NTMWD ESSENTIAL SERVICES, PROJECTS

McKinney Rotary Club
August 16, 2019
Janet Rummel, Public Relations Officer
OVERVIEW

• History, Services and Communities Served

• Water Essential for Regional Prosperity

• Future Supplies
  – Conservation
  – Reuse
  – New Reservoir

• Critical Infrastructure Investments

• Water Quality

• 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

BY THE NUMBERS

14 WATER PUMP STATIONS
250+ MILES LARGE-DIAMETER WASTEWATER PIPELINES

SERVE up to 80 COMMUNITIES
75 Daily basis

SERVICE area of 2,200 square miles in 10 counties

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

WATER TRANSMISSION PIPELINES 575+ MILES
WASTEWATER TREATMENT CAPACITY 151+ MGD (million gallons/day)

DID YOU KNOW?

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

985,000+ tons/year accepted at landfill

Serving 1.7 million people in one of the fastest-growing regions in the country
WATER ESSENTIAL FOR ECONOMIC GROWTH

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

NTMWD Total Population Served: Historical and Projected

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<td>Population Served</td>
<td>32,000</td>
<td>60,000</td>
<td>200,000</td>
<td>800,000</td>
<td>1,700,000</td>
<td>2,500,000</td>
<td>3,700,000</td>
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Legacy West - Plano

The Star - Frisco

Watters Creek Convention Center – Allen

Craig Ranch - McKinney
EXISTING & PLANNED 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
CONSERVATION IS IMPORTANT PART OF WATER SUPPLY

- Critical strategy for maximizing supplies
- Has helped defer approx. $1B in projects
- Award-winning outreach programs:
  - Water IQ
  - WaterMyYard.org
  - Water4Otter
  - School Education Program
  - Regional campaign
REUSE – WETLANDS PROJECT SEAGOVILLE

- 1,840-acre constructed wetland near Seagoville
- Provides natural treatment of diverted Trinity River water
- Improves water quality and stretches existing supplies
  - Wetlands remove Nitrogen, Phosphorus, Sediment

WATER SUPPLY + HABITAT + EDUCATION

John Bunker Sands Wetland Center
www.wetlandcenter.com
TRINITY RIVER MAIN STEM

- Expands reuse supplies by diverting flows from river into wetlands
- Up to 100 million gallons per day (MGD) pump station
- 17 miles, 72-inch-diameter pipeline
- Cost approximately $120 million
- Completion fall 2019
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 late 2020
- Water delivery expected Spring 2022
- BoisdArcLake.org

First major reservoir to be constructed in Texas in nearly 30 years
1. Dam, intake and pump station for reservoir

2. New water treatment plant, pump station, terminal storage reservoir

3. Pipelines
   - 35-mile 90-inch raw water
   - 25-mile 84-inch treated water

4. $50 million road projects

5. Mitigation area (17,000+ acres)
BOIS D’ARC LAKE DAM – 2 MILES LONG, 90 FT. TALL

- Lake side of the dam
- Embankment center line
- Raw Water Intake Structure
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

Raw Water Pump Station – 9 pumps in a building the size of a football field

Initially 90 MGD
236 MGD at full build-out
BOIS D’ARC LAKE BRIDGE

FM 897 Bridge – 1.3-miles-long

Reworking beams before bridge decks placed

Bridge decking
BOIS D’ARC LAKE

Raw Water Pipeline

90-inch pipe

35 miles of pipe
BOIS D’ARC LAKE

Raw Water Pipeline

Each section of pipe = 50 ft. long; weighs 25,000 lbs.

3,696 total pieces of pipe
Looking east with the High Service Pump Station site in the foreground

Clearwell in the foreground; Circles in the upper left are Reclalm Basins
BOIS D’ARC LAKE MITIGATION

Replacing trees and improving streams

Approx. 1.67 million trees planted out of 5 million

Over 70 miles of stream improvements
WYLIE WATER TREATMENT PLANT

- Wylie Plant IV expansion – Complete 2020
  - Increase total capacity to 840 MGD

- Wylie Plant I improvements – Complete 2020
  - Project will improve efficiency, treatment processes and capacity

Older pipes, pumps and facilities need repairs/replacement and upgrades to ensure reliability and public safety
Collin County growth requires NTMWD to expand wastewater system capacity

Purchased over 1000 acres for planned facility north of New Hope

Large site for future expansion and buffer for adjacent properties

**Goal:** Be a good neighbor by constructing facility with latest technologies that will blend into surrounding community

**Status:** Permit application under review by TCEQ; held two public open houses and presented info to McKinney and New Hope officials

Facility will be designed to integrate into neighboring areas by using green spaces, earthen berms, screening, tree plantings, and/or natural vegetation.
WATER SERVICE COSTS GOING UP ACROSS U.S.

Key factors:
- AGING INFRASTRUCTURE
- INCREASING REGULATIONS
- EXPANDING SYSTEMS FOR GROWING COMMUNITIES

THE WALL STREET JOURNAL.

March 2018

Why Your Water Bill Is Rising Much Faster Than Inflation
Rate increases average 5.5% a year as utilities race to fix corroded pipes and overflowing sewers

NTMWD PROJECTS SNAPSHOT

78 Active construction projects (over $1M)
$2+ BILLION Project value
Nearly 90% On-time & within budget
WATER RATES PAY FOR #MORETHANWATER

- Working with cities to inform consumers about VALUE OF WATER
- Paying for water SERVICE and INFRASTRUCTURE, not just a commodity
- Essential for public health & safety
- Vital for economic prosperity
- FY19 cost for 1000 gallons treated water = $2.92
- FY20 proposed = $2.99/1000

Watch “Journey of Water” and “Water Rates” videos on www.NTMWD.com
WATER QUALITY – YOUR WATER IS OUR WATER

• Water quality meets or surpasses all safe drinking water requirements

• Hundreds of tests performed daily

• Temporary change in disinfectant each spring has raised questions

• Listening and working with our cities to better inform customers

• Online info includes monthly & annual water quality reports

• TCEQ rates NTMWD public water system as “superior”

• It’s important and it’s personal... Our employees, families, friends drink and use our water every day

Kristen S.
– NTMWD Chemist and Plano mom

YOUR WATER IS OUR WATER