

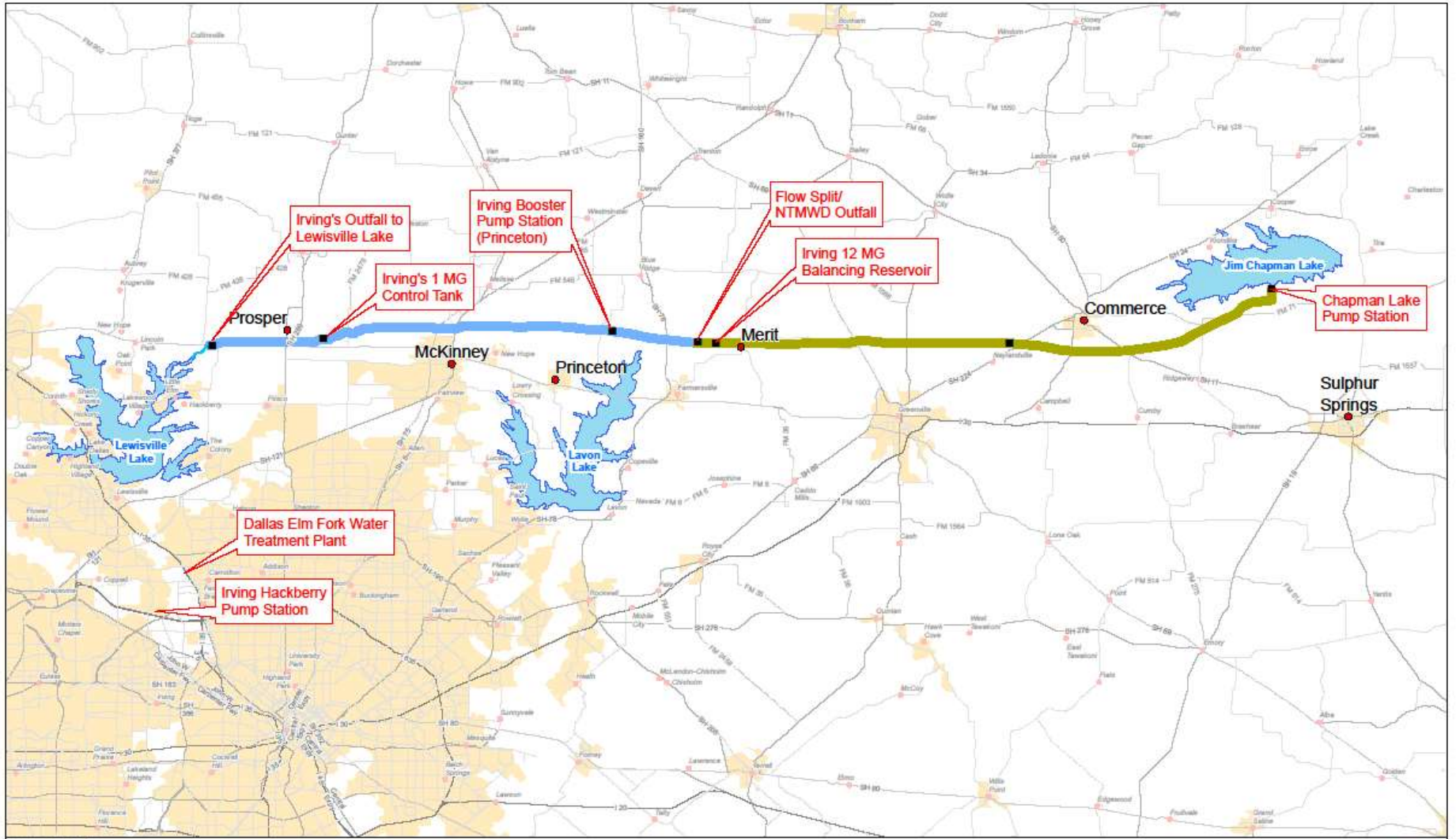


Future of Water Reuse in Irving

Texas Municipal Utilities Association (TMUA)

June 20, 2019

Water Supply Planning



Date 03/08/2018

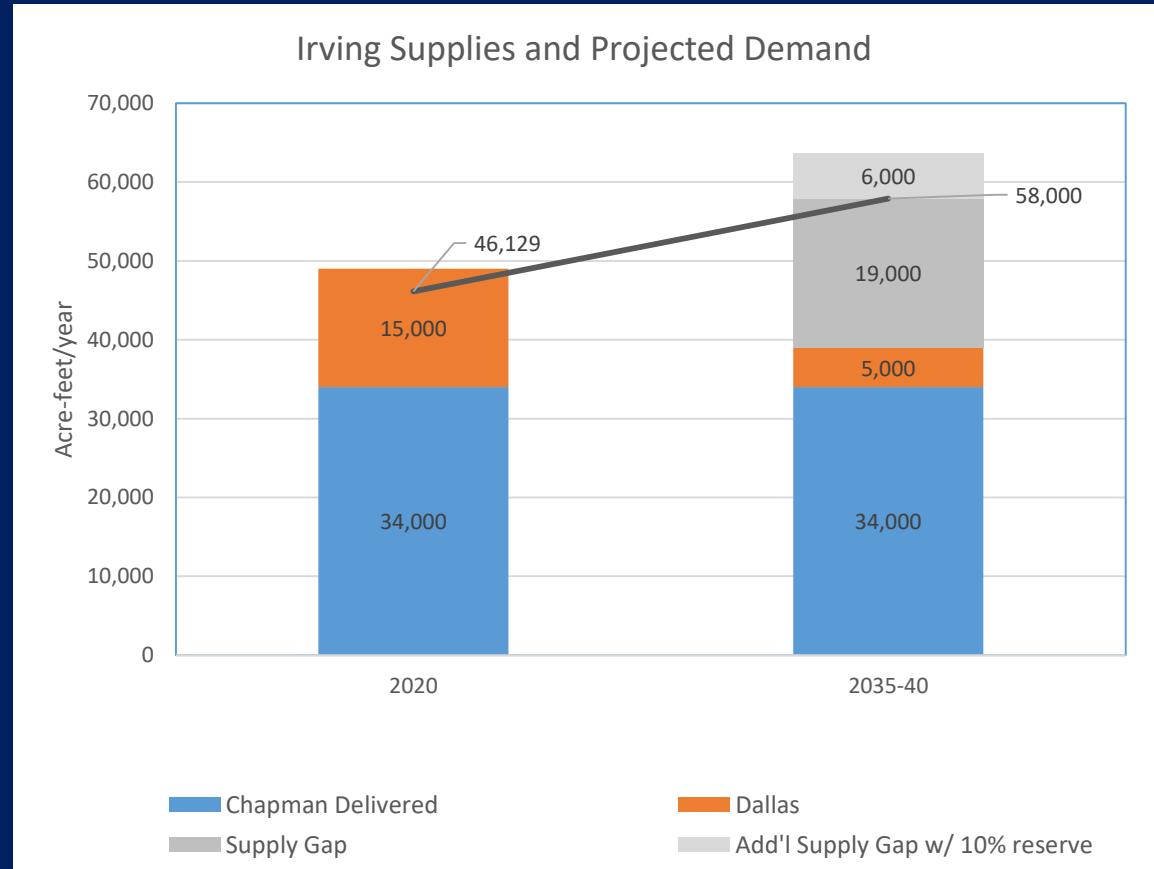
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City of Irving
Jim Chapman Lake Pipeline

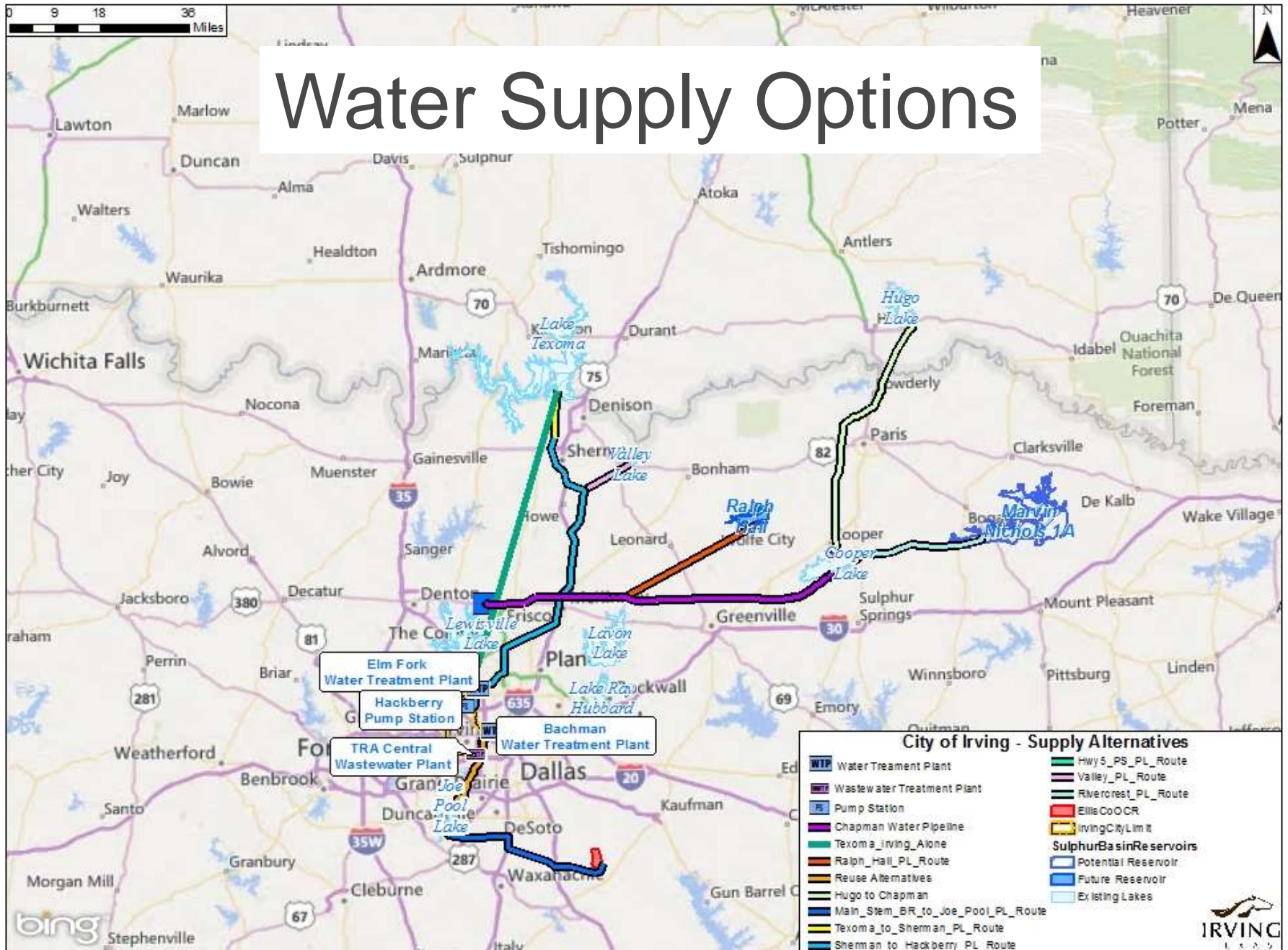


Water Supply Planning

- Current Supply:
 - Lake Chapman
 - Dallas Water Utilities (decreasing over time)
- Supply Gap with 10% reserve:
25,000 acre-ft/yr
- Available Reuse Supply with the Trinity River Authority (TRA):
28,000 acre-ft/yr



Water Supply Options



New Reuse Project

Supply Irrigation Water to Irving Golf Club

- Began Operating 5/2018
- Supply up to 486 acre-ft per year (158.4 MG Total)



Dallas

Irving

Irving Golf Club

Trinity River

West Fork

TRA Central WWTP

New Reuse Irrigation Project

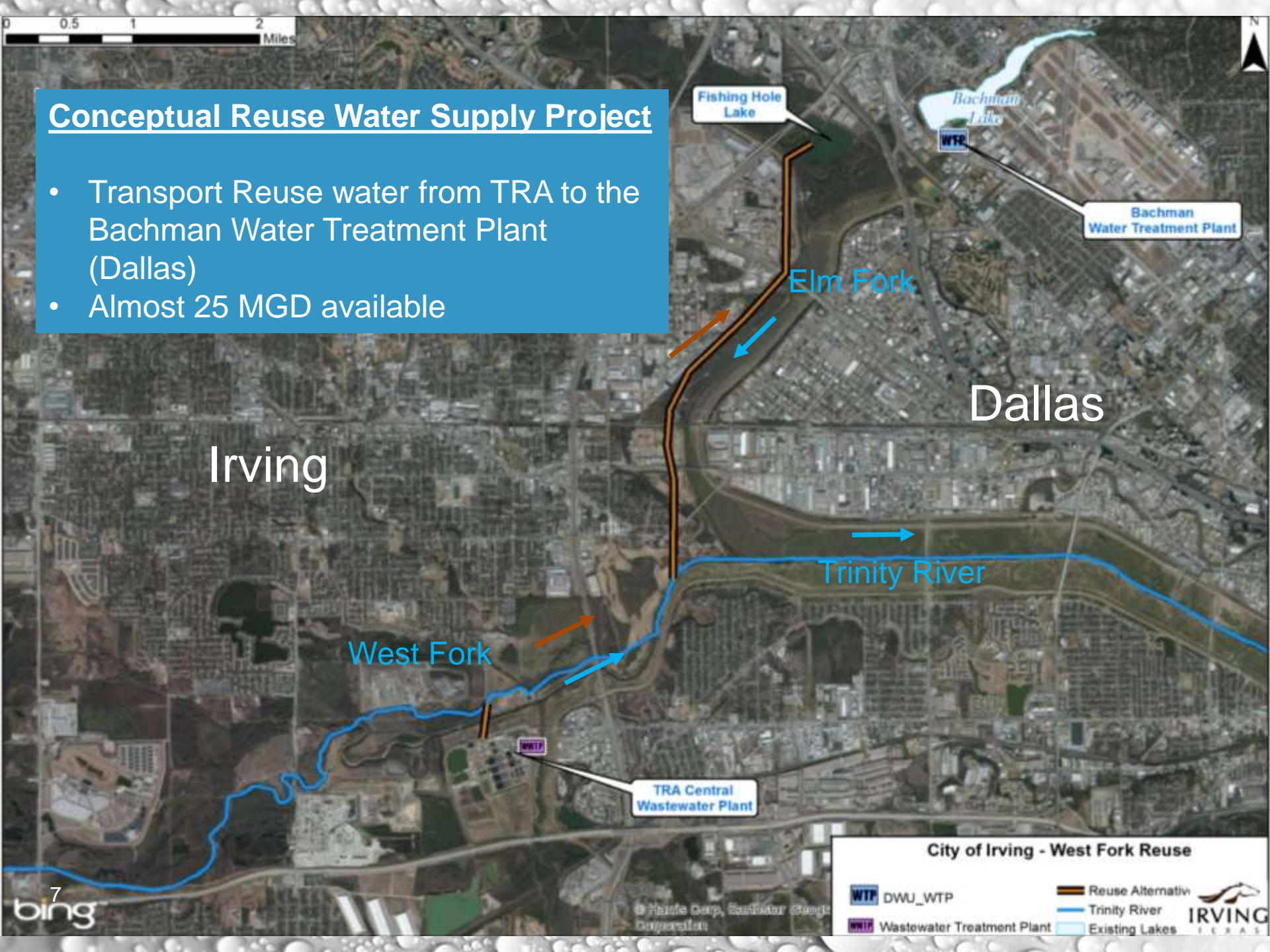


Diversion from West Fork Trinity River to
Irrigation Pond at Irving Golf Club



Conceptual Reuse Water Supply Project

- Transport Reuse water from TRA to the Bachman Water Treatment Plant (Dallas)
- Almost 25 MGD available



Irving

Dallas

Elm Fork

Trinity River

West Fork

Fishing Hole Lake

Bachman Lake

Bachman Water Treatment Plant

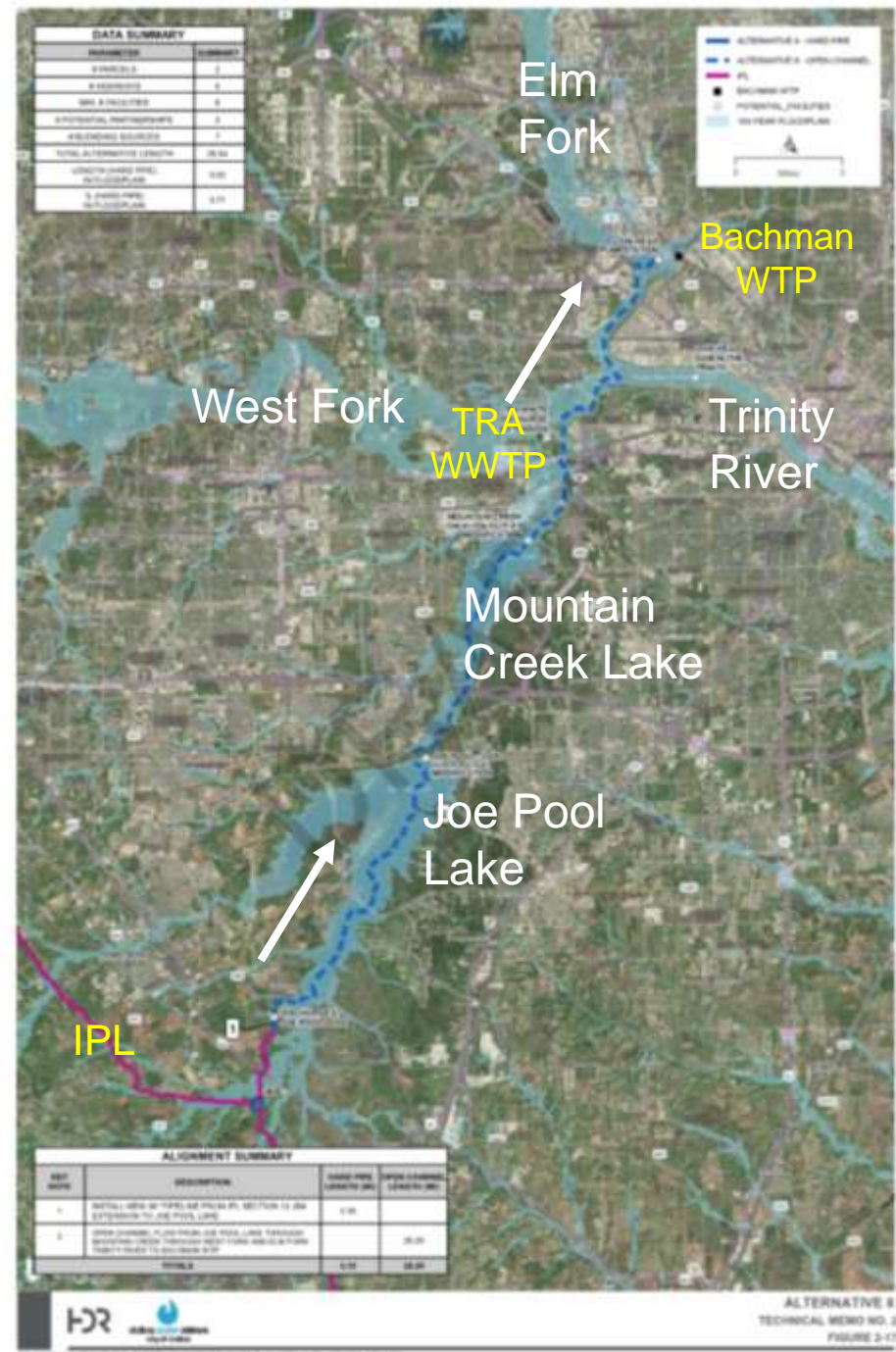
TRA Central Wastewater Plant

City of Irving - West Fork Reuse

| | | |
|----------------------------|-------------------|----------------|
| DWJ_WTP | Reuse Alternative | |
| Wastewater Treatment Plant | Trinity River | Existing Lakes |

Dallas Option

- Integrated Pipeline (IPL) to Bachman Water Treatment Plant (WTP) Study
- Irving has an interlocal agreement with Dallas to evaluate partnership options for delivery of Irving's reuse water from TRA to the Bachman WTP



TRA/DCURD Pipeline Option

- TRA/DCURD Reuse Pipeline discharges in Irving upstream of the Dallas Bachman WTP
- Potential to partner with TRA and DCURD to use some capacity in the existing reuse pipeline or build a new pipeline



Reuse Project Development Issues

- Reuse Project Considerations
 - Required infrastructure and cost
 - Environmental and Permitting issues
 - Identify required permits, TCEQ requirements, legal issues
 - Water quality testing program
 - Treatment requirements/options
 - Potential US Army Corps of Engineer (USACE) coordination/permitting
- Potential Agreements
 - City of Dallas (Required)
 - Trinity River Authority (Required)
 - Dallas County Utility Reclamation District (?)

Summary

- Good news! About 25 MGD of reuse water available at a really good price.
- Lots of fun trying to determine the best option and begin implementation
 - Regulatory agency - TCEQ
 - Water suppliers
 - Water treatment providers
 - River Authorities
 - US Army Corps of Engineers
- It takes patience! Water supply projects can take many years to complete