



Zebra Mussel Mitigation Update

September 11, 2019

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Last presentation to W&WW Commission (2/13/19)

- [W&WW Commission 2.13.19 - ZM Mitigation Update](#)

Austin Water Zebra Mussel (ZM)Technical Work Group

- Trained O&M Technicians to perform Threshold Odor Number (TON) Test at every facility
- Performed various taste and odor removal experiments using permanganate and activated carbon
- Evaluated isolating pipelines at Davis WTP as a non-chemical ZM mitigation method



Austin Water was prepared to feed sodium permanganate April 2019

- Received approval from TCEQ to feed sodium permanganate for ZM control
- Purchased 4000 gallons of sodium permanganate for Handcox WTP
- Austin Water was contacted by Texas Department of Agriculture (TDA) regarding a complaint filed with EPA about the City of Austin using an unregistered product to control ZMs.
- Under Federal Insecticide Fungicide and Rodenticide Act (FIFRA), any Chemical intended to be used as a pesticide has to be registered with EPA and sodium permanganate is not currently registered

Shifted our approach to using copper sulfate

- Spot purchased 6 month supply of copper sulfate which included rental of a temporary feed system for Handcox WTP.
- Received approval from TCEQ to feed copper sulfate
- First acceptable load of chemical was received on September 9, 2019
- Target feeding the chemical the week of September 9, 2019
- Working on establishing a contract to supply copper sulfate to all three water treatment plants.

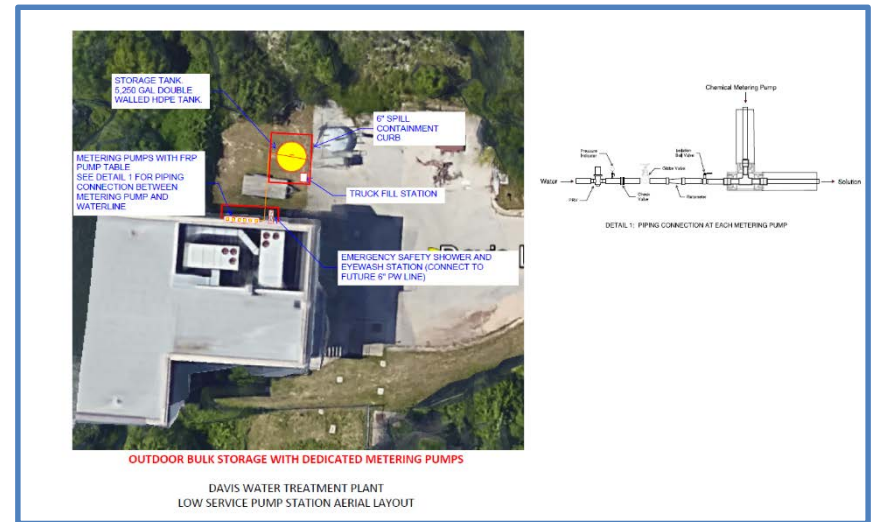
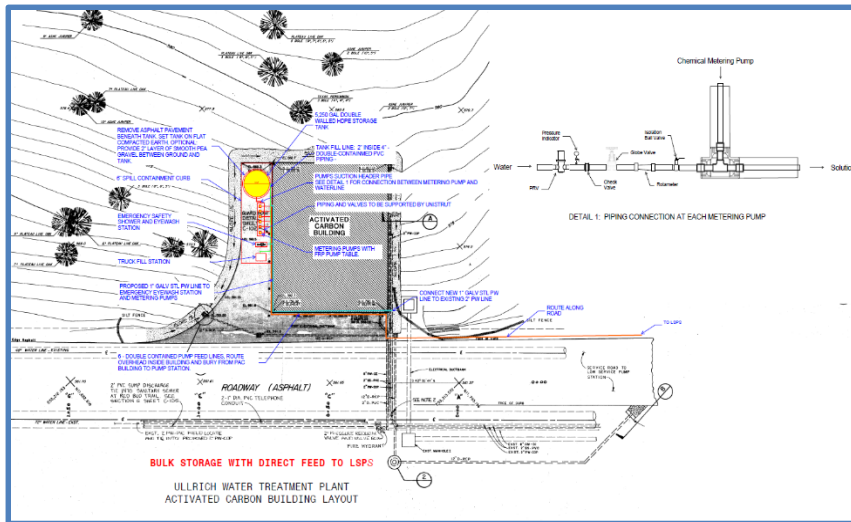
Feeding Powdered Activated Carbon (PAC) at Ullrich and Davis WTPs for odor control seems to have a secondary benefit of controlling ZM proliferation



Ullrich WTP Raw Transmission Main
June 24, 2019

Design of bulk chemical systems is underway

- Ullrich and Davis WTPs will have systems compatible with copper sulfate and permanganate
- Design is scheduled to be completed in November 2019 with construction to follow
- Both systems are expected to be operational by summer of 2020
- Handcox WTP will continue to use a temporary feed system until a more permanent system is constructed.



Copper Ion Generation

- Recently Received FIFRA Registration
- Not yet NSF Approved
- This system is still under consideration



20 MGD Copper Ion Generator
Lawrence, KS

Began using small submersibles (ROVs) to inspect pipelines

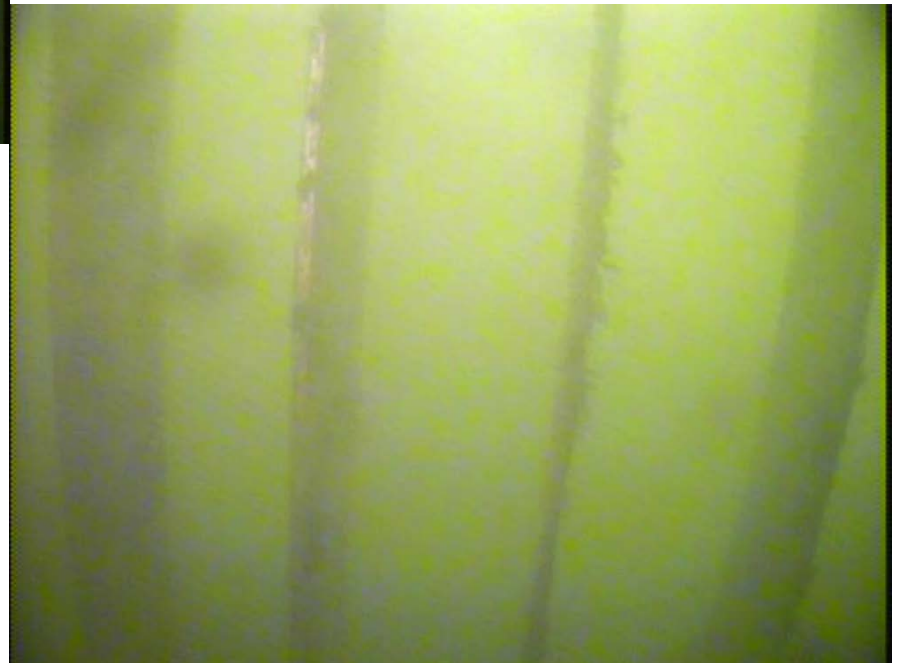




Handcox WTP Intake Tunnel
August 19, 2017

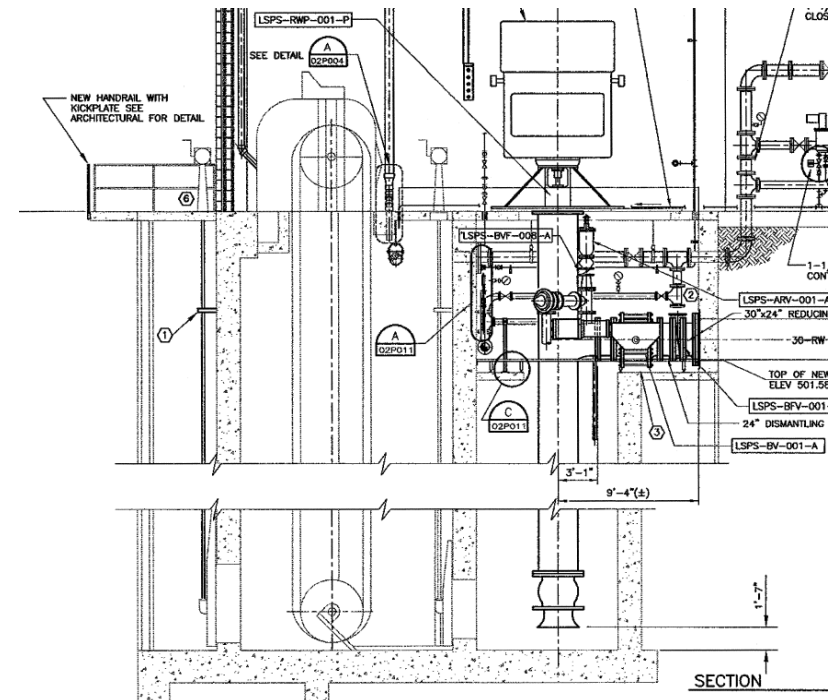
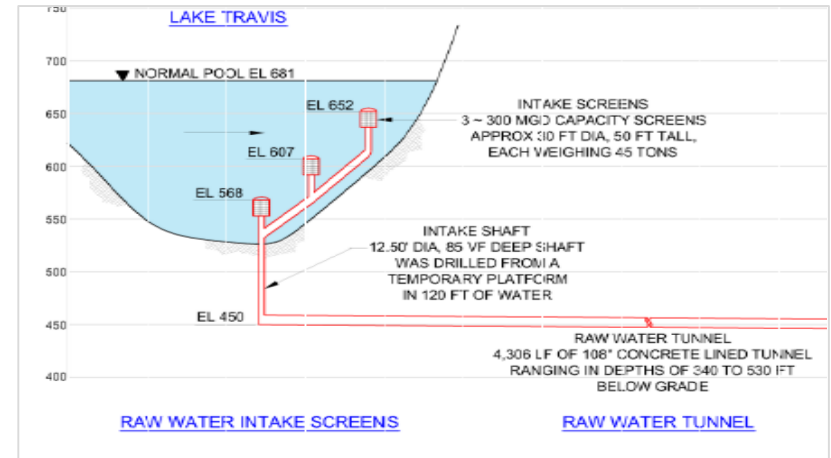


Ullrich WTP Intake Bar Screens
January 22, 2019



Ullrich WTP Intake Bar Screens Before and
After Cleaning
January 22, 2019

- Ullrich WTP Oct 21, 2019
- Davis WTP Nov 4, 2019
- Handcox WTP Nov 18, 2019



- Closely monitor copper sulfate feed at Handcox WTP by additional sampling and ROV inspections to determine the best approach to commission the systems at the other facilities.
- Maintain annual cleaning and inspection of intake structures.
- Utilize ROV inspections to determine the appropriate cleaning frequency of intake structures.
- Continue to feed PAC at Ullrich and Davis WTPs for taste and odor control.

