



NORTH
TEXAS
MUNICIPAL
WATER
DISTRICT

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



BOIS D'ARC LAKE: WATER FOR NORTH TEXAS

National Waterways Conference

September 18, 2019

Tom Kula, NTMWD Executive Director



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BOIS D'ARC LAKE



NTMWD: Water for the Future of North Texas



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 TX 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



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REGIONAL PROVIDER: WATER, WASTEWATER, SOLID WASTE



BY THE NUMBERS

DID YOU KNOW?



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



WATER PUMP STATIONS



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



WATER TRANSMISSION PIPELINES



LARGE-DIAMETER WASTEWATER PIPELINES



WASTEWATER TREATMENT PLANTS



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





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

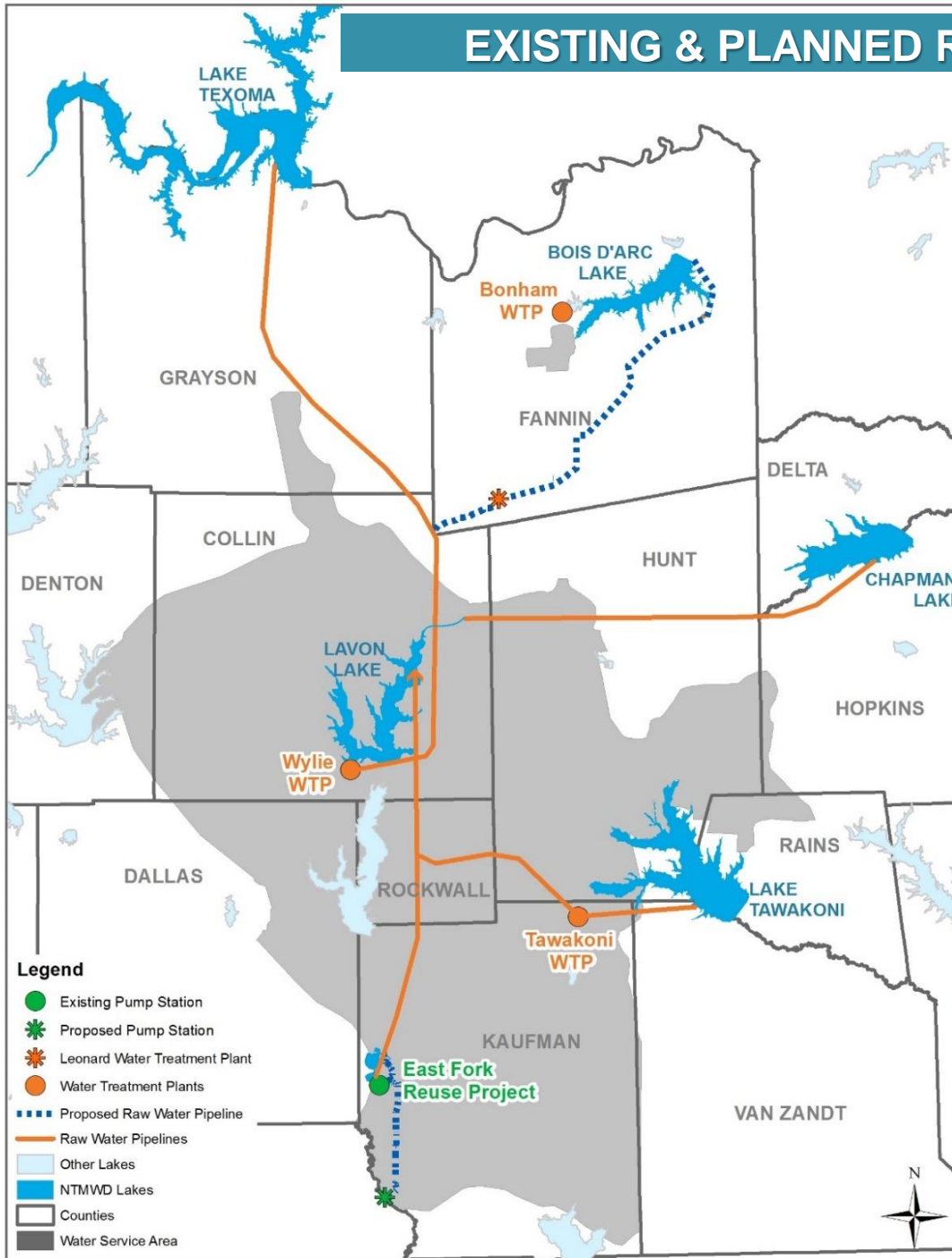


Craig Ranch - McKinney



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EXISTING & PLANNED RAW WATER SUPPLIES



Existing:

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

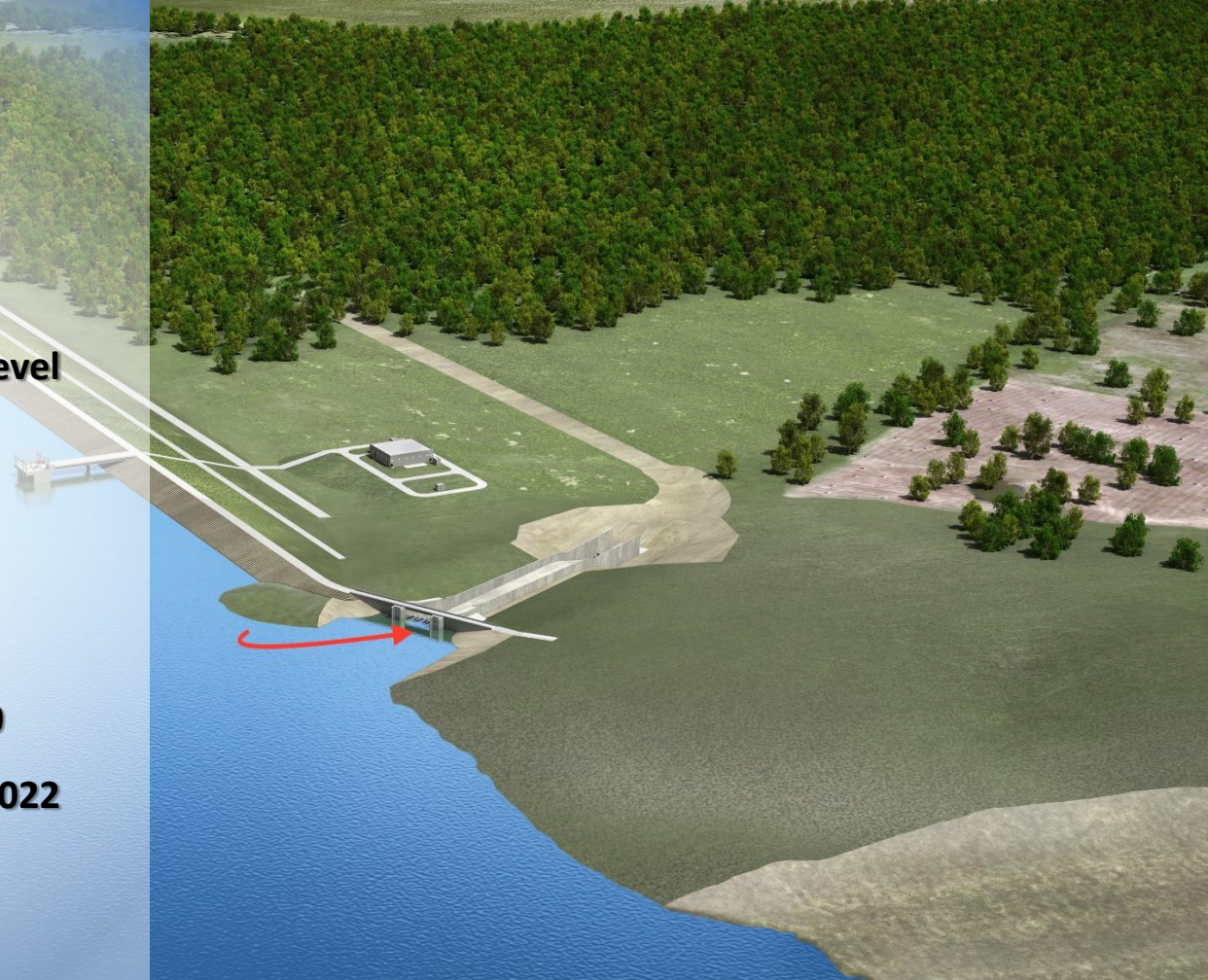
In Progress:

- Bois d'Arc Lake



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
- BoisdArcLake.org



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

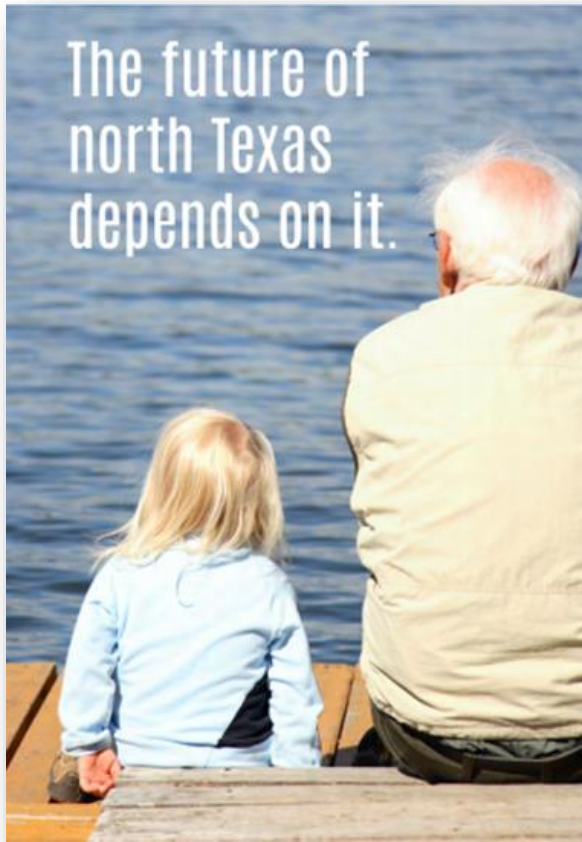
BOIS D'ARC LAKE: KEY COMPONENTS

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





PLANNING AND PERMITTING TIMELINE



December 2006

State Water Rights Permit Application

June 2008

USACE Section 404 Permit Application

February 2015

USACE Issues Draft Environmental Impact Statement

June 2015

State Water Rights Permit Received – Anticipating 404 Permit in Jan 2016

July 2015

USACE Requires HGM methodology for Mitigation – **Delay in expected 404 permit**

March 2017

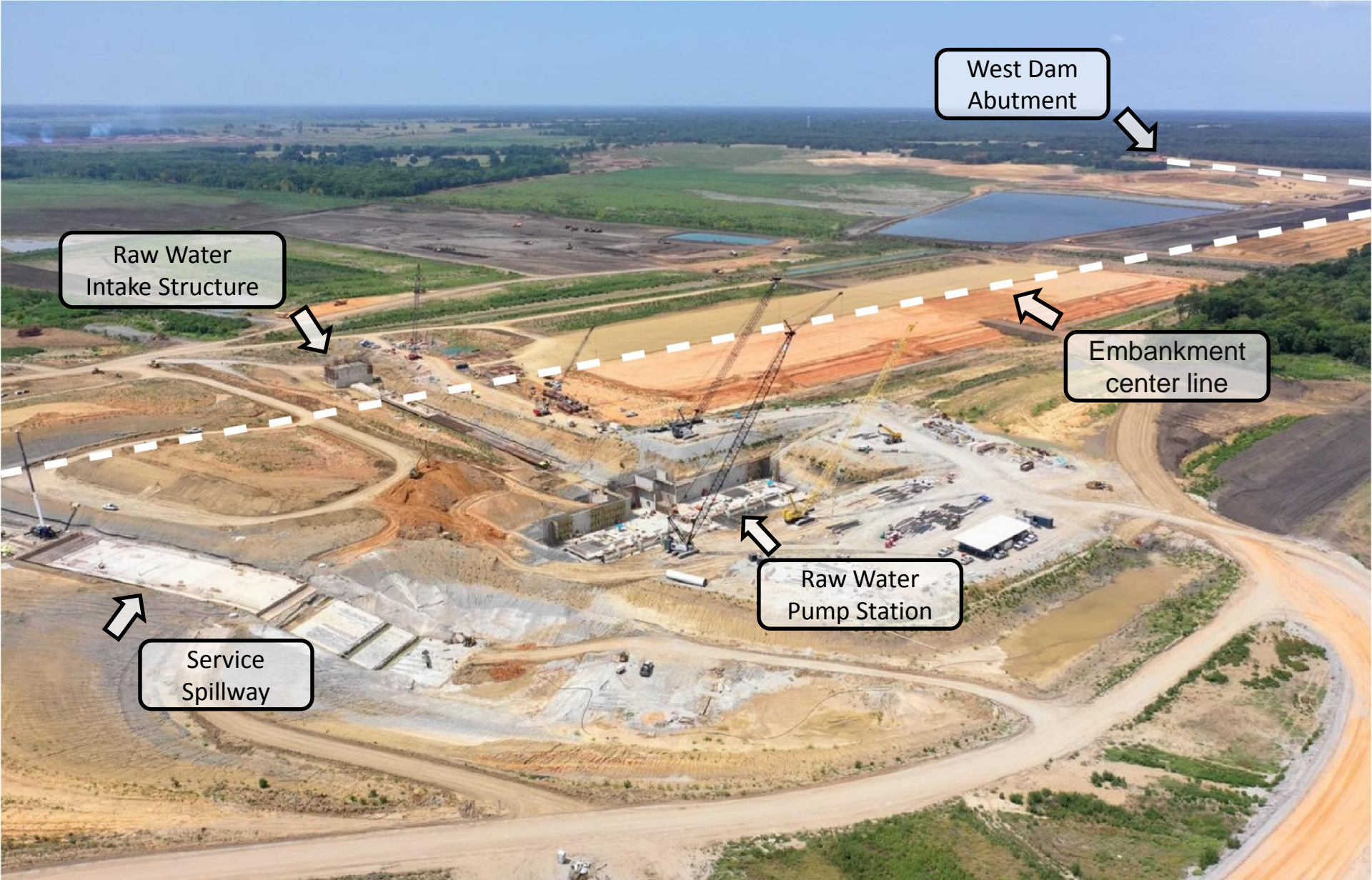
USACE Issues Revised Draft Environmental Impact Statement

November 2017

USACE Issues Final Environmental Impact Statement

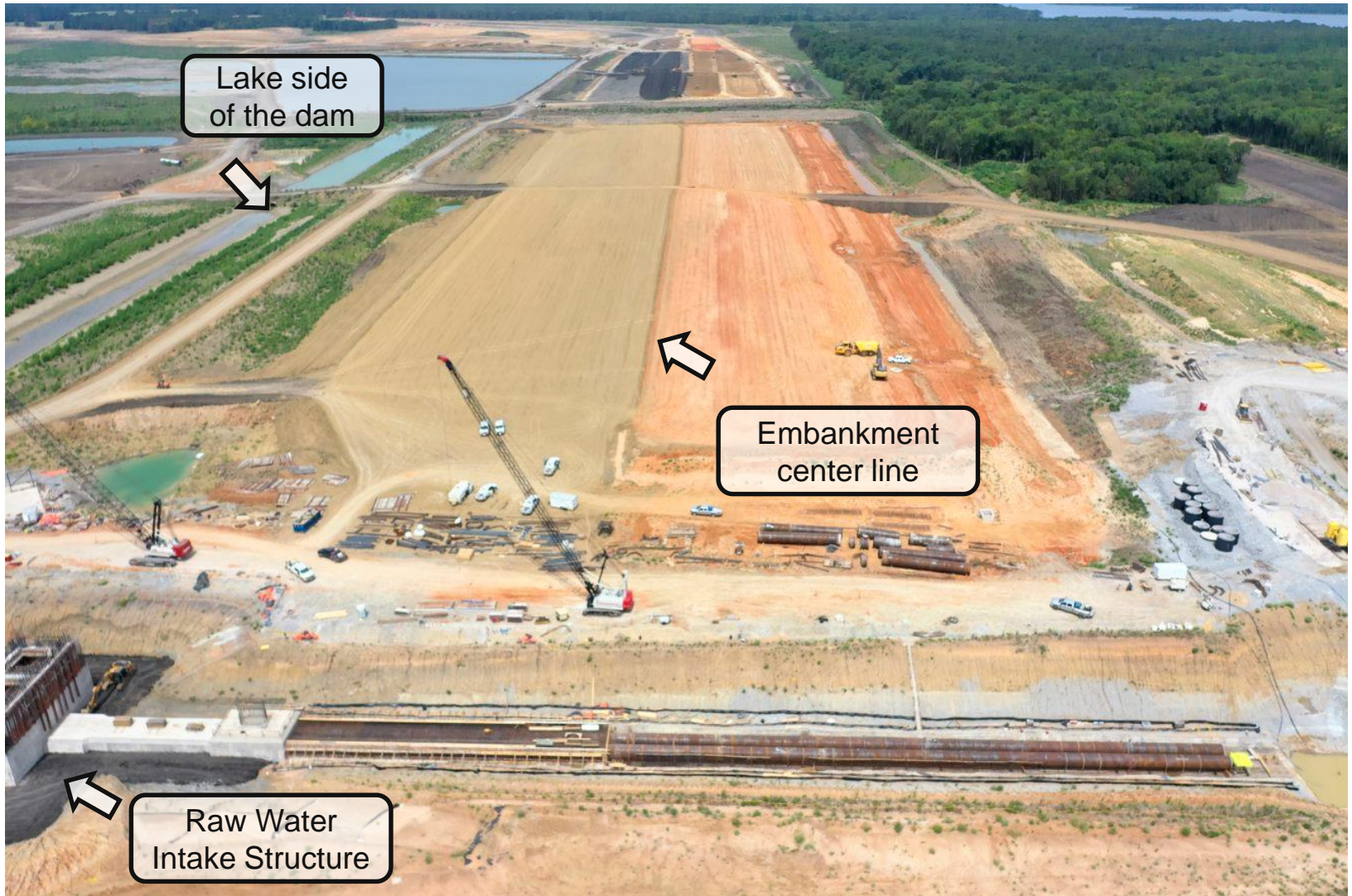
Feb 2018

USACE Section 404 Permit Received





BOIS D'ARC LAKE DAM – 2 MILES LONG, 90 FT. TALL





BOIS D'ARC LAKE DAM AND RESERVOIR

Raw Water Intake Tower



Raw Water Intake Tower –
Approx. 110-feet tall when complete



Two 78-inch pipes carry water from
the Intake Tower to Raw Water Pump Station



BOIS D'ARC LAKE DAM AND RESERVOIR

Raw Water Pump Station



Initially 90 MGD
236 MGD at full build-out



9 pumps in a building the size
of a football field



BOIS D'ARC LAKE

Raw Water Pipeline



35-miles of 90-inch pipe



3,696 total pieces of pipe
Each section of pipe =
50 ft. long; weighs 25,000 lbs



BOIS D'ARC LAKE ROADS

FM 897 Bridge and County Roads



Approx. 11 miles of new county and state roads, including 1.3-mile-long new bridge



Approx. \$50 million in improvements
(Note the old bridge above the new one)



BOIS D'ARC LAKE REQUIRED MITIGATION

Replacing trees and improving streams



Approx. 1.67 million trees
planted out of 5 million

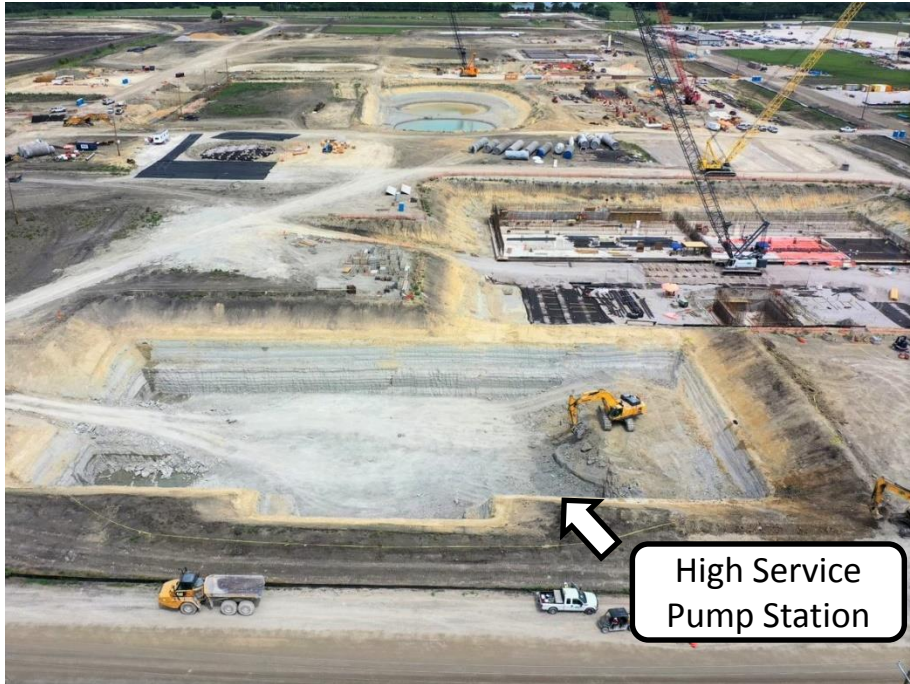


Over 70 miles of stream improvements



BOIS D'ARC LAKE RELATED INFRASTRUCTURE

Leonard Water Treatment Plant



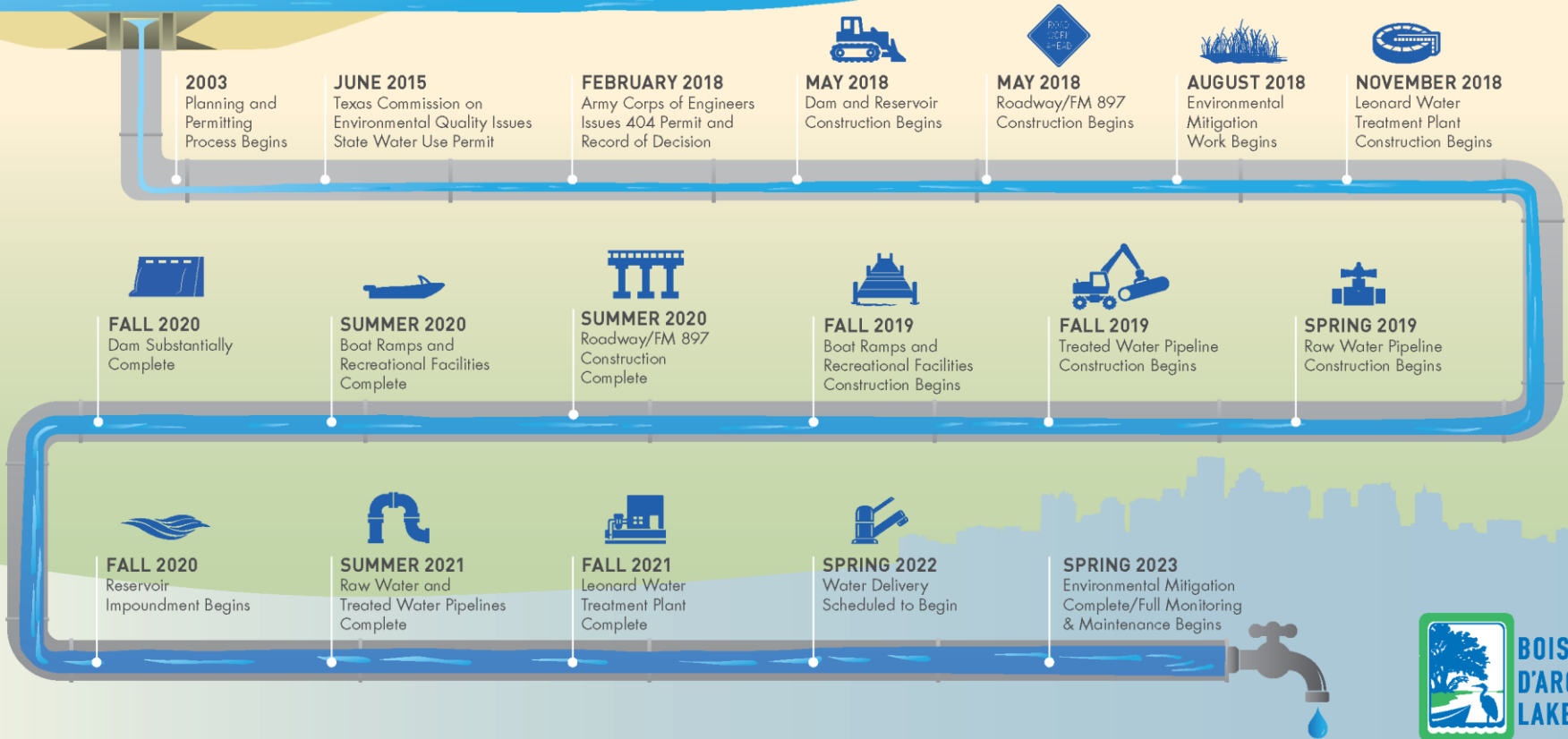
Approx. 1,000-acre site
Initially able to treat 70 MGD



Installing pipe in the Ozone facility



TIMELINE FOR PROJECTS





PERMITTING REFORM RECOMMENDATIONS

STREAMLINE PERMITTING

- Unnecessary delays from changeover in people, policies, concepts and procedures – process should only take 2-3 years

STATUTE OF LIMITATIONS TO PERMIT CHALLENGES

- Should be shortened to 180 days vs. 5+ years to avoid further delays of litigation

FEDERAL FUNDING FOR SUPPLY PROJECTS

- Water supply lowest priority and lowest funded program of USACE – need Congress to approve more funding and resources

ESTABLISHING PURPOSE & NEED

- Population and demand projections developed/approved by state should be sufficient

USE OF BEST AVAILABLE INFORMATION

- Applicants shouldn't be required to develop new or updated information late in permitting process – recommend statutory deadline.
- Applicant and agencies should have binding agreement on impact assessment methods required for evaluation.

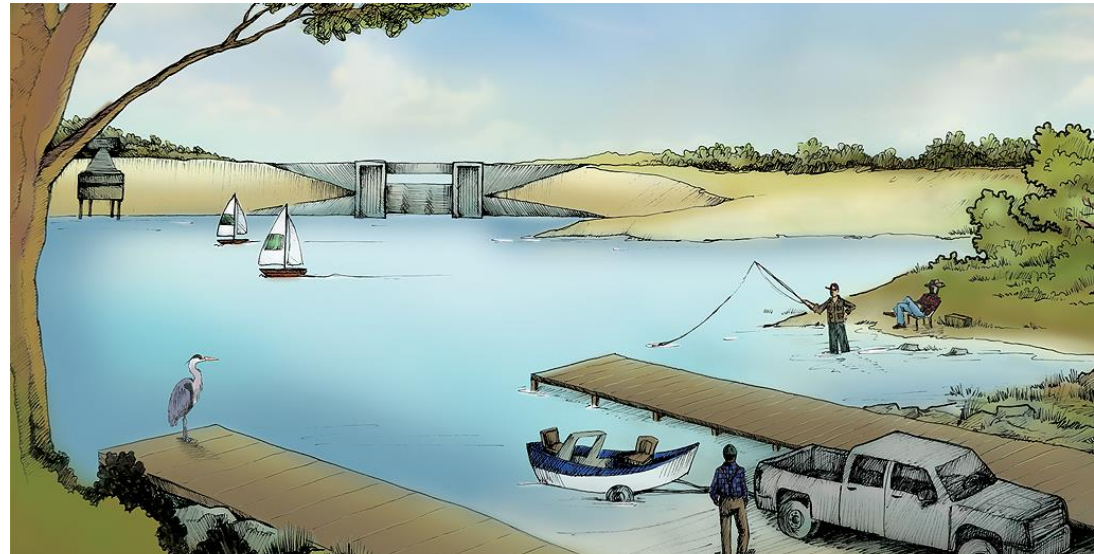
COMPENSATORY MITIGATION

- Environmental benefits of supply projects should be considered as offsets to impacts



KEYS TO SUCCESS

- **Reservoirs are an absolute necessity and we've stayed focused on:**
 - PROTECTING ENVIRONMENT
 - SMART DEVELOPMENT
 - PROVIDING ESSENTIAL SERVICES TO NORTH TEXANS... WATER IS LIFE
- **Build relationships with state and federal agencies early**
- **Assemble dream team – get right resources/expertise**
- **Get support from elected officials – keep informed along the way**
- **Funded entire \$1.6B project with low interest SWIFT funding from TWDB... saving ~ \$230 million**



Follow our progress at www.BoisdArcLake.org



QUESTIONS? FOLLOW US @NTMWD



Newsletter Signup

News Stream Project Pipeline



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