



# City of Schertz Water and Wastewater Master Plans

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Schertz City Engineer



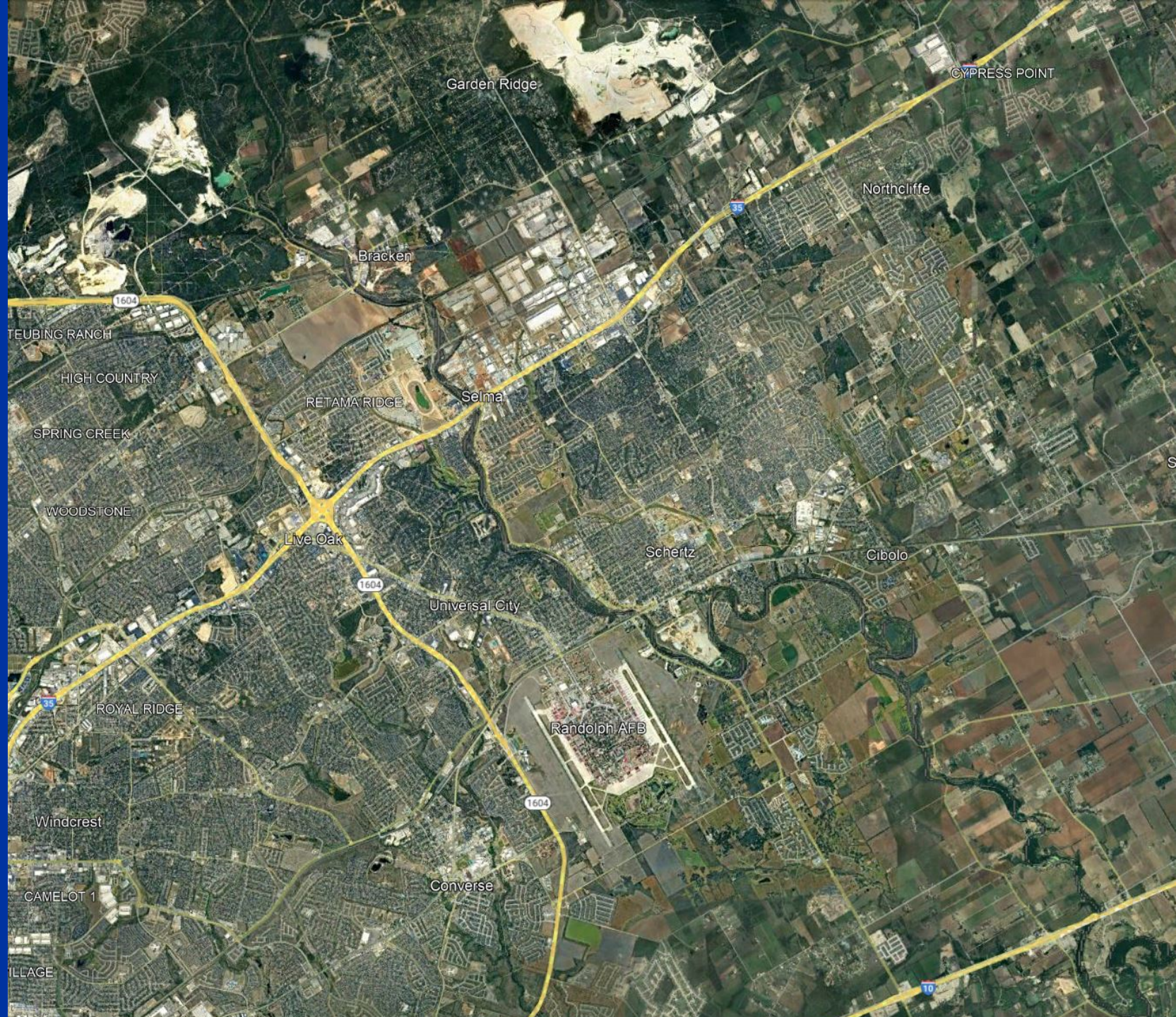
# Agenda

Land Use Assumptions

Methodology for Project Identification

Questions

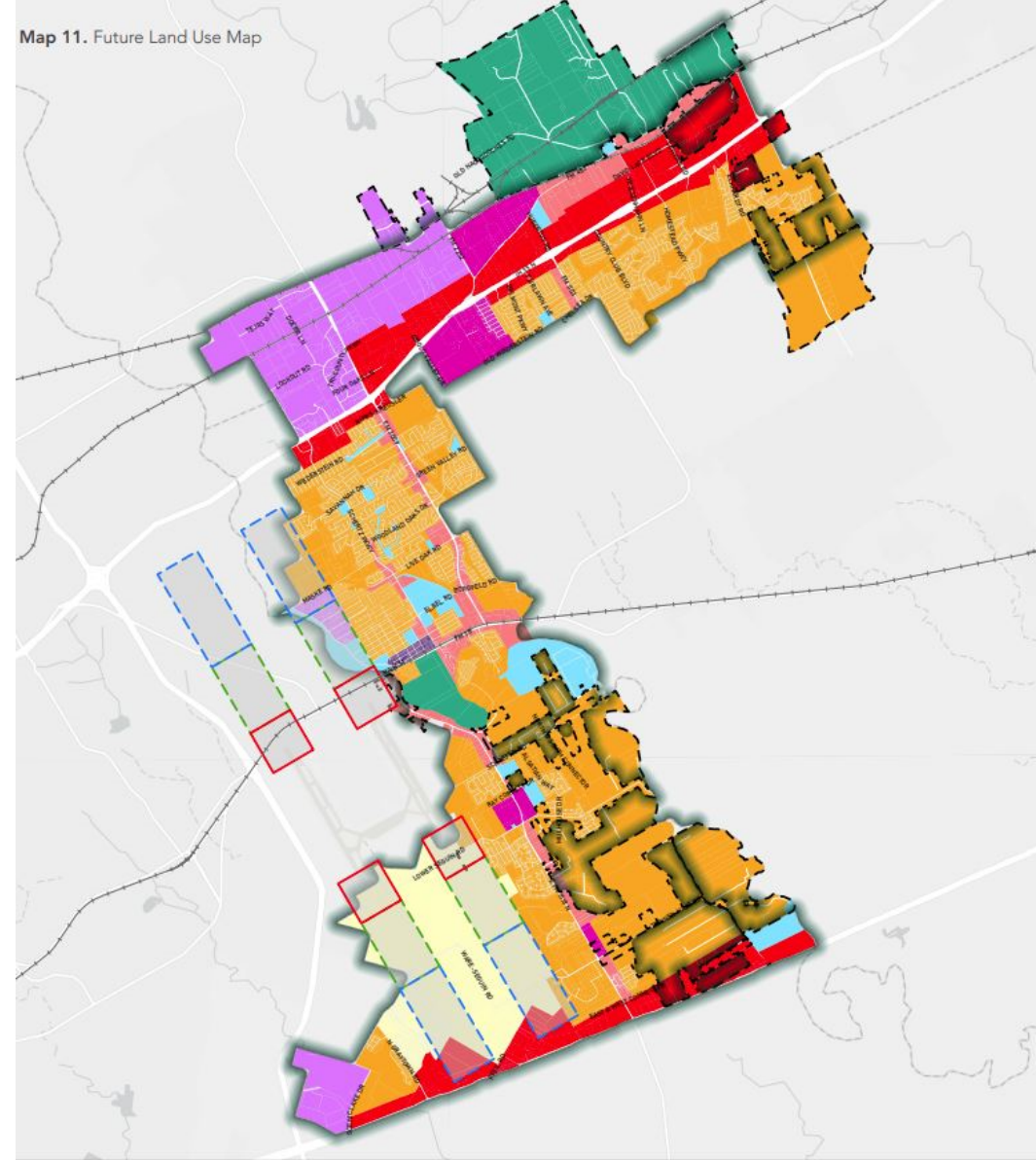
# Land Use Assumptions for Updates of Water and Wastewater Master Plans



# Land Use Assumptions

- Basis was the 2018 Land Use Plan Map
- Modified based on residential subdivision development information received from the City on April 8<sup>th</sup>, 2022.
- It is assumed that these developments will remain in place for the 30-year planning period.
- New growth will expand away from the City center.
- Development pressure along the IH-35 corridor and from New Braunfels will result in development at higher densities throughout the north.

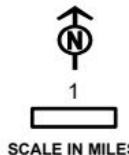
Map 11. Future Land Use Map



**FN FREESE NICHOLS**  
Sources: City of Schertz, State of Texas, as Parks & Wildlife, ESRI, Texas Geographic Information System, Freese and Nichols  
Disclaimer: A comprehensive plan shall constitute zoning regulations or zoning district boundaries

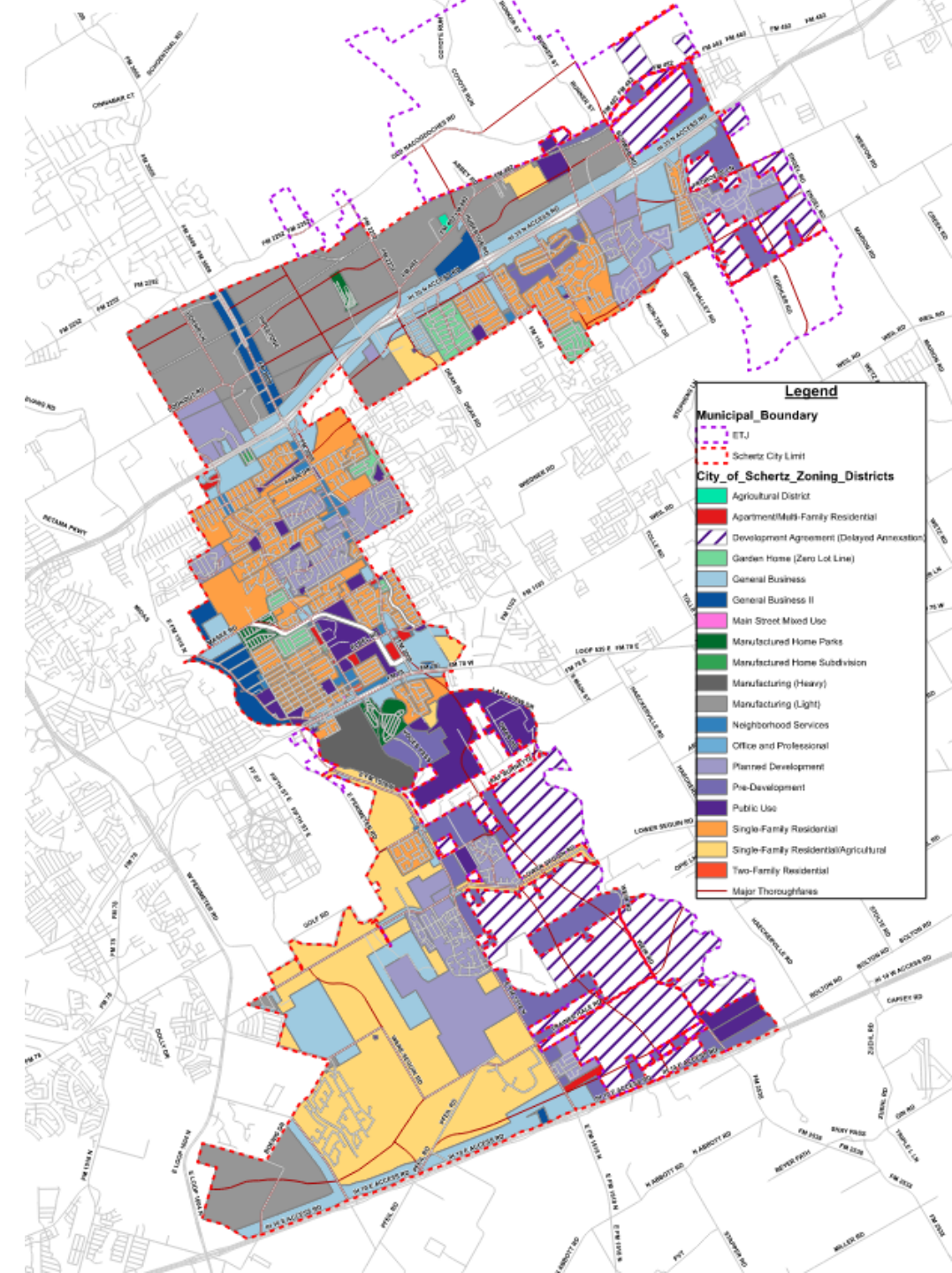
## Schertz Comprehensive Land Use Plan

Regional Corridor	Local Corridor	Main Street	APZ II
Mixed Use Center	Development Deferment	Schertz ETJ	Clear Zone
Rural Living	Industrial	Schertz City Limits	Railroad
Complete Neighborhood	Public Use	APZ I	



# Land Use Assumptions Continued

- Territories under delayed annexation agreements will be annexed by 2025. The annexation of these territories will expand municipal boundaries. Most annexations occurred earlier this summer.
- Regions that do not currently lie within the City water or wastewater CCNs currently identified by the Texas PUC will remain so.
- The existing water and wastewater CCNs will remain in place for the 30-year planning period.

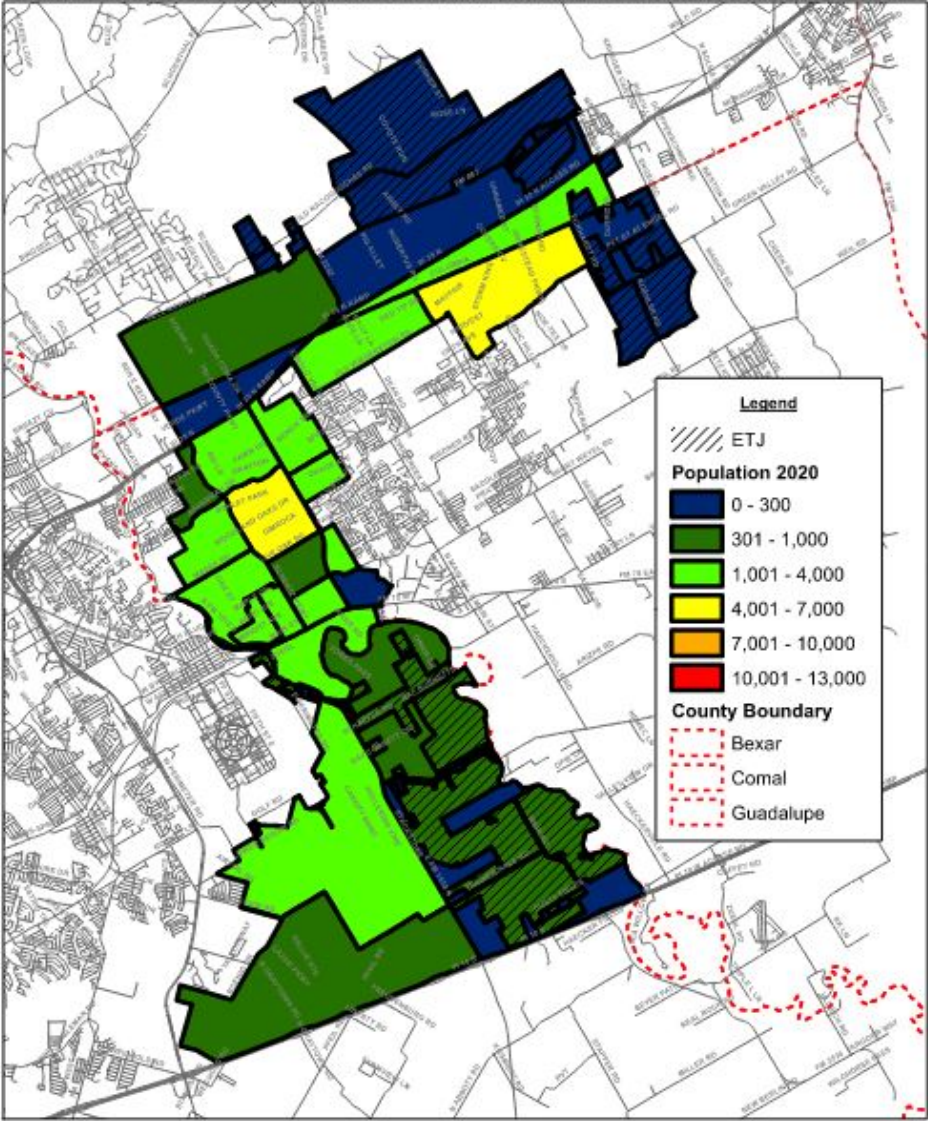


# Population Projections

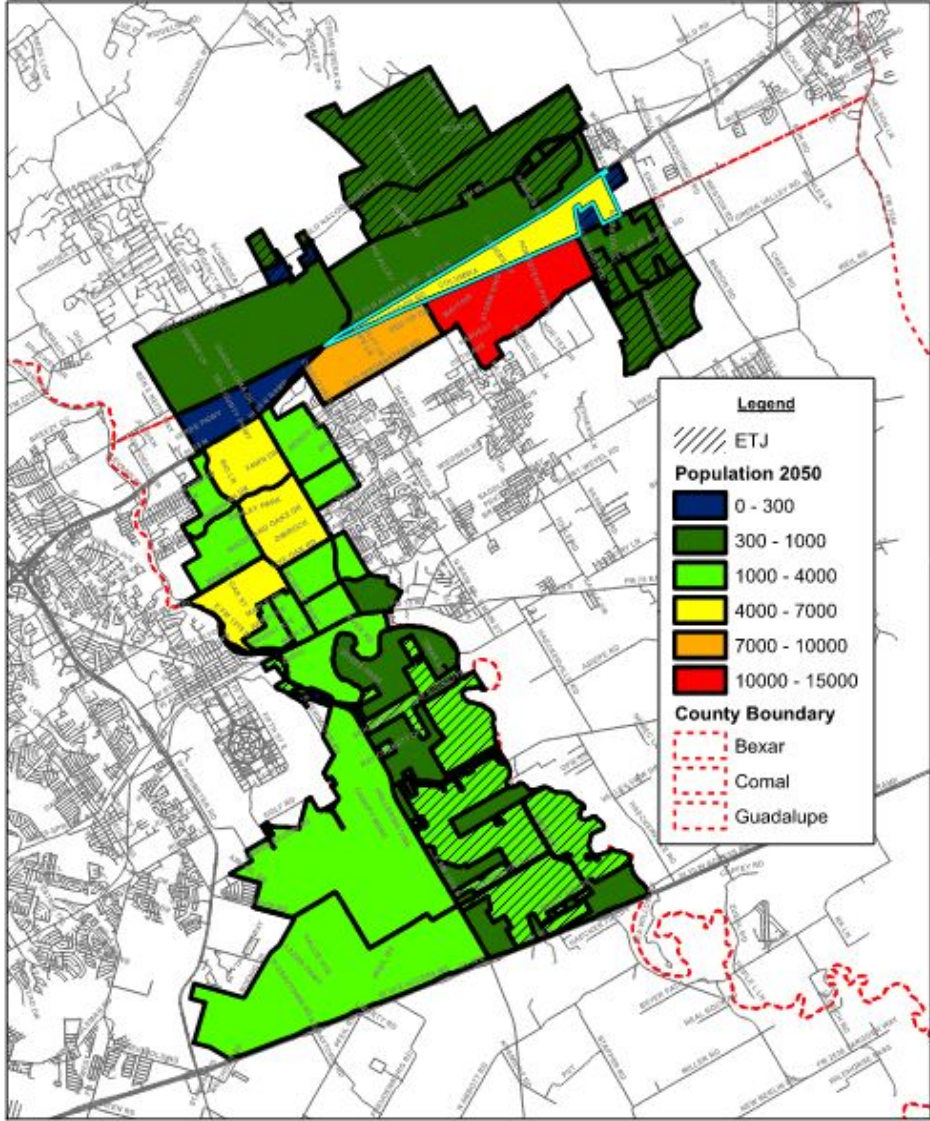
Population Projections (Cumulative) <sup>(1)</sup>	Historical	5-Year	10-Year	15-Year	20-Year	25-Year	30-year
	2020	2025	2030	2035	2040	2045	2050
<i>Compound Annual Growth Rate</i>	-	<b>1.8%</b>	<b>2.0%</b>	<b>2.0%</b>	<b>1.9%</b>	<b>1.9%</b>	<b>1.8%</b>
<b>Population</b>	45,719	49,985	55,187	60,933	66,946	73,553	80,416
<b>Total Increase</b>	(+)	4,266	5,202	5,745	6,013	6,607	6,863

<sup>(1)</sup>Total population accounts for areas of existing Extra Territorial Jurisdiction (ETJ) for which growth is constrained

# Population Distribution



2020



2050

# Housing Projections

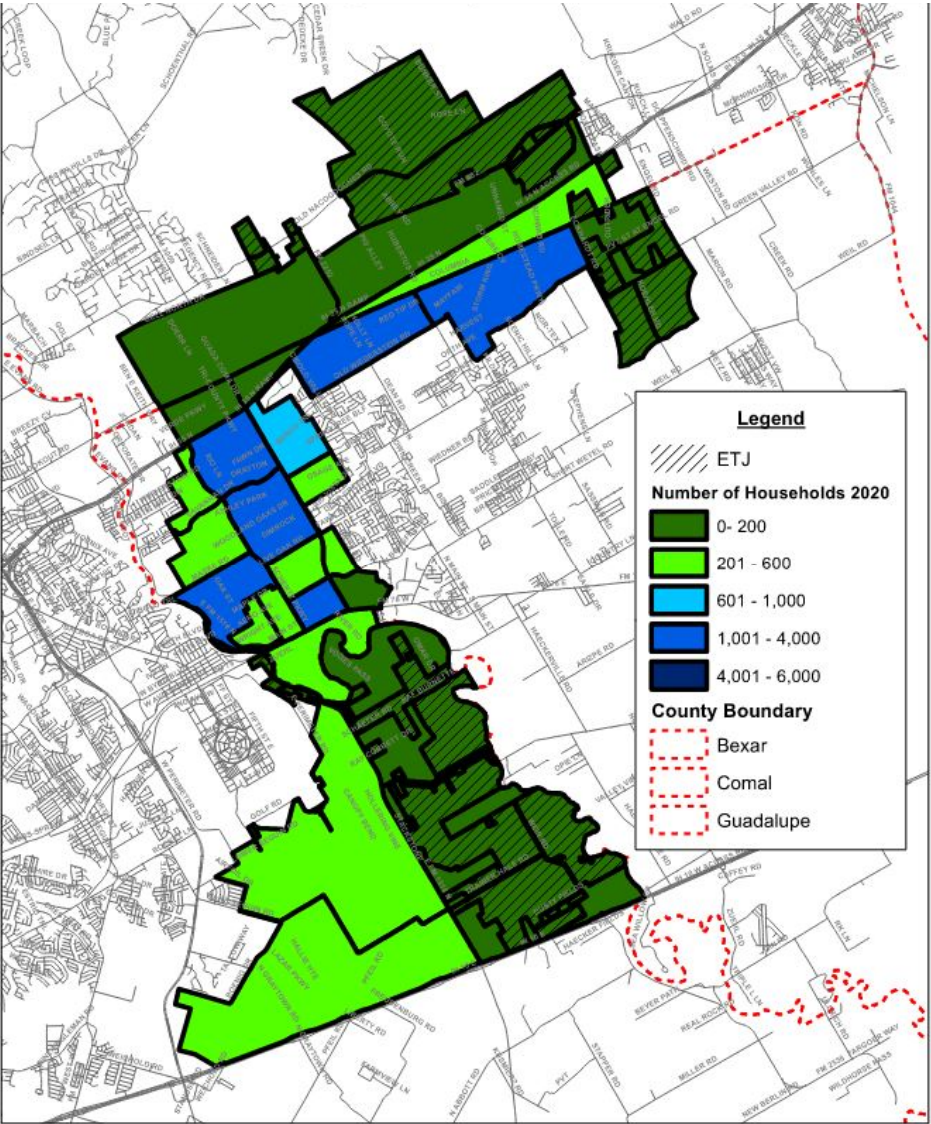
Housing Projections (Cumulative)	Historical	5-Year	10-Year	15-Year	20-Year	25-Year	30-year
	2020	2025	2030	2035	2040	2045	2050
<b>Compound Annual Growth Rate<sup>(1)(2)</sup></b>	-	<b>3.2%</b>	<b>2.4%</b>	<b>2.2%</b>	<b>2.1%</b>	<b>2.0%</b>	<b>2.0%</b>
<b>Households</b>	15,441	18,034	20,305	22,640	25,120	27,735	30,742
<b>Total Increase</b>	(+)	2,593	2,271	2,335	2,480	2,615	2,737

<sup>(1)</sup>Total number of households accounts for all categories of residential housing units throughout the City

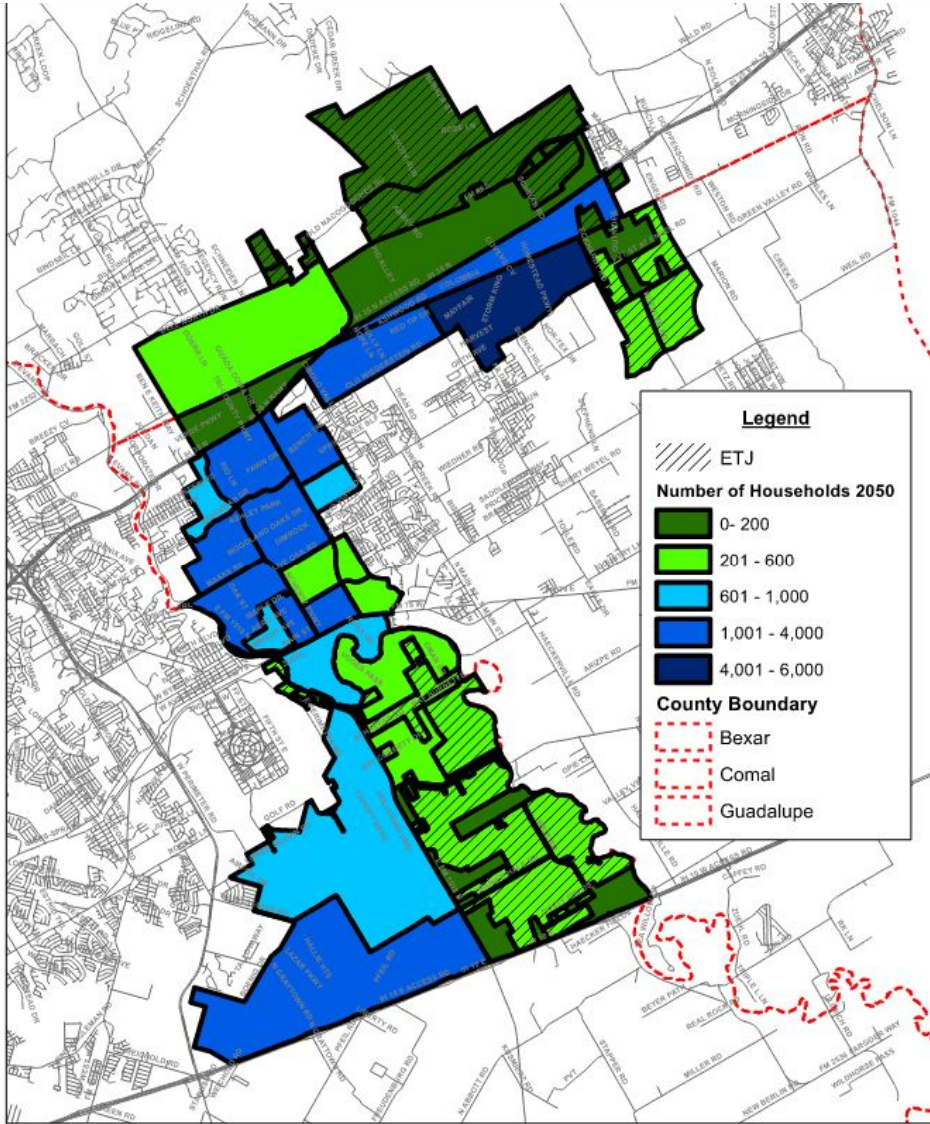
<sup>(2)</sup>Total number of households accounts for all residential housing units located within areas of existing Extra Territorial Jurisdiction (ETJ) for which growth is constrained



# Housing Distribution



2020



2050

## Methodology for Project Identification

- Evaluate Existing Systems
- Model Future Growth
- Propose Projects to Solve Existing & Future Issues

# Develop a Hydraulic Water Model

- Input pipes, valves, storage tanks, structures, etc. from data provided by the City.
- Updates made to the model:
  - Wholesale Customer Demands
  - Residential Water Usage Patterns
  - Live Oak Pressure Reducing Valve Settings
  - Removal of Waterlines Not in Service
- Evaluate the existing model against TCEQ's Public Drinking Water Rules & Regulations.
- Identify CIPs that address the TCEQ criteria that were not met.

# TCEQ Public Water System Requirements

- System Storage & Supply
- System High Service Pump Capacity
- System Minimum Pressure Requirements

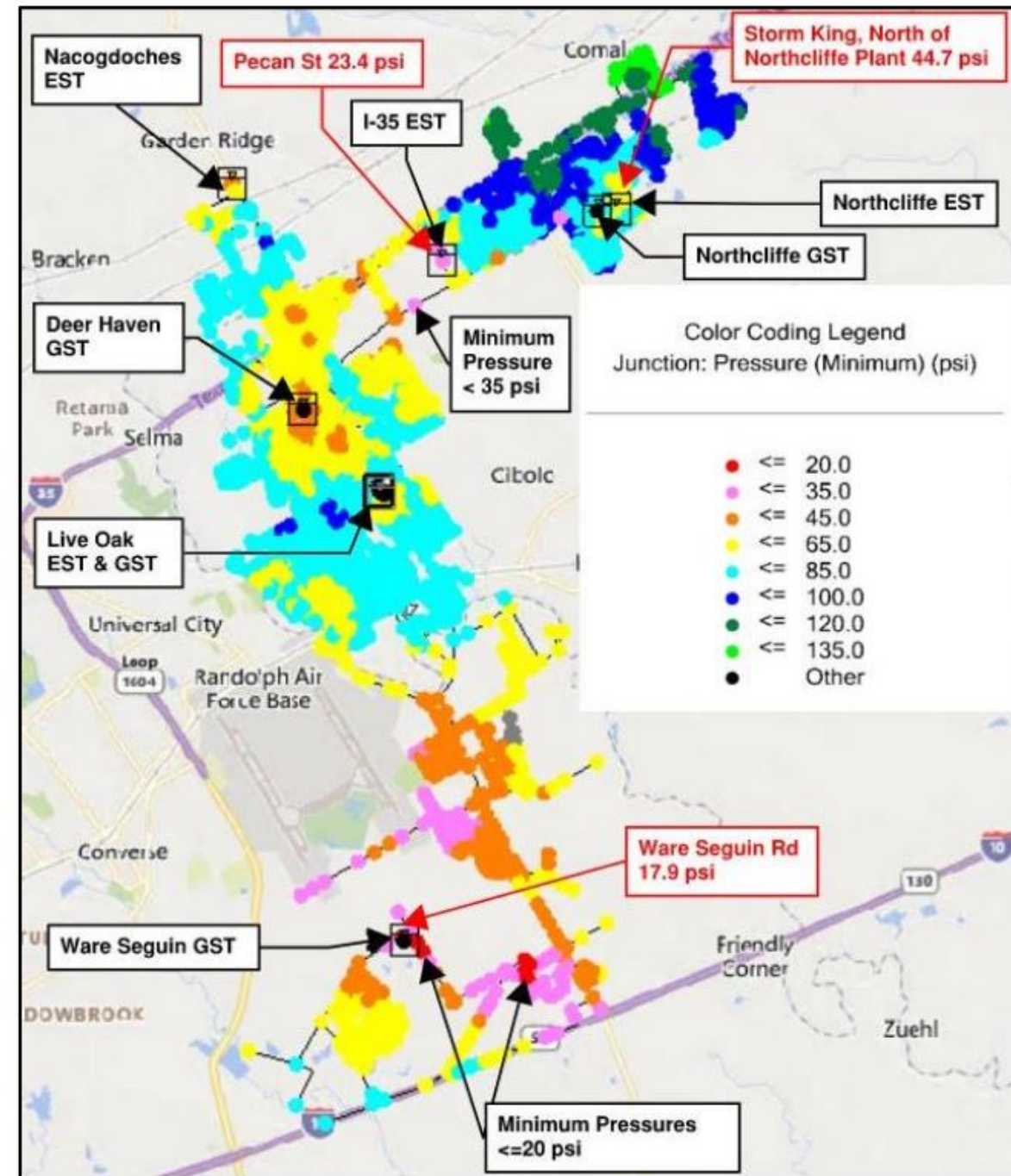


Figure 7. Peak Day Conditions Minimum Pressures

# Evaluate the Future Water System

1

Apply growth patterns from the land use assumptions to the existing model.

2

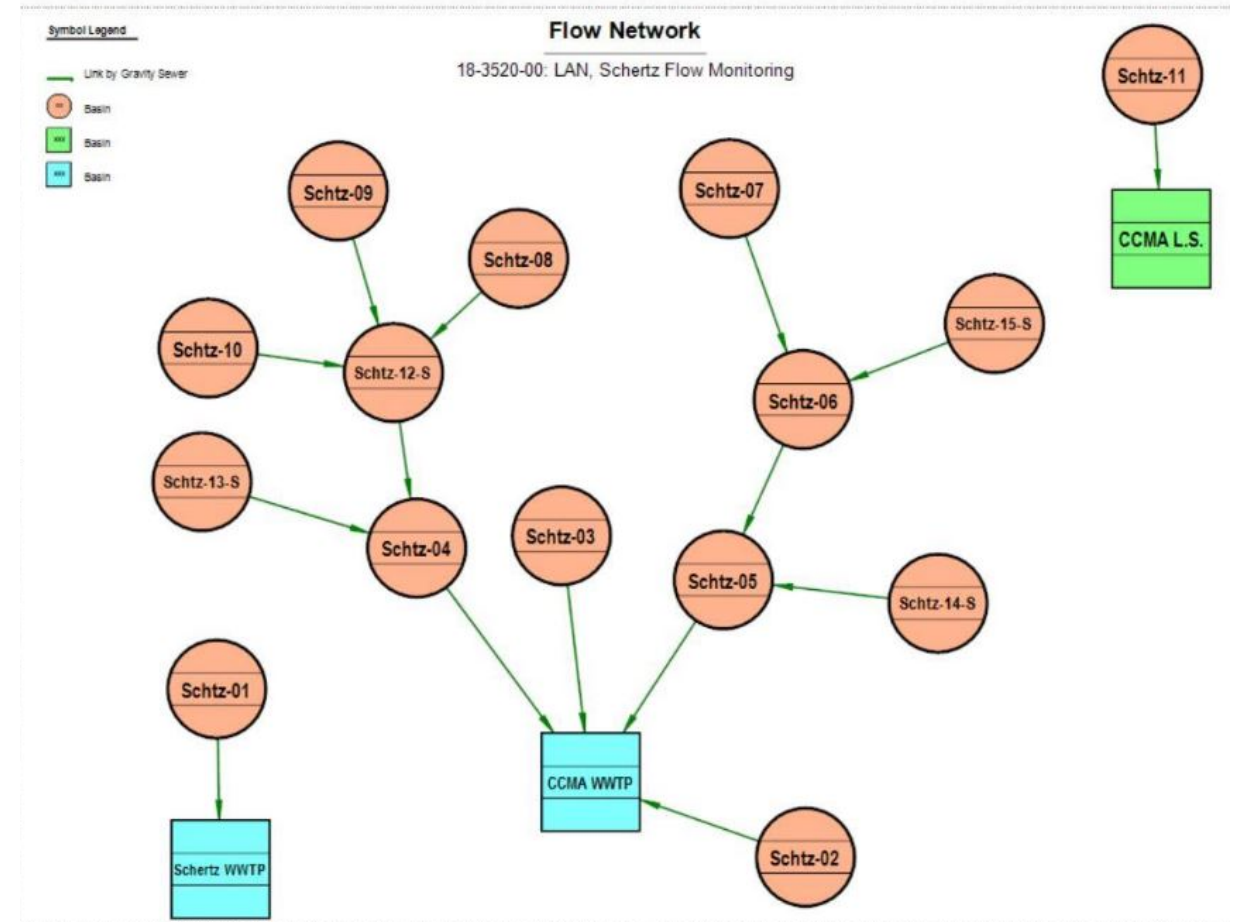
Re-evaluate the model against TCEQ requirements.

3

Identify Projects that satisfy any unmet TCEQ criteria.

# Develop a Hydraulic Wastewater Model

- Input pipes, structures, demands, etc. from data provided by the City.
- Calibrate
  - Flow Monitoring
    - Set flow monitors and rain gauges
    - Collected data over 60 days
    - Import data into the model
  - Compare Model with Real Life Results for Wet Weather & Dry Weather Scenarios
  - Adjust Model



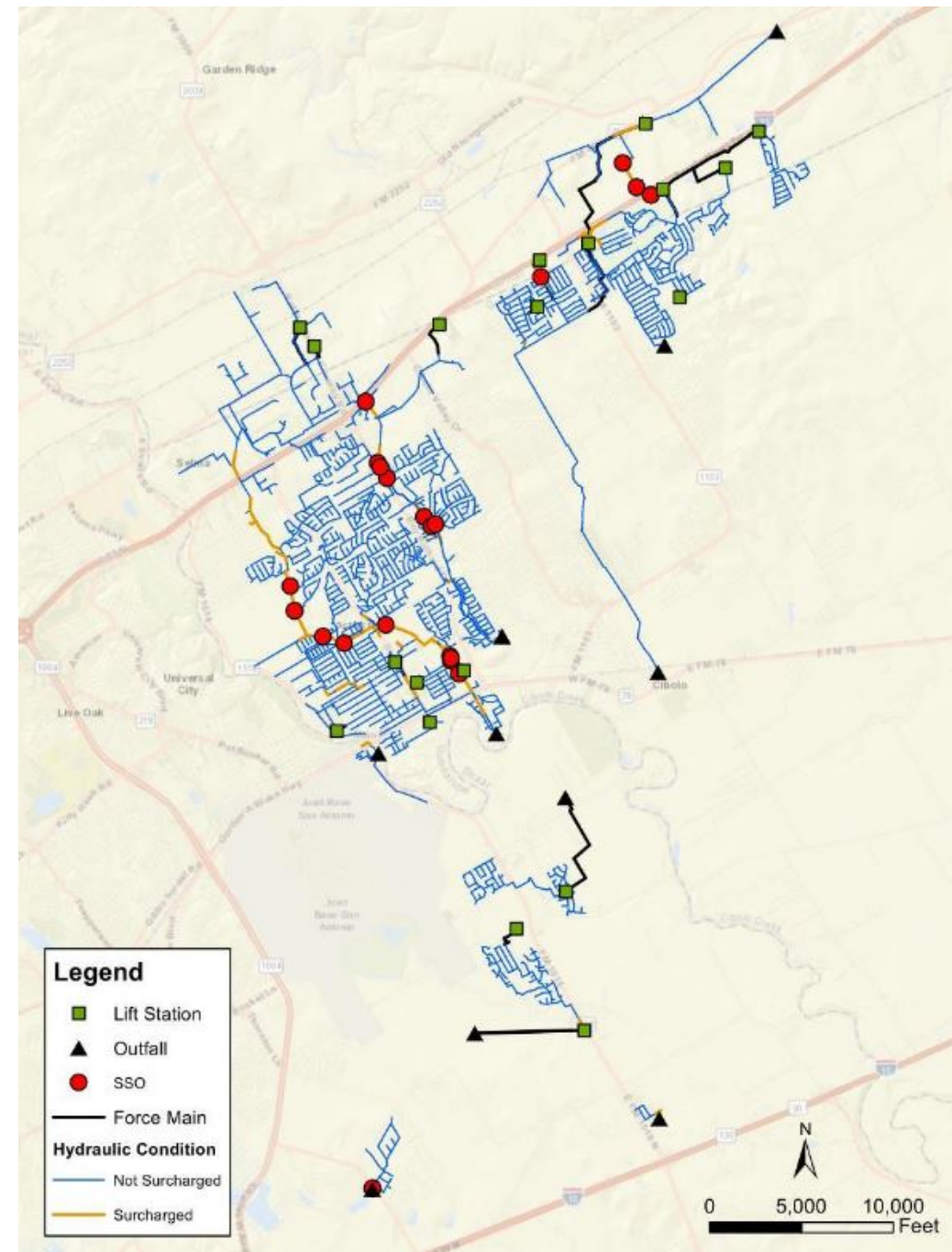
# Evaluate the Existing WW System

Looking  
for:

Sanitary Sewer Overflows (SSO)  
at Manholes  
Surcharged Gravity Mains

Found:

21 SSOs  
Approximately 26,000 feet of  
Surcharged Gravity Mains



# Evaluate the Future WW System

- Land use assumptions are applied to the existing system to model the future system.
- Future SSO's and surcharged lines are identified.
- Capital improvement projects are developed to relieve existing and future system stresses.
  - Stresses can be from existing capacity issues or those developing from growth.

# Master Plan Updates



# Near Term Water Projects

## Major Infrastructure (2)

- Corbett PS & GST Project  
(Completed)
- Ware Seguin PS Improvements

## Waterline Improvements (8)

- **8" Replacement Project (1)**
  - Moonlight Meadow Dr & Lost Meadow Dr
- **12" Replacement & New Install Projects\* (7)**
  - Bubbling Springs
  - Ware Seguin to Lower Seguin\*
  - Fred Couples to Schwab\*
  - Schwab to Eckhardt\*
  - Graytown to Pfeil\*
  - FM 78
  - Robinhood Way

# 2030 Water Projects

## Major Infrastructure (2)

- Ware Seguin PS Expansion Phase 1
- PRV Installation for Proposed Southwest Pressure Plane

## Waterline Improvements (9)

- **8" Replacement & New Install Projects\*** (4)
  - Ray Corbett Drive to Lower Seguin Road\*
  - Trainer Hale Road\*
  - Boenig Drive S
  - IH-10\*
- **12" Replacement & New Install Projects\*** (4)
  - Tri-County Extension to Cibolo Valley Drive\*
  - Raf Burnette Road\*
  - Trainer Hale Road
  - River Road
- **24" Transmission Main (1)**
  - Live Oak to IH-35 EST

# 2050 Water Projects

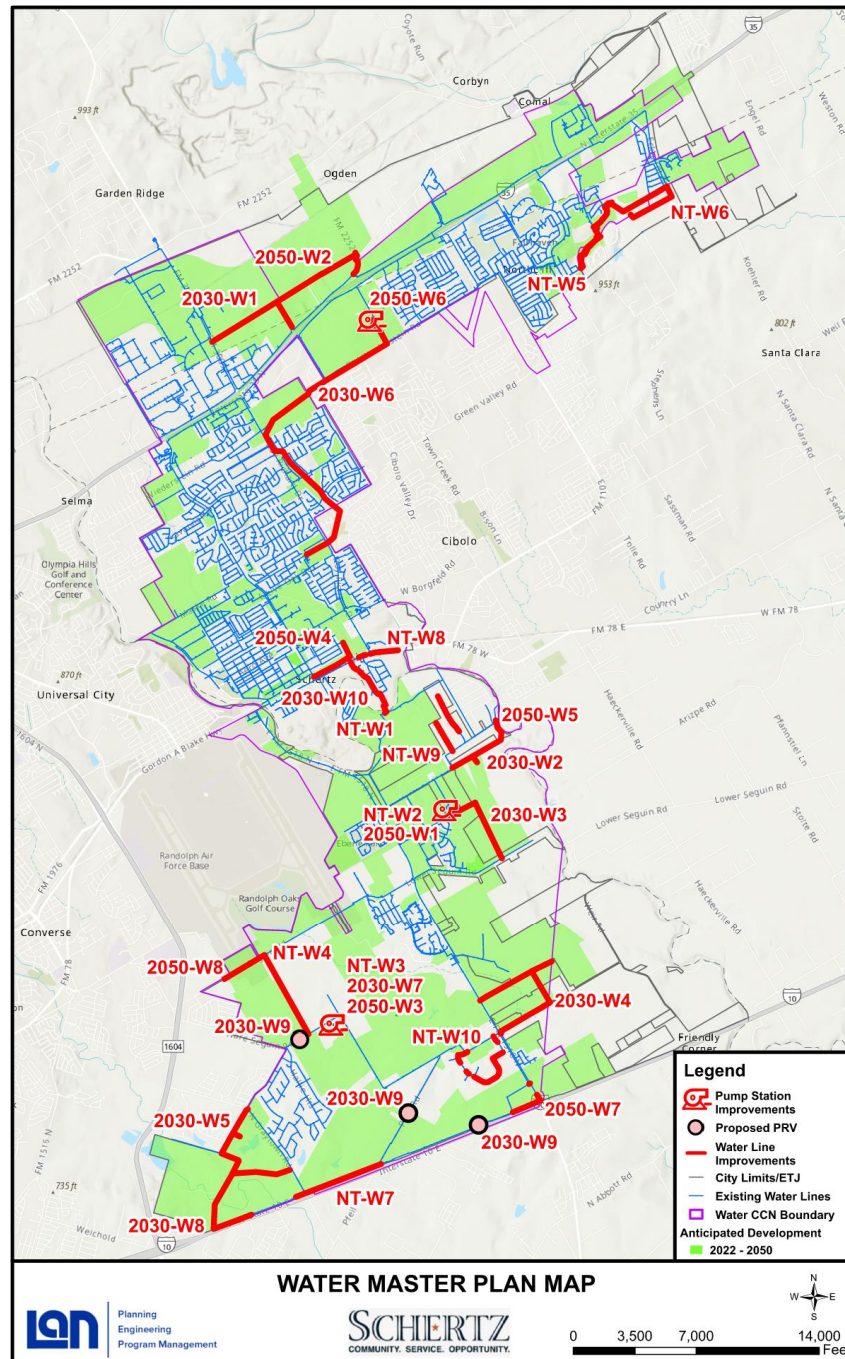
## Major Infrastructure (3)

- Corbett PS Expansion
- Ware Seguin PS Expansion Phase 2
- IH-35 PS & GST

## Waterline Improvements (8)

- **8" Replacement & New Install Projects (4)**
  - FM 2252\*
  - Beck Street
  - Raf Burnette Road\*
  - IH-10 & FM 1518\*
- **12" Replacement Project (1)**
  - Lower Seguin Road

# Proposed Updated Water Master Plan



# Near Term Wastewater Projects

## Major Infrastructure (5)

- Woman Hollering Creek LS
- Decommission Tri-County LS
- Decommission Corbett LS
- Decommission Sedona LS
- Decommission Woman Hollering Creek WWTP

## Wastewater Improvements (9)

- **12" Gravity Line Project (1)**
  - Town Creek Phase IV – Section 2
- **14" Force Main Project (1)**
  - Hallie's Cove
- **18" Gravity Line Projects (4)**
  - Lookout Line
  - Tri-County Line
  - Cibolo West Main
  - Hallie's Cove
- **24" Gravity Line Projects (2)**
  - Town Creek Phase IV – Section 1
  - Town Creek Phase V
- **30" Gravity Line Project (1)**
  - Hallie's Cove

# 2030 Wastewater Projects

## Major Infrastructure (2)

- Northcliffe LS Upgrade
- Decommission Belmont Park LS

## Waterline Improvements (20)

### • **8" Gravity Line Projects (13)**

- Hope Lane
- Old Wiederstein Road
- Union Pacific Railroad – Section 1
- Union Pacific Railroad – Section 2
- Wiederstein Road
- Schaefer Road – Section 1

- Schaefer Road – Section 2
- Aranda
- Ware Seguin Road
- FM 1518
- IH-10
- Boenig Drive
- N Greytown Road

### • **10" Gravity Line Projects (3)**

- Weir Road
- Trainer Hale Road
- Fairlawn Avenue

### • **12" Gravity Line Projects (2)**

- Cibolo Crossing
- Woodland Oak Drive

### • **18" Gravity Line Project (1)**

- Friesenhahn West Line

### • **21" Gravity Line Project (1)**

- Old Wiederstein



# 2050 Wastewater Projects

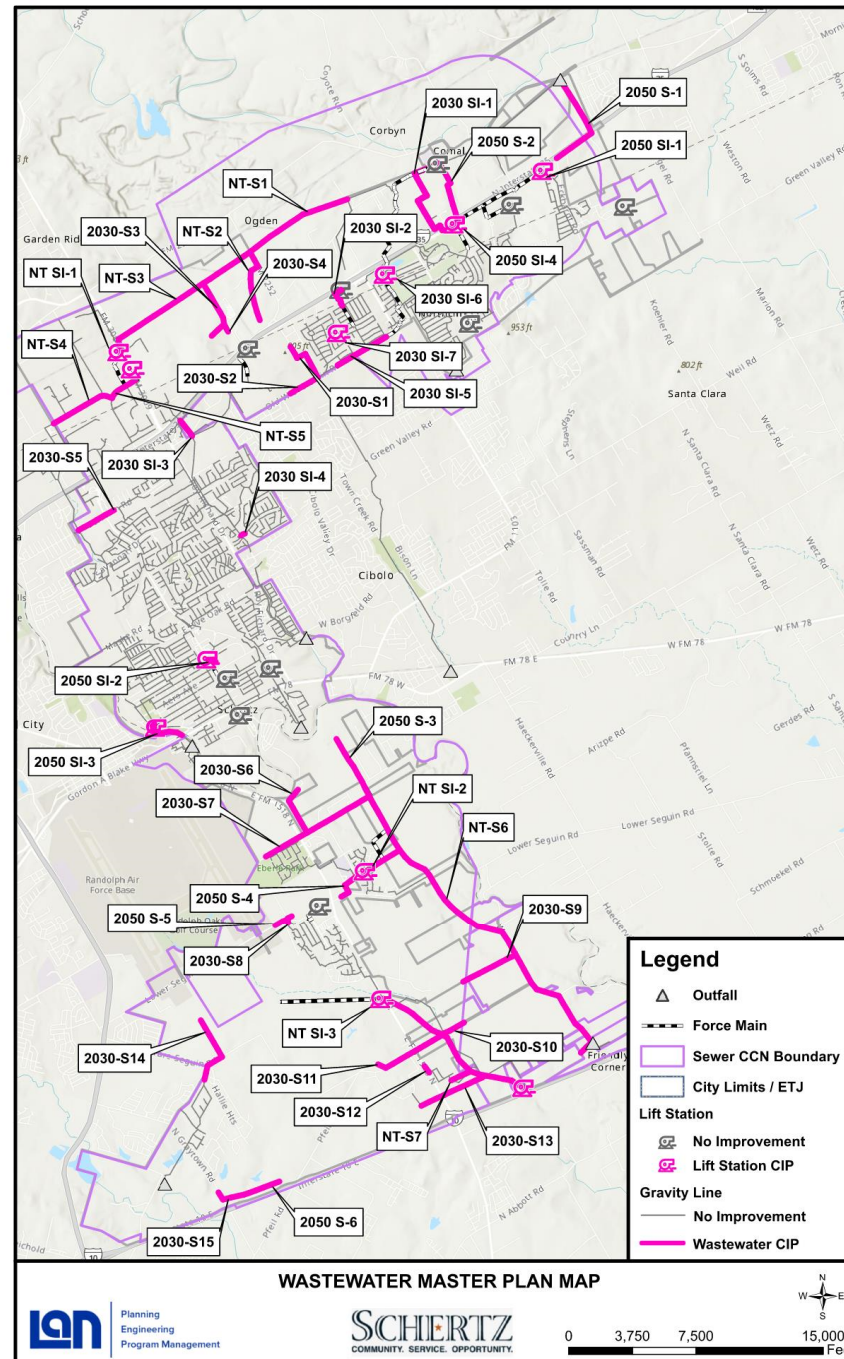
## Major Infrastructure (4)

- Cypress Point LS Upgrade
- Decommission Schertz Parkway LS
- Decommission Park LS
- Decommission Cover's Cove LS

## Waterline Improvements (6)

- **8" Gravity Line Projects (6)**
  - IH-35 N
  - Friesenhahn Lane
  - Schaefer Road – Section 3
  - Corbett Junior High
  - Lower Seguin Road
  - IH-10 – Section 2

# Proposed Updated Wastewater Master Plan



Questions?