



Regional Service Through Unity... Meeting our Region's Needs Today and Tomorrow



Bois d'Arc Lake Nature Shoreline

WATER COMMITTEE MEETING

JULY 27, 2022 (Via Videoconference)



AGENDA

ACTION ITEMS

- A. Consider approval of Water Committee meeting minutes – June 22, 2022**
- B. Adoption of Resolution No. 22-31 authorizing the execution of an application to the Texas Commission on Environmental Quality - Consent Agenda Item No. 22-07-03**
- C. Authorize Amendment No. 7 to the Construction Manager At-Risk agreement for the Wylie Water Treatment Plant projects - Administrative Memorandum No. 5845**
- D. Authorize execution of an interlocal agreement with Tarrant Regional Water District and the City of Dallas for Raw Water Optimization and Reliability Evaluation - Administrative Memorandum No. 5846**

DISCUSSION ITEMS

- A. Update on drought conditions, regional water demands, demand reduction efforts, regional coordination and related items**
- B. Update on stream gage and zebra mussel monitoring efforts**
- C. Opportunity for Committee members to provide feedback on Water Committee meeting or request potential future agenda items**



AGENDA

Opening Remarks

- A. Chairman/Executive Director/Committee Champion Status Report concerning legislation and regulatory matters, budgets, current projects and ongoing programs of the District including the Regional Water System, Watershed Protection, and Water Conservation



AGENDA

Action Items

- A. Consider approval of Water Committee meeting minutes – June 22, 2022**

Recommend approval of Water Committee meeting minutes



AGENDA

Action Items

B. Adoption of Resolution No. 22-31 authorizing the execution of an application to the Texas Commission on Environmental Quality (TCEQ) - Consent Agenda Item No. 22-07-03

- Consider recommendation on adoption of Resolution No. 22-31 authorizing the Executive Director to execute an application with the TCEQ for filing of water use permit applications for Sabine Creek Wastewater Treatment Plant (WWTP) and City of Bonham WWTP return flows in the amount of \$102,275 for administrative fees for filing and posting, as well as legal fees

What: Authorize Executive Director to file an application and any other documents as necessary to secure authorization for the conveyance, diversion and use of return flows from Sabine Creek WWTP and the City of Bonham WWTP.



WATER RIGHT PERMIT APPLICATION FOR SABINE CREEK RETURN FLOWS

BACKGROUND – SABINE CREEK WWTP

- Sabine Creek Wastewater Treatment Plant (WWTP) is operated by NTMWD and treats wastewater generated by the City of Fate & Royse City
- Sabine Creek WWTP is permitted to discharge up to 5 million gallons per day (MGD) in the Lake Tawakoni watershed
 - *Currently discharging up to 3 MGD but existing permit allows for expansion to 5 MGD*
 - *Pending major amendment permit application to increase to 7 MGD*
- The reuse of wastewater return flows is a recommended water management strategy for the District in the 2021 Region C Water Plan
- The District seeks to reuse return flows from Sabine Creek WWTP
- This action will allow the District to file an application with the Texas Commission on Environmental Quality (TCEQ) to seek the right to convey Sabine Creek WWTP return flows for subsequent diversion and use from Lake Tawakoni



WATER RIGHT PERMIT APPLICATION FOR BONHAM RETURN FLOWS

BACKGROUND – BONHAM WWTP

- City of Bonham Wastewater Treatment Plant (WWTP) is owned and operated by the City of Bonham
- The Bonham WWTP is permitted to discharge up to 2.5 MGD in the Bois d’Arc Lake watershed
 - *Return flows generated from water supplied to the City of Bonham through the NTMWD Bonham Water Treatment Plant*
- Return flows from Bonham WWTP are intended to be dedicated to the environment through a future Board action
 - *Consistent with the NTMWD settlement agreement for Bois d’Arc Lake with the National Wildlife Federation and the Texas Chapter of the Sierra Club*
- This action will allow the District to file an application with the TCEQ to seek the right to convey return flows from the Bonham WWTP for subsequent diversion and use from Bois d’Arc Lake



WATER RIGHT PERMIT APPLICATIONS

BACKGROUND – TCEQ REQUIREMENTS

- **The Texas Commission on Environmental Quality (TCEQ) requires that conservation plans must accompany any new water right application**
 - *Conservation plans accompanying a water right application must include an evaluation of other feasible alternatives to new water development*
 - *The 2019 NTMWD Water Conservation Plan was supplemented in January 2022 with the addition of “Appendix J” to satisfy this requirement for submission of the water right application for return flows from Sister Grove Water Resource Recovery Facility*
- **An associated action (CAI 22-07-04) is on the agenda this month to facilitate supplementing of the 2019 NTMWD Water Conservation plan by updating Appendix J**
 - *Satisfies TCEQ requirements for submission of water right applications for both Sabine Creek and Bonham return flows*
 - **No change to the body of the conservation plan - all goals, measures, and other material items remain the same**



RECOMMENDATION

The Executive Director and NTMWD staff recommend the Board of Directors adopt Resolution No. 22-31, “A Resolution Authorizing the Filing of Water Use Permit Applications.”

Consultant: N/A

Scope: Filing of water use permit applications for the return flows of the Sabine Creek WWTP and the City of Bonham WWTP

Project: N/A

Amount: \$102,275

Strategic Objective: 1.4 Reliable and Resilient Systems



AGENDA

Action Items

C. Authorize Amendment No. 7 to the Construction Manager At-Risk (CMAR) agreement for the Wylie Water Treatment Plant projects – Administrative Memorandum No. 5845

- Consider recommendation on authorizing Amendment No. 7 to the CMAR agreement with MWH Constructors, Inc. in the amount of \$31,535,200.95 for partial guaranteed maximum price No. 3 for Project No. 101-0390-15, Wylie WTP Biologically Active Filtration, Project No. 101-0496-18, Wylie WTP Ammonia System Improvements and Project No. 101-0517-18, Wylie WTP II Structural and Mechanical Improvements – Phase I & II

What: Authorize funding for Amendment No. 7 to the Construction Manager At-Risk agreement for the Wylie Water Treatment Plant (WTP) Biologically Active Filtration project, the Ammonia System Improvements project, and the WTP II Structural and Mechanical Improvements project.



AMENDMENT NO. 7 TO CMAR AGREEMENT

- **Prior Partial GMP Packages Previously Approved by the Board**
- **Partial GMP No. 1, Clearwell Demo and Rehab - \$30,654,586.47**
 - S-01: Clearwells 2-3 and 2-4 rehabilitation
 - S-02: Yard piping, meter vaults & mechanical
 - S-03: Site electrical & instrumentation
 - S-04: Material testing
- **Partial GMP No. 2, LAS Conversion - \$15,029,979.54**
 - S-05: Bulk storage and feed facility
 - S-06: Electrical and instrumentation



AMENDMENT NO. 7 TO CMAR AGREEMENT

- **Partial GMP No. 3 – Clearwell & Basin** consists of four Bid packages:
 - S-07: General Trades work to reconfigure Clearwells 2-1 & 2-2
 - S-08: Structural Trades work to replace Clearwell 3-1 roof
 - S-09: Structural Trades work for joint repair
 - S-10: Electrical work
- **CMAR Supplemental packages**
 - CMAR's Field Quality Control Testing
 - Unquantified Concrete Restoration, as required



Wylie WTP Biological Active Filtration - Project No. 101-0390-15
 Ammonia System Improvements - Project No. 101-0496-18
 WTP II Structural and Mechanical Improvements - Project No. 101-0517-18
 Amendment No. 7 to CMAR Agreement - Partial GMP No. 3
 Administrative Memorandum No. 5845





AMENDMENT NO. 7 TO CMAR AGREEMENT

- Current bidding environment is volatile and challenging
 - Supply schedules and pricing agreements are subject to change
 - Instability and risk is now part of Bidders' pricing
- CMAR estimate at 90% plan review in February: \$26,255,000
- CMAR conducted bidder outreach to discuss scope and project risks
- June low bid total: \$44,000,000
- Open book review identified items of particular cost or risk impact
- Targeted scope prioritization and reduction in order to advance the initial conversion to Biological Active Filtration
- Negotiated amount: \$31,535,200.95 (includes GCs, fees and contingency)



RECOMMENDATION

The Executive Director and NTMWD staff recommend the Board of Directors authorize the Executive Director to execute Amendment No. 7 to the Construction Manager At-Risk Agreement as follows:

Contractor: MWH Constructors, Inc. (MWH)

Scope: Construction, Partial GMP No. 3

Project: No. 101-0390-15, Wylie WTP Biologically Active Filtration, No. 101-0496-18, Wylie WTP Ammonia System Improvements, and No. 101-0517-18, Wylie WTP II Structural and Mechanical Improvements – Phase I & II

Amount: CMAR Contract: \$31,535,200.95

Strategic Objective: 1.1 High Quality Services



AGENDA

Action Items

D. Authorize execution of an interlocal agreement (ILA) with Tarrant Regional Water District and the City of Dallas for Raw Water Optimization and Reliability Evaluation - Administrative Memorandum No. 5846

- Consider recommendation on authorizing the Executive Director to execute an ILA with Tarrant Regional Water District and the City of Dallas in the amount of \$400,000 to study the feasibility and reliability of existing water supply and transmission infrastructure

What: Authorize an Interlocal Agreement with Tarrant Regional Water District and the City of Dallas to study the feasibility and reliability of existing water supply and transmission infrastructure to deliver water from existing and proposed reservoirs for its optimum delivery and use in the North Central Texas region.



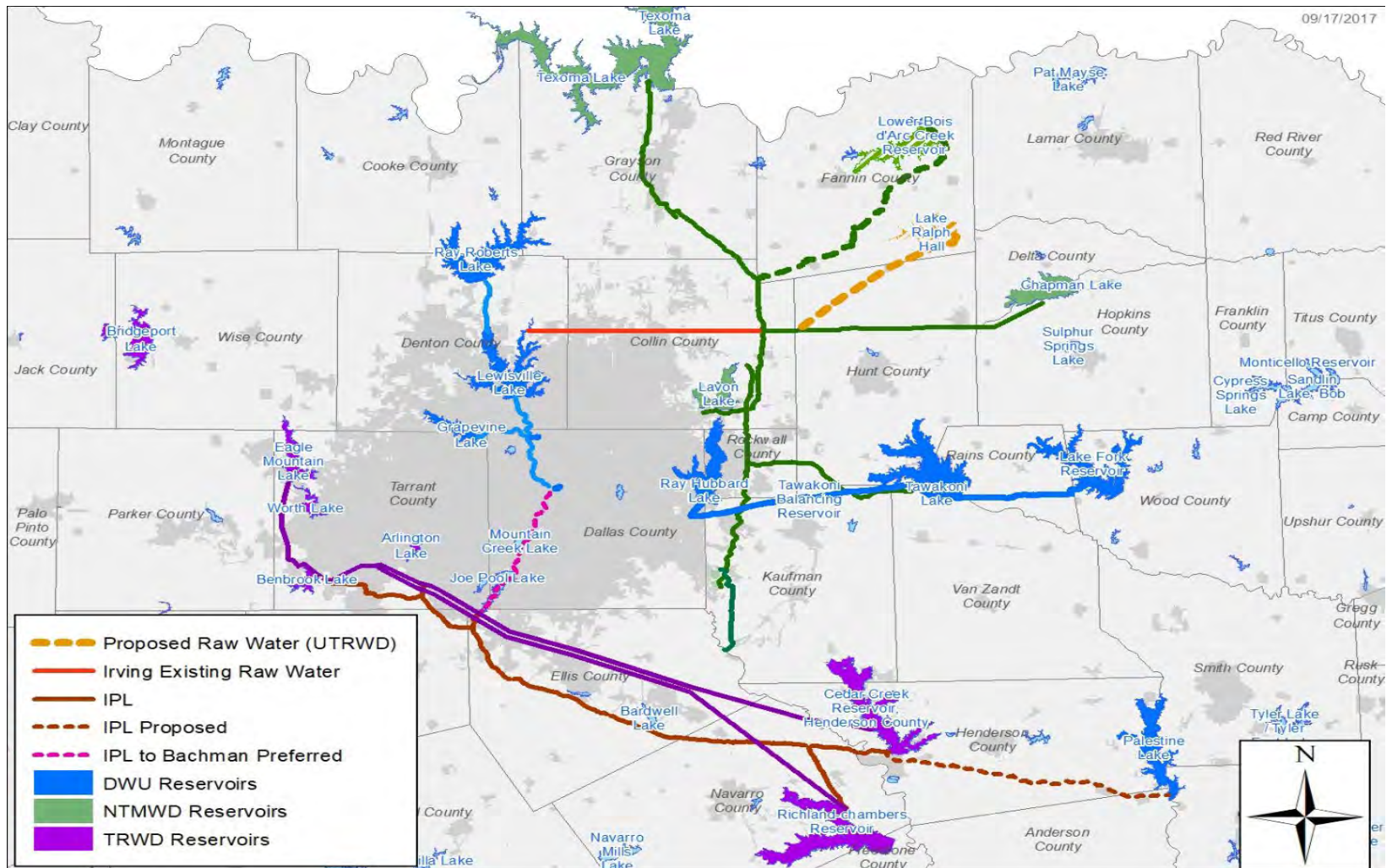
RAW WATER OPTIMIZATION AND RELIABILITY EVALUATION

BACKGROUND

- NTMWD, TRWD and Dallas, recognize that optimal development, conservation and use of Texas' water resources depends upon cooperative planning, development and operations to meet the rapid population growth
- NTMWD has water rights or contractual supply in Lavon Lake, Lake Texoma, Bois d'Arc Lake, Lake Tawakoni and Lake Fork
- TRWD has water rights in Lake Arlington, Lake Benbrook, Lake Bridgeport, Cedar Creek Reservoir, Richland Chambers Reservoir, Eagle Mountain Lake and Lake Worth
- Dallas has water rights or contractual supply in Ray Roberts Lake, Lewisville Lake, Grapevine Lake, Lake Ray Hubbard, Lake Tawakoni, Lake Fork and Lake Palestine



RAW WATER OPTIMIZATION AND RELIABILITY EVALUATION



Regional Water Supply and Transmission Systems



RAW WATER OPTIMIZATION AND RELIABILITY EVALUATION

PROJECT PURPOSE

- ILA will allow NTMWD, TRWD and Dallas to participate in an optimization and reliability evaluation, which will be performed in multiple informed phases
- Dallas will administer the consultant services contract
- Implementation of any future projects identified will require specific contractual agreement(s) between the respective Parties
- The initial term of this Agreement shall be for five (5) years, with ability to renew and extend for three (3) successive one-year terms
- NTMWD, TRWD and Dallas agree to share equally in the cost, not to exceed \$1,200,000



RECOMMENDATION

The Executive Director and NTMWD staff recommend the Board of Directors authorize the Executive Director to execute an ILA as follows:

Contracting

Party(ies): NTMWD, TRWD and City of Dallas

Purpose: Execution of an Interlocal Agreement

Amount: \$400,000

Strategic Objective: 1.4 Reliable and Resilient system



AGENDA

Discussion Items

- A. Update on drought conditions, regional water demands, demand reduction efforts, regional coordination and related items**



NORTH
TEXAS
MUNICIPAL
WATER
DISTRICT



**THIS SECTION WILL BE UPDATED BEFORE THE MEETING WITH
THE MOST UP-TO-DATE INFORMATION**



AGENDA

Discussion Items

B. Update on stream gage and zebra mussel monitoring efforts



STREAM GAGE & ZEBRA MUSSEL MONITORING EFFORTS

BACKGROUND

- NTMWD has partnered with the U.S. Geological Survey (USGS) since 2009 on efforts related to stream gauges, water quality, and zebra mussel monitoring
- Facilitated through joint funding agreements between USGS & NTMWD
- Program has provided:
 - Flow and quality data for Bois d'Arc Creek
 - Lake elevation data for Bois d'Arc Lake
 - Dispersal, survival, and growth of zebra mussel populations
 - Information on formation of taste/odor compounds in source water
 - Stream flow and water availability studies

Joint efforts have supported critical water supply initiatives, including those for Lake Texoma and Bois d'Arc Lake



STREAM GAGE & ZEBRA MUSSEL MONITORING EFFORTS

ZEBRA MUSSEL MONITORING

- Zebra mussels are an invasive species that can adhere to water infrastructure and limit the flow of water through intakes and pipelines
- Monitoring data is used by NTMWD staff to support O&M, permitting, and water quality monitoring
- State and federal agencies also use monitoring data for planning, research, and reporting
- Status of Zebra Mussels in NTMWD reservoirs:



Status	Status Definition	Reservoir
Infested	Established, reproducing population	Lake Texoma
Positive	Detected on one or more occasions	Lake Tawakoni, Lavon Lake
Negative	No detections or no available data	Lake Chapman, Bois d'Arc Lake



ZEBRA MUSSEL MONITORING EFFORTS

ZEBRA MUSSEL MONITORING RESULTS (OCT. 2020 TO PRESENT)

- **Lake Texoma** - Continued detection of established, reproducing populations.
- **Lavon Lake** - Presence of zebra mussel DNA. No juvenile or adults detected.
- **Lake Tawakoni*** - Presence of zebra mussel DNA. No juvenile or adults detected.
- **Bois d'Arc Lake**** - Negative. No DNA, juvenile or adult zebra mussels detected.



**Lake Tawakoni zebra mussel monitoring conducted through separate agreement between Dallas and USGS*

*** Bois d'Arc Lake monitoring began in 2022*



ZEBRA MUSSEL MONITORING EFFORTS

FY23 JOINT FUNDING AGREEMENT – ZEBRA MUSSEL MONITORING

Key components:

- Zebra Mussel monitoring in Lake Texoma, Lavon Lake and Bois d’Arc Lake
- Inspection & monitoring of Lake Texoma raw water intake, pipeline and balancing reservoirs
- Inspection & monitoring of water treatment plant infrastructure

Draft FY23 Joint Funding Agreement – Zebra Mussel Monitoring	
NTMWD Contribution	\$187,000
USGS Contribution	\$42,000
Total	\$229,000



STREAM GAGE MONITORING EFFORTS

FY23 JOINT FUNDING AGREEMENT – STREAM GAGE MONITORING

- **Monitoring of Bois d'Arc Creek critical to planning and permitting efforts for Bois d'Arc Lake**
- **Continued monitoring required to maintain compliance with water right permit for Bois d'Arc Lake**
- **Monitoring efforts include:**
 - Operation & maintenance of an elevation gage on Bois d'Arc Lake
 - Operation and maintenance of the existing streamflow gages on Bois d'Arc Creek at FM 271, FM 100, FM 409 and Hwy 56
 - Water quality monitoring on Bois d'Arc Creek at Hwy 56 & FM 409

Draft FY23 Joint Funding Agreement	NTMWD Contribution	\$116,490
	USGS Contribution	\$18,520
	Total	\$135,010



AGENDA

Discussion Items

- C. Opportunity for Committee members to provide feedback on Water Committee meeting or request potential future agenda items**

Adjournment