



NOTICE OF MEETING

COLLIN COUNTY PLANNING BOARD

*Collin County Clerk's
official date/time stamp*

FILED

5/27/2022 2:44:40 PM

STACEY KEMP
COUNTY CLERK
COLLIN COUNTY, TEXAS
BY : SM DEPUTY

Notice is hereby given that the Collin County Planning Board will meet on **Thursday, June 2, 2022 at 6:00 p.m.** at the **Collin County Commissioners Courtroom, 2300 Bloomdale Road, 4th Floor, McKinney TX 75071** for the purpose of:

AGENDA

1. Call Meeting to Order;
2. Approval of May 5, 2022 minutes;
3. Update of County Facilities Planning;
4. Summary of Future Transportation Technologies;
5. Interest in Transportation Summit Aug 17-18, 2022;
6. Future Agenda Items;
7. Date of next meeting;
8. Adjourn

CERTIFICATE

I certify that the above notice of meeting was filed and posted with the County Clerk at the Collin County Jack Hatchell Administration Building, McKinney, Texas on the 27th day of May 2022, per the official time/date stamp of the County Clerk's Office.

Dawn Redwine
Planning Board

Stacey Kemp, County Clerk
Collin County, Texas

By: Pamela Sue Markers
Deputy



Note: The Collin County Planning Board complies with A.D.A. requirements. If you have impairment and wish to appear at a meeting, please telephone (972) 548-3727 to make arrangements.

COLLIN COUNTY PLANNING BOARD
May 5, 2022 – 6:00PM
COLLIN COUNTY COMMISSIONERS COURTROOM, MCKINNEY, TX

1. Call Meeting to Order

Meeting was called to order at 6:07 pm. by Steve ('22 Vice Chair). The following members were present: Bill Mills, Sean Merrell, Shep Stahel, Joe Helmberger, Tim Bennett, Rusty Glover, Steve Terrell, Mark Quinn and Sammy Yang. The following members were not present: Buddy Dean, Bill Moore, Doug Reece, Steven Wright, Scott Manis, and Terrie O'Donnell. Collin County staff present: Clarence Daugherty, Bridell Miers, and Dawn Redwine. Guests: R.J. Muraski and Yanbo Li

2. Approval of February 17, 2022 Minutes

Joe made a motion to approve, second by Sean, which passed unanimously.

3. Planning Update of North Texas Municipal Water District's Operations

A PowerPoint Presentation was given by NTMWD. Presenters were R.J. Muraski, Assistant Director of Planning and Yanbo Li, Program Planning Manager. The presentation is to be sent to all board members and is also attached to the minutes.

4. Future Agenda Items

The Board discussed a variety of items that would be of interest at future meetings. The list of suggestion were:

- An update on new construction of County Building Facilities.
- McKinney Airport update
- NTTA update
- Collin College plan for future build outs
- Future Mobility planning. The board is asked to research strategies to help with future transportation, as there is not a set plan at this time. Then discuss at an upcoming meeting.
- COG update from Michael Morris.
- COG update on charging stations.

5. Date of Next Meeting

June 2, 2022. It was suggested the Board not meeting in July and Aug. A poll will be sent to the Board for consensus.

6. Adjourn

Meeting was adjourned at 7:31pm

Action Items

- County staff provide PowerPoint presentation from NTMWD to the board.
- The Board is to research strategies to improve future mobility.
- County staff to send poll to the Board about meeting dates for July and Aug.



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



NTMWD UPDATE ON SERVICE IN COLLIN COUNTY

RJ Muraski and Yanbo Li

5 May, 2022

Collin County Planning Board



OVERVIEW

- **History, Services and Communities Served**
- **Water Essential for Regional Prosperity**
- **Planning efforts**
 - **Water**
 - **Wastewater**
 - **Solid Waste**
- **Coordination with Staff**
- **Questions**





HISTORY OF NTMWD

10 Original Member Cities

Farmersville, Forney, Garland, McKinney, Mesquite, Plano, Princeton, Rockwall, Royse City, and Wylie

“We decided we were all in this together. We couldn’t do it separately.”

- 1951 – Created by Texas Legislature to Provide Water Service
- 1956 – Began Providing Treated WATER to Member Cities
- 1970s – Expanded to WASTEWATER Service
- 1973 – Richardson added as Member City
- 1980s – Expanded to SOLID WASTE Service
- 1998 – Allen added as Member City
- 2001 – Frisco added as Member City



OUR VISION, MISSION AND GOALS

VISION: Regional Service Through Unity – Meeting Our Region’s Needs Today and Tomorrow

MISSION: Provide high quality and dependable water, wastewater and solid waste services in a cost efficient manner

Goal 1: Service

Provide superior water, wastewater and solid waste services today and tomorrow.

Goal 2: Stewardship

Responsibly manage public resources to ensure responsiveness, effectiveness and efficiency.

Goal 3: Partnership

Actively work with members, customers, partners, employees and stakeholders.

Goal 4: People

Build a talented, competent and committed team.





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WHO WE ARE



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DISTRICT



SERVE
up to
80

COMMUNITIES

Service area of 2,200
square miles in 10 counties

Serving 2 million people in one
of the fastest-growing regions
in the country

BY THE NUMBERS

DID YOU KNOW?



18
MAJOR RAW & TREATED
WATER PUMP STATIONS



6
WATER TREATMENT PLANTS
876 MGD Capacity
(million gallons/day)



WATER TRANSMISSION
PIPELINES



226+
MILES

LARGE-DIAMETER
WASTEWATER PIPELINES



13
WASTEWATER
TREATMENT PLANTS



WASTEWATER TREATMENT
CAPACITY
MGD (million gallons/day)



3 TRANSFER
STATIONS
up to 3,295 tons
of solid waste/day



around
1 million
tons/year
accepted
at landfill

Rev. Feb. 2022



REGIONAL PROVIDER: WATER, WASTEWATER, SOLID WASTE

- *Serve 10-county area nearly twice the size of Rhode Island*
- *Serve a population greater than 14 individual states per 2020 Census*
- *Shared systems provide cost-efficiencies for communities served*



Water Essential for Economic Growth

Water supply infrastructure is the driving force of community and business vitality



Princeton Crossroads - Princeton



Collin Creek Mall Redevelopment - Plano



Riverset - Garland

U.S. CENSUS

Collin, Denton counties among top 10 in growth



Rebecca Slezak/Staff Photographer

Workers build a house in Collin County. Collin and Denton counties were in the top 10 U.S. counties for population growth last year, according to census data. Among metros, Dallas-Fort Worth was the nation's leader in population growth, adding 97,290 residents.

More than houses going up

By MICHAEL WILLIAMS
Staff Writer
michael.williams@dallasnews.com

Collin and Denton counties were among the top 10 counties in the U.S. for population growth last year, according to data from the U.S. Census Bureau.

Five of the last year's top 10 largest-gaining counties — Collin at No. 2, Fort Bend (No. 4), Williamson (No. 5), Denton (No. 6) and Montgomery (No. 8) — were in

Texas. Those five counties grew by nearly 150,000 residents combined, the bureau reported.

Across the country, 65.6% of counties experienced population growth from domestic migration.

At the same time, 73% of counties experienced population decline from natural causes, meaning the number of deaths in a given county was greater than the number of births.

Harris County and Dallas Coun-

ty remained the nation's third- and ninth-largest counties with populations of 4.7 million and 2.6 million residents, respectively. Dallas County lost just under 25,000 residents last year, while Harris County lost about 4,500.

The trend in natural population decline was fueled by increased mortality — owing largely to the COVID-19 pandemic — as well as an aging population and a drop in births.

"You have more older Americans, and birth rates are low so you don't have many children being born," said Kenneth Johnson, a senior demographer at the University of New Hampshire. "And then along comes COVID, and it hits older adults the most, often in rural areas without access to good health care."

"It's like a perfect storm, if you

See DATA Page 3A



Focused on Serving Growing Region

City	1950	1960	1970	1980	1990	2000	2010	2020
Allen	---	659	1,940	8,314	18,309	43,554	84,246	104,627
Farmersville	1,955	2,021	2,311	2,360	2,640	3,118	3,301	4,160
Forney	1,425	1,544	1,745	2,483	4,070	5,588	14,661	23,455
Frisco	736	1,184	1,845	3,420	6,138	33,714	116,989	200,509
Garland	10,291	38,501	81,437	138,857	180,635	215,768	226,876	246,018
McKinney	10,560	13,763	15,193	16,249	21,283	54,369	131,117	195,308
Mesquite	1,684	27,526	55,131	67,053	101,484	124,523	139,824	150,108
Plano	2,115	3,695	17,872	72,331	127,885	222,030	259,841	285,494
Princeton	540	594	1,105	3,408	2,321	3,477	6,807	17,027
Richardson	1,289	16,810	48,405	72,496	74,840	91,802	99,223	119,469
Rockwall	1,501	2,166	3,121	5,939	10,486	17,976	37,490	47,251
Royse City	1,266	1,274	1,535	1,566	2,206	2,957	9,349	13,508
Wylie	1,295	1,804	2,675	3,152	8,716	15,132	41,427	57,526

NTMWD Total Population Served: Historical and Projected

1956	1974	1994	2015	2025	2040	2060	2080
32,000	200,000	800,000	1.6 MM	2.2 MM	3.0 MM	4.0 MM	4.5 MM



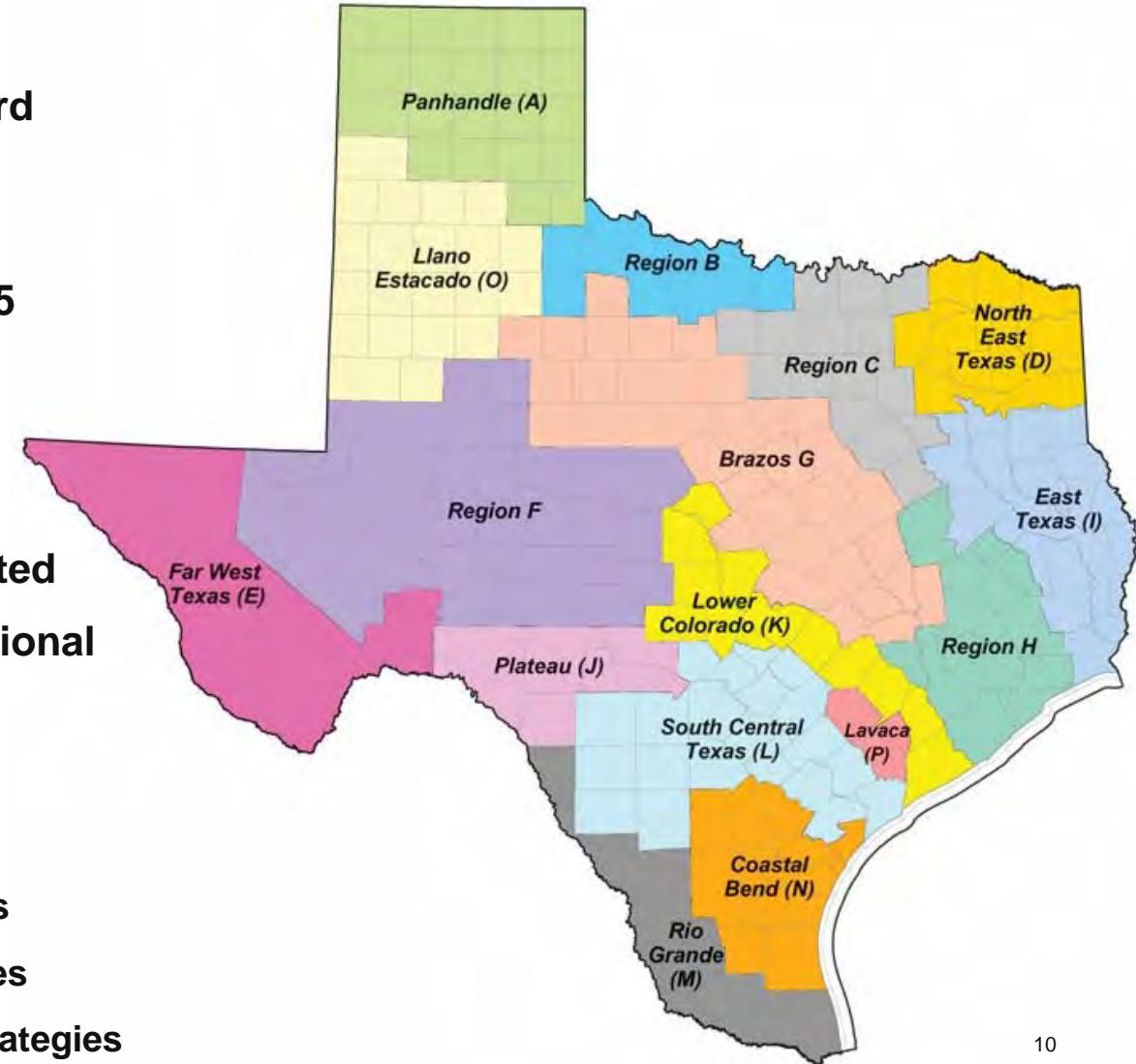
Water

- **State Water Planning – Region C Water Plan**
- **Existing and Planned Raw Water Supplies**
- **Ongoing Planning Studies**
 - Long Range Water Supply Plan
 - Water Transmission System CIP Update
- **Bois d'Arc Lake Update**
- **Highlighted Project – McKinney 3 to McKinney 4 Pipeline**



STATE WATER PLANNING

- **Senate Bill 1**
- **Texas Water Development Board (TWBD) owns the process**
- **16 Planning Regions**
- **Regional Plans updated every 5 years**
- **Bottom up approach**
- **Rolled up into the State Plan**
- **2022 State Plan Recently Adopted**
- **Planning Process for 2026 Regional Plans about to begin**
- **50-year planning horizon**
- **Evaluate**
 - Population and water projections
 - Existing and future water supplies
 - Recommended and Alternate Strategies





WATER SUPPLY PLANNING: FUTURE SOURCES

Conservation and Reuse = 31%

New Sources, Reservoirs = 17%

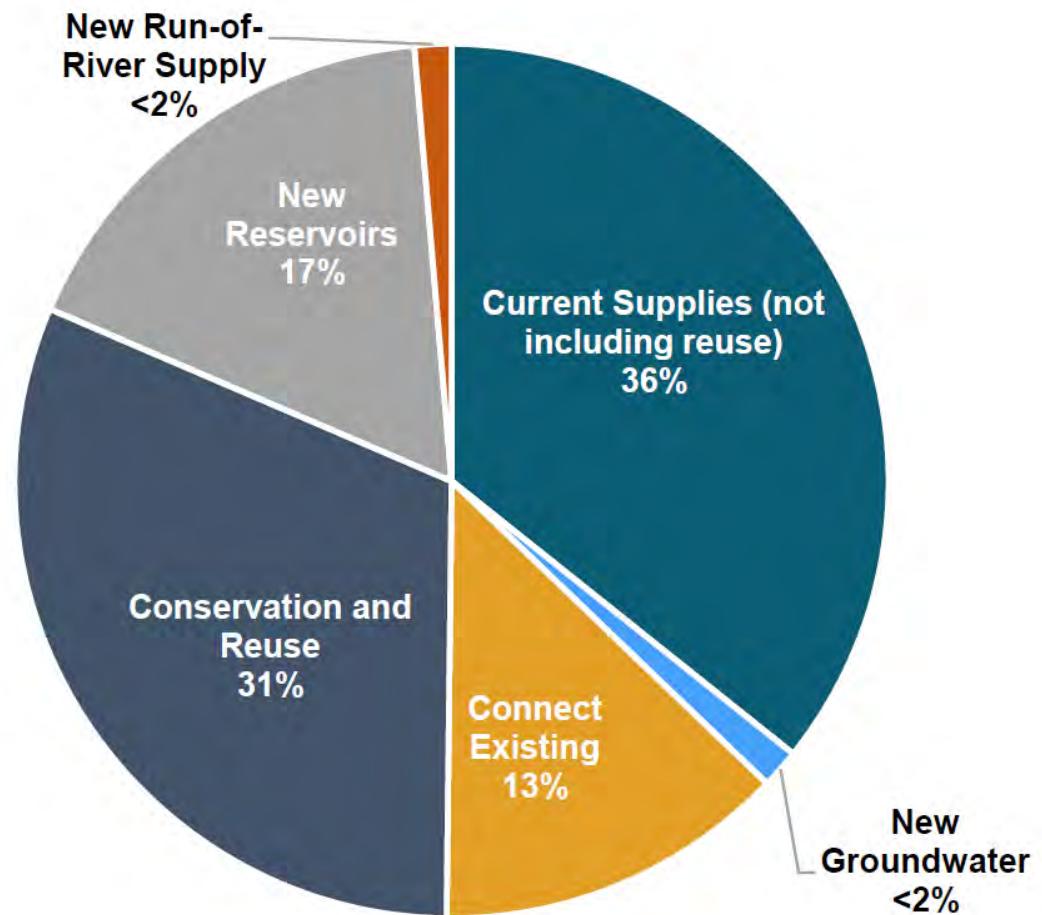
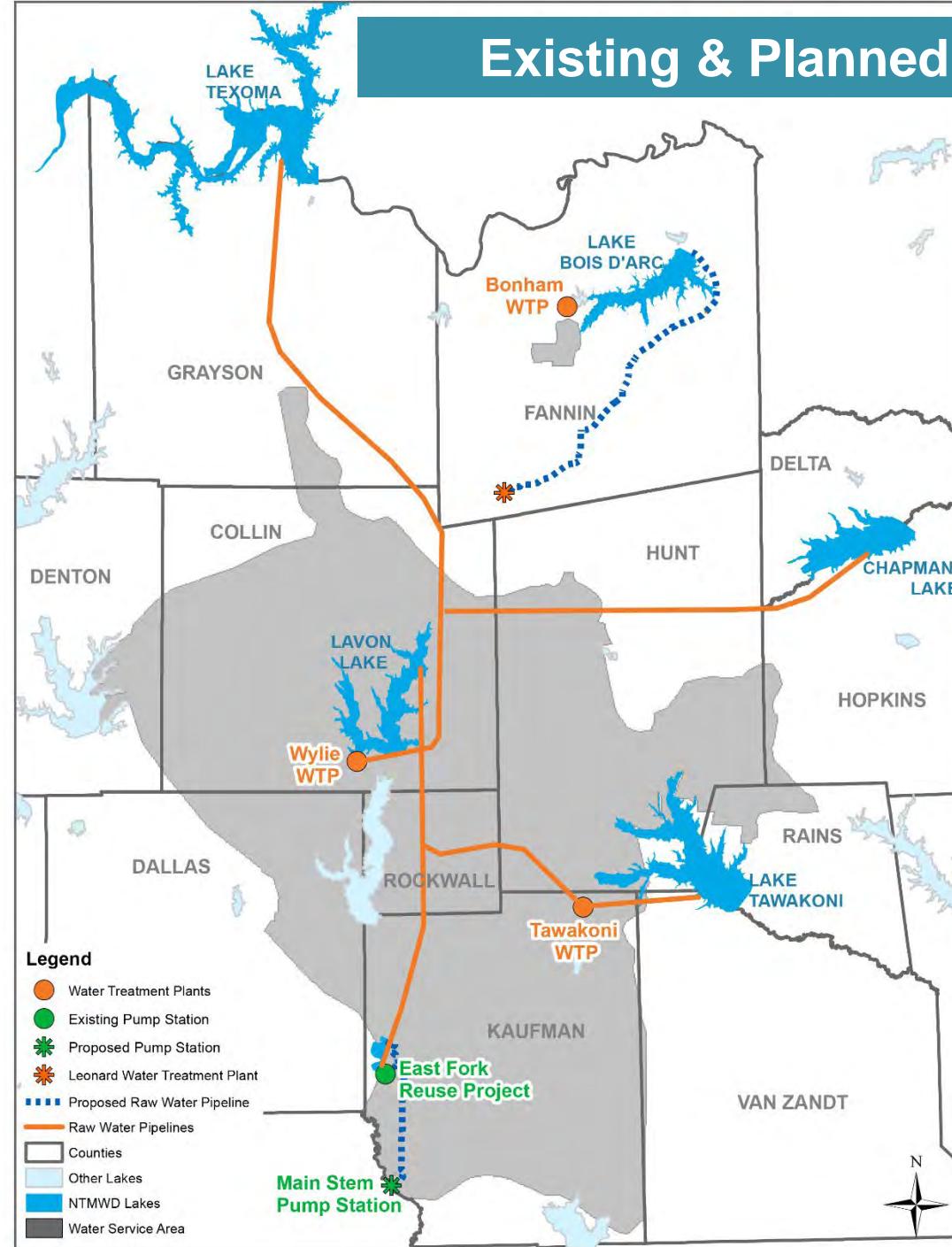


Chart represents NTMWD supplies in 2070
Source: 2021 Region C Water Plan

Existing & Planned Raw Water Supplies



Existing:

- Lavon Lake
- Lake Texoma
- Lake Tawakoni
- Chapman Lake
- Reuse/Wetland
- Lake Bonham

In Progress:

- Bois d'Arc Lake

Water Treatment Plant Capacity

876 MGD fully ozonated

Wylie: 840 MGD
Tawakoni: 30 MGD
Bonham: 6 MGD



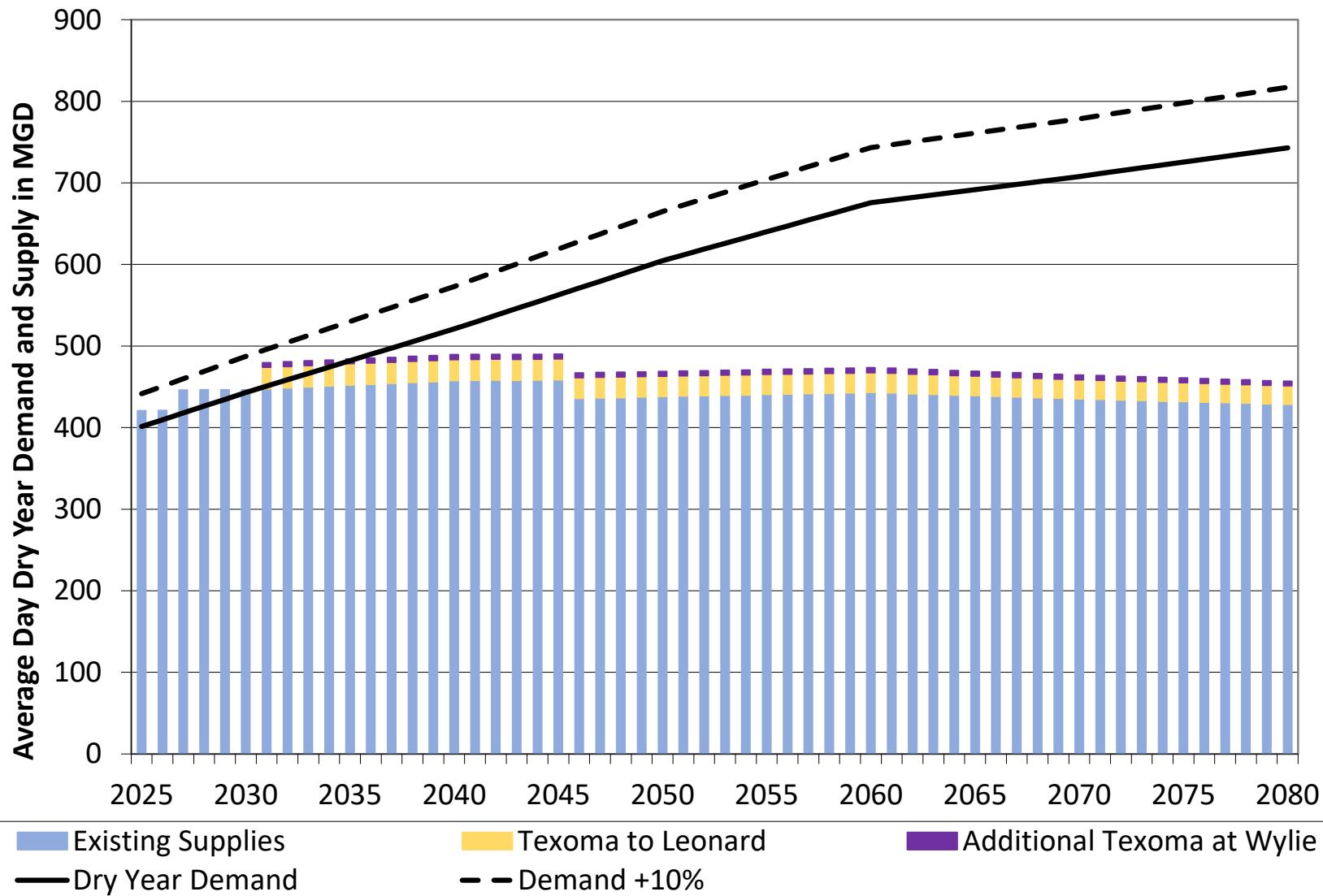
LONG RANGE WATER SUPPLY PLAN

Project Tasks

- **Update water demand projections through 2080**
- **Level of service and future supply needs**
- **Conduct comprehensive evaluation of future raw water supply options**
- **Develop and analyze water supply scenarios for NTMWD**
- **Develop and recommend a plan of action and alternative plan of action for water sources**
- **Review need for condition driven projects for raw water system**
- **Update and add projects to the Raw Water CIP**

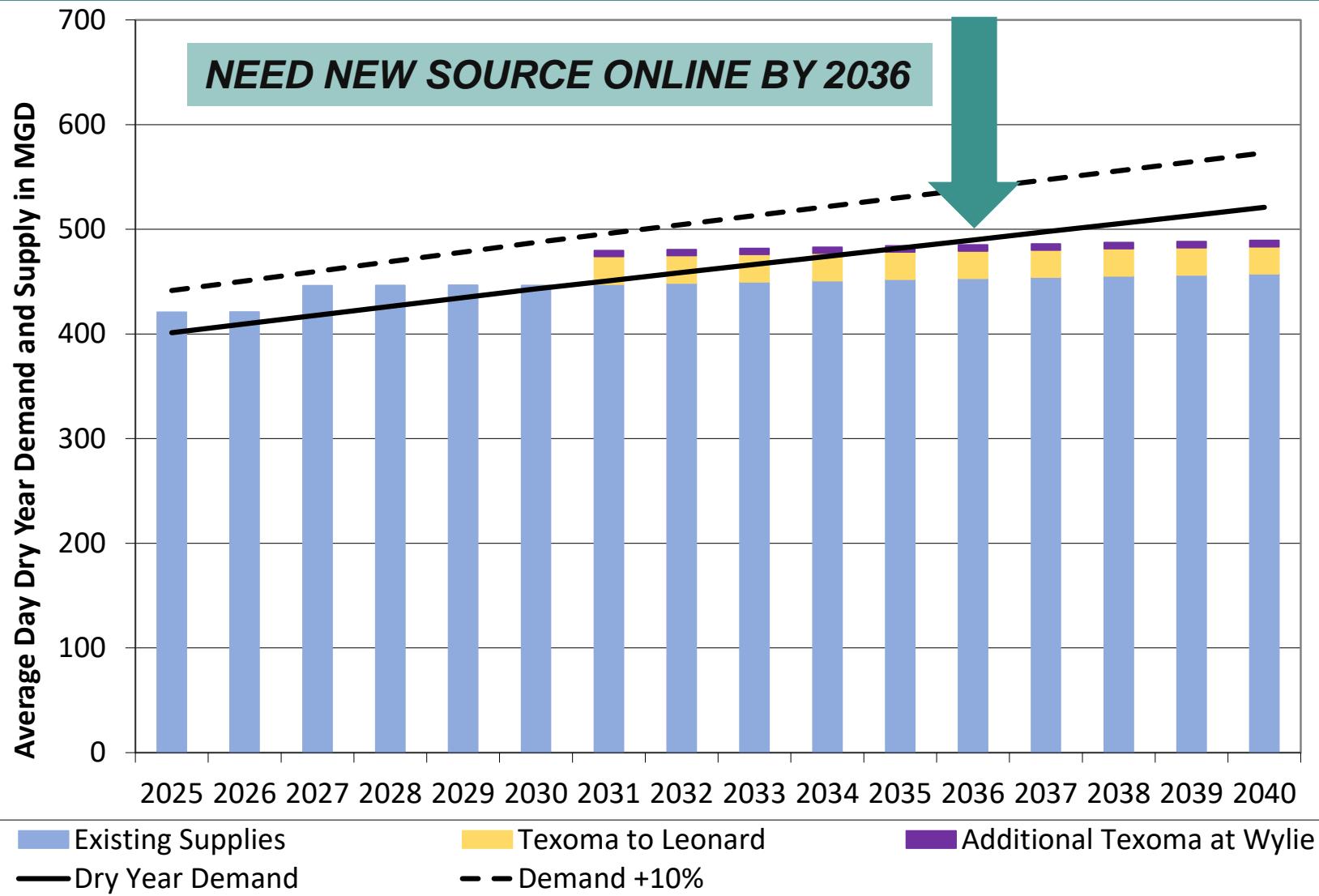


CURRENT SUPPLIES AND PROJECTED DEMANDS





NEAR TERM CURRENT SUPPLIES AND PROJECTED DEMANDS





NEW PROJECTS NEEDED FOR RELIABILITY AND GROWTH



Advanced Water Conservation



Groundwater and Aquifer Storage and Recovery



Water Reuse



Existing Surface Water Sources



New Surface Water Sources



WATER TRANSMISSION SYSTEM CIP UPDATE

Project Tasks

- Update the water transmission system Capital Improvements Program
- Based on Demand Projection and Level of Service Review
- Water Transmission System Modeling
- Transmission System Facilities Condition Assessment
- Analysis of Alternatives and CIP Development



BOIS D'ARC LAKE

- Decade+ of planning, permitting
- Surface Area: 16,641 acres
- Supply: Firm Yield of 82 MGD
- Average/Max Depth: 22/70 ft
- Lake Elevation: 534 ft mean sea level (MSL)
- Owner & operator: NTMWD
- Cost Estimate: \$1.6B
- Construction began May 2018
- Began partial impoundment in Spring 2021
- Dam substantially complete in Spring 2022
- Water delivery expected early 2023
- BoisArcLake.org



First major reservoir to be constructed in Texas in nearly 30 years

BOIS D'ARC LAKE – KEY COMPONENTS

1. Dam, Intake, Terminal Storage Reservoir – ARCHER WESTERN
2. Environmental Mitigation (17,000+ acres) – RES
3. Raw Water Pump Station, Water Treatment Plant – GARNEY
4. FM 897, County Roads, Boat Ramps, Lake Office – AUSTIN BRIDGE & ROAD
5. Pipelines – GARNEY
 - 35-mile 90-inch raw water
 - 25-mile 84-inch treated water





BOIS D'ARC LAKE PROGRESS



Intake Tower Construction and Wet Side Impoundment



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BOIS D'ARC LAKE PROGRESS



Dam Embankment



BOIS D'ARC LAKE PROGRESS



FM 897 Bridge Complete and Open



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BOIS D'ARC LAKE PROGRESS



Raw Water Pipeline Installation



BOIS D'ARC LAKE PROGRESS



Treated Water Pipeline Installation



BOIS D'ARC LAKE PROGRESS



Leonard Water Treatment Plant



MCKINNEY 3 TO MCKINNEY 4 PIPELINE

Project Background and Overview

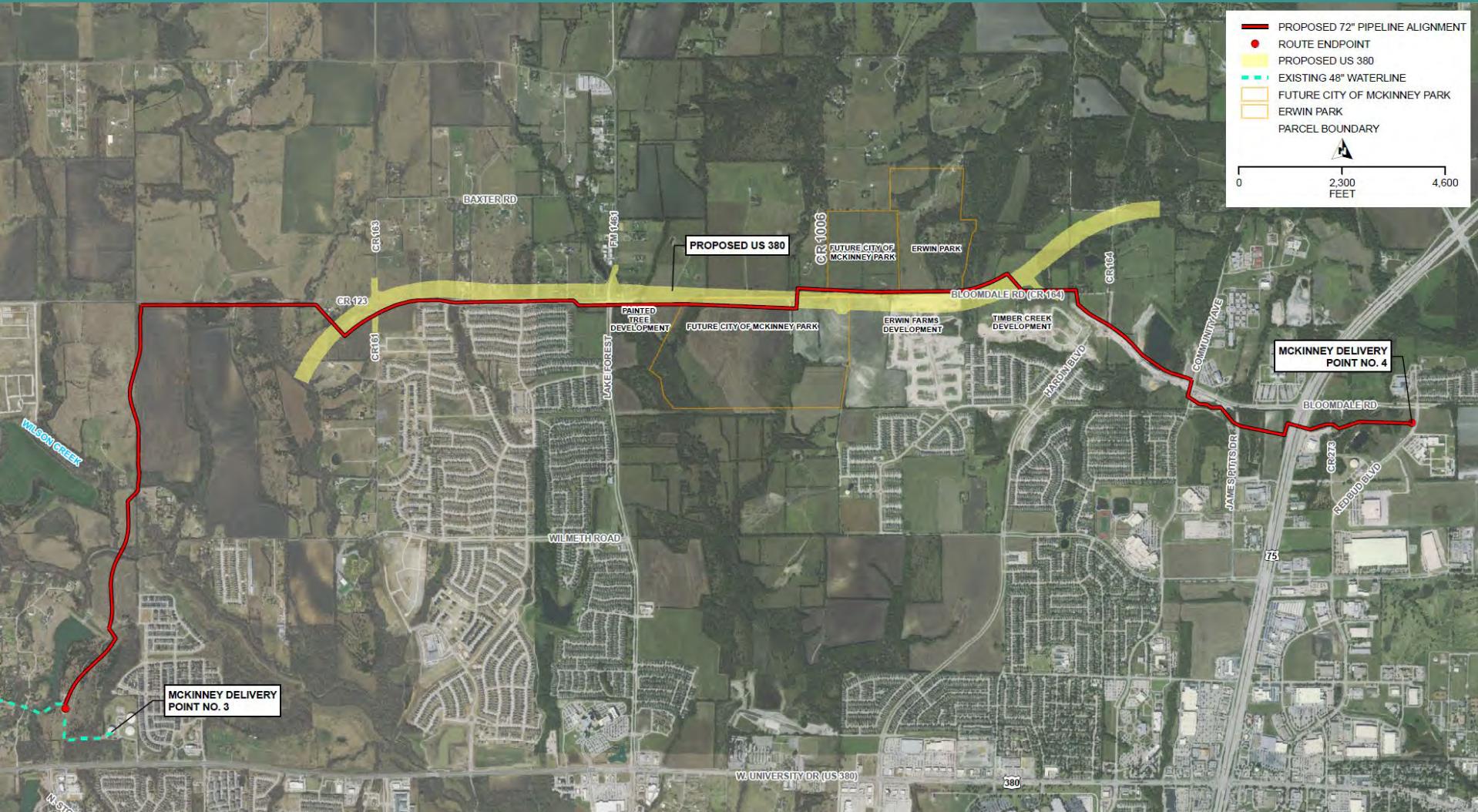
- A new 72" water pipeline to connect new Bois D'Arc Lake / Leonard Water Treatment Plant to NTMWD system.
- Will provide additional water supply to the Cities of McKinney and Frisco, Towns of Prosper and Little Elm for an increase of 225,000 people
- The new 8-mile long pipeline will serve to close a major loop in the North System and enhance the resiliency and reliability of water supply to this area.
- Currently at 60% design with expected construction completion in 2025
- Close coordination with Collin County, City of McKinney and TxDOT



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MCKINNEY 3 TO MCKINNEY 4 PIPELINE





WASTEWATER SYSTEM AND INITIATIVES





Wastewater System

Entities Served

- Serve 24 communities
- Approximately 1.4 million North Texas residents

Facilities

- Over 250 miles of large diameter pipe to transfer from communities to regional treatment facilities
- 13 Treatment plants
- Total capacity of +150 MGD



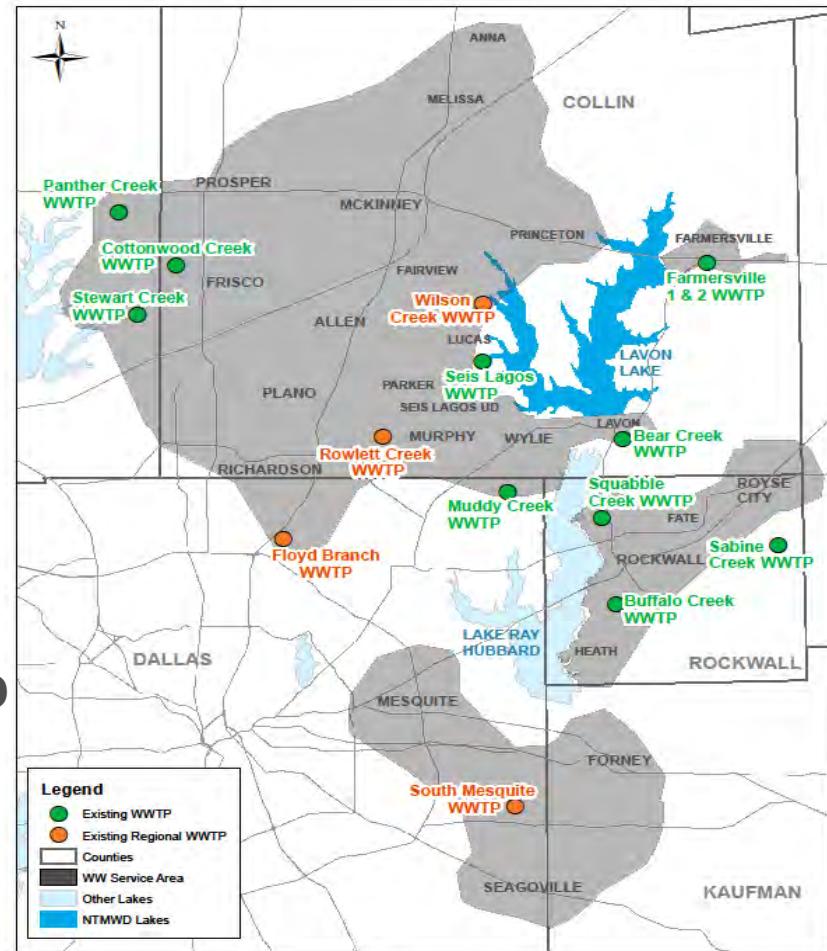


WASTEWATER TREATMENT SYSTEMS

- **Regional Wastewater System**
 - Wilson Creek WWTP 64.00 MGD
 - South Mesquite WWTP 33.00 MGD
 - Rowlett Creek WWTP 24.00 MGD
 - Floyd Branch WWTP 4.75 MGD
 - TOTAL** 125.75 MGD

- **Sewer System Plants**
 - Number of Sewer System Plants in Operation: 9
 - Total Sewer System Capacity: 34 MGD
 - Each plant is separate independent system and contracts

- **Total Wastewater Treatment Capacity: 159.45 MGD**





COMMUNITIES WE SERVE

Regional Wastewater System Members

- Share cost proportionally based on total flow contributed to system in fiscal year

Regional Wastewater System Customers

- Billed for unit cost of flow sent to system. Budget rate 20% above members

Sewer System Participants

- If one community contributes, that community pays full cost
- If multiple communities contribute flow, cost shared proportionally based on flow contributed

Regional WW Members	Regional WW Customers	Sewer System Participants
Allen	Anna	Farmersville
Forney	Fairview	Fate
Frisco	Lucas	Frisco
Heath	Parker	Lavon
McKinney		Murphy
Mesquite		Rockwall
Melissa		Royse City
Plano		Seis Lagos UD
Princeton		Wylie
Prosper		
Richardson		
Rockwall		
Seagoville		

Major Capital Projects



Stewart Creek West Plant Expansion
Nearing construction completion. \$62.6M



Rowlett Creek Plant Peak Flow Improvements
Construction substantially complete. \$49M



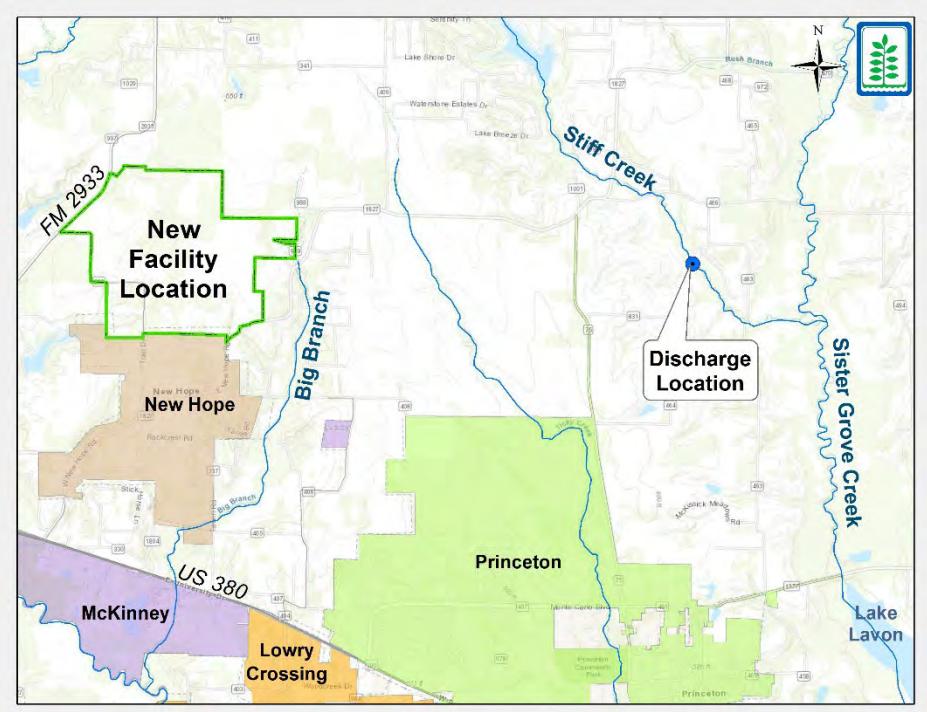
Wilson Creek Plant Expansion
Construction completion in 2019. \$53.4M



Sister Grove Regional Water Resource Recovery Facility
Construction completion in 2023. \$540M

Sister Grove Regional Facility

- Planned Water Resource Recovery Facility to meet growing regional treatment capacity needs
- Located on 1,000 acres near the FM 2933 and CR 336 intersection – north of New Hope
- NTMWD received TCEQ permit in April 2020
- \$460 million low-interest (0.155%) funding from TDWB; Will save approx. \$160 million for NTMWD and ratepayers
- Discharge location was identified based on proximity and operational factors
- Will include advanced treatment and odor control technologies
- Construction starting this September



Site Analysis
2016 - 2017

Facility Design
2018 - 2020

TCEQ Permitting
2018 - 2020

Construction
2020 - 2023

Operations
2023 and onward

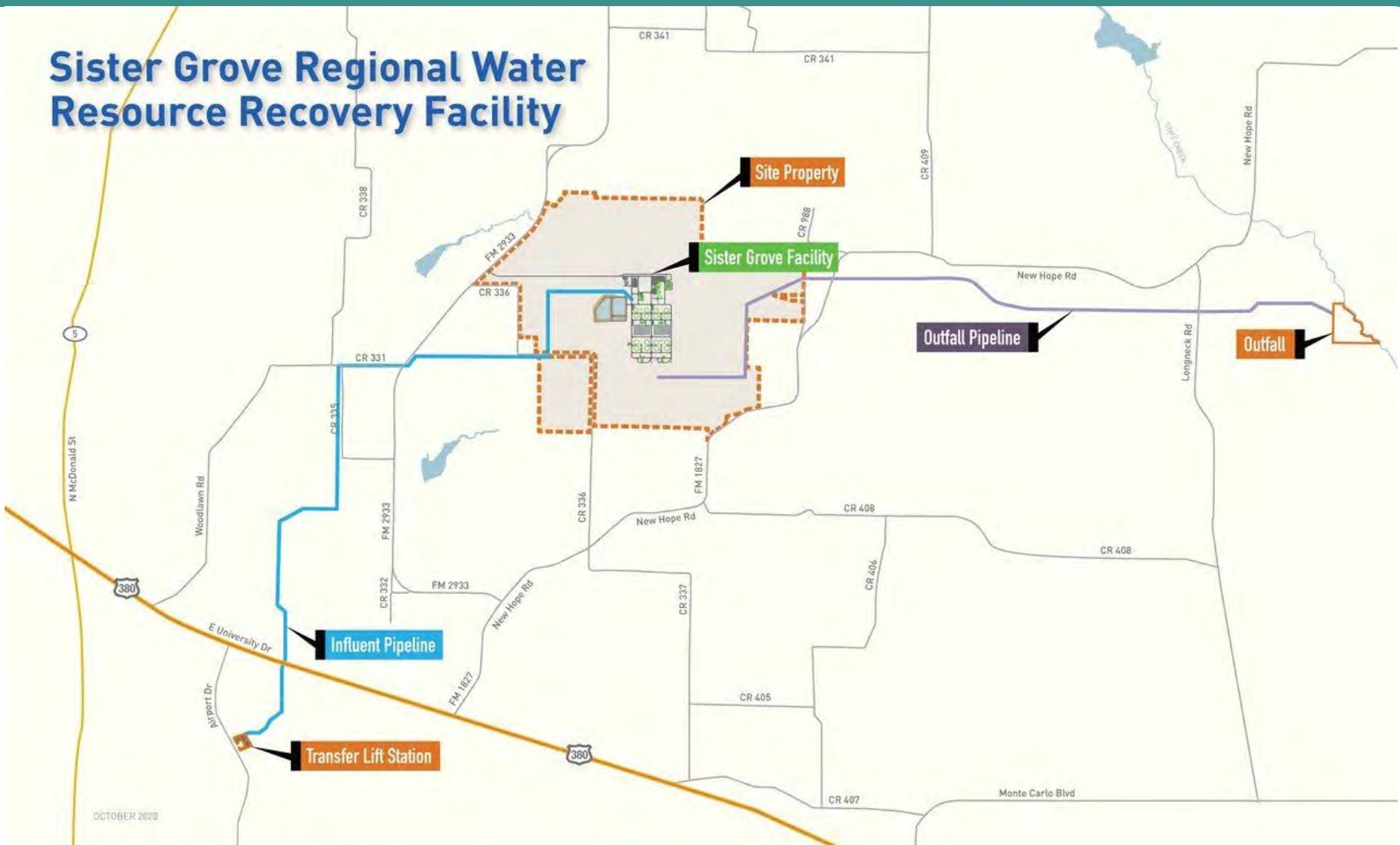


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SISTER GROVE AND NORTH MCKINNEY PROGRAM SUMMARY

Sister Grove Regional Water Resource Recovery Facility





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CONSTRUCTION PROGRESS

SISTER GROVE RWRRF PROGRAM SUMMARY

Aerial View of Site





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Secondary Clarifiers and Aeration Basin





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CONSTRUCTION PROGRESS

SISTER GROVE RWRRF PROGRAM SUMMARY

UV Structure and Parshall Flume





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Outfall Tunnel and Shaft

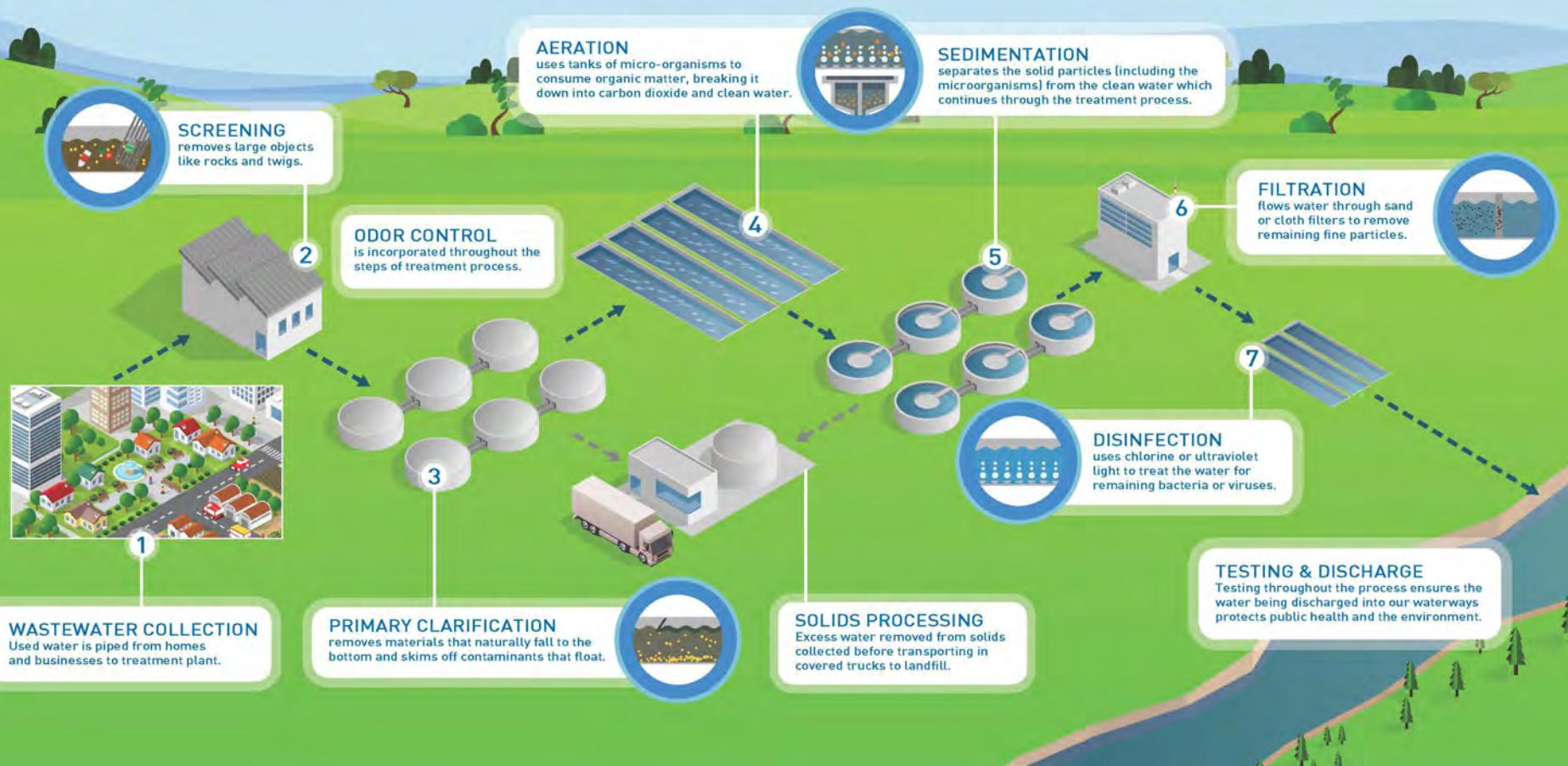




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7 Steps to Clean Water





SOLID WASTE SYSTEM AND INITIATIVES





SOLID WASTE SYSTEM AND INITIATIVES

NTMWD Solid Waste System Service Area

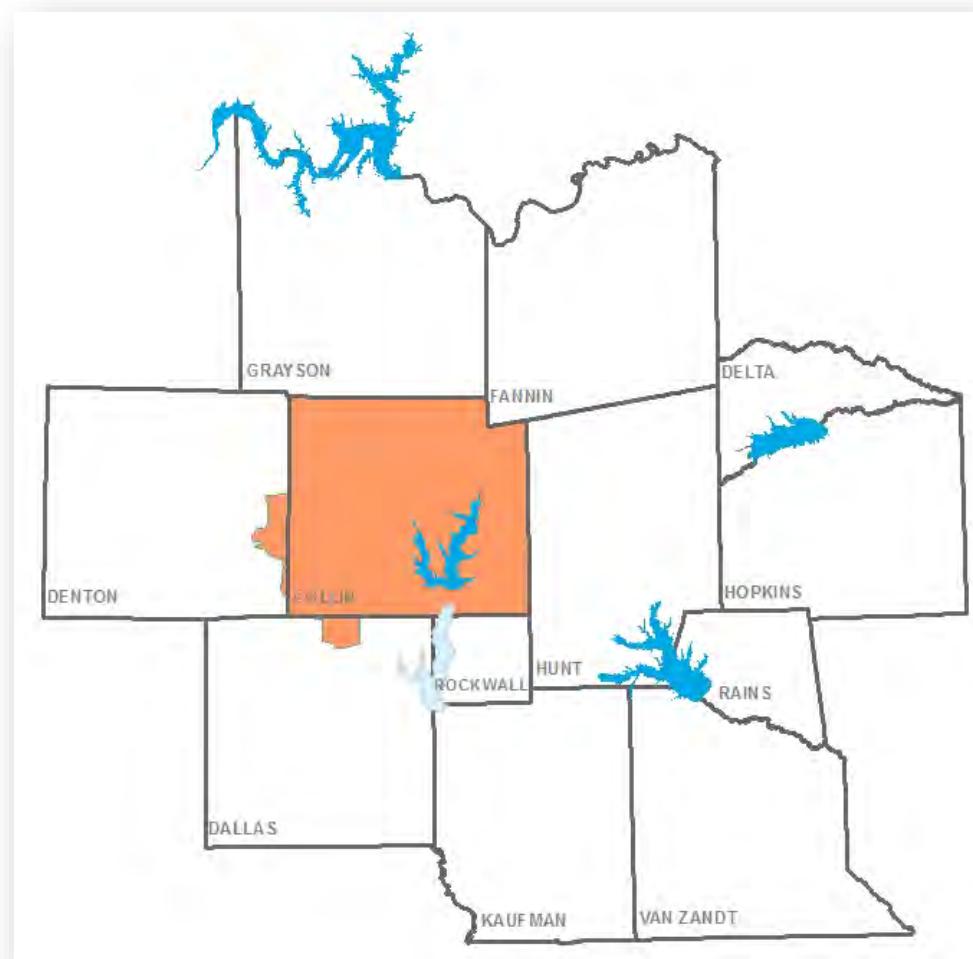
Entities Served: Allen, Frisco, McKinney, Plano, Richardson & the Surrounding Region

Transfer Stations: 3

Transfer Station Throughput: 3,295 tons/day

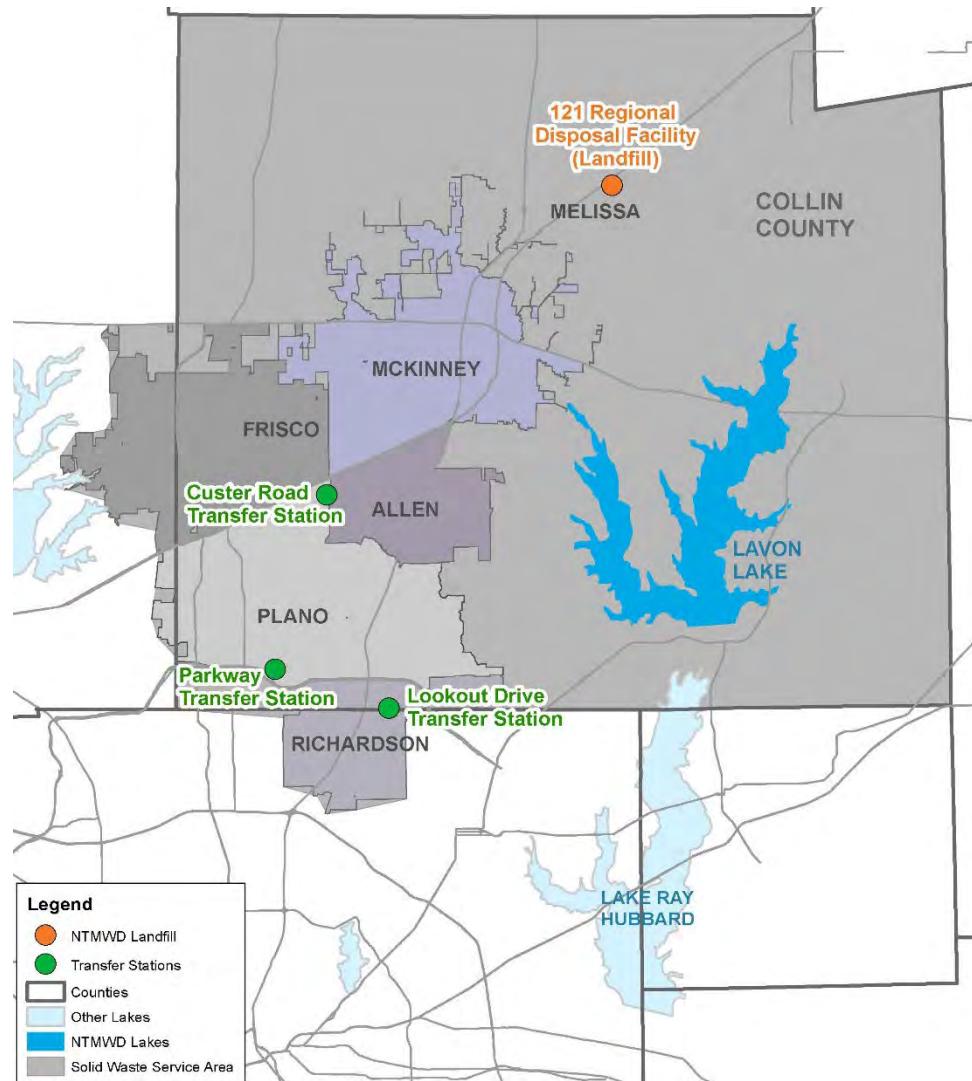
Landfill: 121 Regional Disposal Facility (Melissa)

- Site Capacity – 134,800,000 cubic yards
- Permitted Area – 673 acres
- Permitted Fill Area – 433 acres
- Approximate Site Life – 40 years
- Waste acceptance – 3,700 tons/day





SOLID WASTE SYSTEM AND INITIATIVES





SOLID WASTE SYSTEM AND INITIATIVES

- **10 yr Compost Contract with Plano – approved April 2016**
- **4th Transfer Station Land – Purchase by end of 2022**
 - Discussions with Frisco
- **15-year landfill gas-to-energy agreement with Morrow Renewables executed May 2016, began operating December 2017**
- **Renovated Lookout Transfer Station - 2017**
- **Renovations planned for Parkway Transfer Station - 2023**



SOLID WASTE SYSTEM AND INITIATIVES

NTMWD partnered with Morrow Renewables

- State-of-the-art facility located at 121 RDF opened in 2017
- Captures landfill gas (methane and carbon dioxide) and converts it to clean, renewable natural gas
- Sales of the natural gas provide royalties — over \$1 million in FY21 — which goes toward reducing landfill operation costs
- Reduces CO2 emissions

Morrow Renewables High BTU Gas Plant



COMMUNICATIONS, EDUCATION AND OUTREACH





ONGOING CONSERVATION EXTENDS CURRENT SUPPLIES

- Critical strategy for maximizing supplies
- Has helped defer approx. \$1B in projects
- Award-winning programs

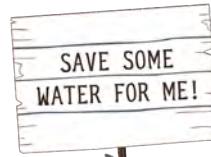
 Water IQ

 WaterMyYard.org

 Water4Otter Youth Education Program



Water My Yard 
www.WaterMyYard.org



**WATER®
IQ**

www.NorthTexasWaterIQ.org



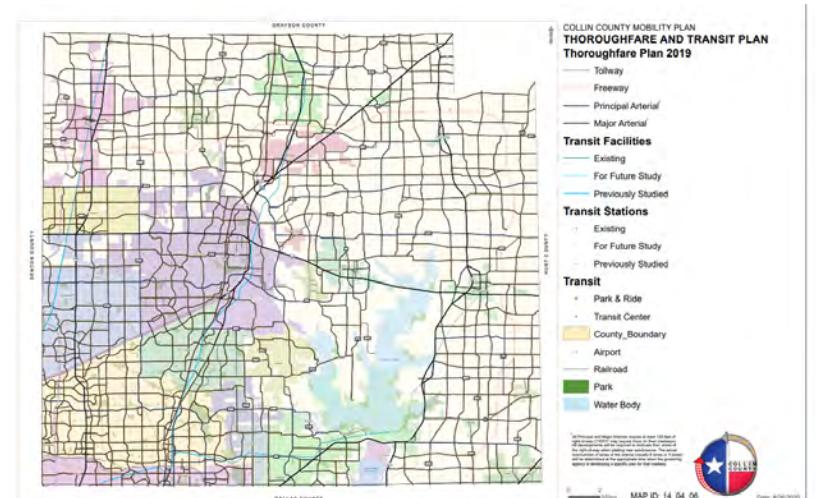
WATER4OTTER.ORG





COMMUNICATE, COORDINATE AND COLLABORATE

- Great relationship with County Staff
- Mobility Study coordination
- Sister Grove RWRRF
- Bois d'arc Lake pipelines





REGIONAL SERVICE THROUGH UNITY





NTMWD.COM



QUESTIONS? FOLLOW US @NTMWD



Newsletter Signup

Email

First Name

Last Name

News Stream Project Pipeline

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