

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

**May 17, 2022**



# OVERVIEW

## Scope

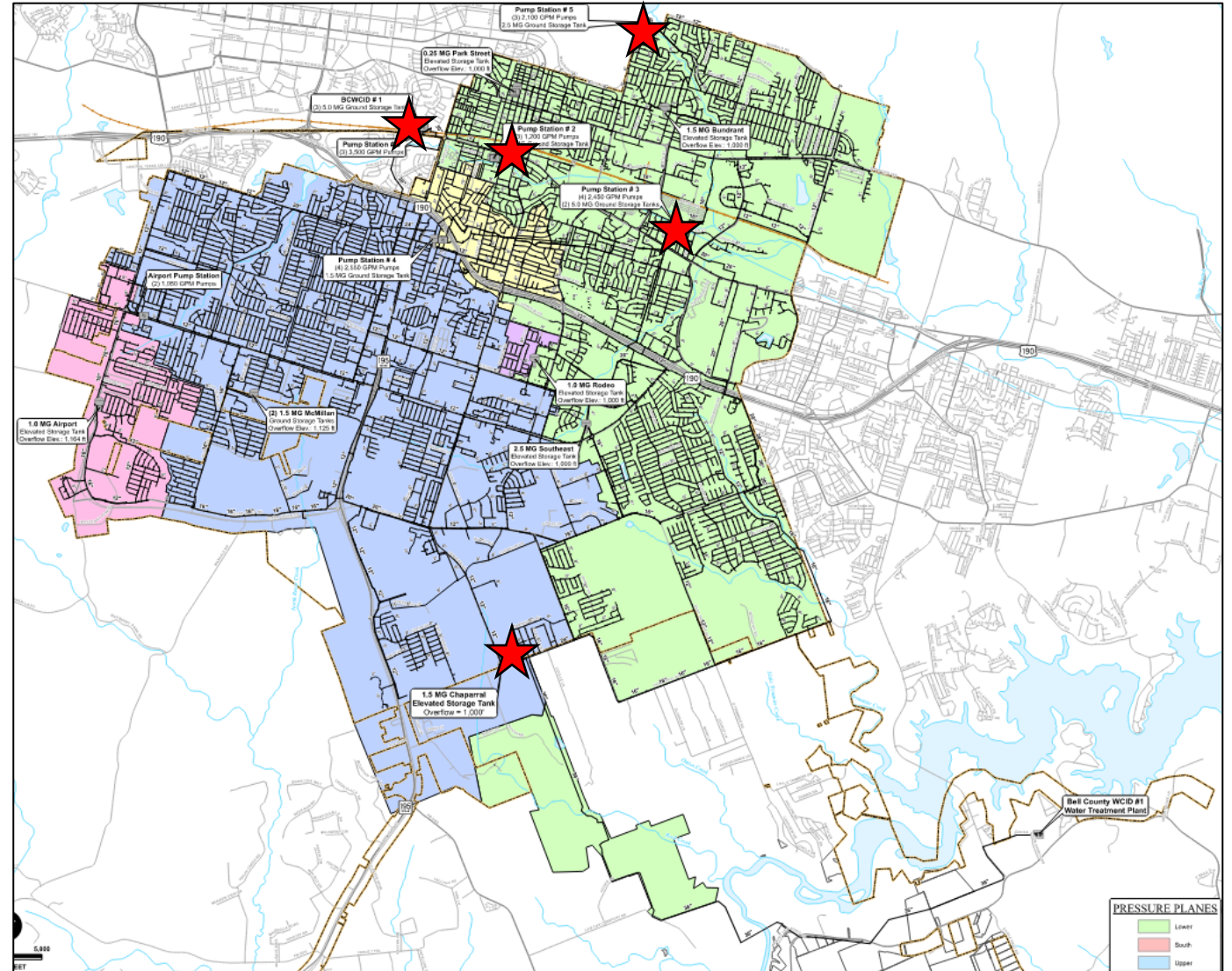
FNI tasked with evaluating high-level costs for the City to own and operate water and wastewater treatment facilities.

## Agenda

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

# EXISTING WATER TREATMENT

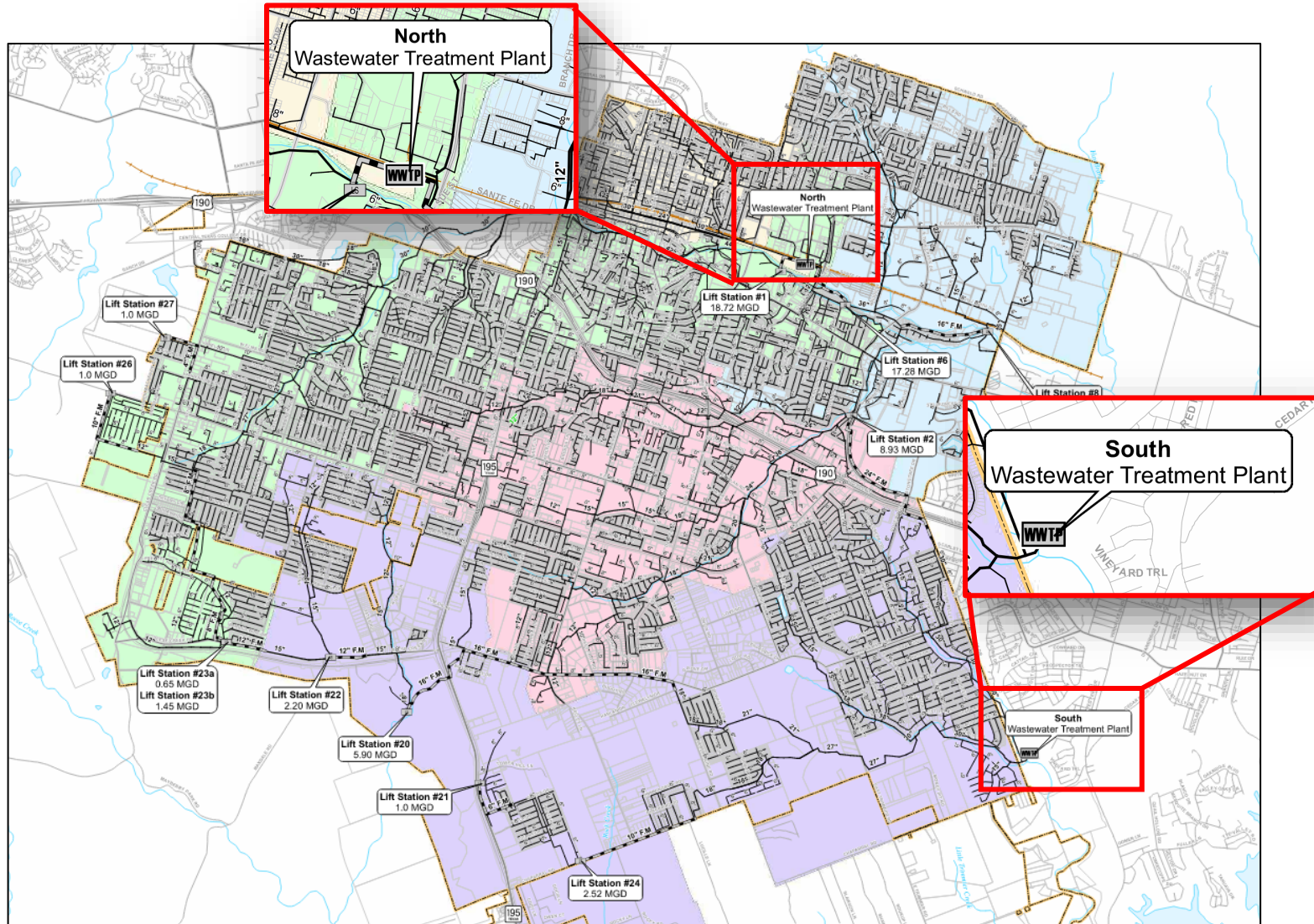
- Killeen purchases treated water from Bell County Water Control and Improvement District #1 (BCWCID#1).
- BCWCID#1 treats and delivers up to 42 MGD.
  - Supplied at 5 separate locations
  - 10 MGD of supply acquired recently with construction of Stillhouse WTP
- This supply is part of 39,964 acre-feet/year 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
<b>Total Cost</b>	<b>\$568,897,300</b>

## Wastewater Treatment Facility

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

# 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