

FUTURE WATER PLANNING CITY OF KILLEEN



CITY COUNCIL

DECEMBER 11, 2012

CITY OF KILLEEN FUTURE WATER PLANNING



POPULATION



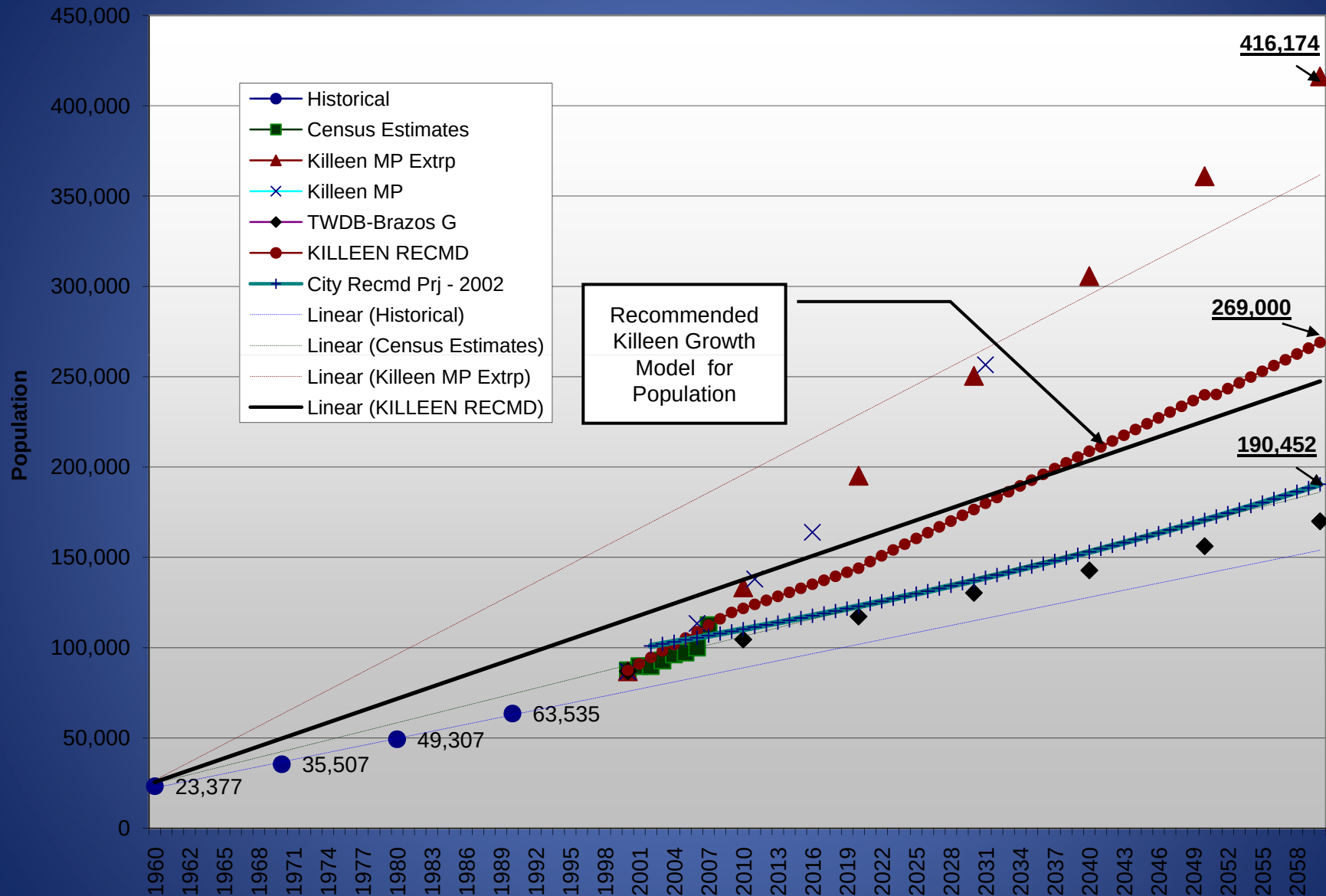
POPULATION PROJECTIONS

SOURCES

- US CENSUS – HISTORICAL
- TEXAS WATER DEVELOPMENT BOARD
- KILLEEN WATER MASTER PLAN – 2012
- BELL COUNTY WCID #1 2009 MASTER PLAN
- TEXAS STATE DATA CENTER
- KILLEEN COMPREHENSIVE PLAN- 2010

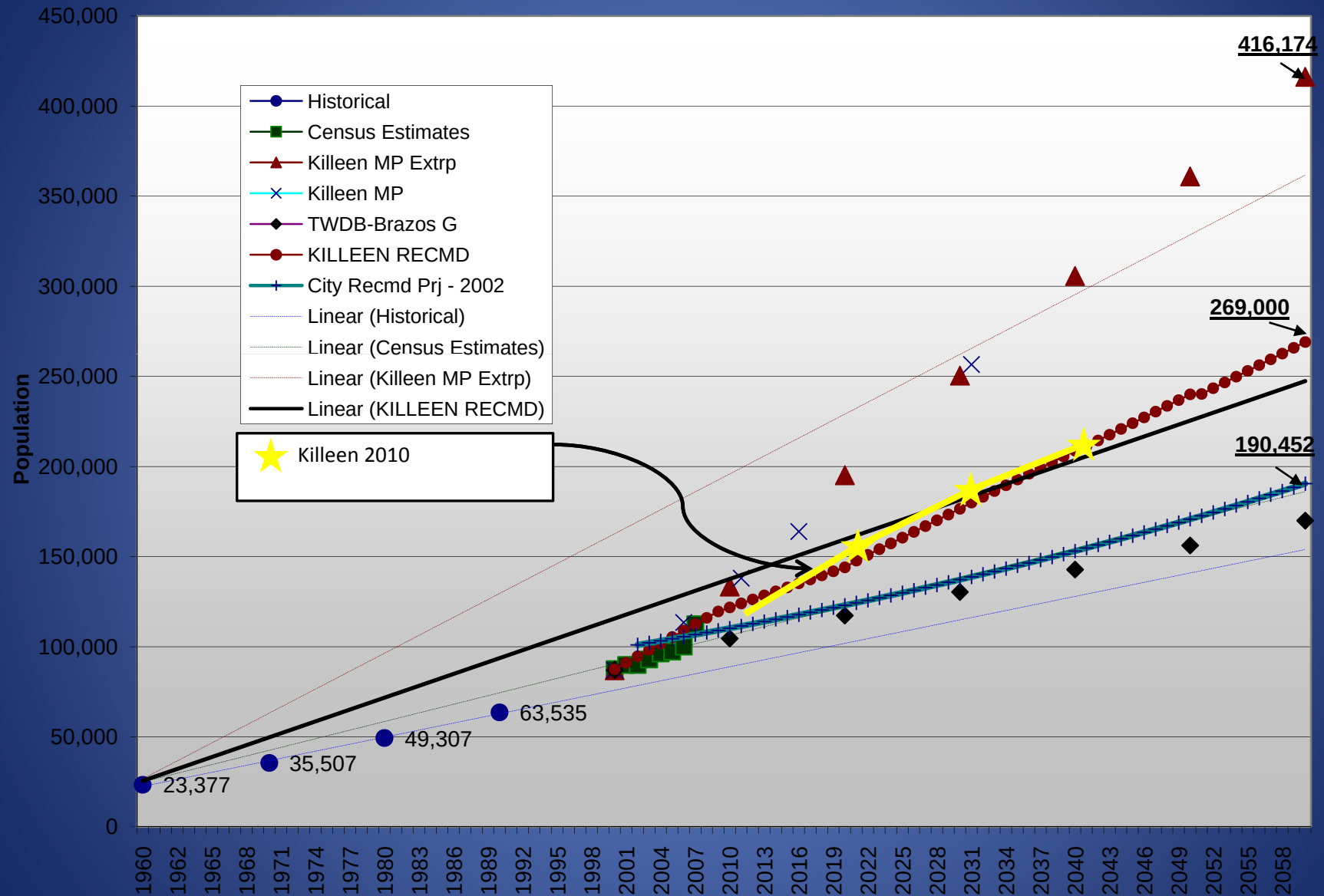


Killeen Historical Population and Projections with Associated Trend Lines



SOURCE : BCWCID #1 JUNE 2009 MASTER PLAN

Killeen Historical Population and Projections with Associated Trend Lines PLUS Killeen 2010 Comprehensive Plan Projections



POPULATION PROJECTIONS

•WATER AND WASTEWATER MASTER PLAN PROJECTIONS*

- 2012 POPULATION = 131,474
- 2017 POPULATION = 139,919 (1.3% GROWTH)
- 2022 POPULATION = 151,330 (1.6% GROWTH)
- 2032 POPULATION = 179,825 (1.9% GROWTH)

*SOURCE: CITY OF KILLEEN 2010 COMPREHENSIVE PLAN



SUPPLY

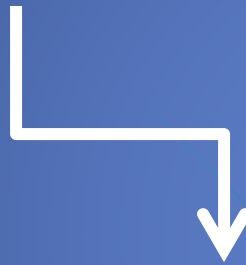


SUPPLY

RAW WATER SOURCE : LAKE BELTON

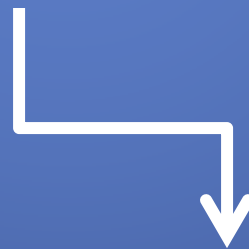
- BRAZOS RIVER AUTHORITY

100,257 AC-FT



- BELL COUNTY WCID #1

62,509 AC-FT



- CITY OF KILLEEN

39,964 AC-FT
(2050-2060)



DEMAND



DEMAND – NUMBERS TO REMEMBER

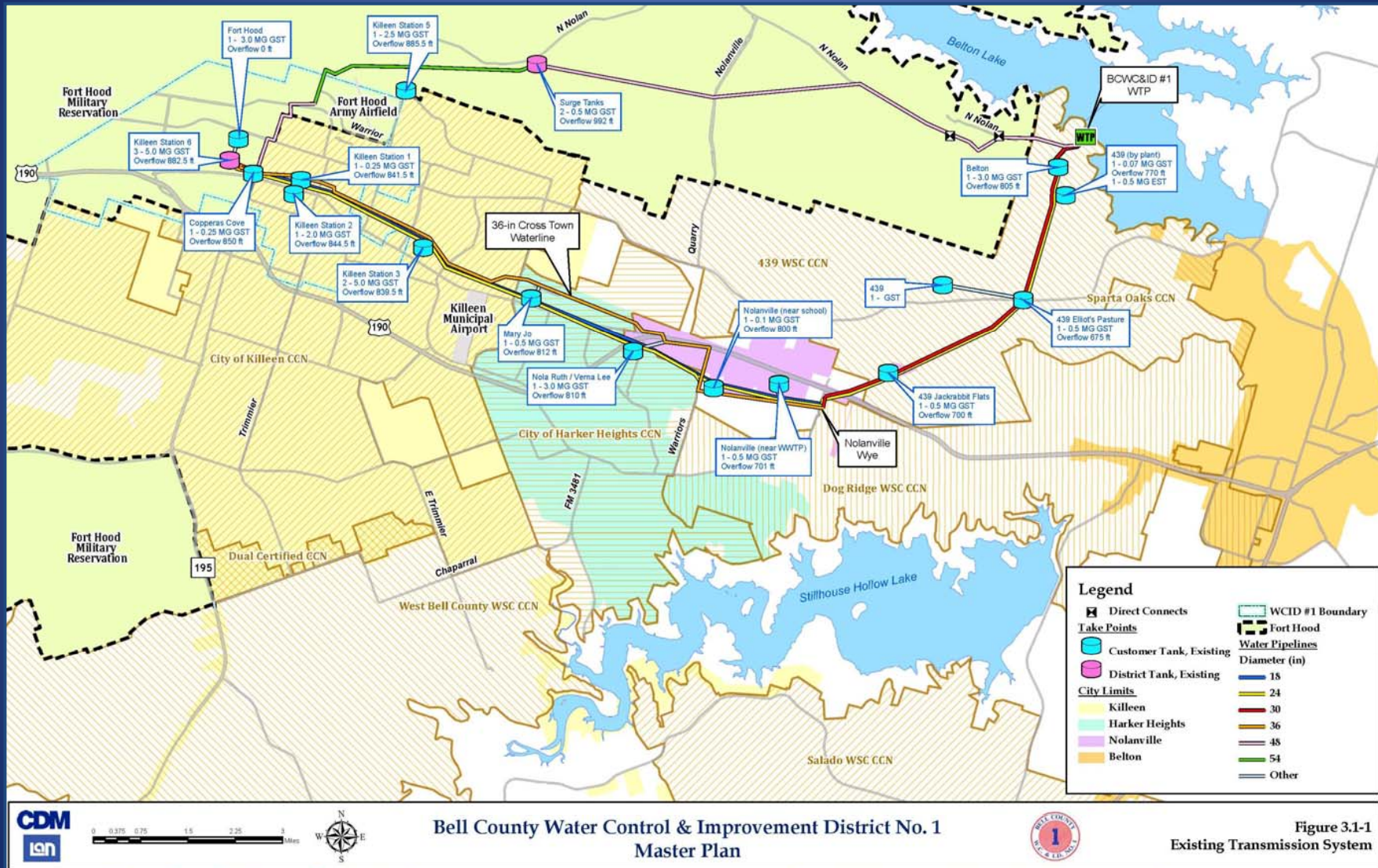
•RAW WATER SUPPLY	39,964 AC-FT
•MAX. DAY TREATMENT CAPACITY	32,000,000 GAL/DAY
•AVG. DAY WATER USAGE/PERSON	130 GPCD *
•PEAK DAY USAGE (PF=1.65)	215 GPCD*
•TCEQ VARIANCE	0.39 GPM/CONNECTION
•TCEQ 85 % RULE	27,200,000 GAL/DAY**

*SOURCE: 2012 WATER & WASTEWATER MASTER PLAN

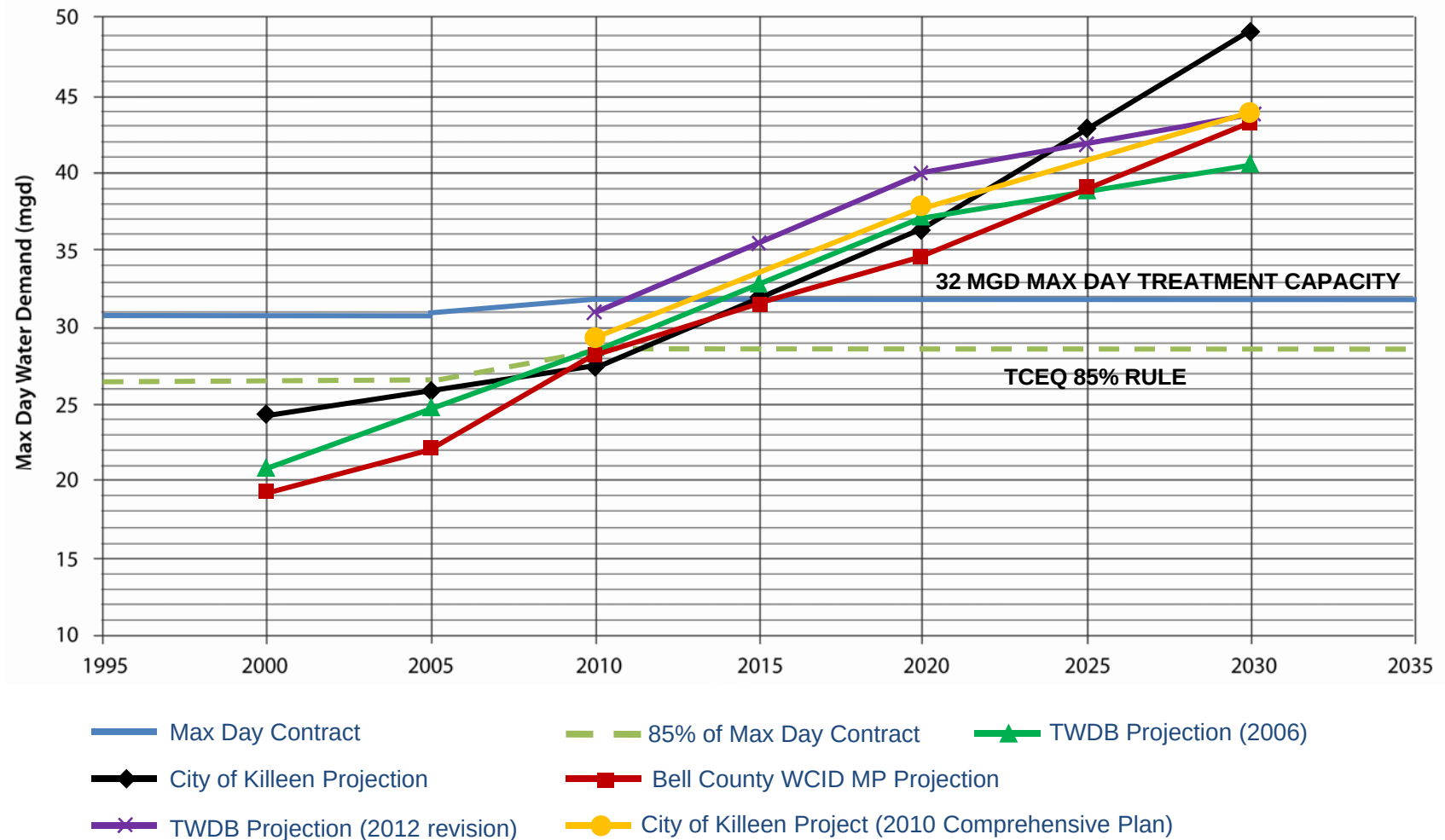
**MAX DAY - 8/4/11 27,079,000 GAL. (SOURCE – UTILITY DEPT PUMPING RECORDS)



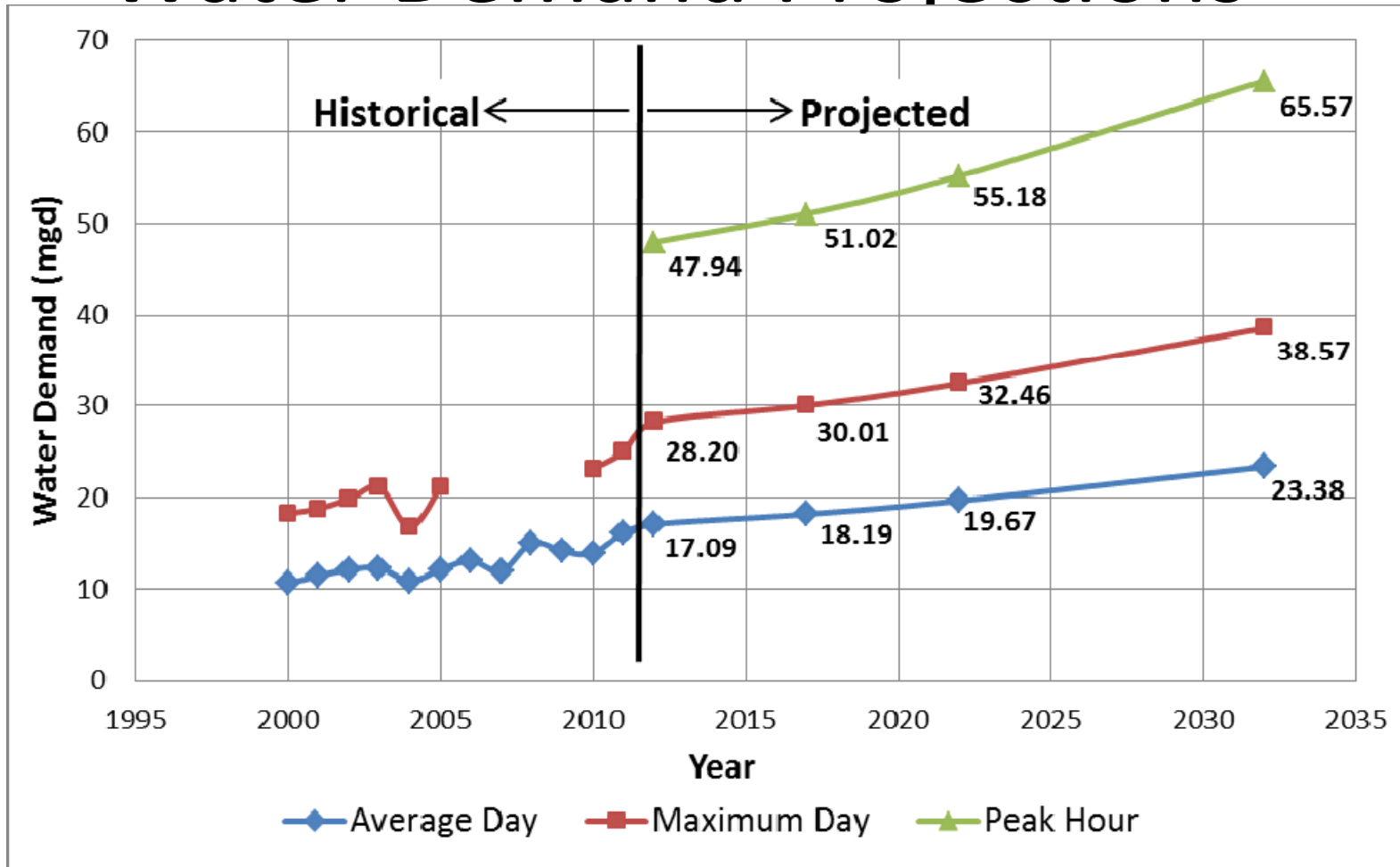
Bell County WCID Existing System



Killeen WTP Capacity vs. Demands



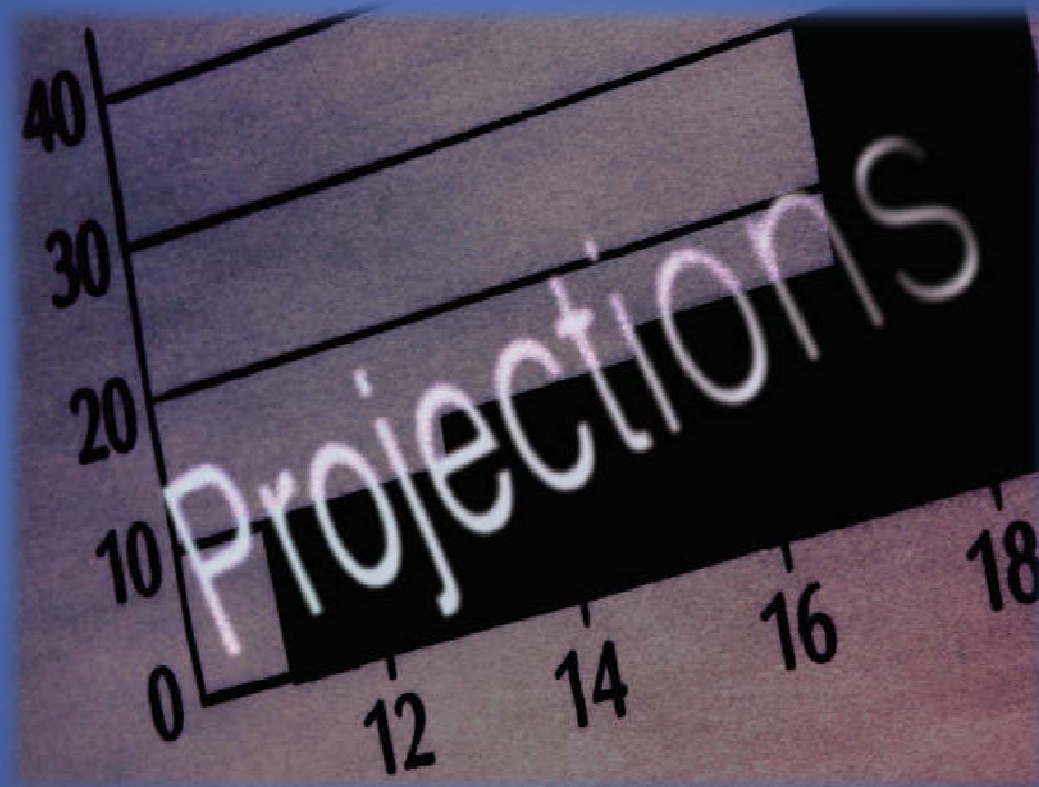
Water Demand Projections



Design Criteria:

- Average day per-capita = 130 gpcd
- Maximum Day to Average Day Peaking Factor = 1.65
- Peak Hour to Maximum Day Peaking Factor = 1.70

PROJECTIONS



PROJECTIONS – MAX. DAY TREATMENT CAPACITY

“THE CITY’S 32,000,000 MAXIMUM DAY TREATMENT CAPACITY WILL BE EXCEEDED WHEN THE POPULATION REACHES APPROXIMATELY 150,000, WHICH WILL OCCUR BETWEEN 2016 AND 2019.”



PROJECTIONS – TCEQ 85% RULE

TCEQ 85% RULE

30 TAC 291.93(3)

*“(3) A retail public utility that possesses a certificate of public convenience and necessity that has reached **85% of its capacity** as compared to the most restrictive criteria of the commission's minimum capacity requirements in Chapter 290 of this title shall submit to the executive director a planning report that clearly explains how the retail public utility will provide the expected service demands to the remaining areas within the boundaries of its certificated area....”*

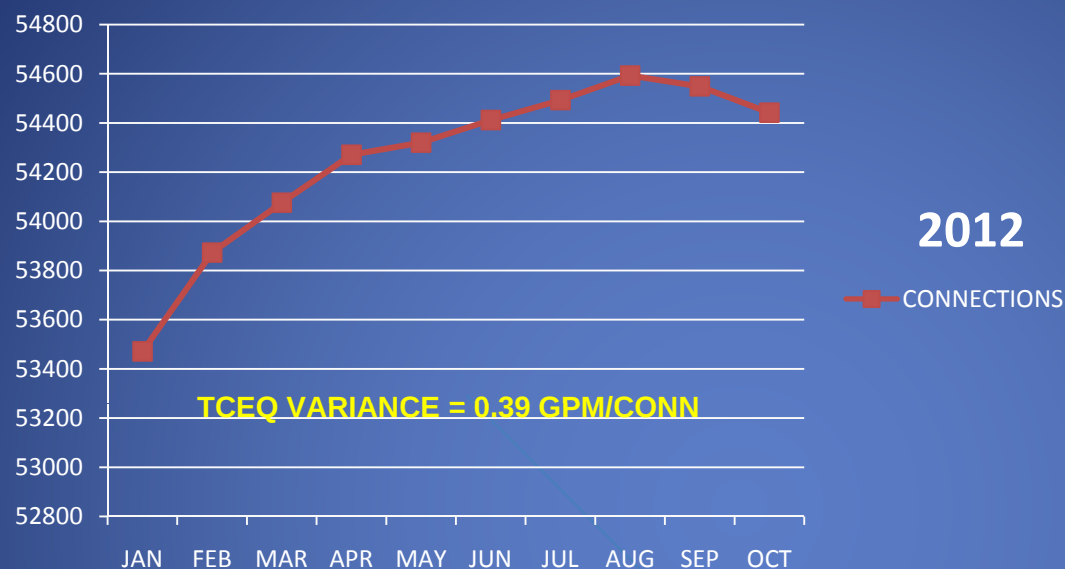


PROJECTIONS – TCEQ 85% RULE

“BASED UPON CURRENT DAILY USAGE AND SUMMERTIME PEAKING FACTORS, THE 85% LEVEL WILL BE REACHED WHEN THE POPULATION REACHES APPROXIMATELY 133,000, WHICH WILL OCCUR IN 2013.”



PROJECTIONS - TCEQ VARIANCE



MAX NUMBER OF ALLOWABLE SERVICE CONNECTIONS = 56,980

CURRENT SURPLUS = 2538

2014 - EXPECTED EXCEEDENCE DATE



PROJECTIONS

TAKE AWAY

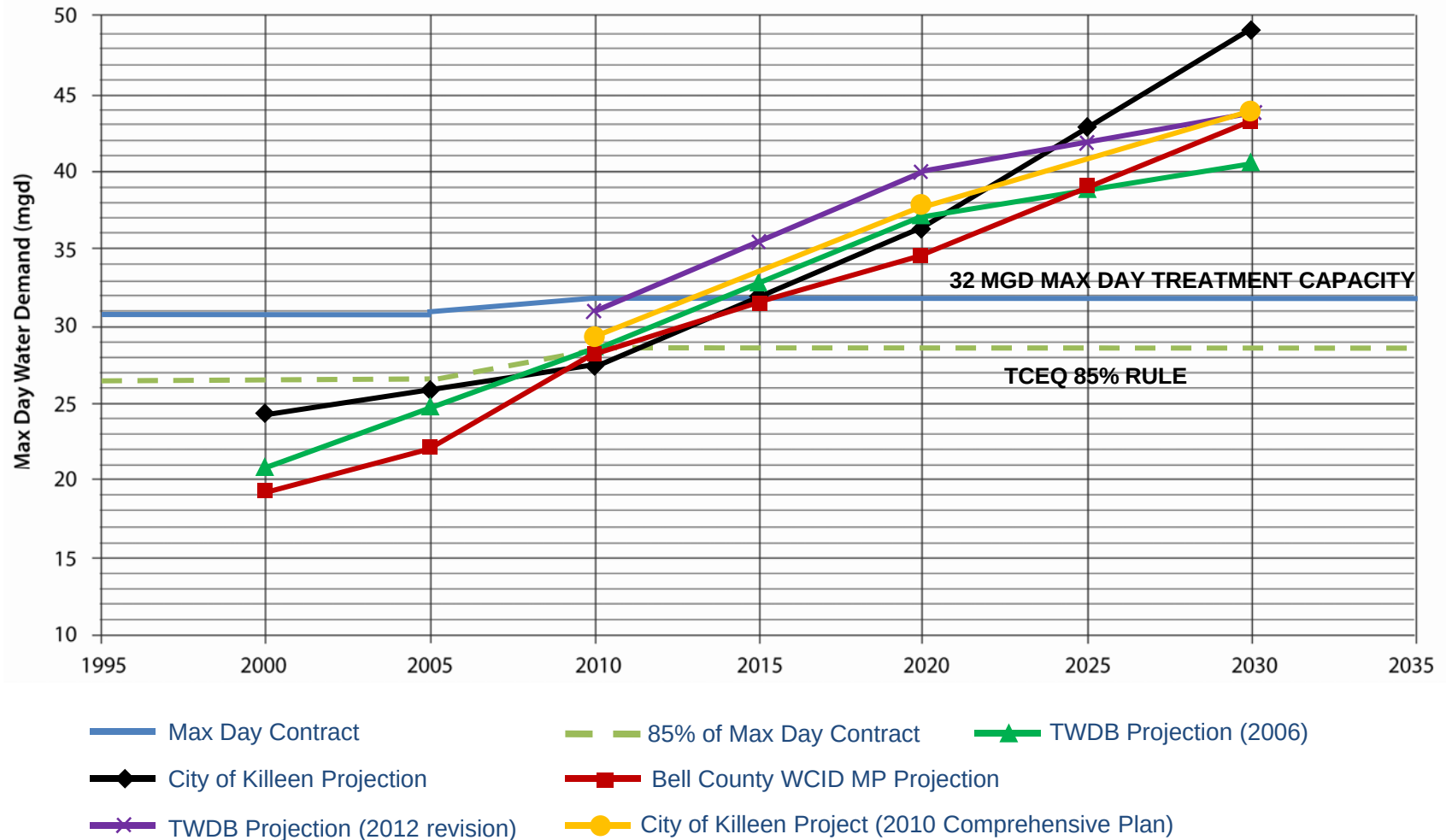
- EXCEED TCEQ 85% RULE 2013
- EXCEED ALLOWABLE CONNECTIONS 2014
- EXCEED TREATMENT CAPACITY 2016-19



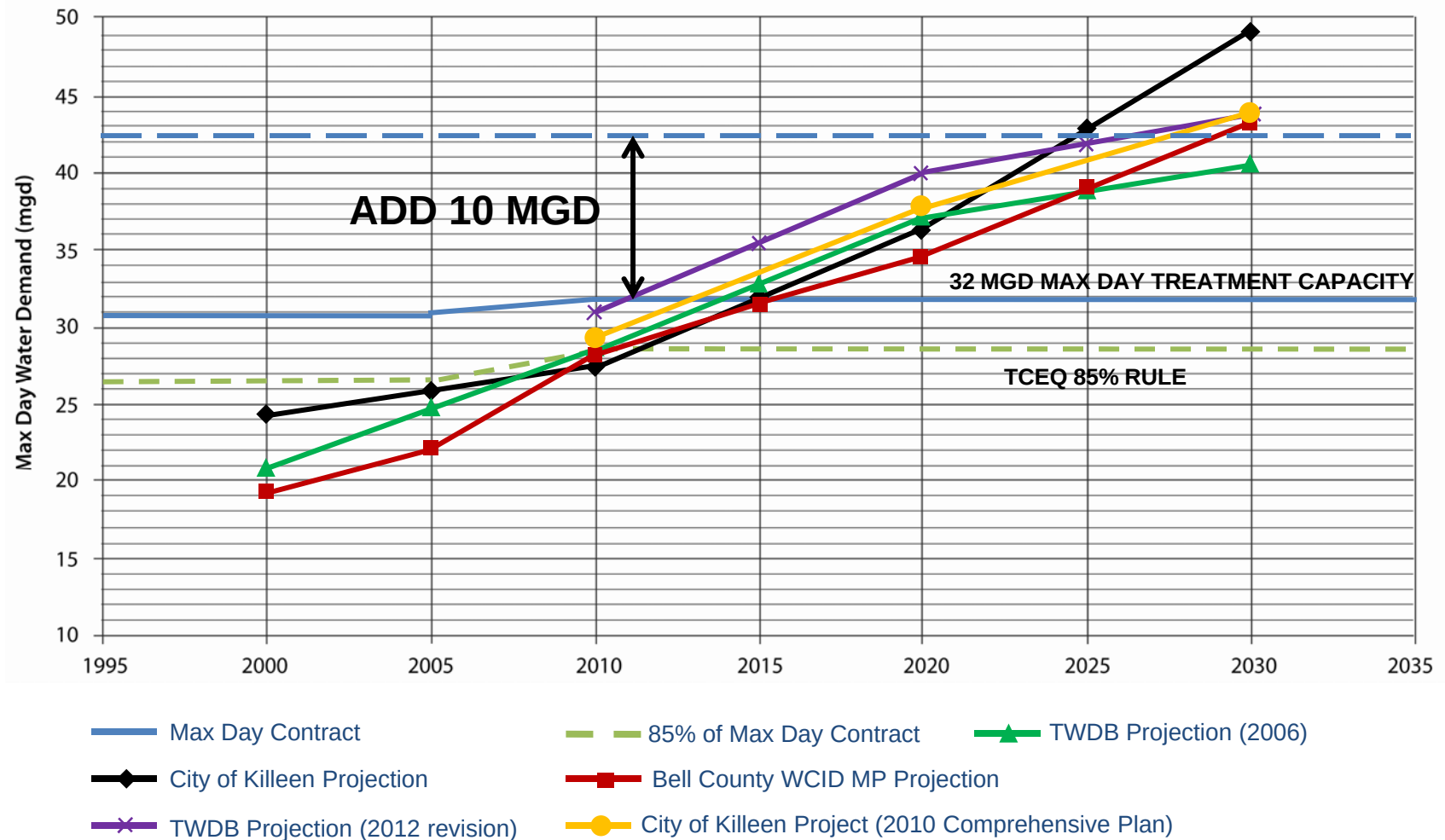


RECOMMENDATIONS

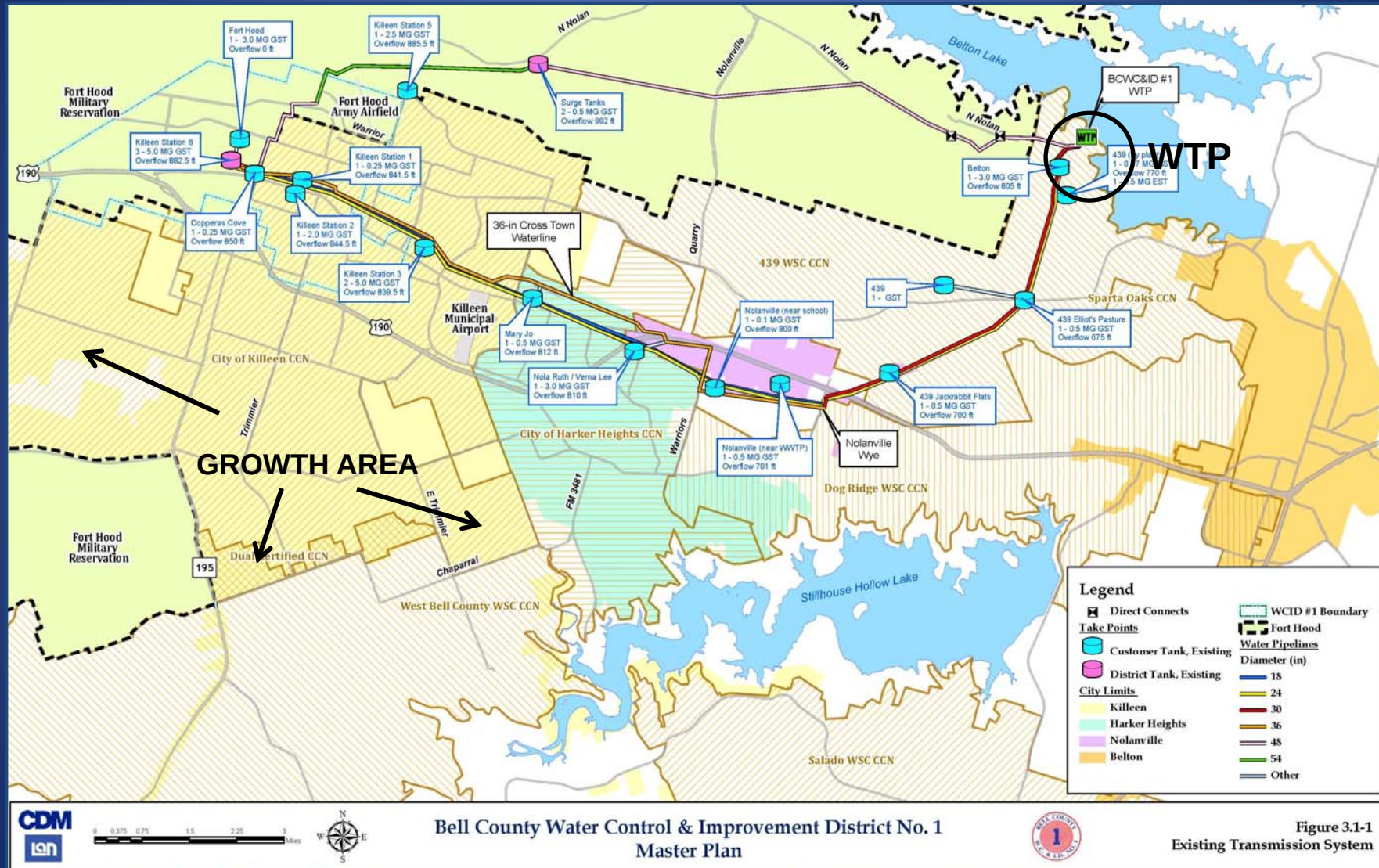
Killeen WTP Capacity vs. Demands



Killeen WTP Capacity vs. Demands



Bell County WCID Existing System



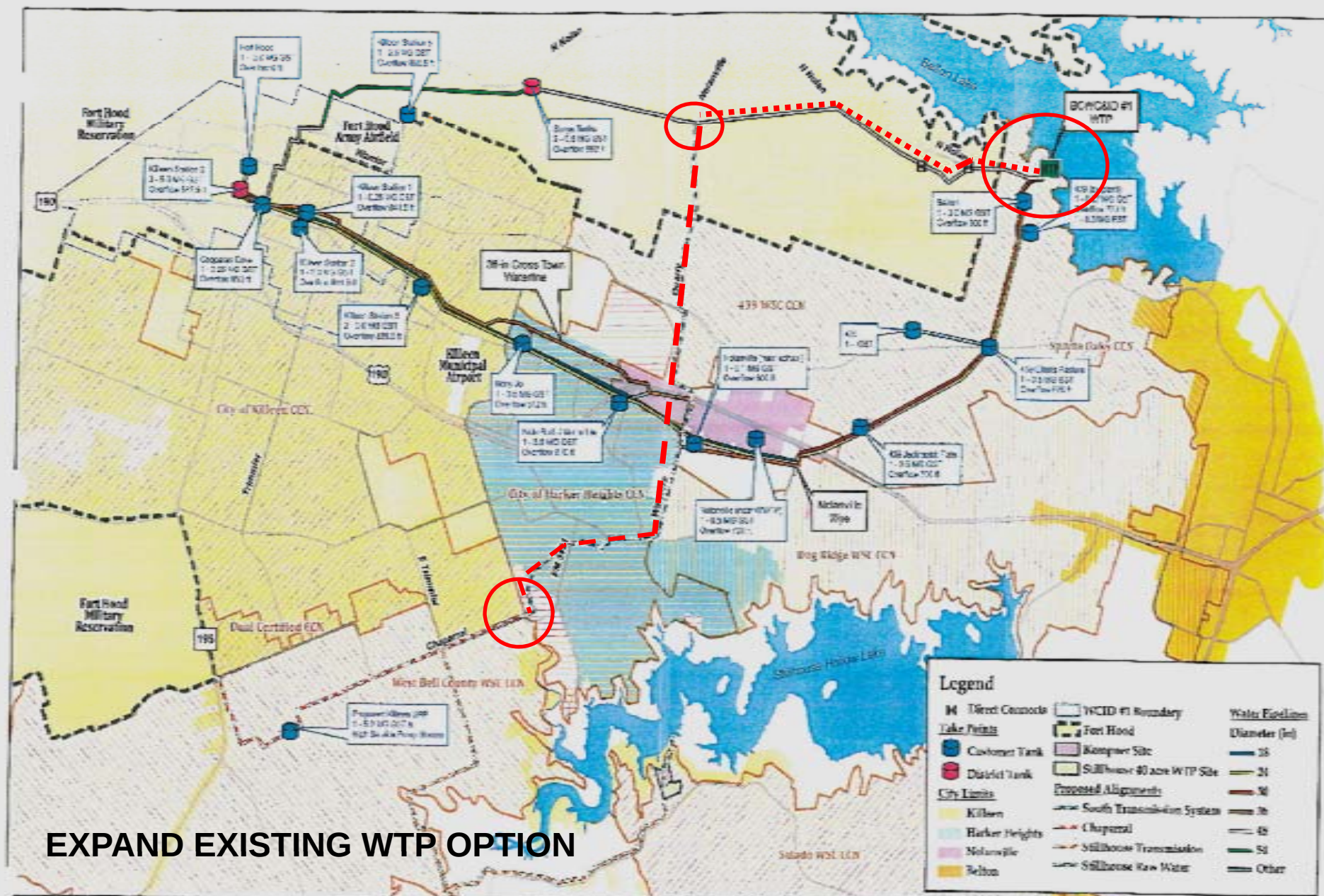
RECOMMENDATIONS

OPTIONS*

- EXPAND EXISTING WTP ON LAKE BELTON
- CONSTRUCT NEW 10 MGD WTP ON LAKE STILLHOUSE HOLLOW
- PARTNER WITH EXISTING PROVIDERS AT LAKE STILLHOUSE HOLLOW

*OPTIONS MAY REQUIRE ADDITIONAL "IN-HOUSE" IMPROVEMENTS





0 0.25 0.5 1.0 1.5 2.0



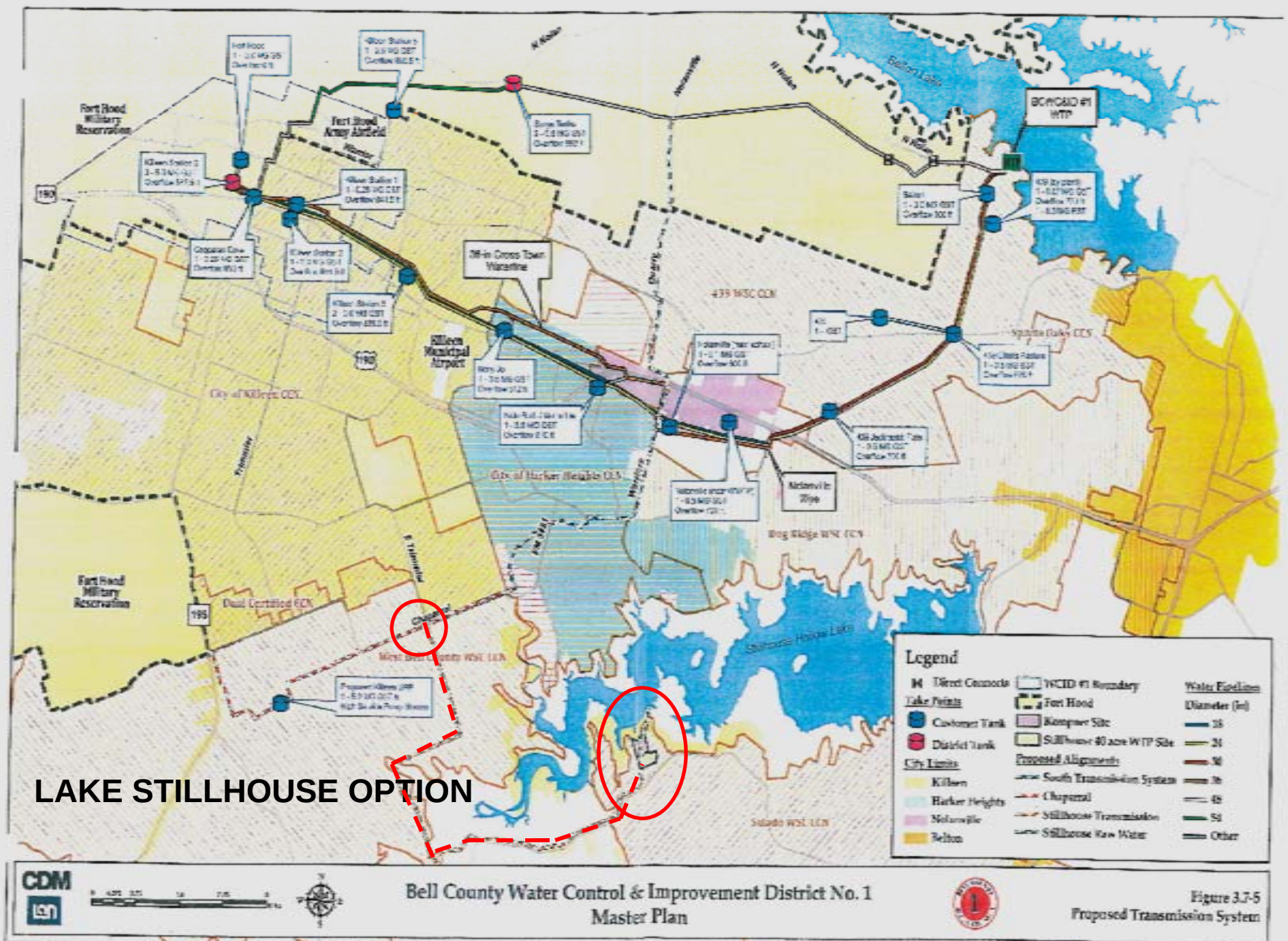
Bell County Water Control & Improvement District No. 1
Master Plan

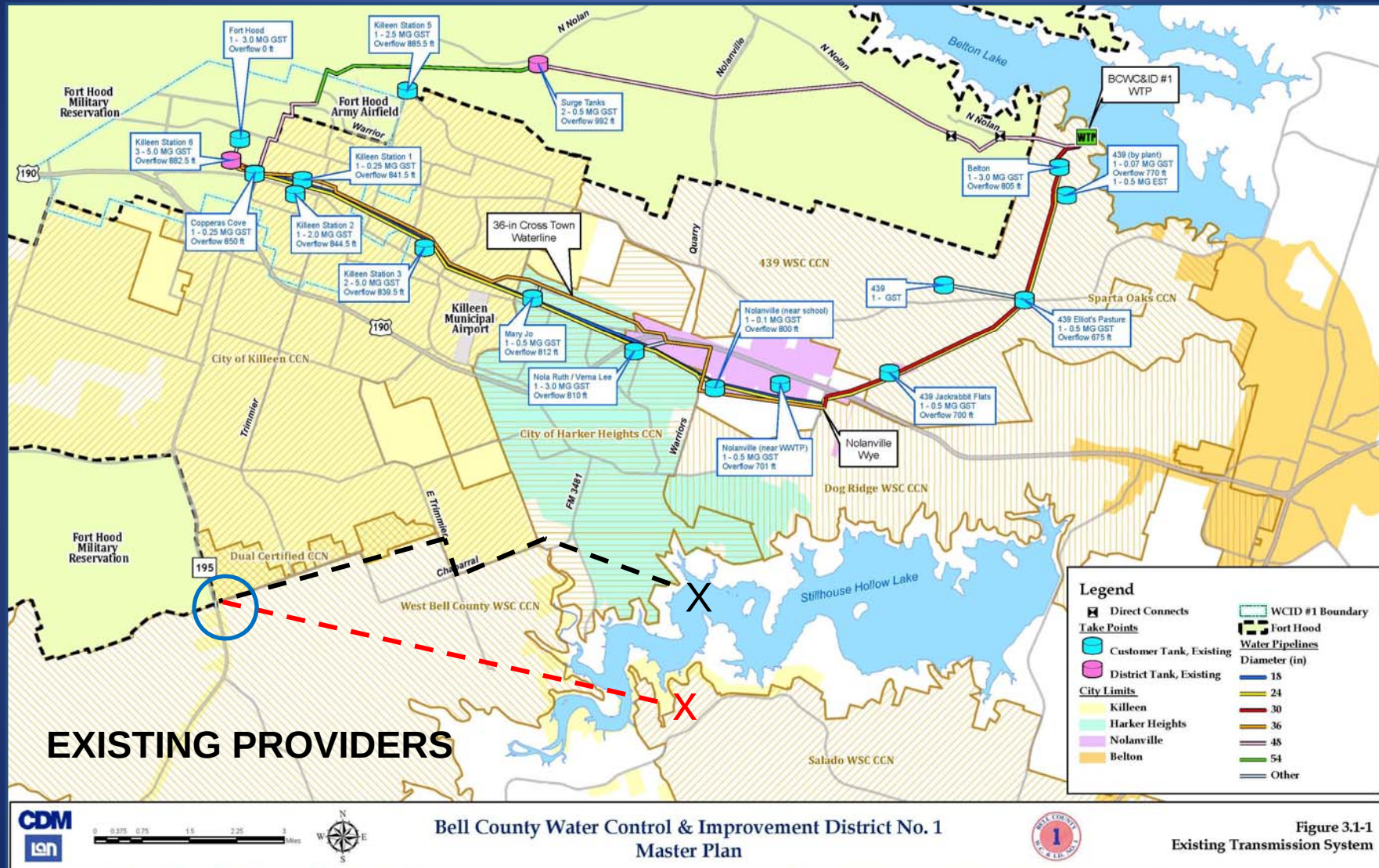


Figure 3.7-5
Proposed Transmission System

Bell County WCID Existing Plant







RECOMMENDATIONS

REQUEST MEETING WITH BCWCID #1 TO:

- EVALUATE FUTURE WTP OPTIONS
- REVIEW FINANCIAL CONSTRAINTS AND O&M COST
- CONFIRM RAW WATER SOURCE OPTIONS
- PREPARE FINAL RECOMMENDATION FOR COUNCIL CONSIDERATION BY _____.?

