SAME INFRASTRUCTURE FORUM

RELATIONSHIPS & PARTNERSHIPS

Bois d’Arc Lake

December 14, 2018

Cesar Baptista, P.E.
SAME INFRASTRUCTURE FORUM

**Agenda**

- NTMWD
- Bois d’Arc Lake Project
  - Driver
  - Major Program Components
  - Program Goals
- Finance
  - Base budget
  - Funding Status/TWDB SWIFT
- Project Details
  - Impact & opportunities
REGIONAL SERVICE THROUGH UNITY

BY THE NUMBERS

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

DID YOU KNOW?

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

1 MILLION+ tons/year accepted at landfill
Bois d’Arc Lake: Why it’s Needed

- Growing communities = growing needs
- Population to double in 50 years
- Critical part of state water plan
- Reservoir will help:
  - Meet projected North Texas water supply needs through 2040 and beyond
  - Support region’s economic growth
  - Better serve Fannin County
  - Provide recreational opportunities
BOIS D’ARC LAKE

- Decade+ of planning, permitting
- Surface Area: 16,641 acres
- Supply: up to 108 MGD
- Average/Max Depth: 22/70 ft
- Lake Elevation: 534 ft mean sea level
- Owner & operator: NTMWD
- Cost Estimate: $1.6B
- Permitting Required:
  - TX Water Rights – received June 2015
  - USACE Section 404 – received Feb. 2018
- Construction in progress
- Water delivery in 2022

First major reservoir to be constructed in Texas in nearly 30 years
BOIS D’ARC LAKE MAJOR PROGRAM COMPONENTS
BOIS D’ARC LAKE GOALS

Begin Impounding By December 2020:
- Dam and clearing
- Intake Tower
- FM 897 and County Roadways
- Most of electrical
  - Oncor
  - FCEC

Pumping Treated Water By Spring 2022:
- Raw Water PS
- Terminal Storage Reservoir
- Treatment Plant at Leonard
- High Service PS
- 60 miles of Pipeline (Raw & Treated)
BOIS D’ARC LAKE BASE BUDGET

- **Reservoir Operations Facilities (CMAR 3&4)**, $7,250,000
- **Program Contingency**, $60,000,000
- **Construction Quality Assurance**, $39,040,000
- **Program Administration & Permitting**, $49,031,474
- **Conflicts Around Reservoir**, $54,647,489
- **Rods (CMAR 4 - ABR)**, $79,199,962
- **WTP & Pump Stations (CMAR 3 - GC)**, $419,471,636
- **Property Acquisition**, $136,435,263
- **Dam, Reservoir Clearing, & TSR (CMAR 1 - AW)**, $212,331,123
- **Mitigation (FSP - RES)**, $213,482,078

**NTML 2018 Baseline Estimate Distribution - Total Budget**: $1,588,624,000
BOIS D’ARC LAKE COST UPDATES

Bois d'Arc Lake Program Financial Status

Current Expenditures: $261,228,629

Current Board Authorized: $1,149,553,599

Current Estimated Commitment: $1,507,289,000

2018 Baseline Estimate: $1,588,624,000

Program Contingency: $81,335,000

TWDB SWIFT FUNDING - $1.5B = $250M IN SAVINGS
Goal:
Complete construction and start impoundment before December 2020

Scope:
• 2-mile 90-foot embankment
• 100-foot intake tower
• Construct CR 2715 (haul road)
• Clear 4,200 acres
• Remove 160 ponds
• Install fish habitat

Budget:
• $170.3M
Clearing Footprint of Dam

Two-mile-long, 90-foot-tall earthen embankment dam with a bentonite slurry trench
Excavation for Raw Water Intake Pipe

Planning Fish Habitat Structures in Lake
Goal:
Replace trees, wetlands, streams, and wildlife habitat inundated by the reservoir

Scope:
• Conversion of Riverby Ranch to a mitigation area
• Turn-key approach – Full Service Provider (FSP)
  – Satisfy 404 Permit
• Mitigation plan
  – 14,000+ acres
  – 70 miles of streams
  – Nearly 4,000,000 trees

Budget:
• $136.4M
Goal:
Complete and operational by First Quarter of 2022

Scope:
- Raw Water Pump Station at the dam
  - 90 MGD – 236 MGD ultimate
- 70 MGD Leonard Water Treatment Plant
  - 280 MGD ultimate
- High Service Pump Station at WTP site
  - 90 MGD – 330 MGD ultimate

Budget:
- $420.5M
Goal:
Complete construction before December 2020 impoundment

Scope:
- FM 897
  - 5.1 miles of new 2-lane FM roadway
  - 1.5 miles of new 2-lane bridge
- County Roads & Bridges
  - Bridge improvements at 9 locations
  - Bridge, culvert, and roadway embankment (3.8 miles)
  - Bridge/culvert demolition at 5 additional locations

Budget:
- $50M
BDL CMAR 4 ROAD AND BRIDGE IMPROVEMENTS

- Exist. FM 1396 to be taken over by County 6,356 ft
- Exist. FM 1396 to be abandoned 12,508 ft
- FM 897 Extension 29,300 ft
- Exist. FM 1396 to be taken over by County 6,356 ft
BDL PROGRAM – FCEC AND ONCOR AGREEMENTS

LBCR Power Conflicts

Legend

- **Prior**
- **Proposed FM 897**
- **Current**
- **LBCR Reservoir 541**
- **Oncor**
- **LBCR Reservoir 545**

- **FCEC**
  - Parallel FM 897 Project
  - Extension to Substation for Permanent Power at Dam Site
  - 3-Phase Tie with Lake Bonham Substation Circuit
  - Temporary Relocation for Roadway Work

- **Oncor**
  - Adding Tower Platforms for 138 and 345 kV Lines
  - CR 2610 Bridge Connection
  - Relocation at CR 2680
  - Relocation at CR 2980
  - Relocation at CR 2770

- **Lake Bonham Substation Conversion**

- **FCEC CR 2610 Bridge Connection**

- **FCEC Parallel FM 897 Project North of LBCR**

- **FCEC Relocation at CR 2610**

- **FCEC Relocation at CR 2980**

- **FCEC Relocation at CR 2770**

- **FCEC Parallel CR 2715 Project**
BOIS D’ARC LAKE ARCHEOLOGICAL SERVICES
BOIS D’ARC LAKE ARCHEOLOGICAL SERVICES

WILKS CEMETERY
FANNIN COUNTY, TEXAS
OCTOBER 2011
To successfully deliver the Bois d’Arc Lake Program

• Continue to communicate, collaborate and cooperate
• Value and enhance partnerships
• Have flexibility in your good plan
• We have a great team!
  – Contractors
  – Consultant/Legal Services
  – Program/Project Management Team
  – Construction Management & Inspection
Many thanks and Happy Holidays to Everyone!

Next update will be December 2020

Impoundment Day!!!