

CITY OF KILLEEN
**WATER & WASTEWATER
TREATMENT FACILITY
EVALUATION**

May 17, 2022



OVERVIEW

Scope

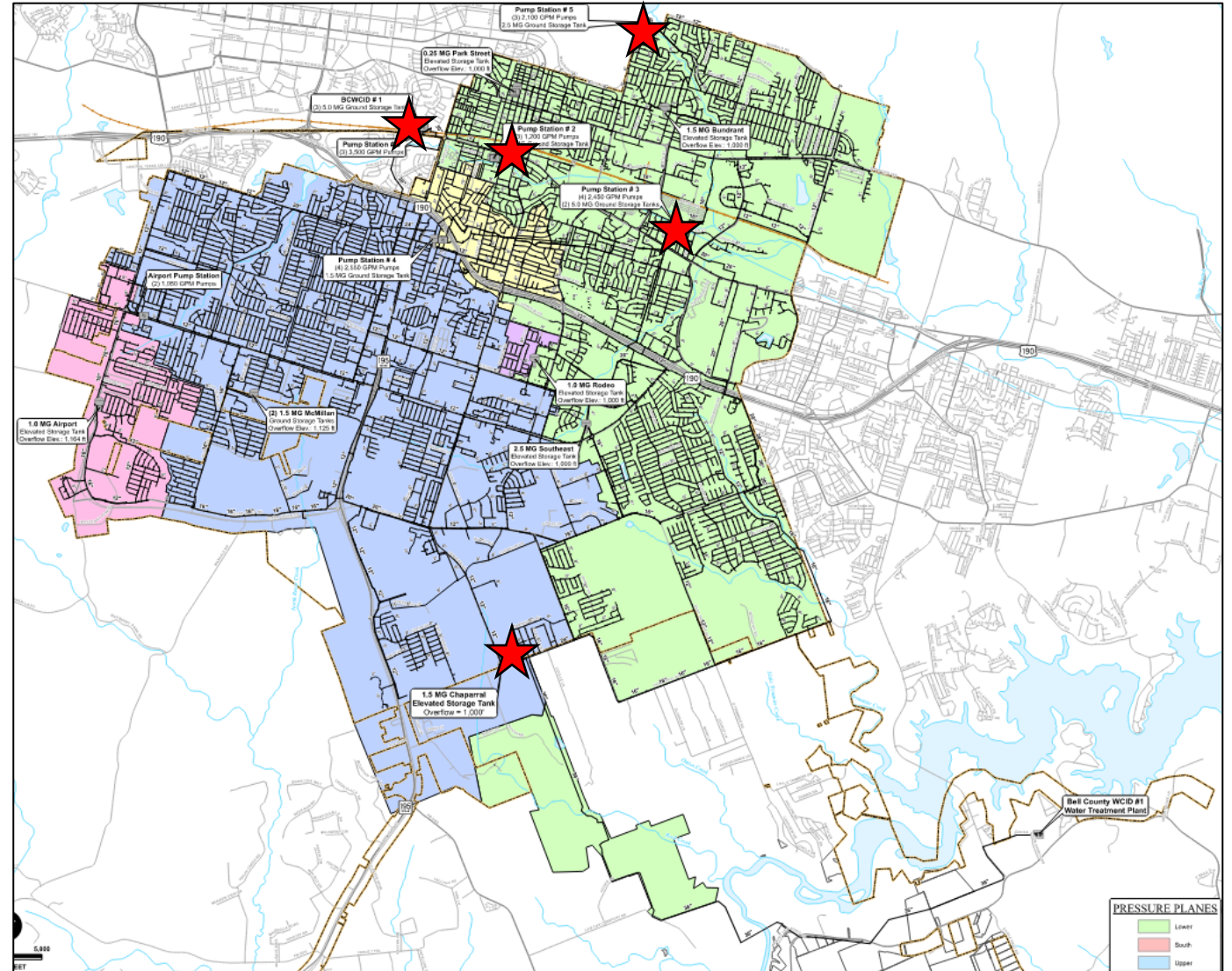
FNI tasked with evaluating high-level costs for the City to own and operate water and wastewater treatment facilities.

Agenda

- Overview of existing water supply and wastewater treatment
- Summary of evaluation assumptions
- Cost estimates
- Water rights considerations

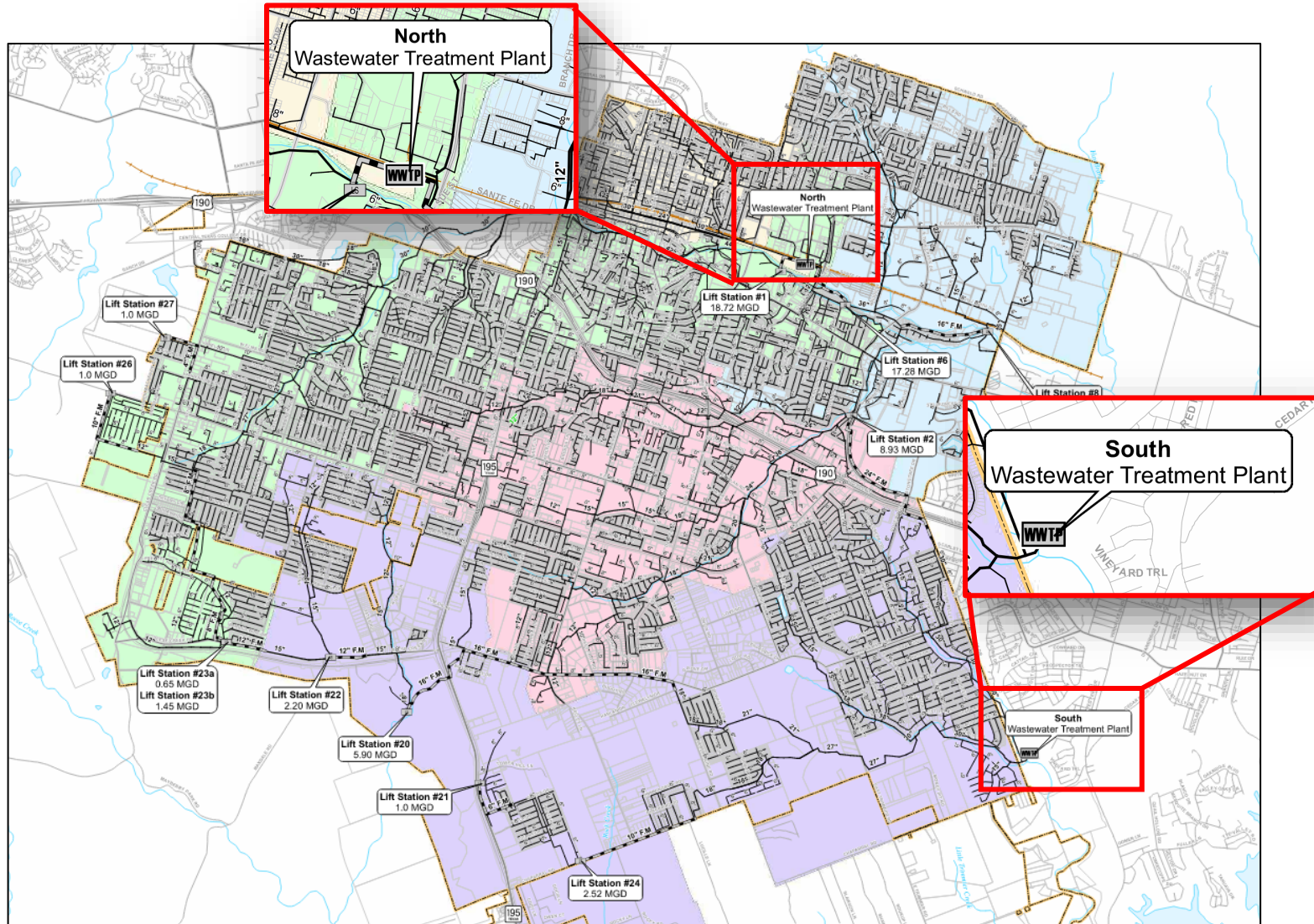
EXISTING WATER TREATMENT

- Killeen purchases treated water from Bell County Water Control and Improvement District #1 (BCWCID#1).
- BCWCID#1 treats and delivers up to 42 MGD.
 - Supplied at 5 separate locations
 - 10 MGD of supply acquired recently with construction of Stillhouse WTP
- This supply is part of 39,964 acre-feet/year of raw water allocated to Killeen.



EXISTING WASTEWATER TREATMENT

- Killeen sends wastewater to two WWTPs owned and operated by BCWCID#1.
- North WWTP has a capacity of 18 MGD and also receives flow from Fort Hood.
- South WWTP has a capacity of 6 MGD and only treats flow from Killeen.



EVALUATION SUMMARY

- Assumed future plant capacities would be equal to current capacities.
- Did not identify site locations and/or specific parcels.
- Water treatment facility
 - Assumed intake structure, raw water pump station, raw water transmission line, treated water transmission lines, and ground storage tanks would be required in addition to WTP.
- Wastewater treatment facility
 - Assumed facility would be located adjacent to waterway and would require minimal infrastructure to convey treated flows to discharge point.
 - Assumed discharge permit similar to existing plants.

COST ESTIMATE ASSUMPTIONS

- \$8/gal for water treatment plant
- \$13/gal for wastewater treatment plant
- 15% of total infrastructure cost for engineering/design
- \$15/dia-in/LF for water transmission lines
- \$15,000/acre for land acquisition

COST ESTIMATE SUMMARY

Water Treatment Facility

Project Component	Cost
42 MGD Water Treatment Plant	\$336,000,000
42 MGD Raw Water Pump Station	\$25,000,000
Raw Water Transmission Line	\$4,050,000
Raw Water Intake Structure	\$8,300,000
Treated Water Transmission Line	\$85,752,000
Ground Storage Tanks	\$35,200,000
Engineering/Design	\$74,145,300
Land Acquisition	\$450,000
Total Cost	\$568,897,300

Wastewater Treatment Facility

Project Component	Cost
24 MGD Wastewater Treatment Plant	\$312,000,000
Engineering/Design	\$46,800,000
Land Acquisition	\$450,000
Total Cost	\$359,250,000

ANNUAL COSTS

- Estimated number of WTP employees = 10-20
- Estimated number of WWTP employees = 10-20
- Assumed annual salary = \$50,000 - \$70,000 per year
- Estimated annual staffing cost per plant = \$500,000 - \$1,400,000
- Additional annual operating costs will include chemicals and electricity

WATER SUPPLY CONSIDERATIONS

- **Option 1 – Maintain existing 39,964 ac-ft water supply**
 - Contract directly with Brazos River Authority (BRA)
 - May have legal challenges to transfer water supply contract with BCWCID #1
 - No available surface water rights from other sources
- **Option 2 – Acquire groundwater**
 - Request proposals for water supply
 - Likely to be wells located significant distance from City
 - SAWS Vista Ridge example

QUESTIONS & ANSWERS