



**NORTH
TEXAS
MUNICIPAL
WATER
DISTRICT**

Regional Service Through Unity

Meeting our Region's Needs Today and Tomorrow

SAME Infrastructure Forum

Bois D'arc Lake System update and beyond

R.J. Muraski

Assistant Deputy Planning /CIP

February 9, 2024



Overview

- Who We Are
- Overview of Services
- Water Planning and Projects





OUR VISION

Regional Service Through Unity:
Meeting Our Region's Needs
Today And Tomorrow

OUR MISSION

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

OUR GOALS

SERVICE

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

STEWARDSHIP

Responsibly manage public resources to ensure
responsiveness, effectiveness and efficiency

PARTNERSHIP

Actively collaborate with members, customers,
partners, employees and stakeholders

PEOPLE

Build a talented, competent and committed team

OUR CORE VAULES

INTEGRITY

We are honest, transparent and accountable
for what we say and do.

TRUST

We are relied on to serve our customers'
best in interest.

RESPECT

We treat others fairly and with courtesy and
kindness.

UNITY

We do what's best for our region – all-in together!

SAFETY

We look out for each other to prevent accidents
and protect public health and environment.

TEAMWORK

We cooperate and collaborate to meet our
region's needs.



BY THE NUMBERS



DID YOU KNOW?



WATER SERVICES

20

MAJOR RAW AND TREATED WATER PUMP STATIONS

7

WATER TREATMENT PLANTS
946 MILLION GALLONS/DAY (MGD) CAPACITY

695+

MILES OF WATER TRANSMISSION LINES



WASTEWATER SERVICES

13

WASTEWATER TREATMENT PLANTS

237+

MILES OF LARGE-DIAMETER WASTEWATER PIPELINES

163+ MGD

WASTEWATER TREATMENT CAPACITY



SOLID WASTE SERVICES

3

TRANSFER STATIONS PERMITTED TO PROCESS

UP TO

4,100 TONS

OF SOLID WASTE PER DAY

1 MILLION TONS

OF SOLID WASTE DISPOSED EACH YEAR



WATER ESSENTIAL FOR ECONOMIC GROWTH



NTT Data -Garland



General Dynamics – Mesquite




PGA – Frisco



The Dallas Morning News

Kaufman County is the fastest growing county in the country

Dec 28, 2022




Homes brand.

Green Brick Partners

RESIDENTIAL REAL ESTATE

Over 1,900 homes planned in Collin

Green Brick Partners buys Princeton land for houses to buy, rent

By MITCHELL PARTON
Staff Writer

The community will include up to 1,762 single-family homes for sale, 225 single-family homes for rent, parks and about 4 acres of commercial property. Green Brick will build homes on the site in the Princeton area, according to Green Brick.

"As we look for new opportunities, we really felt like this was one of the last big opportunities in Princeton," Dolson said. "Dolson said that this firm is actually have more than 2,300 homes — will begin this summer.

Jordan Cortez and Mason John of Dallas-based real estate advisory and capital markets firm Vanwood REA co.



Crossroads - Princeton



Gateway Oaks– Forney



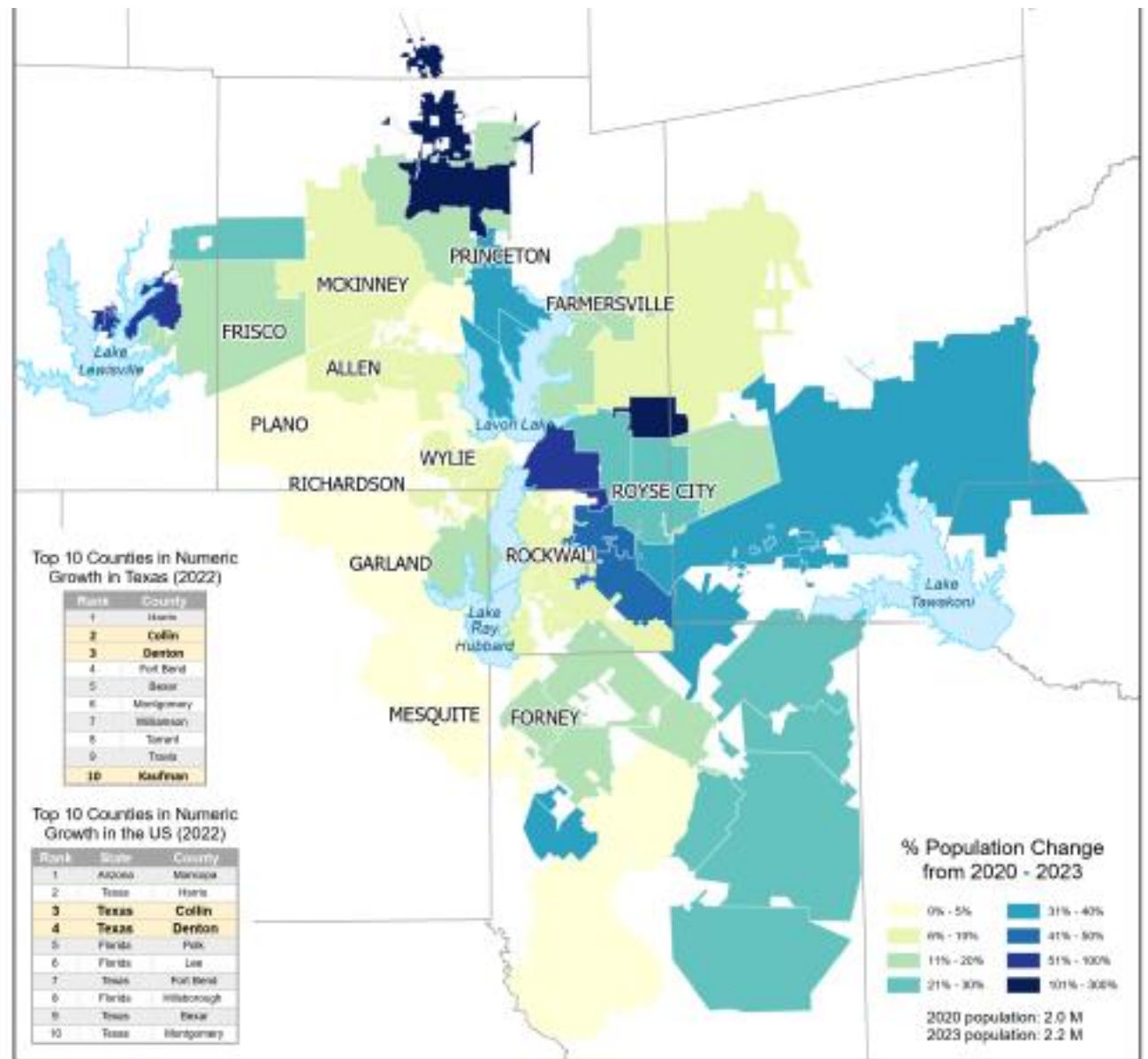
Del Webb Trinity Falls – McKinney



Exponential Growth

NTMWD service area.

- 3 of the Top 10 counties in growth across Texas (2022)
- 2 of the Top 10 counties in growth across the US (2022)
 - Collin
 - Denton
- Population Served
 - 2020 - 2.0M
 - 2023 - 2.2M



Population Growth Map with Service Areas





FOCUSED ON SERVING A 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

Year	1956	1974	1994	2015	2025	2040	2060	2080
Population Served	32,000	200,000	800,000	1.6 M	2.2 M	3 M	4 M	4.5 M



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WATER SERVICES

Existing Water Supply Sources

- Lavon Lake
- Bois d'Arc Lake
- Lake Texoma
- Lake Tawakoni
- Jim Chapman Lake
- Reuse/Wetland (East Fork and Main Stem)

Wylie Water Treatment Plant

- Wylie WTP I 70 MGD
- Wylie WTP II 280 MGD
- Wylie WTP III 280 MGD
- Wylie WTP IV 210 MGD

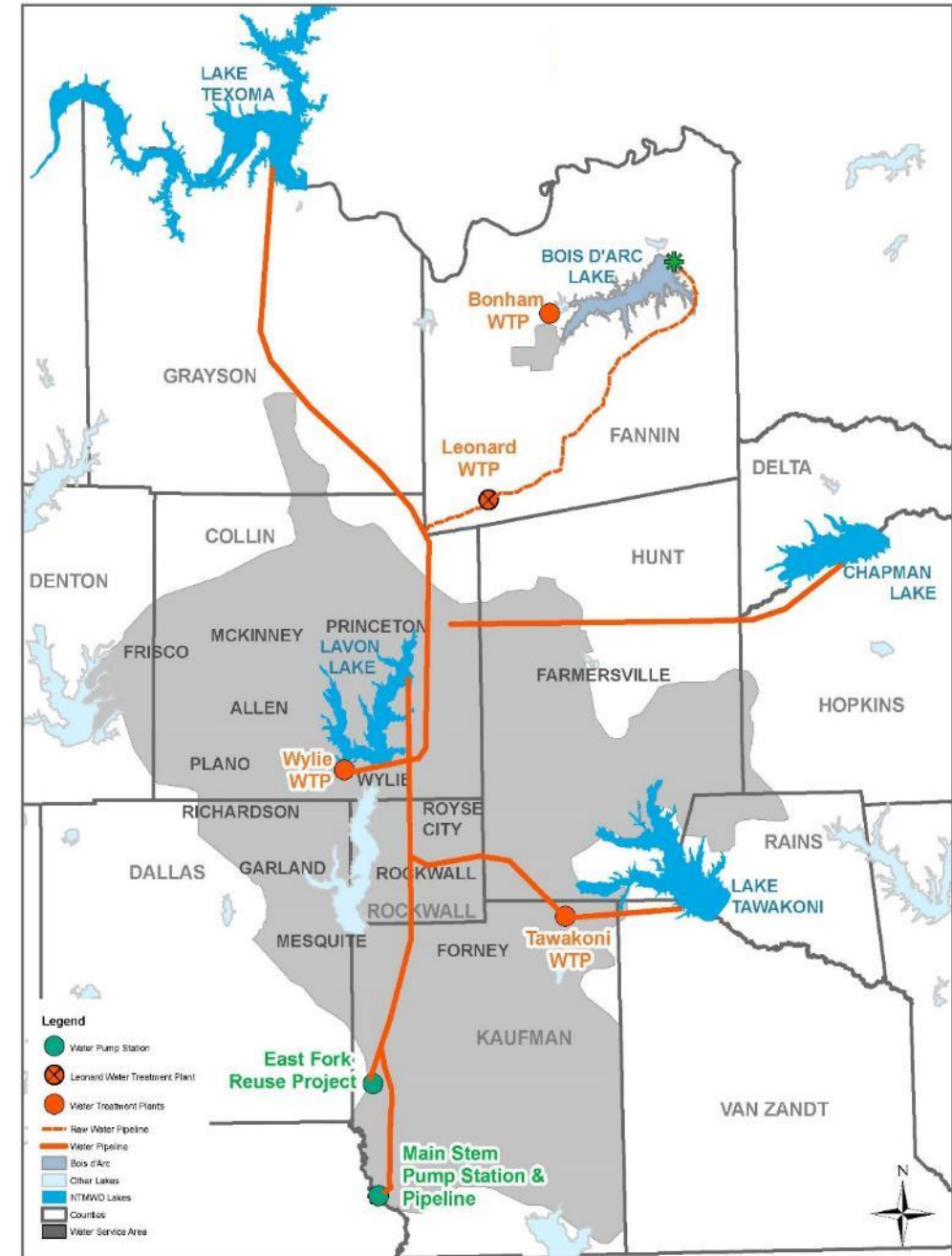
TOTAL 840 MGD

Leonard Water Treatment Plant 70 MGD

Bonham Water Treatment Plant 6 MGD

Tawakoni Water Treatment Plant 30 MGD

TOTAL PERMITTED CAPACITY 946 MGD





WASTEWATER TREATMENT SERVICES

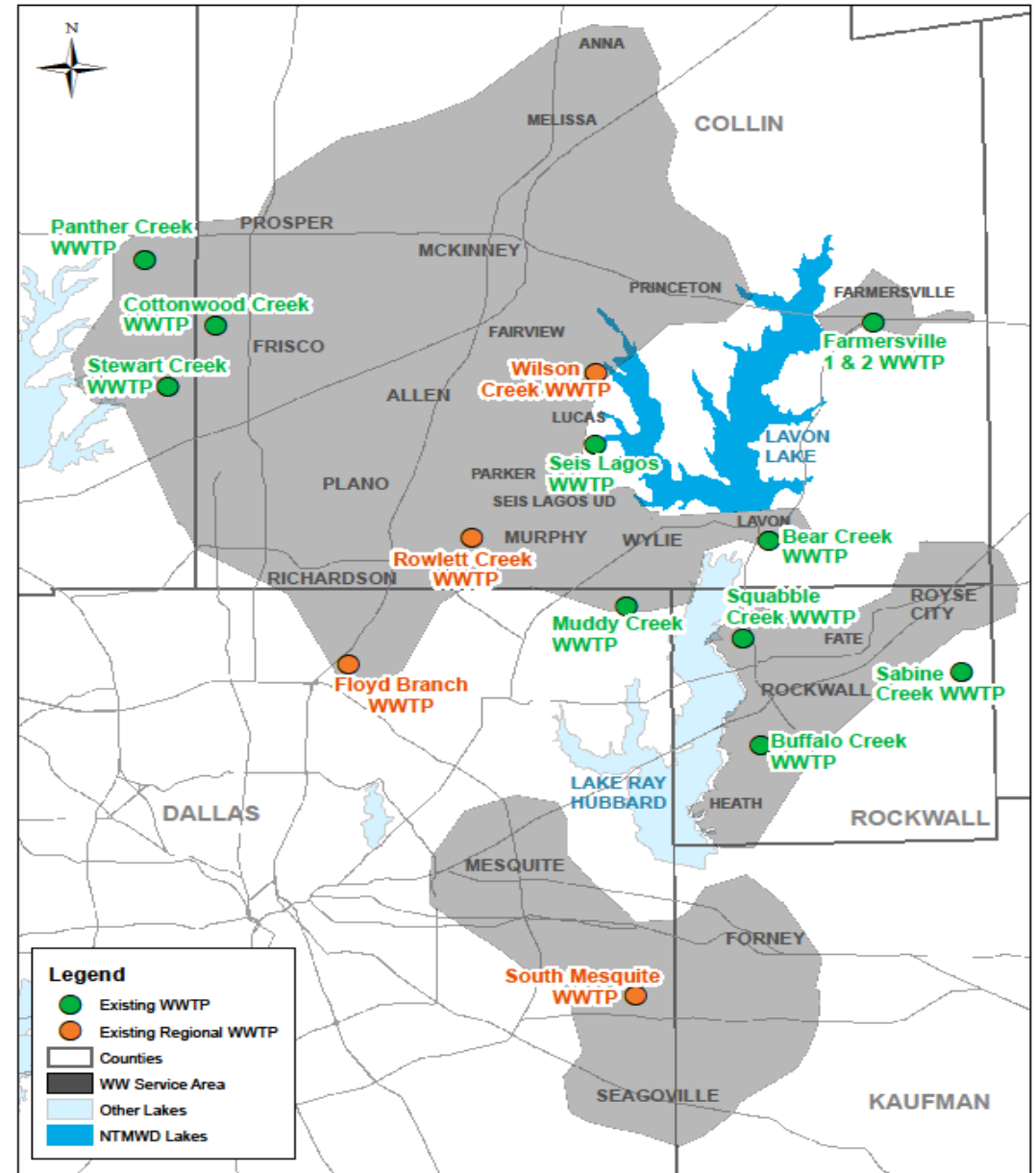
- **Regional Wastewater System**

- 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**





SOLID WASTE SYSTEM

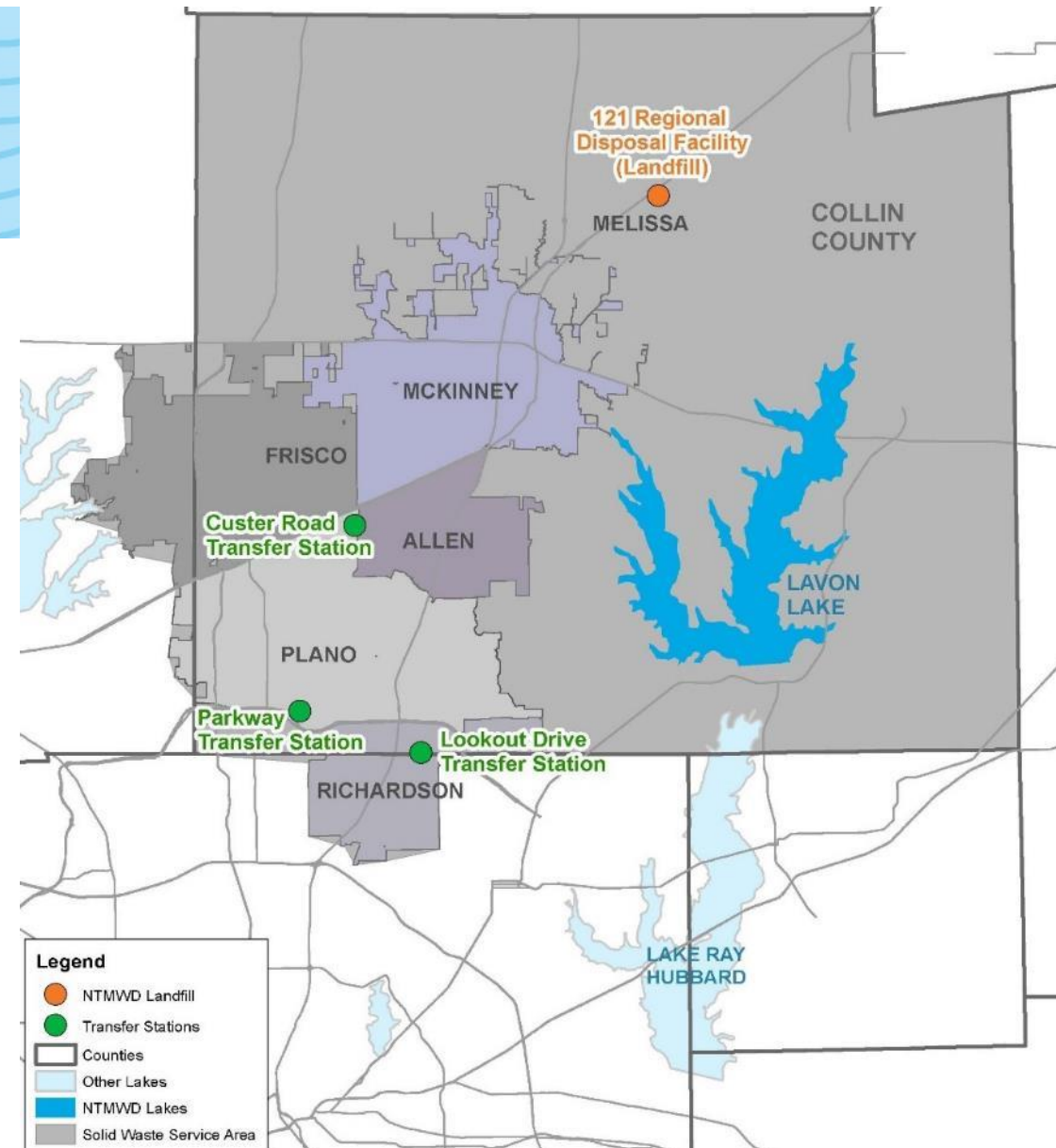
Entities Served: Allen, Frisco, McKinney, Plano, Richardson & the Surrounding Region

Transfer Stations: 3

Transfer Station Throughput: 4,100 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 – 38 years
- Waste acceptance – 3,800 tons/day





Overview

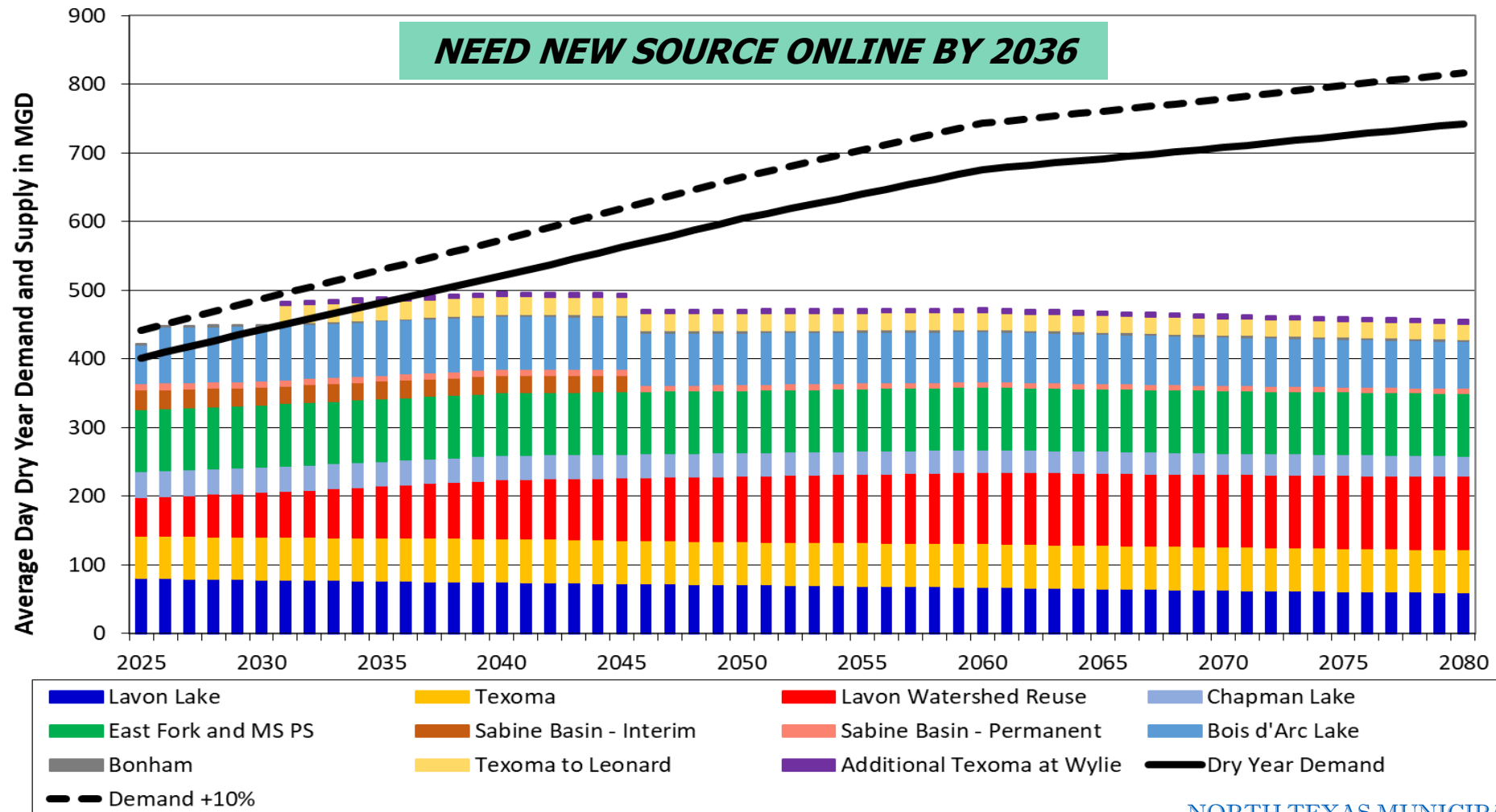
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LONG RANGE WATER SUPPLY PLANNING

Through 2080





CONSERVATION

Important Part of Water Supply

- Critical strategy for maximizing supplies
- Helped defer approximately \$1 billion in projects
- Award-winning outreach programs:
 - **Water4Otter.org**
Elementary school education program
 - **WaterMyYard.org**
Free weekly water advice based on location and real-time weather data
 - **WaterIsAwesome.com**
Regional campaign with Tarrant Regional Water District and Dallas Water Utilities

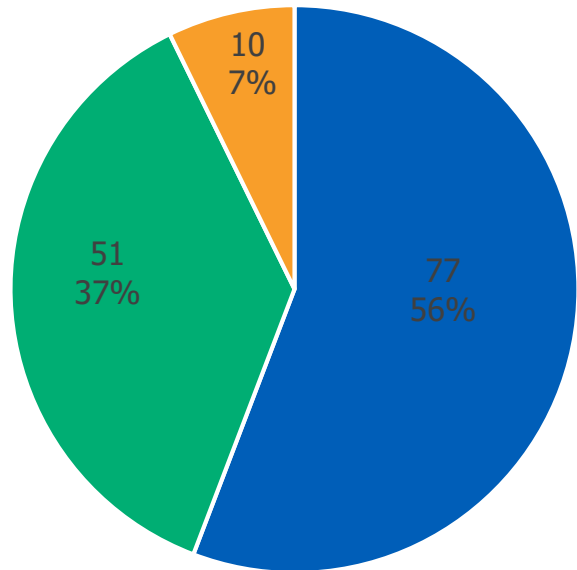




CAPITAL PROJECTS

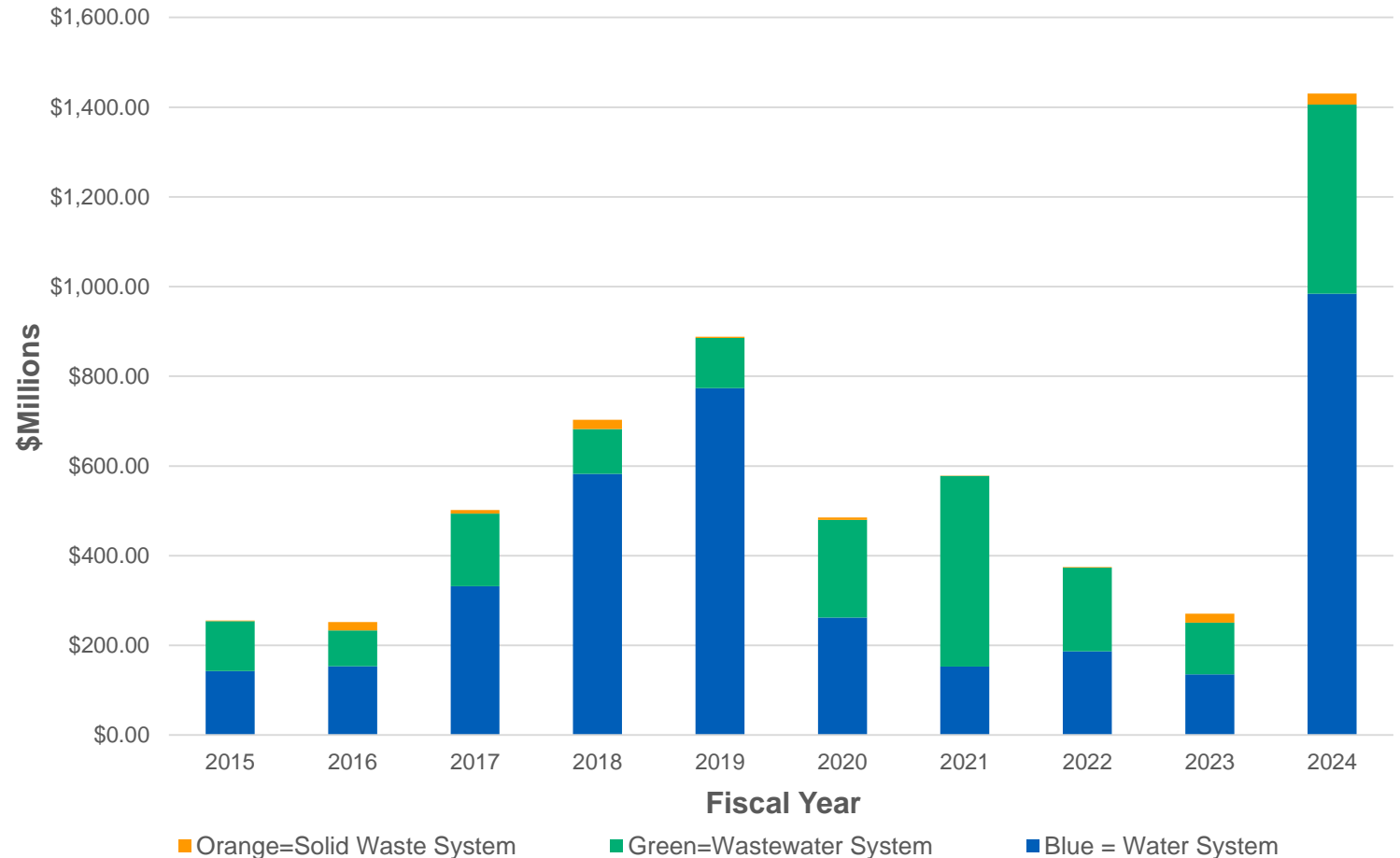
Current Capital Projects

- 138 Projects in Progress
 - 82 Projects in Design
 - 56 Projects Under Construction
 - \$1.52 Billion in Contracts
- Total Projects in Process



■ Water ■ Wastewater ■ Solid Waste

Fiscal Year 2015 - Fiscal Year 2024 All System CIP Projects
Data Compiled June 28, 2023





KEY PROJECTS – BOIS D'ARC LAKE/LEONARD WTP

Bois d'Arc Lake

- First major reservoir constructed in Texas in over 30 years
- Construction began May 2018
- Dedication in October 2022

Leonard Water Treatment Plant

- Phase I (70 MGD) completed
- Water delivery began March 2023
- Phase II (70 MGD) to begin construction Early 2024
- Ultimate capacity 280 MGD





RESERVOIR ELEVATIONS - JANUARY 16, 2024

Reservoir	Conservation Pool Elevation	Current Elevation	Up/Down	%Full
Lavon	492.0'	490.34'	-1.66'	91.8%
Chapman	440.0'	438.35'	-1.65'	88.8%
Tawakoni	437.5'	437.37'	-0.13'	99.4%
Texoma	617.0'	615.95'	-1.05'	96.9%
Bonham*	565.0'	564.29'	-0.71'	93.3%
Bois d'Arc	534.0'	526.43'	-7.57'	69.4%

**Lake Bonham supplies the City of Bonham service area.*



PLANT EXPANSION PH II – LEONARD WTP

- 70 MGD Treatment Expansion, for total capacity of 140 MGD at Leonard WTP
- Estimated Total Cost: \$234 Million
- Design Completed in 2023
- Bid opening, February 2024
- Anticipated Notice to Proceed, April 2024
- Anticipated Final Completion, June 2028





Leonard Water Treatment Plant Phase II



■ Leonard WTP Ph II

- Additional 70 mgd train to existing 70 mgd for a total plant capacity of 140 mgd
- Pre-Treatment Basins, Chemical facilities, Gravity thickeners, Filters, Contact basin and Clearwell
- Additional pumps at Influent PS, additional Ozone generators
- Electrical equipment and instruments. Integration and programming on SCADA

Terminal Storage Reservoir South

- Additional 210 mg Storage reservoir
- South embankment of existing north reservoir is shared
- Solar Bees mixers, electrical and instrumentation



Raw Water and High Service Pump Stations



Raw Water PS Ph.2

- Four additional 6500-7000 HP pumps with TEWAC motors
- Chillers, AFDs, and all electrical additional equipment
- HVAC modifications to electrical room
- Integration and programming on SCADA

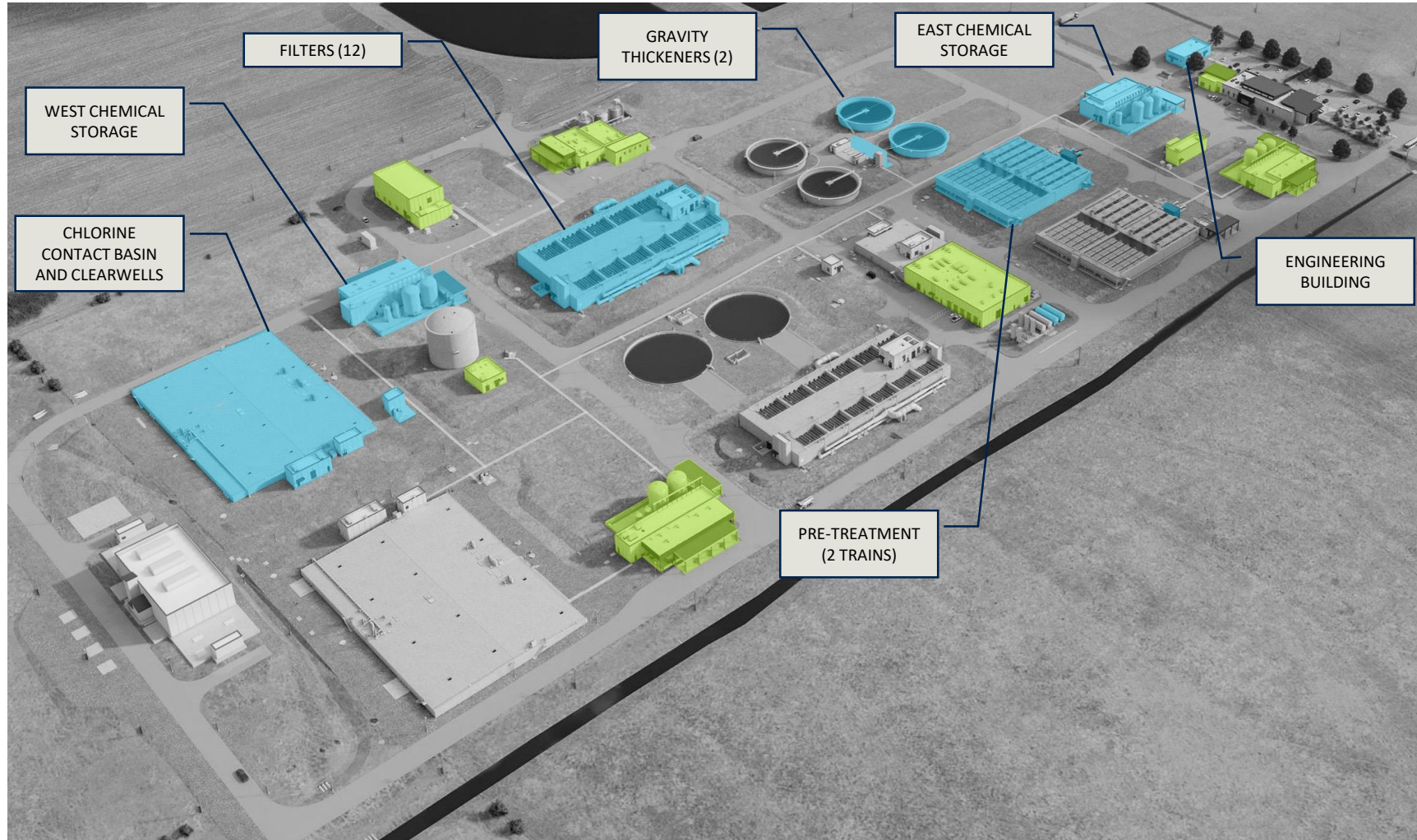




High Service PS North

- Four additional HH-HF 4000 HP pumps with motors
- Emergency dewatering system with two pumps
- AFDs and all electrical equipment
- Integration and programming in SCADA



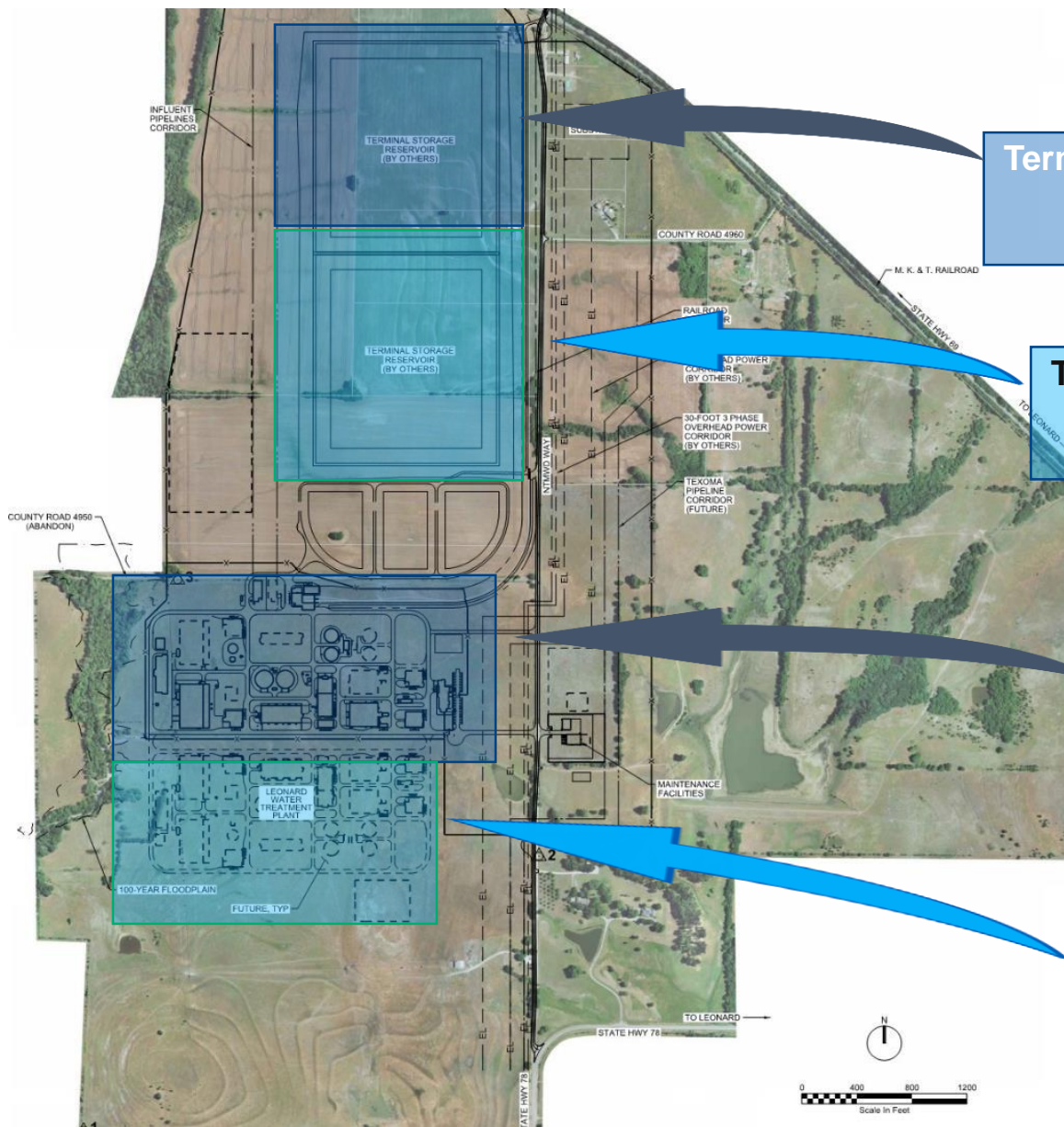
PLANT EXPANSION – LEONARD WTP



-  New Facilities
-  Modifications to Existing Facilities



Leonard Water Treatment Plant Site Map 280 MGD



**Terminal Storage Reservoir
Phase 1 (2022)
210 MG**

**Terminal Storage Reservoir
Phase 2 (2027)
210 MG**

**WTP
Phase 1 (2022) – 70 MGD
Phase 2 (2027) – 140 MGD**

**WTP
Phase 3 (2030) – 210 MGD
Phase 4 (2034) – 280 MGD**



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Regional. Reliable. Everyday.

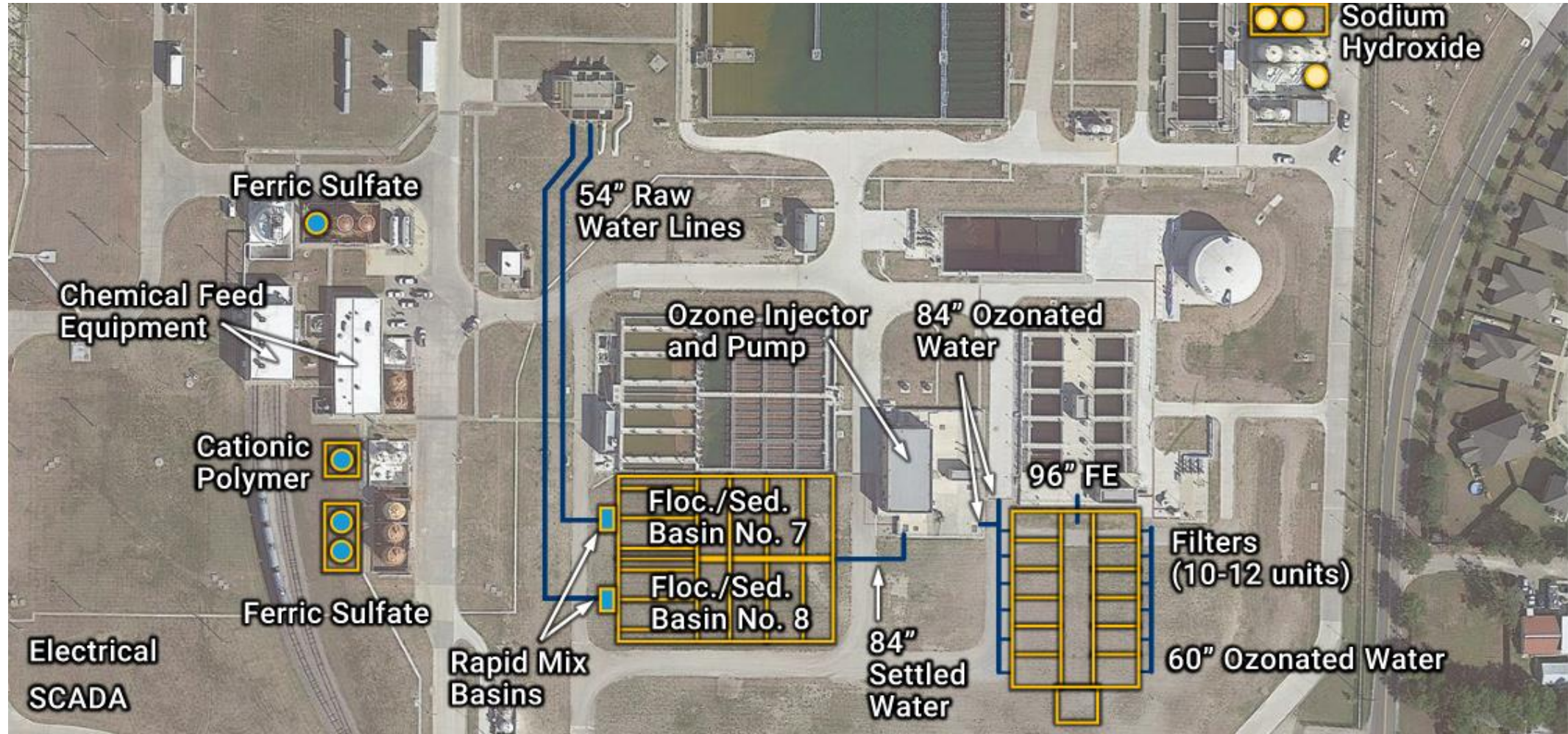


PLANT EXPANSION – WYLIE WTP IV

- 70 MGD Treatment Expansion
- Estimated Total Cost: \$160 Million
- Design to commence early 2024, and complete by 2nd Quarter of 2025.
- Construction expected to begin in October 2025
- Anticipated Substantial Completion by March 2028



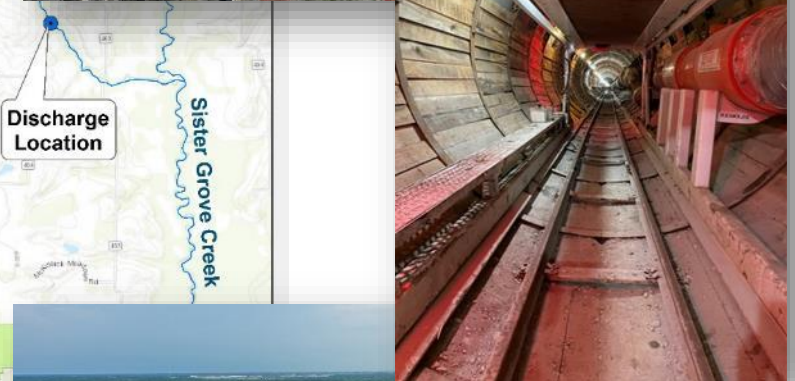
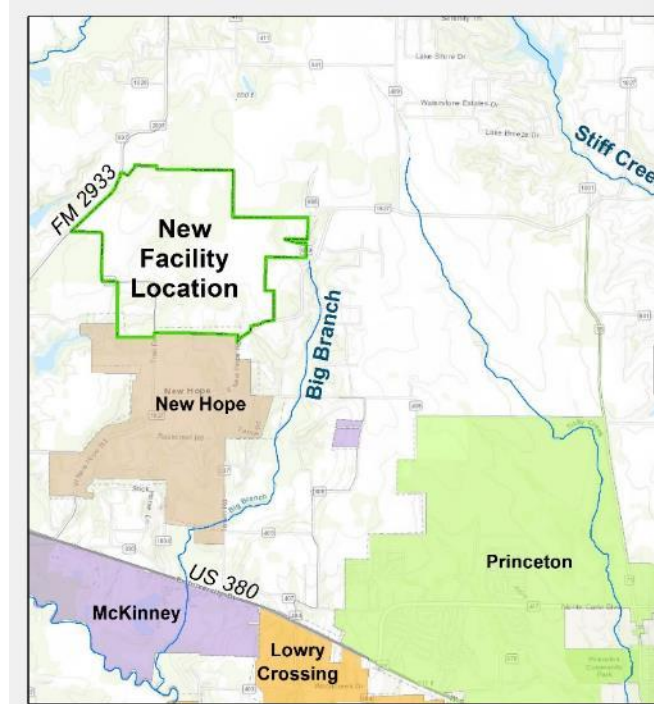
PLANT EXPANSION – WYLIE WTP IV





KEY PROJECTS – SISTER GROVE RWRRF

- 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 TWDB; Will save approx. \$160 million for NTMWD and ratepayers
- Expected completion 2025





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Questions?

Thank you!

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