NORTH TEXAS MUNICIPAL WATER DISTRICT

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



BOIS D'ARC LAKE

Friday Women's Club of Whitewright

May 3, 2019

Jeff McKito, Public Relations Specialist

NORTH TEXAS MUNICIPAL WATER DISTRICT



OVERVIEW

- History and Present Day of NTMWD
- Where We Get Our Water
- Why Bois d'Arc Lake is Needed
- Bois d'Arc Lake and Related Projects Construction
- 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**



REGIONAL PROVIDER: WATER, WASTEWATER, SOLID WASTE

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BY THE NUMBERS

DID YOU KNOW?



SERVE up to **80** COMMUNITIES
75 Daily basis
15 Emergency basis

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

13 WASTEWATER TREATMENT PLANTS

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

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

985,000+ tons/year accepted at landfill

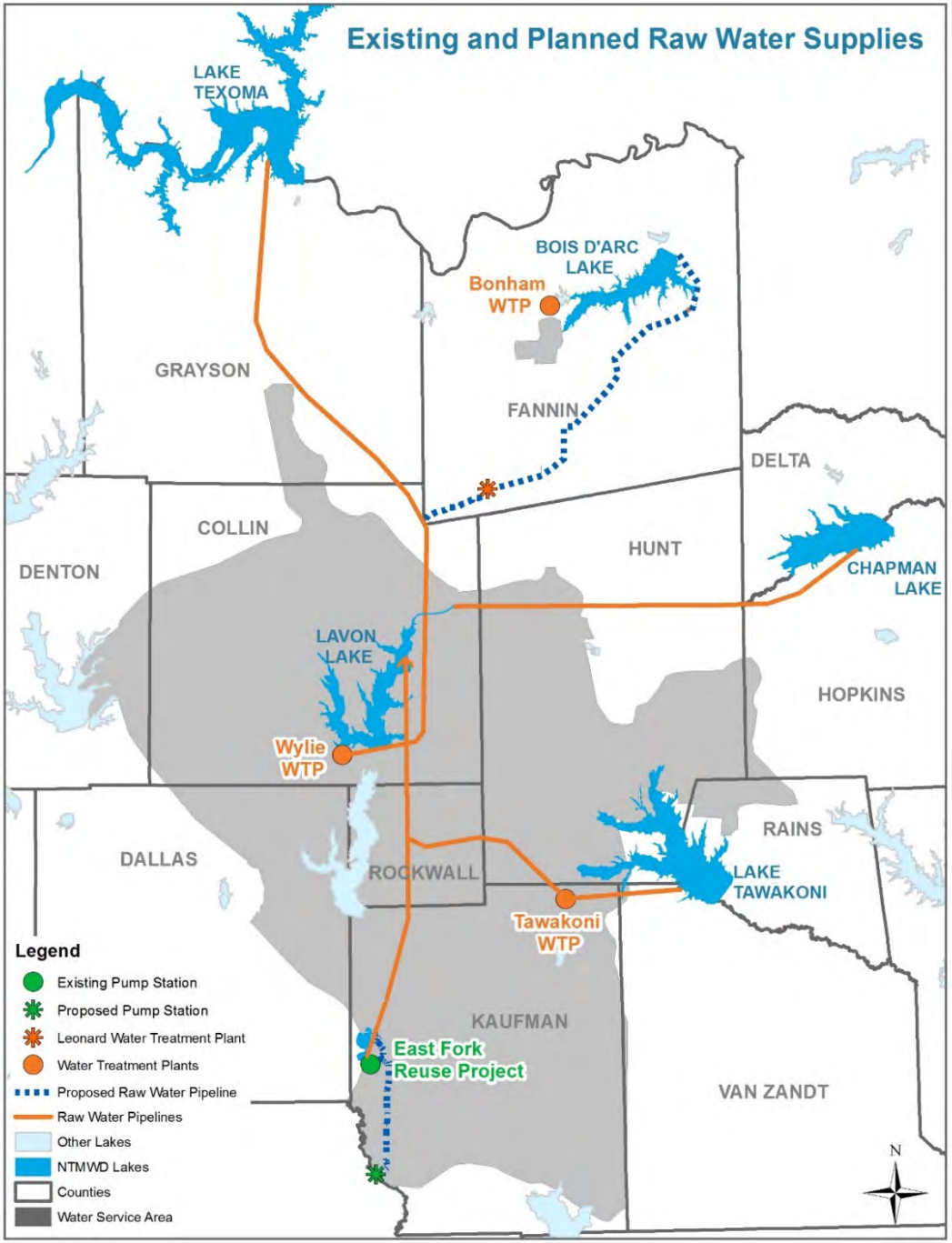






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Raw Water Supplies



Existing:

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

In Progress:

- Bois d'Arc Lake



WATER SUPPLY PLANNING: FUTURE SOURCES

Conservation and Reuse = 21%

New Sources, Reservoirs = 25%

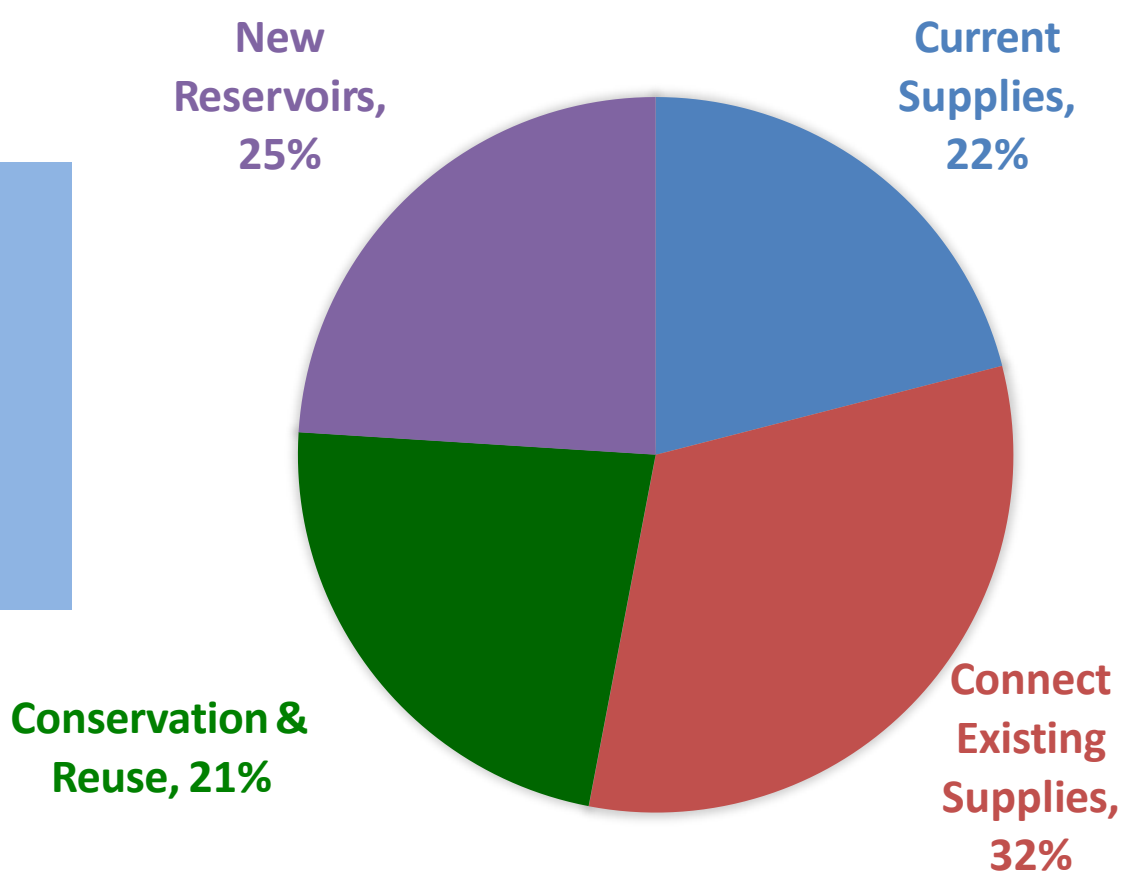


Chart represents NTMWD supplies in 2060
Source: 2016 Region C Water Plan

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Water Essential for Economic Growth

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

NTMWD Total Population Served: Historical and Projected

Year	1956	1961	1974	1994	2019	2040	2070
Population Served	32,000	60,000	200,000	800,000	1,700,000	2,500,000	3,700,000



Legacy West - Plano



The Star - Frisco



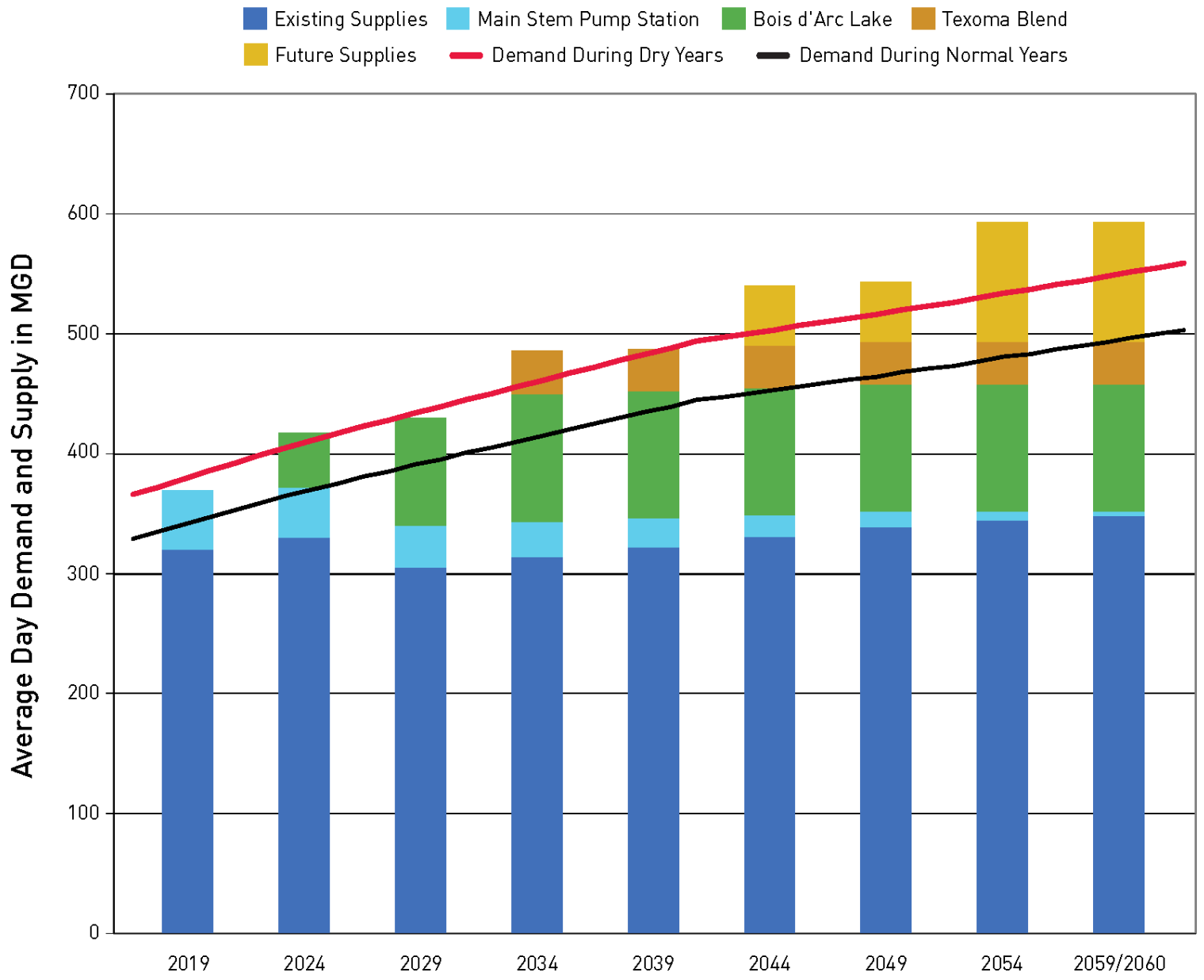
Watters Creek Convention Center – Allen



Craig Ranch - McKinney

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Meeting the Water Needs of North Texas 2019-2060



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BOIS D'ARC LAKE

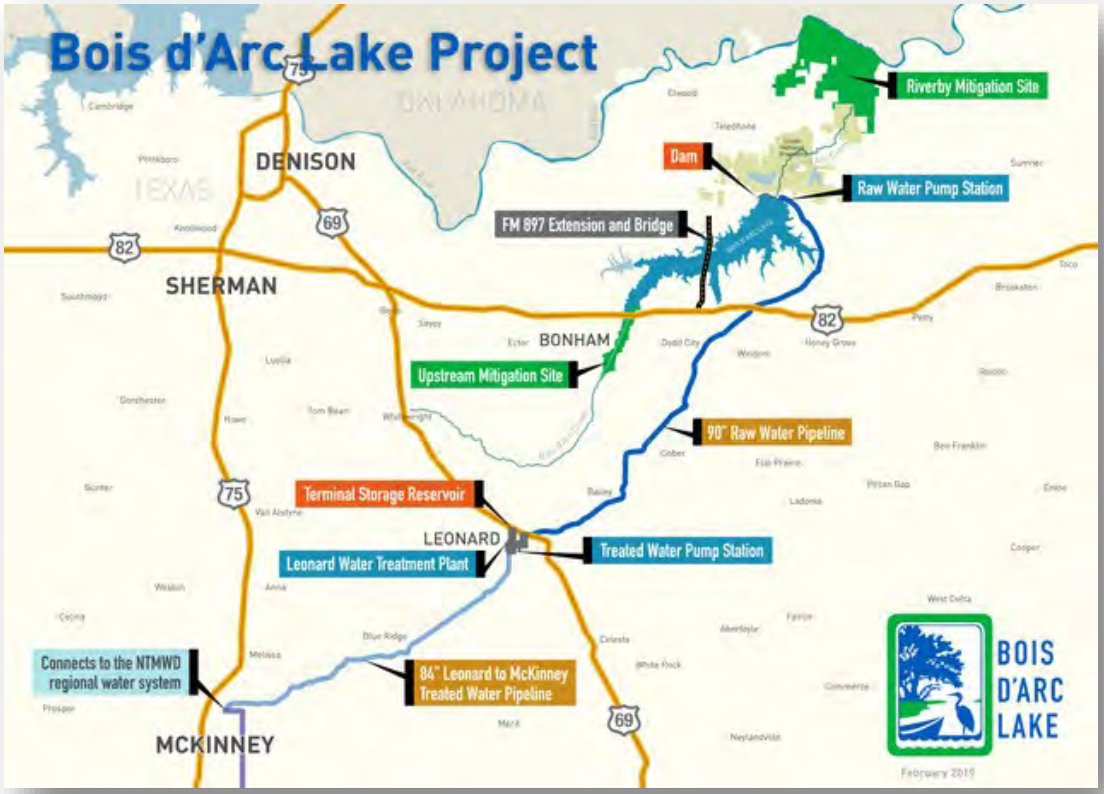
- Decade+ of planning, permitting
- Surface Area: 16,641 acres
- Supply: Firm Yield of 108 MGD
- Average/Max Depth: 22/70 ft
- Lake Elevation: 534 ft mean sea level (MSL)
- Owner & operator: NTMWD
- Cost Estimate: $1.6B
- Construction began May 2018
- Impoundment expected Fall 2020
- Water delivery expected Spring 2022



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

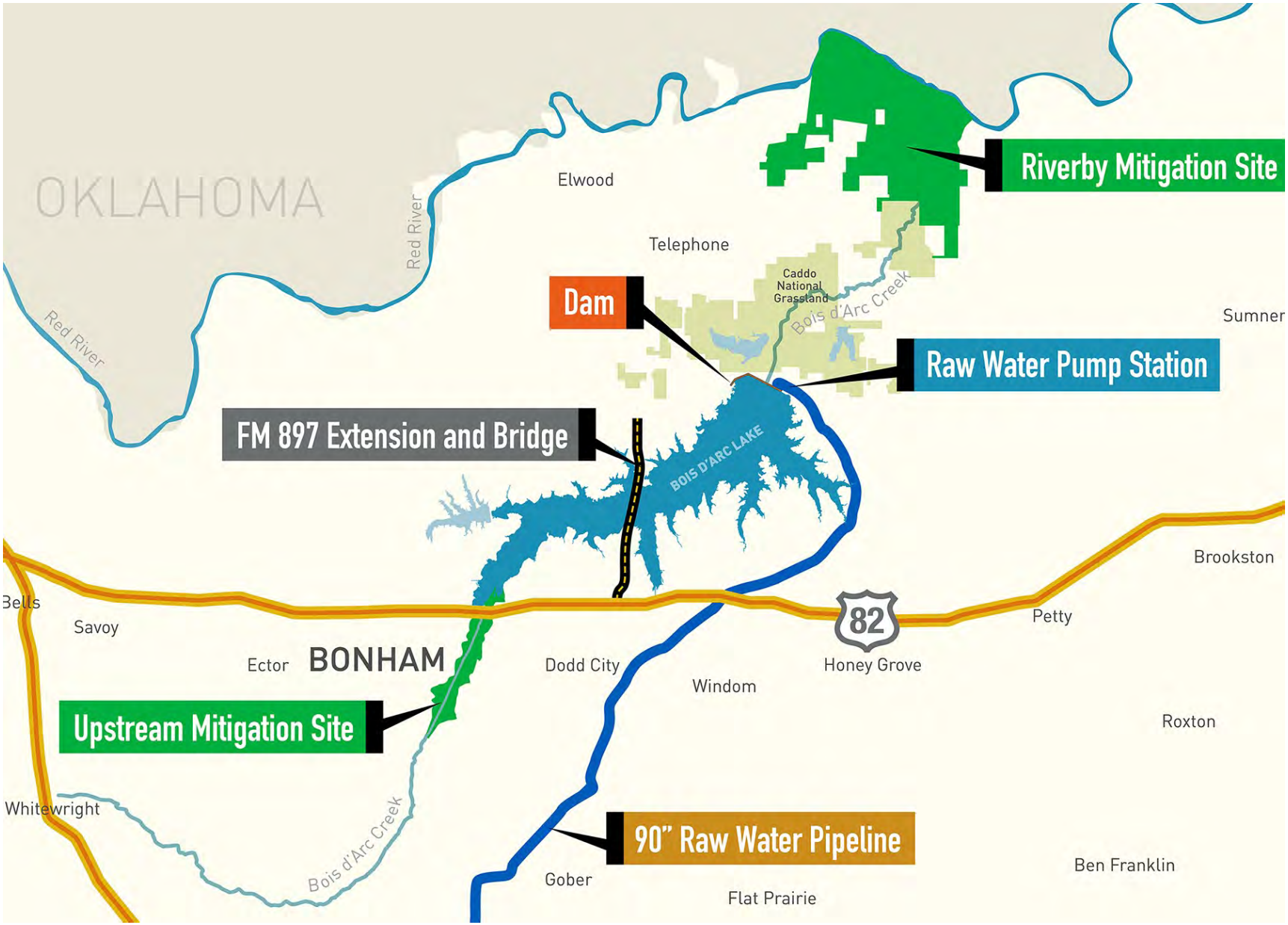
Bois d'Arc Lake: Key Components & Related Infrastructure

1. Dam and intake structure for reservoir
2. 35-mile raw water pipeline
3. $50 million road projects
4. Mitigation area (17,000+ acres)
5. New water treatment plant, pump station, terminal storage reservoir
6. 25-mile treated water pipeline





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BOIS D'ARC LAKE DAM & RESERVOIR



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BOIS D'ARC LAKE DAM AND RESERVOIR

Dam Embankment



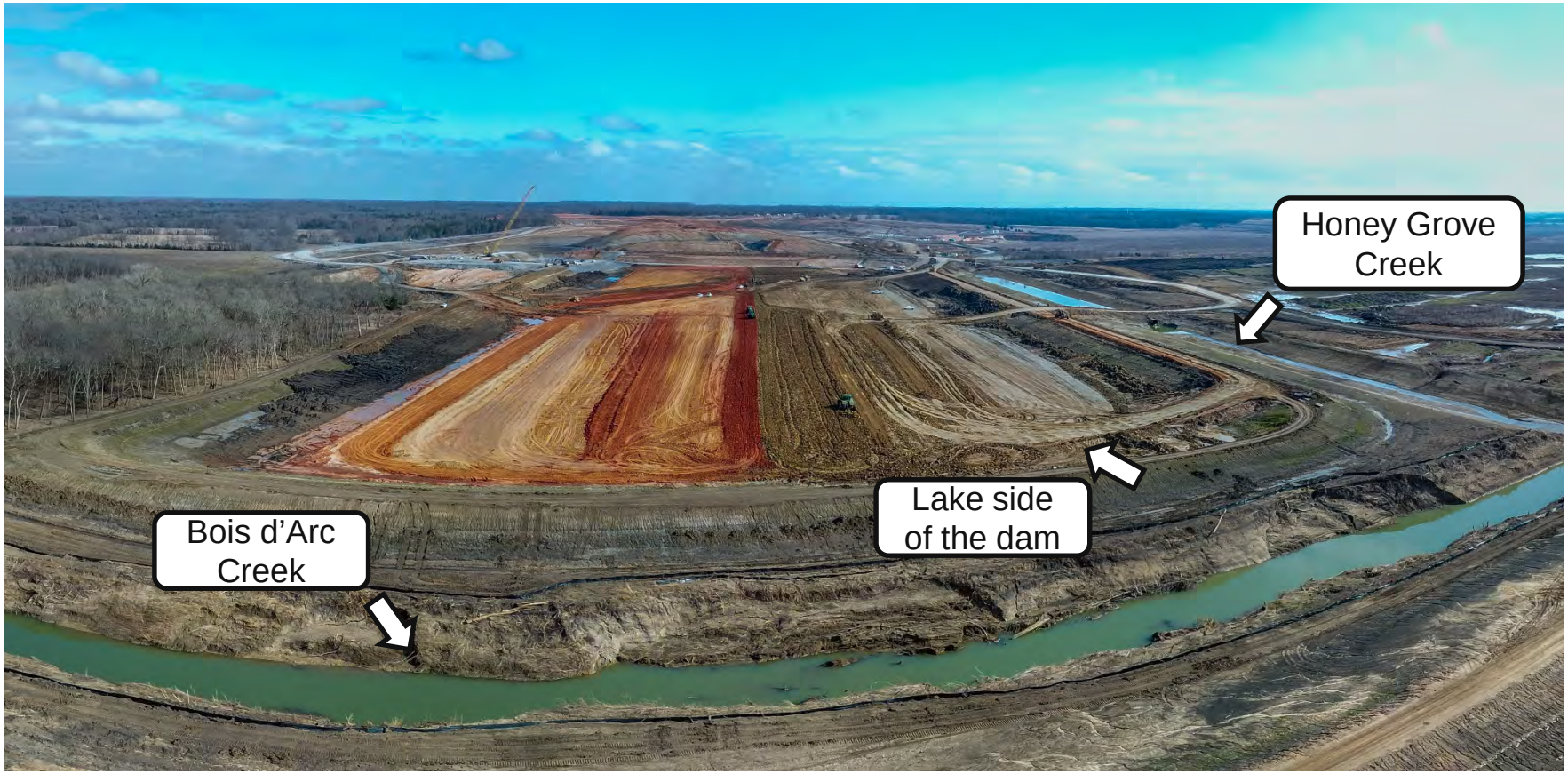
2-mile long, 90-ft tall dam – Looking West

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BOIS D'ARC LAKE DAM AND RESERVOIR

Dam Embankment



2-mile long, 90-ft tall dam – Looking East

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BOIS D'ARC LAKE DAM AND RESERVOIR

Raw Water Intake Structure



Excavation of the Intake Structure and Intake Conduit



Prepping the Intake Structure for foundation pour

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BOIS D'ARC LAKE DAM AND RESERVOIR

Raw Water Intake Structure



Slab = 1,100 cubic yards of concrete



Foundation pour

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BOIS D'ARC LAKE DAM AND RESERVOIR

Raw Water Intake Structure



Crews preparing for seal slab placements for conduit pipes



Two 78-inch conduit wall pipes

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BOIS D'ARC LAKE DAM AND RESERVOIR

Raw Water Intake Structure



Pouring walls for the Intake Structure



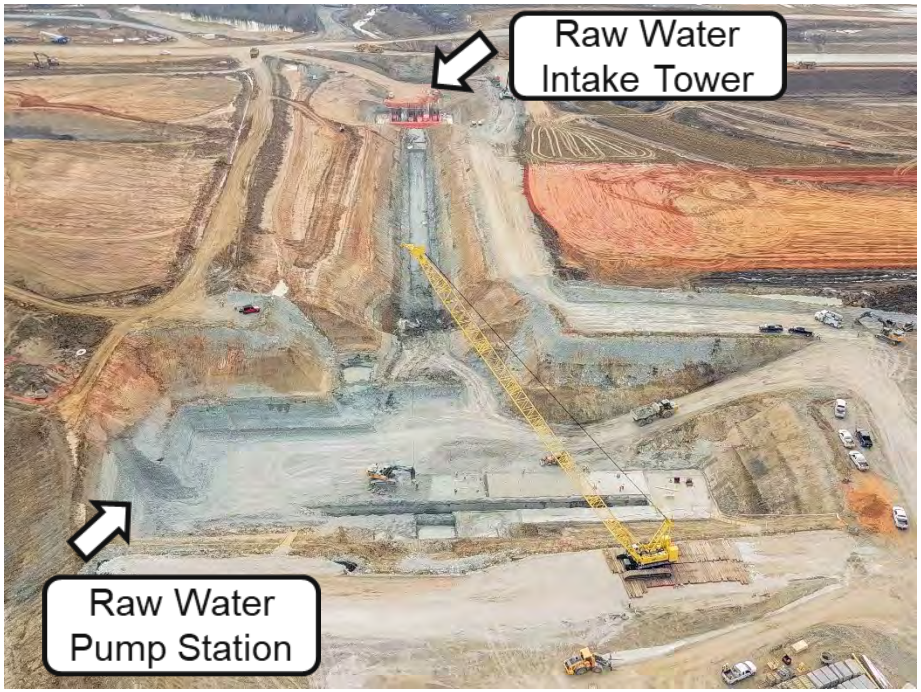
Intake Structure looking toward the Raw Water Pump Station

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BOIS D'ARC LAKE DAM AND RESERVOIR

Raw Water Pump Station



Looking south at Raw Water Pump Station with Intake Structure in background



Excavation of the Raw Water Pump Station

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BOIS D'ARC LAKE DAM AND RESERVOIR

Raw Water Pump Station



Placing seals slabs
at the Raw Water Pump Station



Placing seal slabs

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BOIS D'ARC LAKE DAM AND RESERVOIR

Raw Water Pump Station





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BOIS D'ARC LAKE DAM AND RESERVOIR

Service Spillway and Stilling Basin



Looking Northwest



Looking East

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BOIS D'ARC LAKE DAM AND RESERVOIR

Raw Water Pipe



90-inch pipe



Pipe near the dam site

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BOIS D'ARC LAKE DAM AND RESERVOIR

Raw Water Pipe



Pipe installation at the dam site



21 tunnels and crossings need to be done



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FM 897 Bridge





1.3-mile-long bridge

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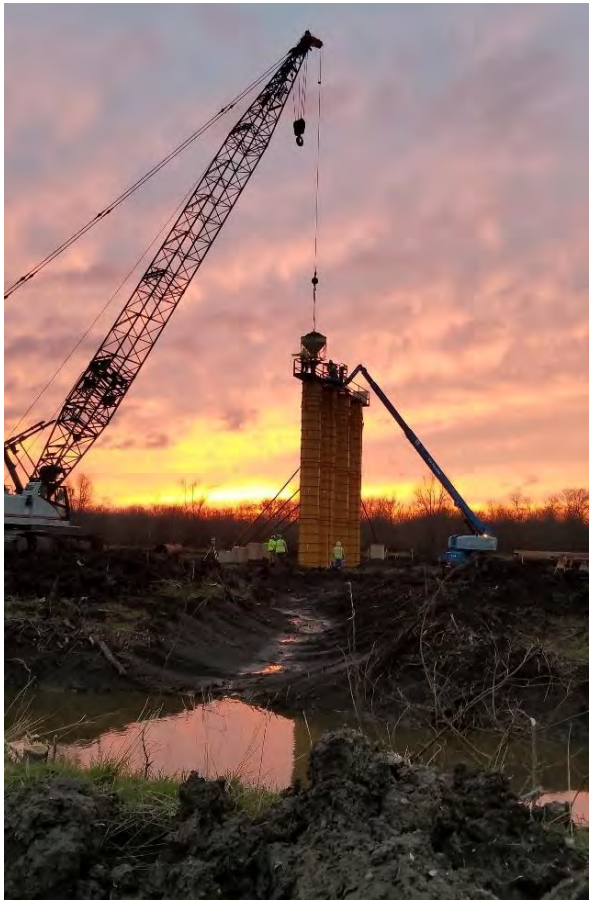


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FM 897 Bridge



Pouring columns



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BOIS D'ARC LAKE

Fannin County Roads



Bridge work



Prep work on CR 2985

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BOIS D'ARC LAKE RELATED PROJECT

Leonard Water Treatment Plant



Looking north at plant site

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BOIS D'ARC LAKE RELATED PROJECT

Leonard Water Treatment Plant



Looking northeast at plant site

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BOIS D'ARC LAKE RELATED PROJECT

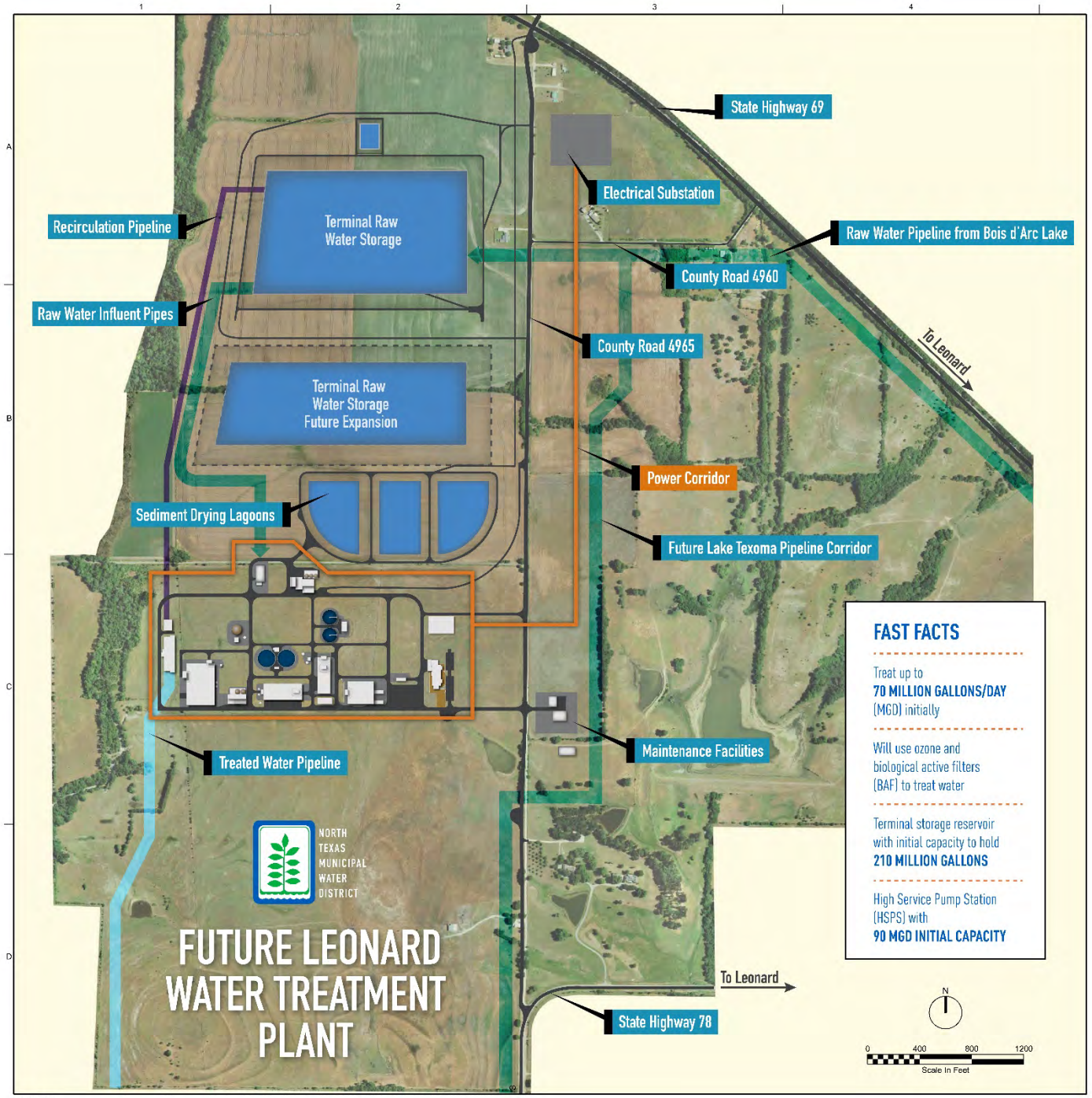
Leonard Water Treatment Plant



Working on reinforcing steel for pipe encasement for Chlorine Contact Basin



Clearwell excavation


NORTH TEXAS MUNICIPAL WATER DISTRICT
State Highway 69
Electrical Substation
Recirculation Pipeline
Terminal Raw Water Storage
Raw Water Pipeline from Bois d'Arc Lake
County Road 4960
Raw Water Influent Pipes
County Road 4965
To Leonard
Terminal Raw Water Storage Future Expansion
Power Corridor
Sediment Drying Lagoons
Future Lake Texoma Pipeline Corridor
FAST FACTS
Treat up to 70 MILLION GALLONS/DAY (MGD) initially
Will use ozone and biological active filters (BAF) to treat water
Terminal storage reservoir with initial capacity to hold 210 MILLION GALLONS
High Service Pump Station (HSPS) with 90 MGD INITIAL CAPACITY
Maintenance Facilities
Treated Water Pipeline
NORTH TEXAS MUNICIPAL WATER DISTRICT
FUTURE LEONARD WATER TREATMENT PLANT
To Leonard
State Highway 78
N
0 400 800 1200
Scale In Feet
December 2013

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Mitigation



Crews planting trees
Approx. 1.67 million planted



Shumard Oak, Water Oak, Willow Oak, Pecan, Sugarberry, American Elm

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Mitigation



Crews planting buttonbush



Stream restoration work

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TIMELINE TO WATER DELIVERY IN 2022

2003
Planning and Permitting Process Begins

JUNE 2015
Texas Commission on Environmental Quality Issues State Water Use Permit

FEBRUARY 2018
Army Corps of Engineers Issues 404 Permit and Record of Decision

MAY 2018
Dam and Reservoir Construction Begins

MAY 2018
Roadway/FM 897 Construction Begins

AUGUST 2018
Environmental Mitigation Work Begins

NOVEMBER 2018
Leonard Water Treatment Plant Construction Begins

FALL 2020
Dam Substantially Complete

SUMMER 2020
Boat Ramps and Recreational Facilities Complete

SUMMER 2020
Roadway/FM 897 Construction Complete

FALL 2019
Boat Ramps and Recreational Facilities Construction Begins

FALL 2019
Treated Water Pipeline Construction Begins

SPRING 2019
Raw Water Pipeline Construction Begins

FALL 2020
Reservoir Impoundment Begins

SUMMER 2021
Raw Water and Treated Water Pipelines Complete

FALL 2021
Leonard Water Treatment Plant Complete

SPRING 2022
Water Delivery Scheduled to Begin

SPRING 2023
Environmental Mitigation Complete/Full Monitoring & Maintenance Begins

BOIS D'ARC LAKE



BOIS D'ARC LAKE BENEFITS

- **Supply water to the District's members/customers including Bonham**
  - Possibility to serve other Fannin County communities
- **Major recreation amenities**
  - 3 Public Boat Ramps
  - TPWD Establishing Fisheries
- **Supports economic growth**
  - $509 million economic activity in Fannin Co. during construction
  - $166 million annually economic activity after completion
  - 2,400 new, long-term jobs in Fannin County



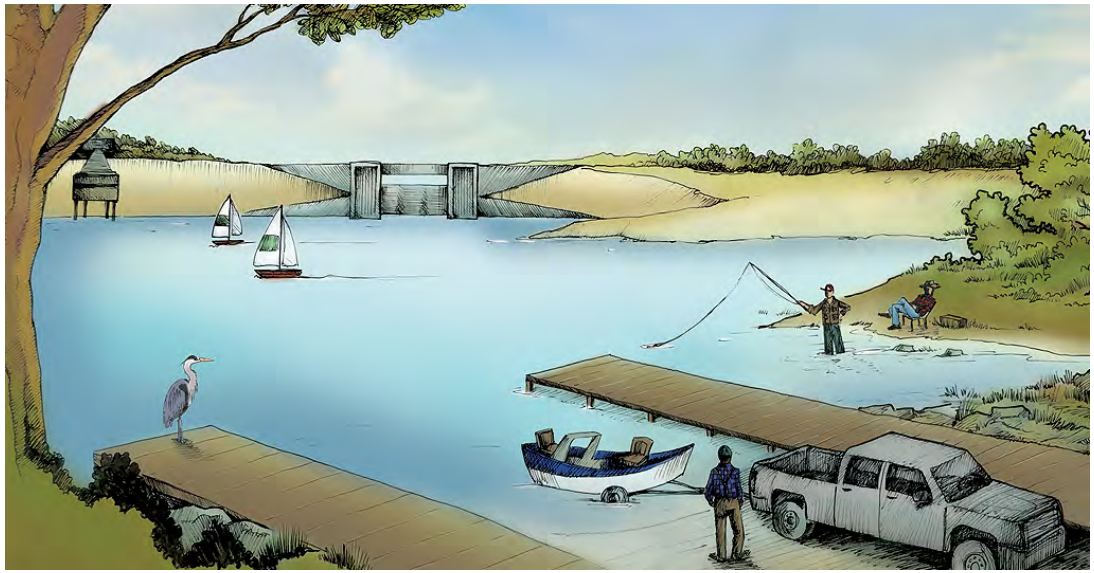
Fish habitat structure

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BOIS D'ARC LAKE BENEFITS

- **3,200 new homes over 30 years**
  - 1,100 new full-time
  - 2,100 vacation/weekend/second
- **Projected Tax Impacts**
  - $1.9 million net gain county property taxes
  - $3.9 million net gain school districts
  - $303,000 annually retail sales tax
  - $183,000 annually hotel occupancy tax



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News Stream Project Pipeline

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