



NORTH
TEXAS
MUNICIPAL
WATER
DISTRICT

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



Sister Grove Regional Water Resource Recovery Facility

New Hope City Council

June 26, 2018



AGENDA

- **North Texas Municipal Water District Overview**
Jenna Covington, Assistant Deputy Director – Wastewater
- **Sister Grove Regional Water Resource Recovery Facility Overview**
RJ Muraski, Assistant Deputy Director – CIP and Planning



HISTORY

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

***Mission: Provide high quality and dependable water, wastewater
and solids waste services in a cost efficient manner.***

13 Member Cities

**Allen, Farmersville, Forney, Frisco, Garland, McKinney, Mesquite, Plano, Princeton,
Richardson, Rockwall, Royse City, and Wylie**

-
- 1951 – Created by Texas Legislature to Provide Water Service
 - 1956 – Began Providing Treated WATER to Member Cities
 - 1970s – Expanded to WASTEWATER Service
 - 1980s – Expanded to SOLID WASTE Service



REGIONAL PROVIDER: WATER, WASTEWATER, SOLID WASTE



NORTH TEXAS MUNICIPAL WATER DISTRICT

BY THE NUMBERS

DID YOU KNOW?



SERVES about **80** COMMUNITIES

Service area of 2,200 square miles in 10 counties

Serving 1.7 million people in one of the fastest-growing regions in the country

14
WATER PUMP STATIONS

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

575+
MILES
WATER TRANSMISSION PIPELINES

250+
MILES
LARGE-DIAMETER WASTEWATER PIPELINES

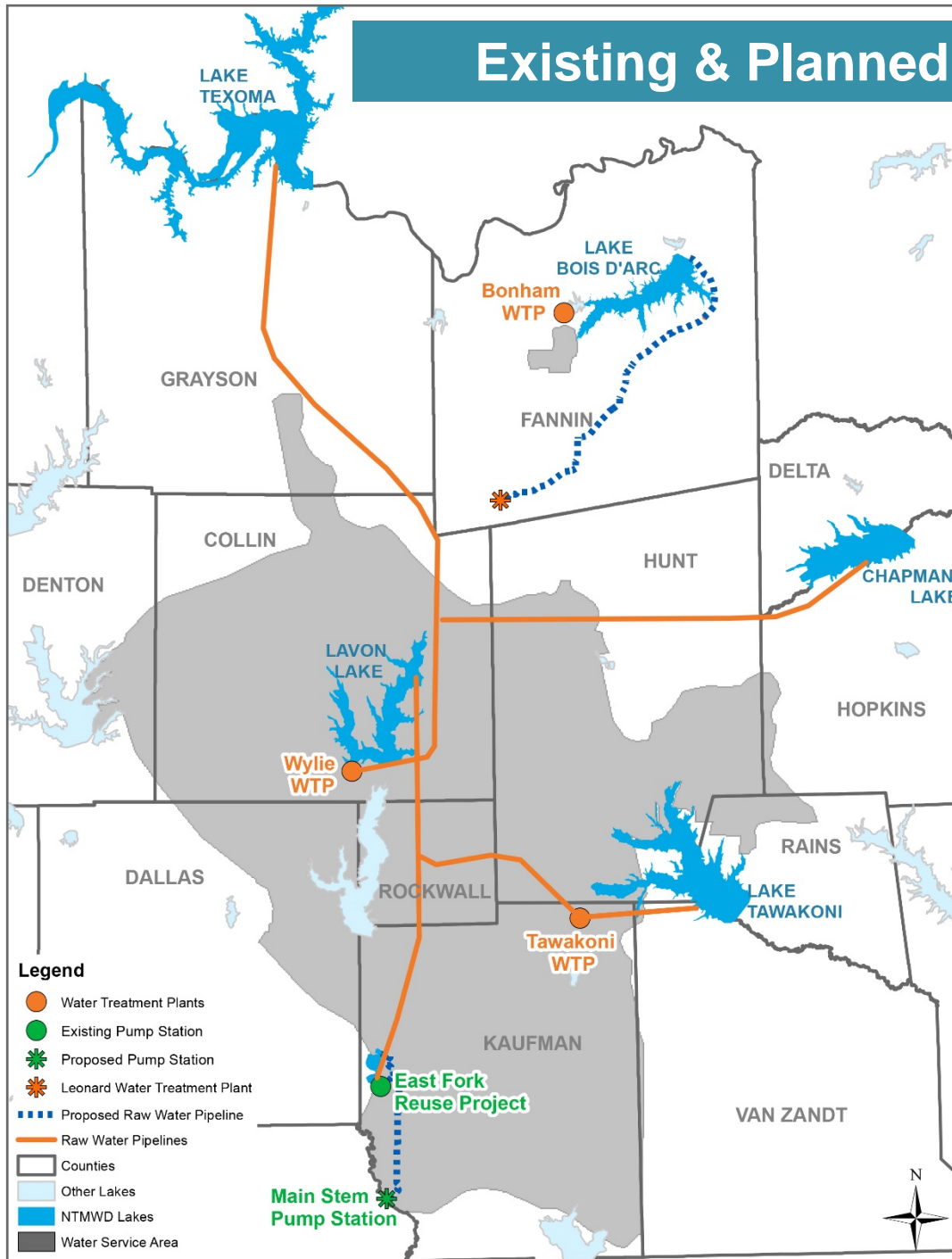
14
WASTEWATER TREATMENT PLANTS

151+
MGD
WASTEWATER TREATMENT CAPACITY
MGD (million gallons/day)

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

1 MILLION+
tons/year accepted at landfill

Existing & Planned Raw Water Supplies



- Legend**
- Water Treatment Plants
 - Existing Pump Station
 - ✱ Proposed Pump Station
 - ✱ Leonard Water Treatment Plant
 - ⋯ Proposed Raw Water Pipeline
 - Raw Water Pipelines
 - Counties
 - Other Lakes
 - NTMWD Lakes
 - Water Service Area

Existing:

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

Future:

- New Reservoir in Fannin County

Water Treatment Plant Capacity

806 MGD fully ozonated

Wylie: 770 MGD
 Tawakoni: 30 MGD
 Bonham: 6 MGD



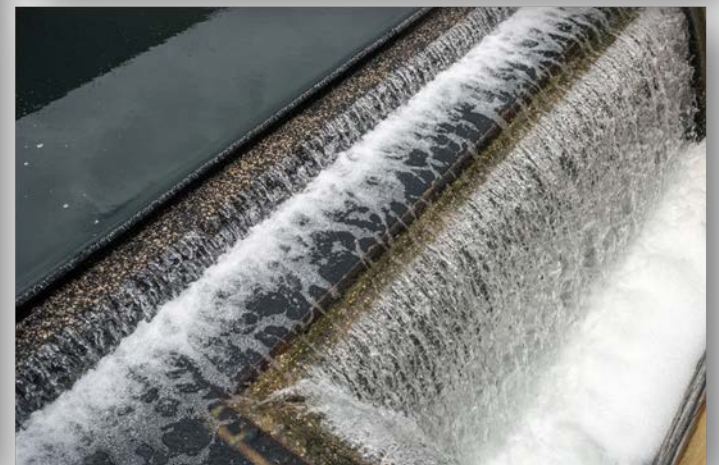
WASTEWATER SYSTEM

Entities Served

- Serve 24 communities
- Approximately 1-million North Texas residents

Facilities

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



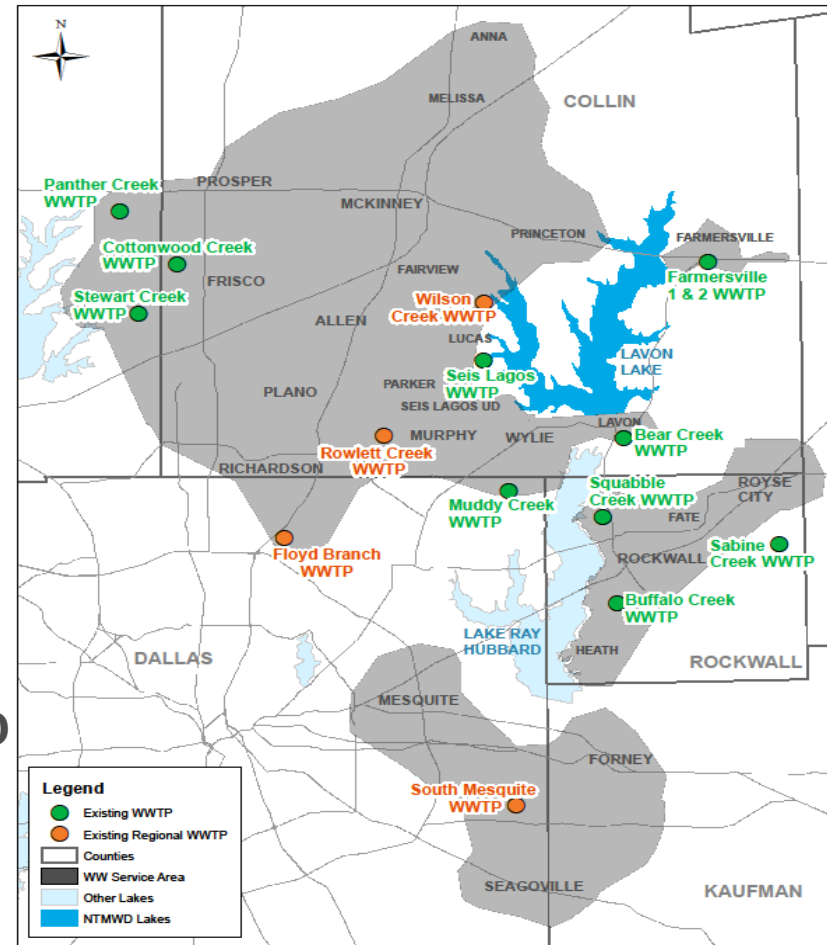


REGIONAL WASTEWATER SYSTEM

- **Regional WWTP/Capacity**
 - Wilson Creek WWTP 56.00 MGD
 - South Mesquite WWTP 33.00 MGD
 - Rowlett Creek WWTP 24.00 MGD
 - Floyd Branch WWTP 4.75 MGD
 - TOTAL 117.75 MGD**

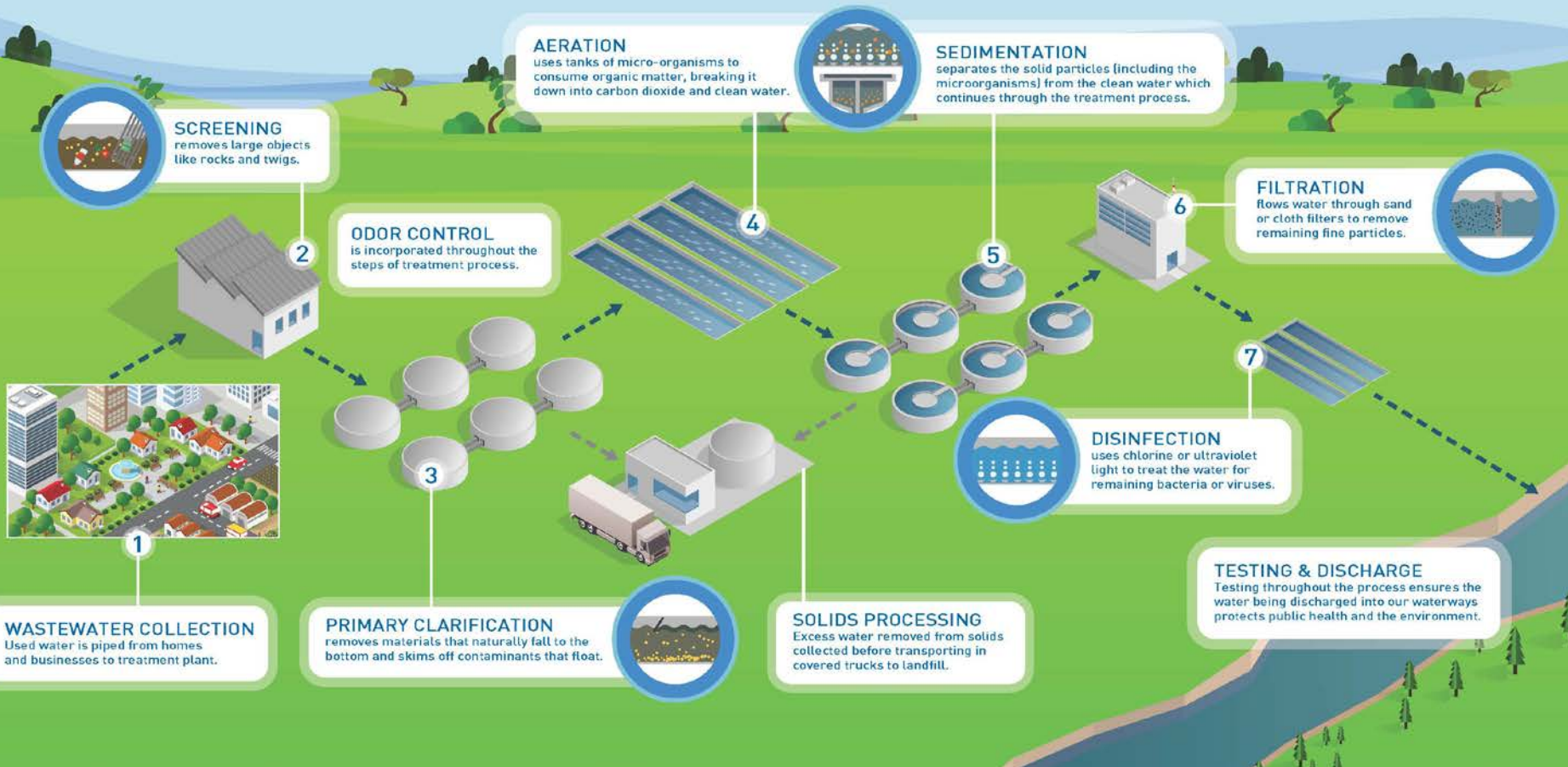
- **Sewer System WWTP**
 - Number of Sewer System Plants in Operation: 10
 - Total Sewer System Capacity: 34 MGD

- **Total Wastewater Treatment Capacity: 151.75 MGD**





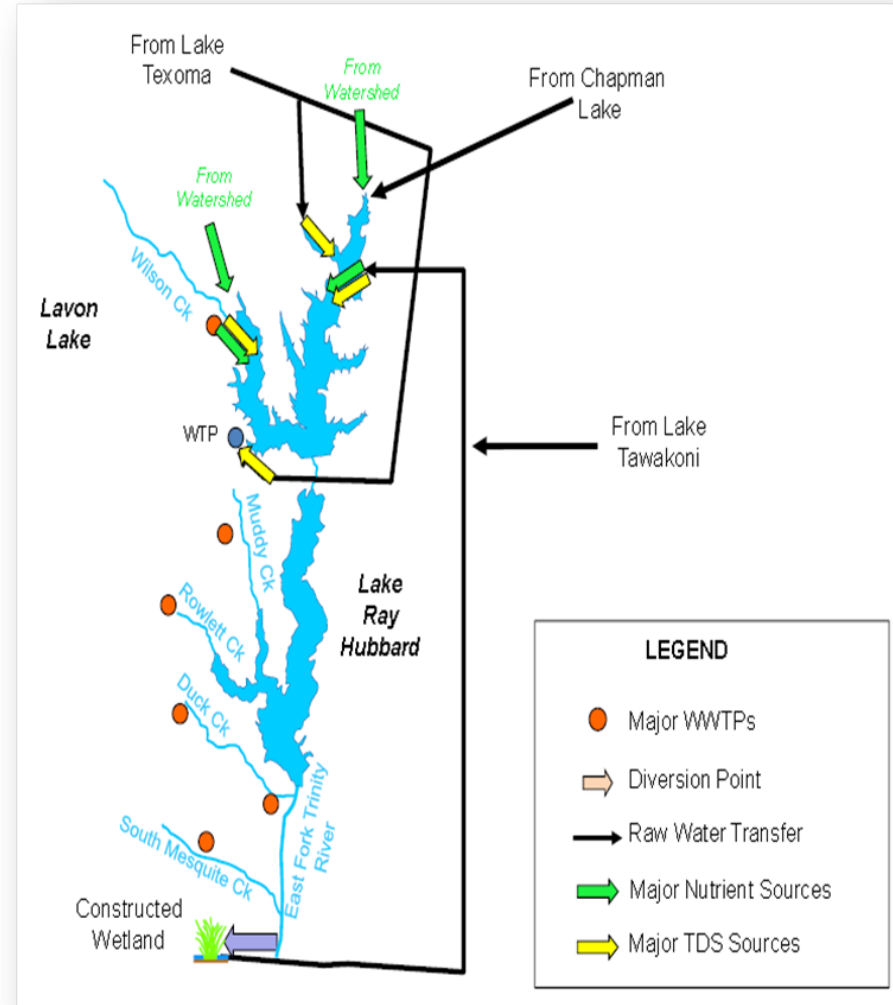
7 Steps to Clean Water





NTMWD WATERSHED MANAGEMENT

- We all live in a watershed
- Watershed Management embraces concept of “One Water”
- Storm run-off and treated wastewater returns to streams and lakes
- Program involves:
 - Evaluating water quality, land
 - Developing protection goals, implementation plan
 - Assessing and adjusting based on results





WATER CONSERVATION AND EDUCATION PROGRAMS

- Conservation critical strategy for maximizing supplies
- Education critical to protect our watershed and wastewater infrastructure



WaterMyYard.org



Sister Grove Regional Water Resource Recovery Facility Overview



SISTER GROVE REGIONAL WATER RESOURCE RECOVERY FACILITY

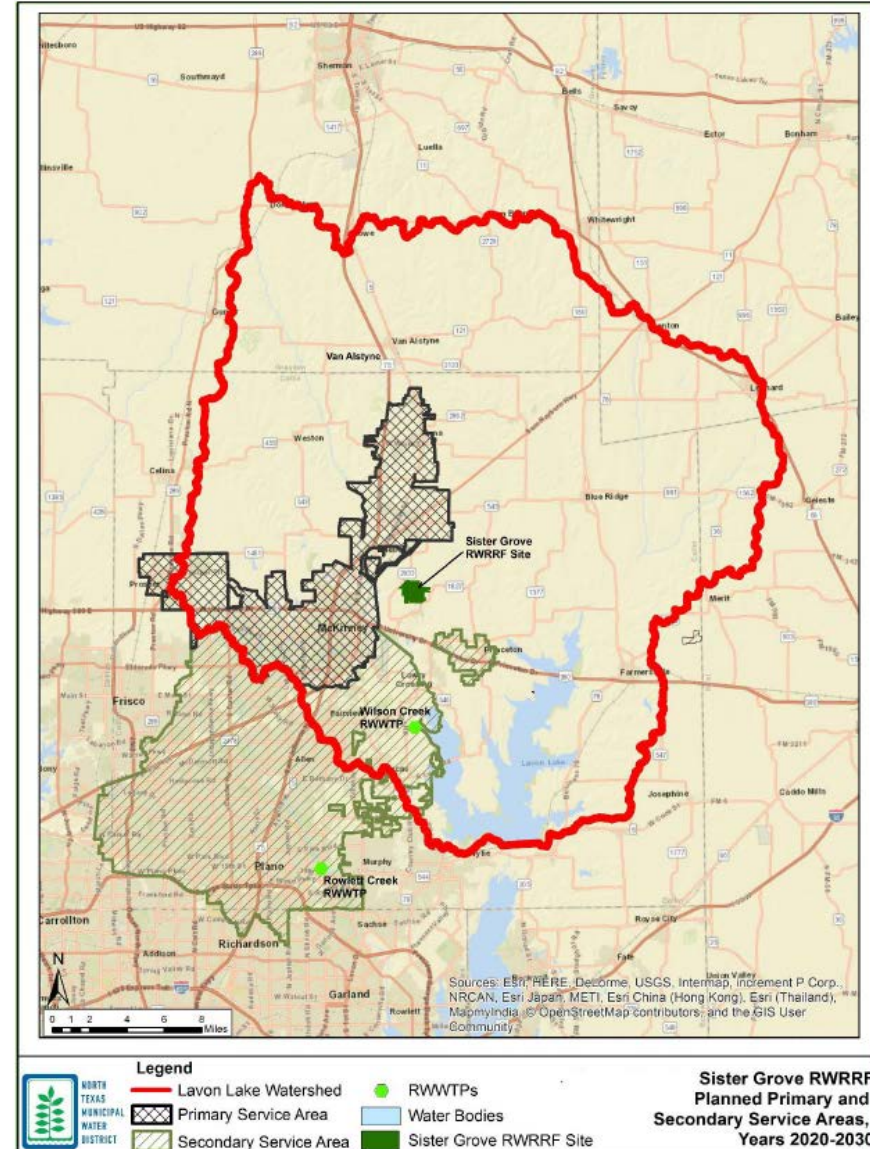
Project Background and Update

- **Member cities and surrounding communities in Collin County are growing**
- **North Texas Municipal Water District (NTMWD) must plan and construct infrastructure required to meet future growth and protect Lavon Lake**
- **NTMWD recently purchased over 1000 acres for facility site along with discharge location on Stiff Creek**
- **NTMWD has submitted an application to the Texas Commission on Environmental Quality (TCEQ) for the construction of a water resource recover facility that will serve the growing wastewater treatment needs of the region for the future**
- **Goal: Be a good neighbor by planning and constructing facility with proven, safe technologies that align with industry best practices and one which will blend into the surrounding community**



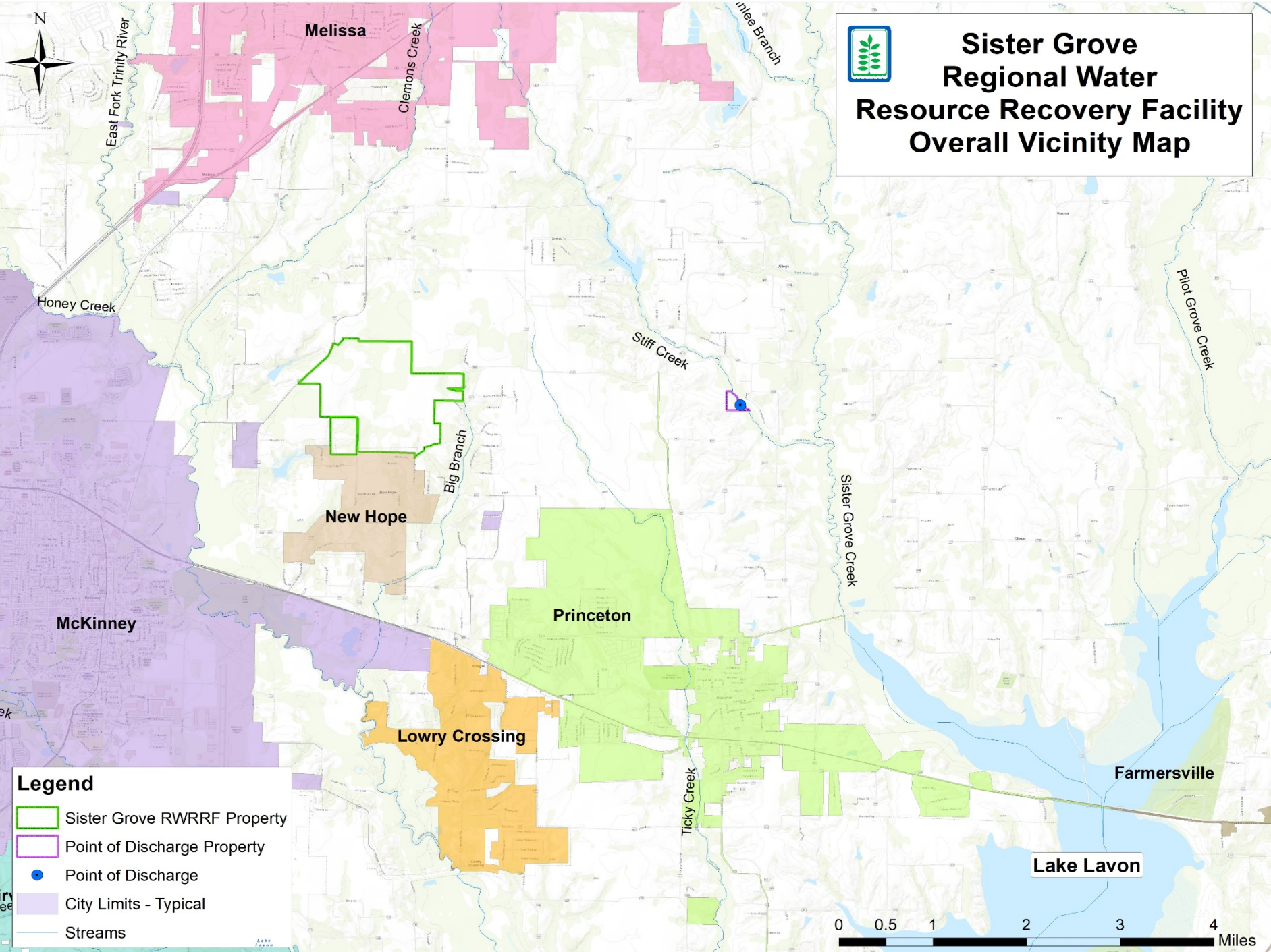
SERVICE AREA OF NEW FACILITY

- Located near current and future growth
- Recovered water released into Northern Lavon Lake
- Protect Lavon Lake Watershed





Sister Grove Regional Water Resource Recovery Facility Overall Vicinity Map



Legend

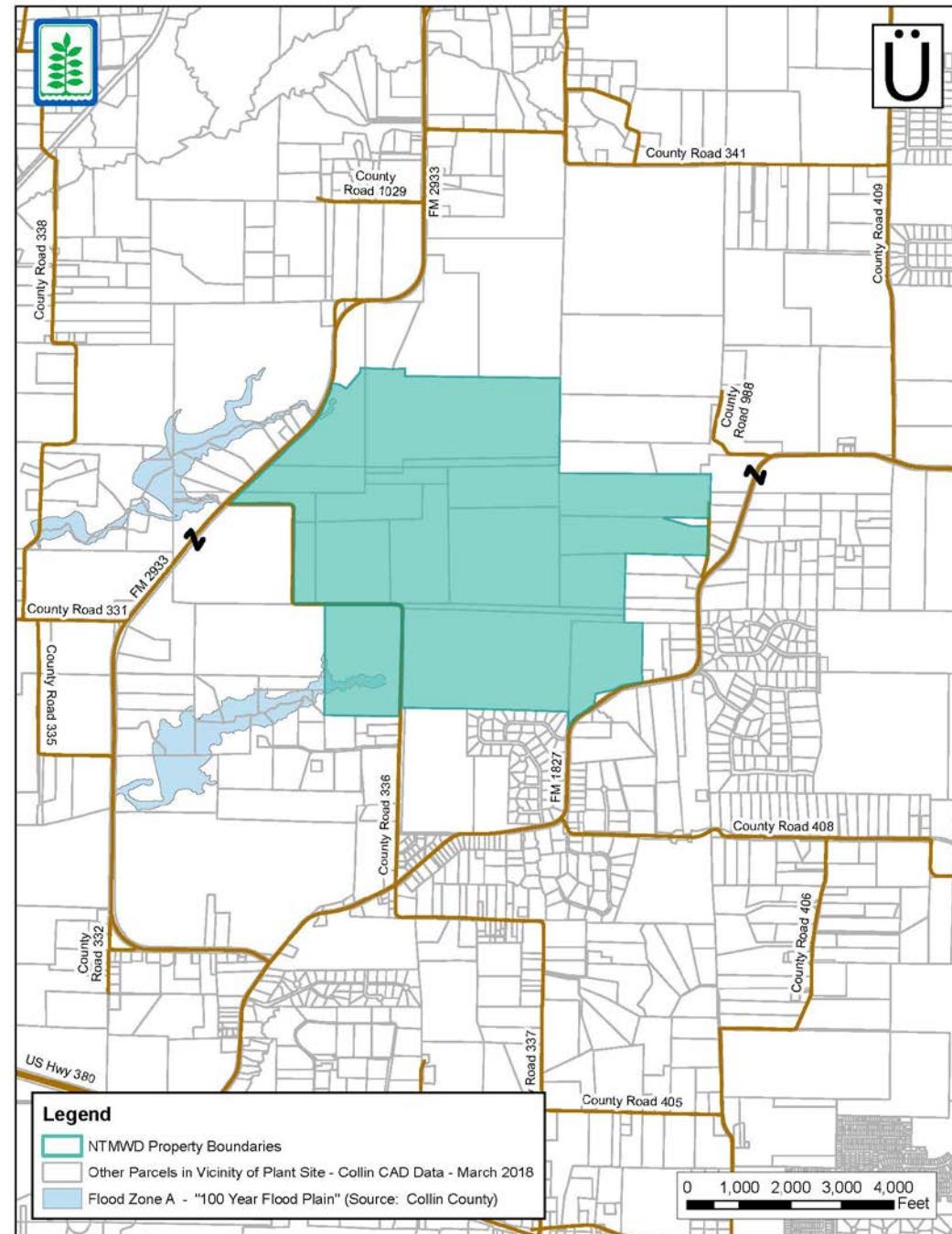
- Sister Grove RWRRF Property
- Point of Discharge Property
- Point of Discharge
- City Limits - Typical
- Streams





ADJACENT LANDOWNERS

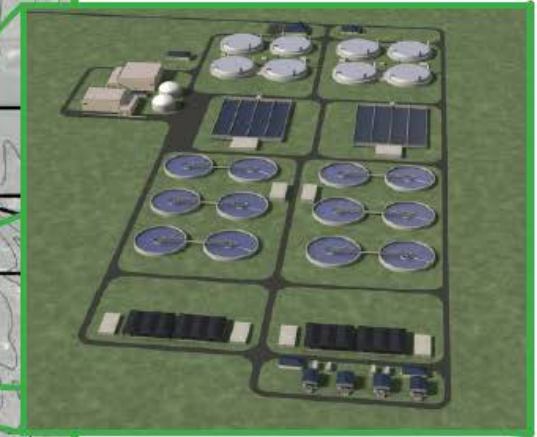
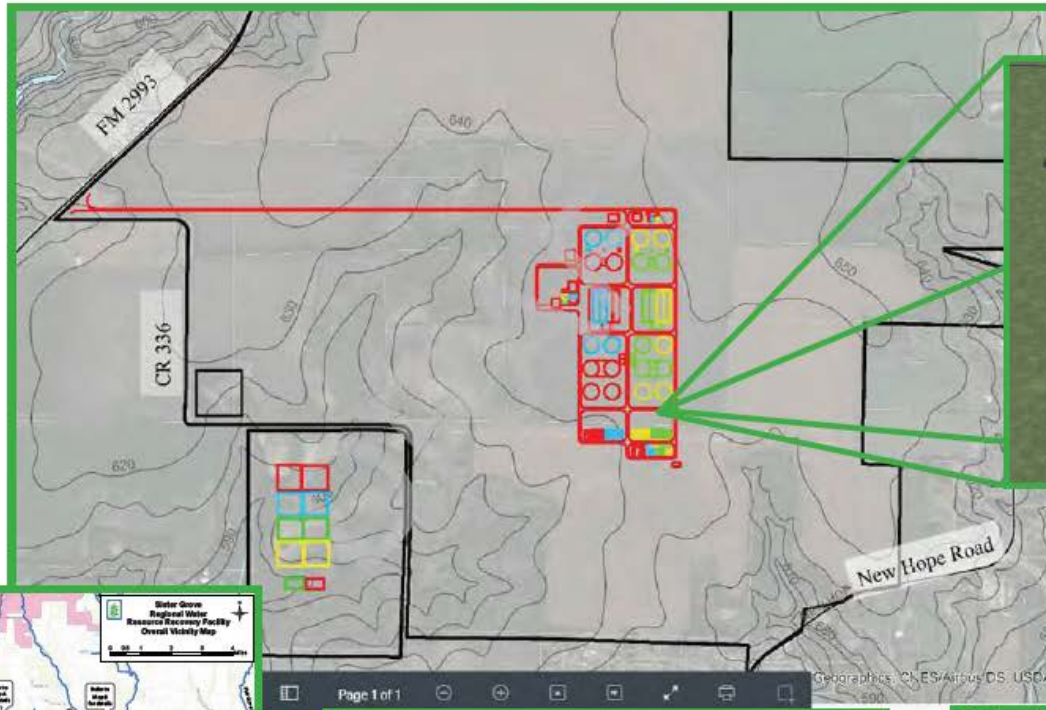
- Letters sent to adjacent landowners ahead of TCEQ required notification
- Engaged New Hope elected officials
- Open to present to other community, neighborhood groups
- Provide recommendations on comment cards



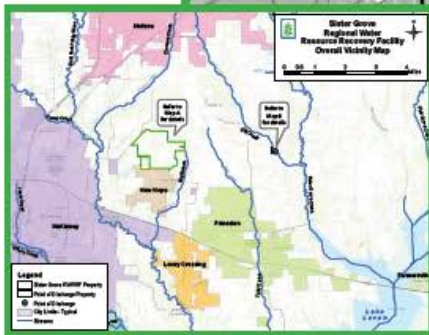


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Proposed Regional Water Resource Recovery Facility Site



Conceptual 3D Facility



The Proposed WRRF will be situated on a 1,000 acre land area east of FM 2933 and north/west of New Hope Road.



Facility will be designed to integrate into neighboring areas by using green spaces, earthen berms, screening, tree plantings, and/or natural vegetation

Proposed Plant Site layout



LEGEND

	PHASE I - ONLINE 2023 16mgd AADF
	PHASE II - ONLINE 2028 32mgd AADF
	PHASE III - ONLINE 2033 48mgd AADF
	PHASE IV - ONLINE 2038 64mgd AADF

NOTES:

1. TREATMENT TRAIN DOES NOT INCLUDE ANY ANAEROBIC UNITS, ALL TREATMENT UNITS ARE A MINIMUM OF 150 FT FROM NEAREST PROPERTY BOUNDARY.
2. PLANNED ELECTRICAL SUBSTATION, BUFFER WILL BE MET BY LEGAL RESTRICTION.
3. SECTION OF BUFFER IS MET BY LEGAL RESTRICTION OF STATE AND/OR COUNTY ROADS.

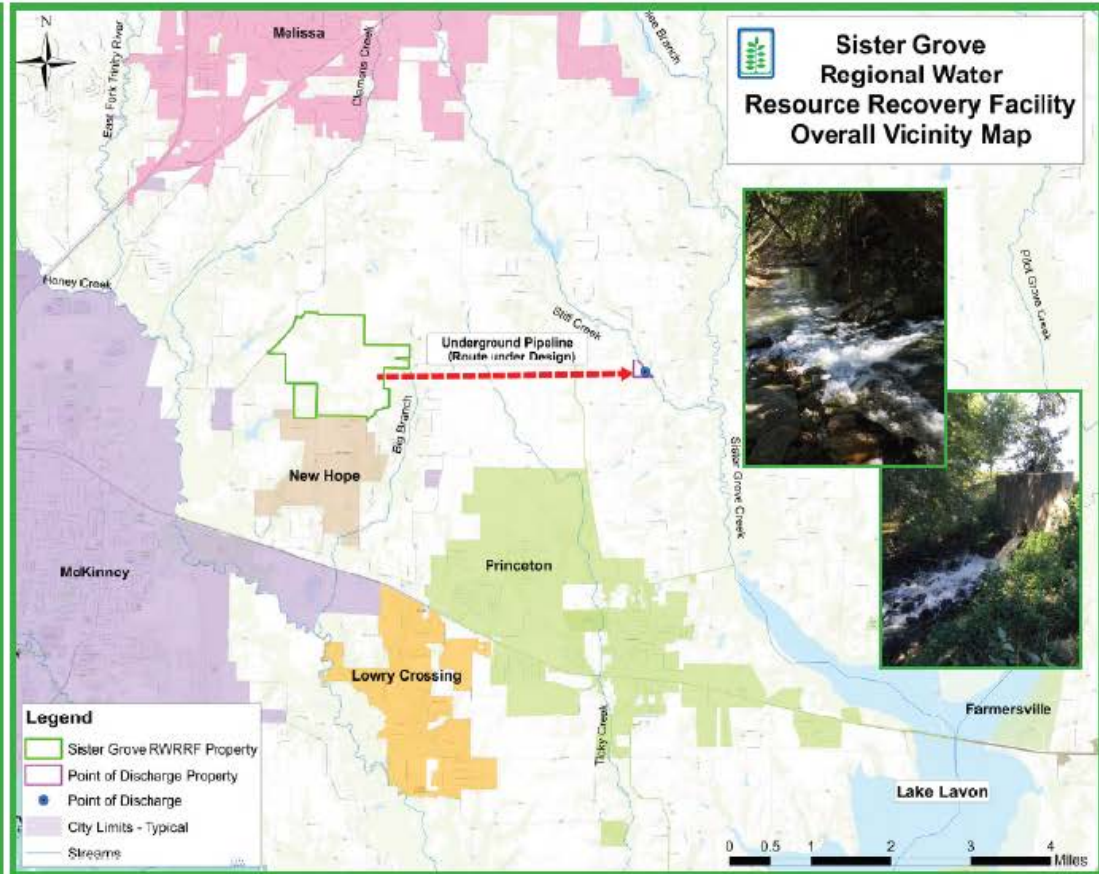


SISTER GROVE RWRWF 2038 SITE PLAN
1" = 800'



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Recovered Water Release Location



A steady flow of clean water will blend with the surrounding habitat



Questions



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Who We Are

Overview



BY THE NUMBERS

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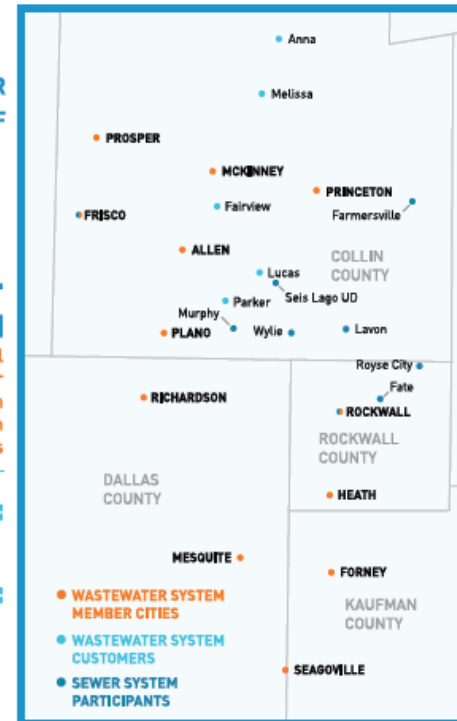
1 MILLION+
tons/year accepted at landfill

Wastewater Services

COMMUNITIES SERVED

211
WASTEWATER STAFF

\$215+
MILLION
In regional wastewater conveyance system construction contracts



252
MILES

large-diameter wastewater pipelines

Up to
152 MGD
(MILLION GALLONS/DAY)
Total wastewater treatment capacity



14
WASTEWATER treatment plants

37.5
BILLION
Gallons of wastewater treated this year

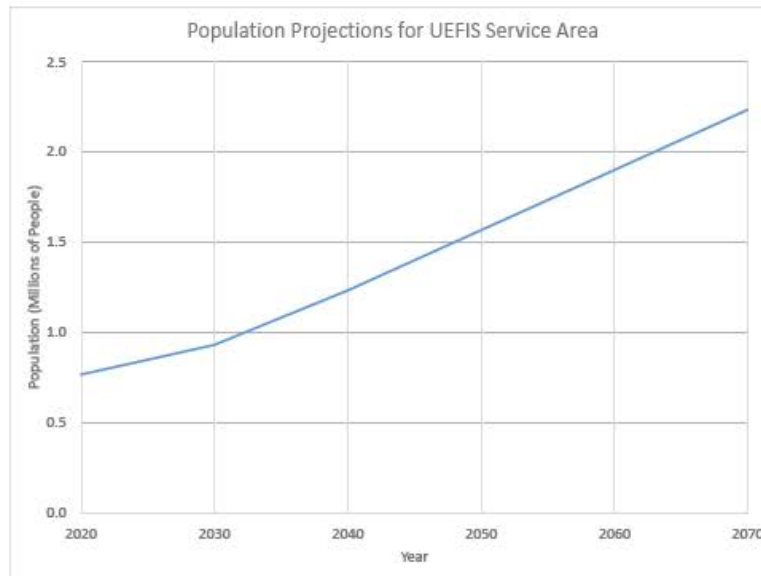
13.9
BILLION
Gallons treated in wetland for reuse

18 BILLION
Gallons treated wastewater returned to Lavon Lake for reuse



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New Facility Needed in Service by 2023



Population projections for communities served indicates the new facility should be in service by 2023.



Project Timeline

Site Analysis
2016 - 2017

Facility Design
2018 - 2020

TCEQ Permitting
2018 - 2019

Construction
2020 - 2023

Operations
2023 and onward

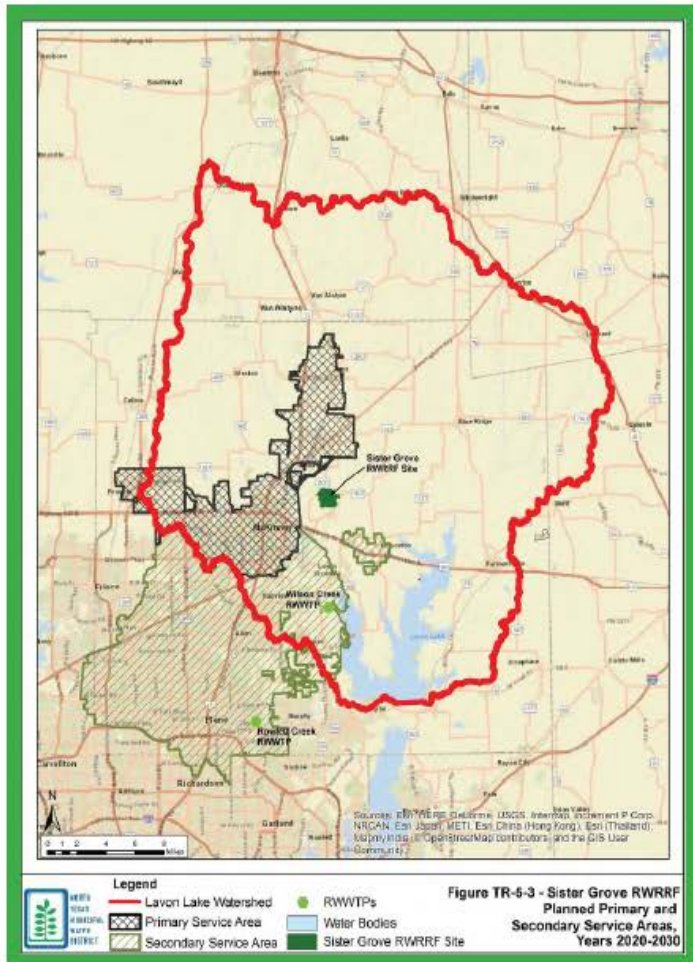
We serve some of the fastest-growing communities in the country.



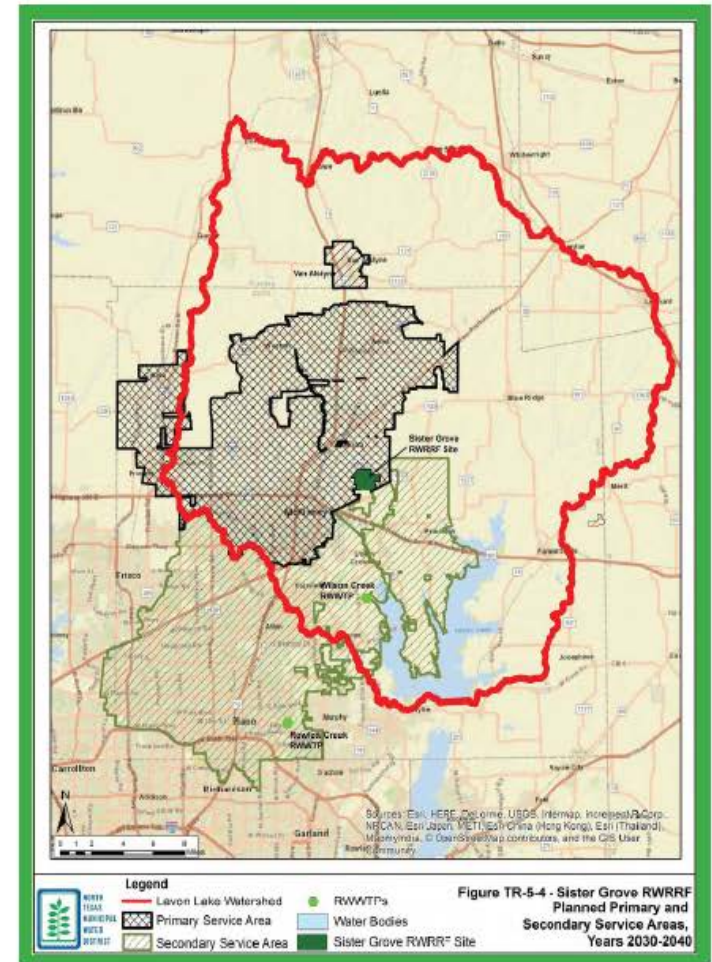
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NTMWD Service Maps Current and Future

2020 - 2030



2030 - 2040



The Sister Grove Regional Water Resource Recovery Facility (RWRRF) site was chosen since it is geographically located near the current and future growth areas and will continue to protect the water quality in the Lavon Lake watershed.

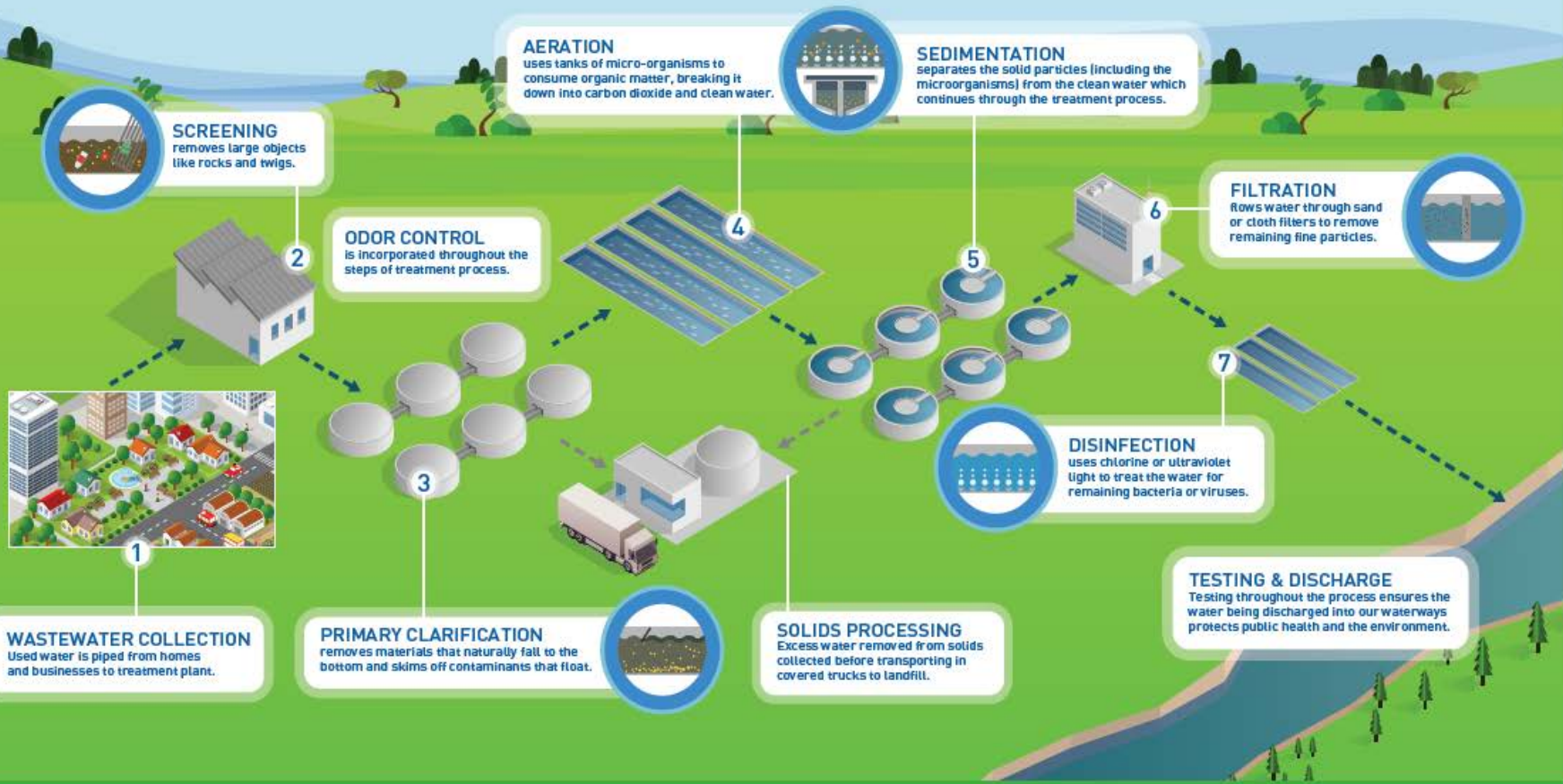


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Follow the Flow



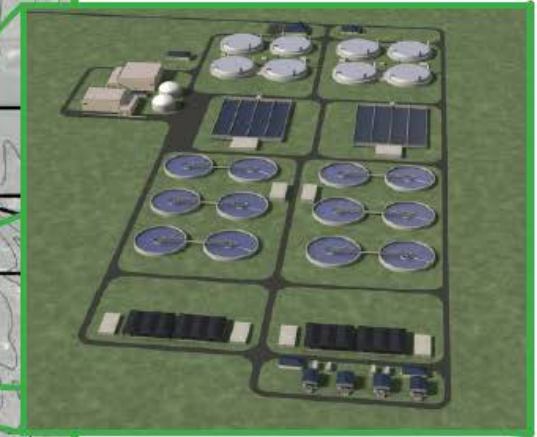
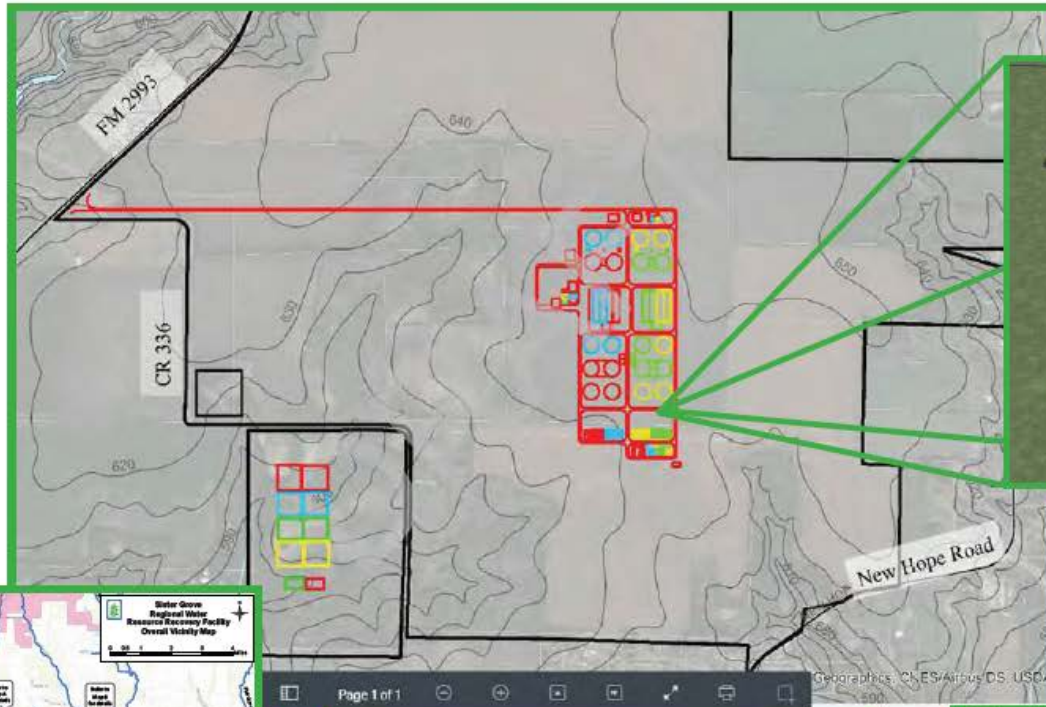
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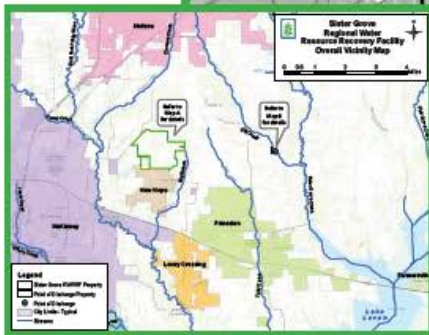


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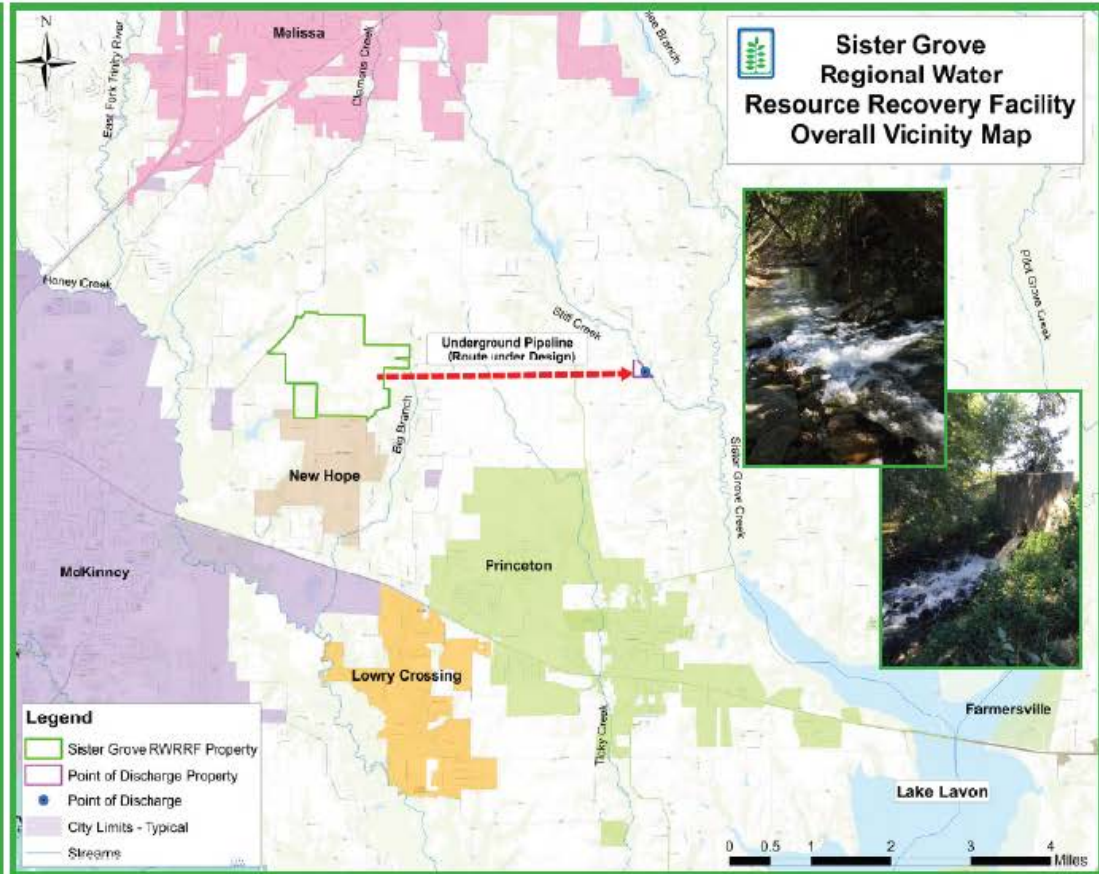


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