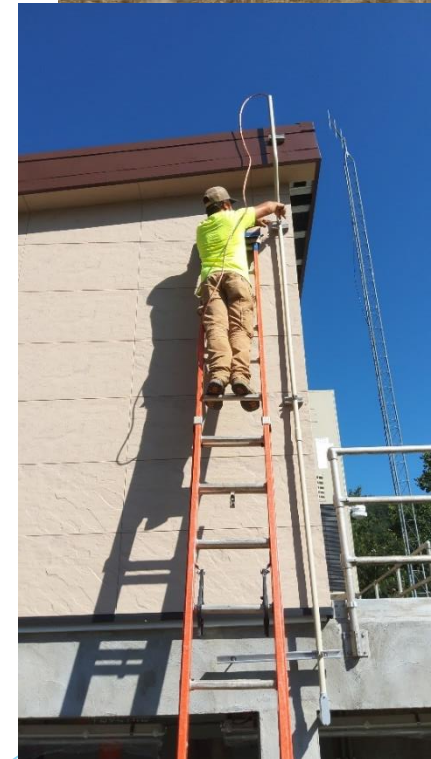
RWI Improvements

► Work this Quarter:

- Completed Piping Inside Raw Water Valve Vault
- Painted Piping in the Raw Water Valve Vault
- Installed Metal Roof on Raw Water Electrical Building
- Installed Electrical Conduit and Wiring

► Projected Major Equipment Delivery Dates:

- Electrical Panels: End of August, 2022



Project to Utilize Remaining ARC Funds

Kentucky 292 South Pumping Station & 292 South Tank Telemetry

► Need for the Project:

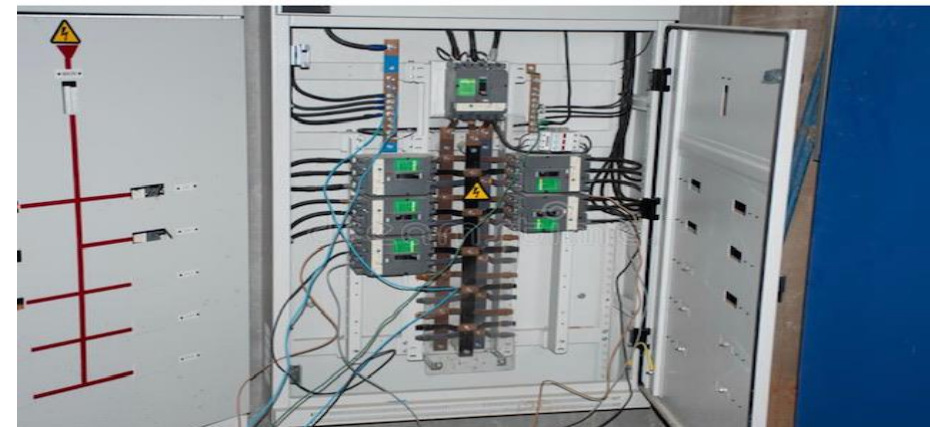
- ARC project has \$85,832 in unspent funds.
- Neither the Pumping Station nor Water Storage Tank it pumps to have operating telemetry.

► 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:

- Awaiting signed Agreement from ARC.



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 have been obtained.
- Additional Project Funding through the Corps of Engineers should become available in the near future.



Projects in Design

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

- ▶ **Submittal to Revise Scope has been forwarded to AML for Consideration**
- ▶ **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:**
 - Continuing to Coordinate with AML to Answer OSMRE Questions



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

- Nearing completion of Design.

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.



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
- ▶ Spicy Mountain Booster Pump Station and Water Line Extension Project





Questions?