City Council
Regular Meeting

LUE = Living
Unit Equivalent
(Typical Home)

WATER AVAILABILITY UPDATE

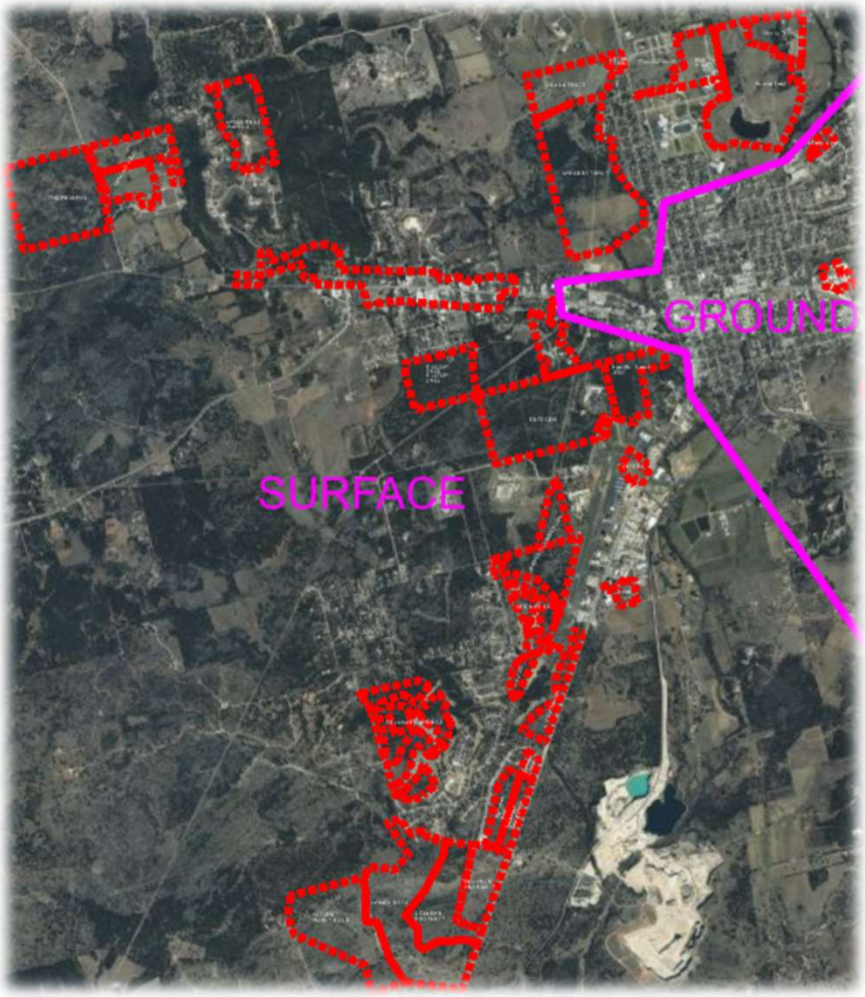
CITY WATER SUPPLY:

- Surface Water: Inks Lake Water Plant
  - 2.77 Million Gallons Per Day Rated Capacity
- Ground Water Wells

  921 Acre Feet Historical Use Permit can be drawn from these City Owned wells:
  - 2 Cheatham Wells, 3 Main St Wells
  - 2 Soccer Field Wells
  - Hamilton Creek Well & Valley Well
  - 3 Old Dog Pound Wells
  - Airport Well (behind CAF)

Undeveloped Property on Lake Water

FUTURE
2,894 Acres
6,356 Surface LUE's
1,013 Ground LUE's



- 95% of Future Water Needs are In Areas Served By Surface Water
- Groundwater (1470 Pressure Plane)
- Surface Water (1570 Pressure Plane)
- The City can move water between the two Pressure Planes

- *R1: 3 Lots per Acre*
- *R3: 20 Units per Acre*
- *Commercial: 2 LUE/Acre*
- *Airport: 0.5 LUE per Acre*

Undeveloped Property on Ground Water

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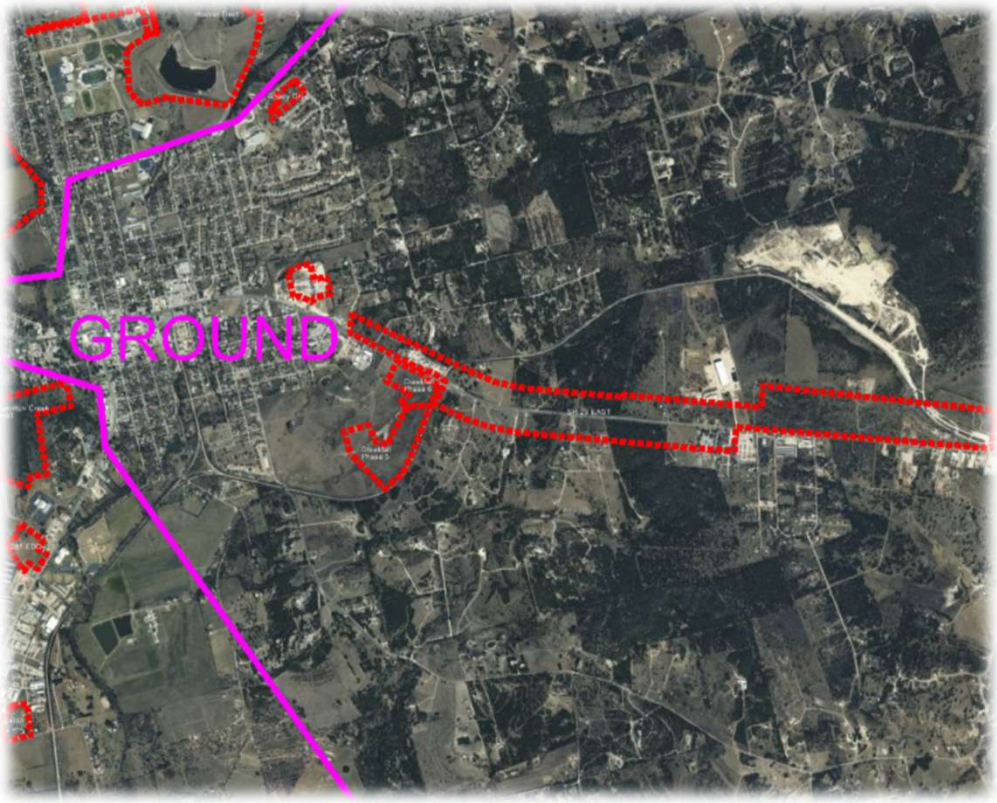

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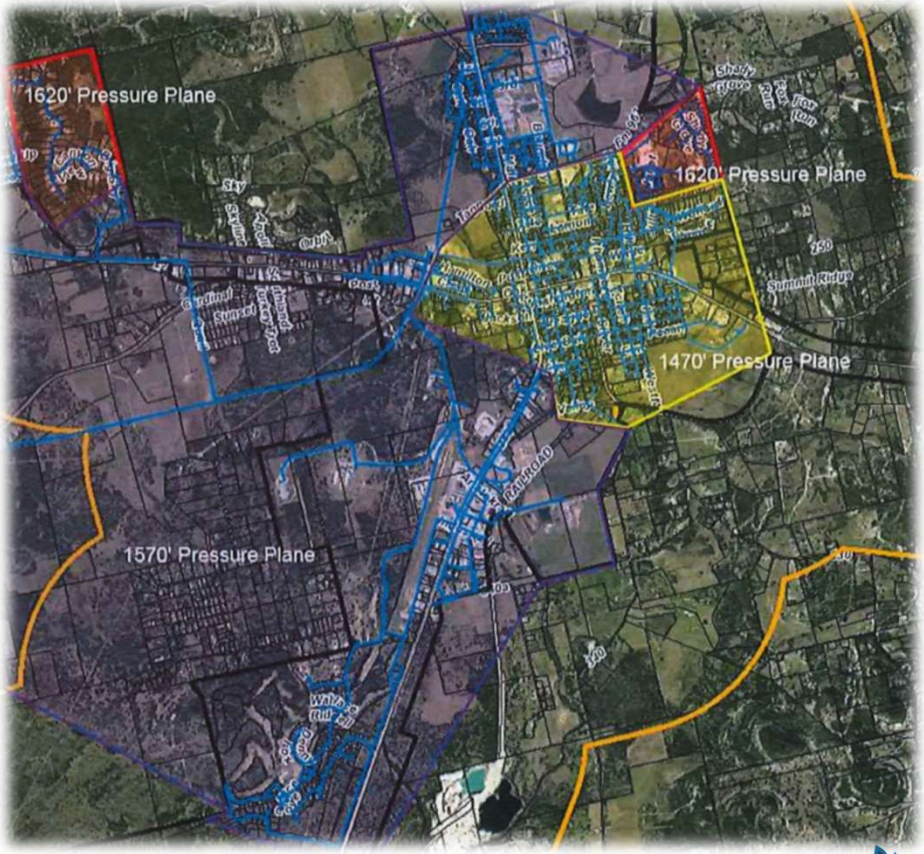
Water Contract Availability

Currently in use approx. 4,600 LUE's in the City.

Available Capacity: 3,028 LUE's

City Average is approx. 1.6 LUE's per Connection (Some calculations are converted "Connections" to LUEs)

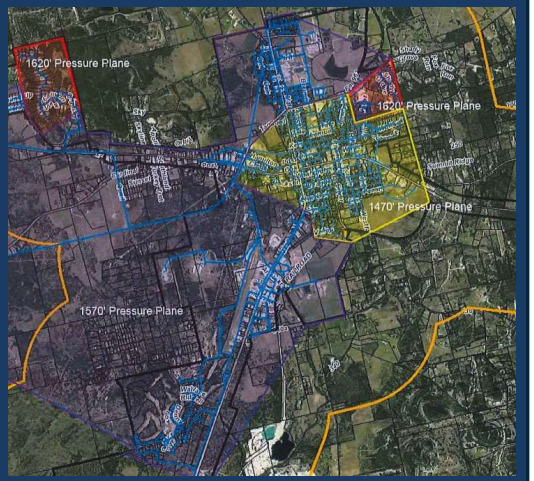


Surface vs. Groundwater Approx. 50/50

Surface Usage is Greater During Jul-Oct

Ground Water Usage is Greater During Nov-June

Lake vs. Ground Water

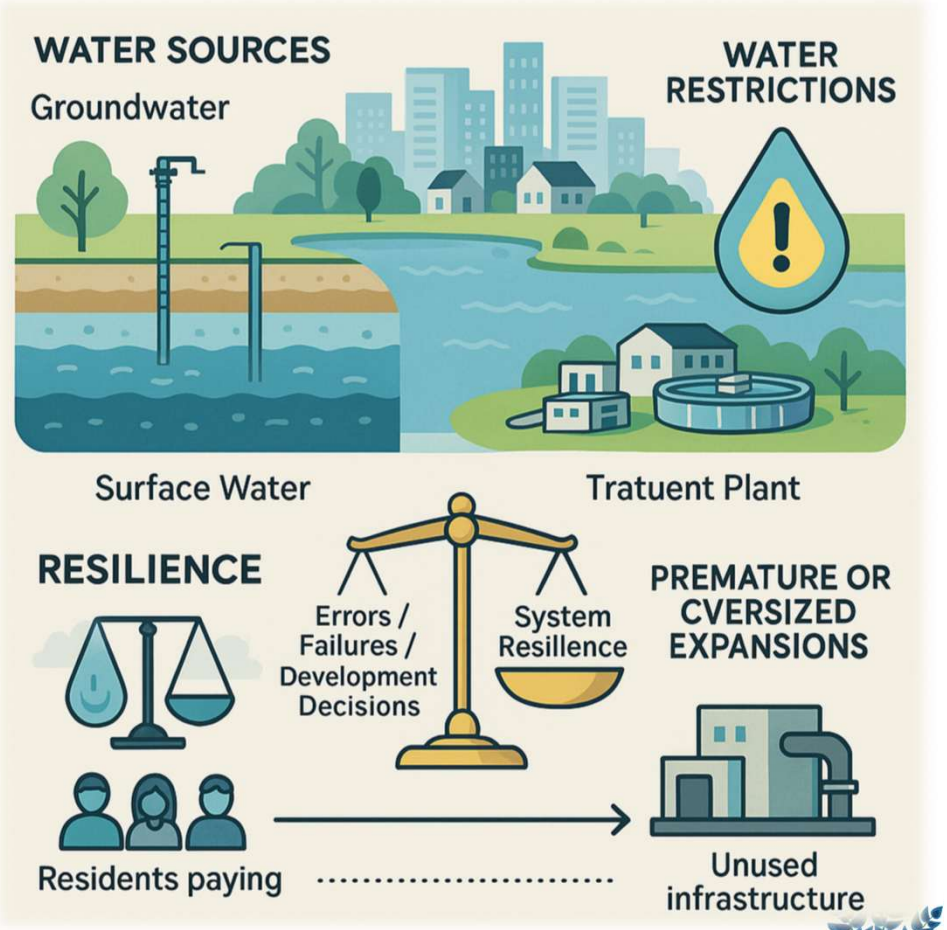


Moving Water Between Planes

Overall, the City's water system is in excellent condition. The City has the flexibility to supply water from both groundwater and surface water sources, with some limitations during periods of restriction.

That said, mistakes, system failures, or short-sighted development decisions could undermine this resiliency.

System expansions and upgrades should be implemented as needed. Premature or oversized expansions risk burdening current residents with the costs of unused capacity until future development catches up.



Various Approaches

WATER AVAILABILITY APPROACH

Water Contracts

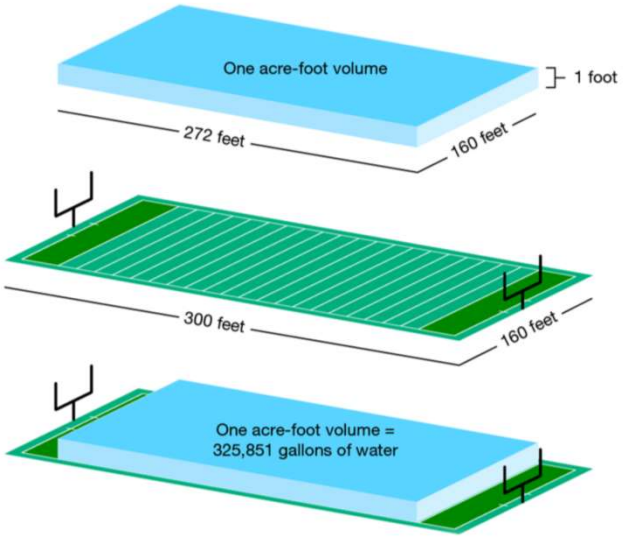
Plant Treatment Capacity

Pump Station & Water Storage Capacity

Distribution Capacity (Not Part of Current Analysis)

WATER CONTRACTS

- Groundwater Historical use permit (921 Ac-Ft per year)
  - Use Avg 660 Ac-Ft/Yr
  - Or 215 Million Gal/Yr
- LCRA Contract 4,100 Ac-Ft /year
  - Contract created in 1986 on a 50-yr term
  - Expires in Jan 1, 2035
  - Use 659 Ac-Ft/Yr or 215 Million Gal
- Usage and Availability
  - Lake Water Use 659 Ac. Ft or 16% of Contracted Amount
  - Ground Water Use 660 Ac. Ft or 72% of Historical Use Permit



1 Acre Foot = 325,851 gallons

Water Contract Availability

Raw Water Usage & Supplies			
Location	Water Currently Used Ac-Ft	Available Water Ac-Ft	Additional Available LUEs
Inks WTP Capacity:	659	3,441	14,840
Groundwater Wells	660	261	1,125
TOTAL	***1,319 Ac-Ft***	***3,702 Ac-Ft***	***15,965 LUE***

Valley St. Well initial production may be limited by Historical Use Permit. The City has 921 Ac-Ft under contract overall. This capacity will be shared between Valley St and Cheatham Wells.

Burnet Yr. Avg.
207 Gallons per LUE per Day

Compared to:
Ultimate Future Build-out
7,369 LUE's

Current:
4,600 LUE's

Lake vs. Ground Water

Historical Use Permit:
921 Ac-Ft

South Side: 704 Acres
H/N Park: 66 Acres
Adl. 3,320 LUE's

CTGWD (Water District) is currently not in favor of allowing both Historical Use and Property Water Rights to be held concurrently. However, this policy may be subject to change in future discussions or regulatory updates.

As a general guideline, the district permits 1 acre-foot of water per acre of owned property (Except Historical Use Permit).

Plant Treatment Capacity

PLANT CAPACITY AS DESIGNED			
Plant	Design Treatment	Peak Usage	Available
*Inks Lake	2.77 MGD	1.57 MGD	3,398 LUEs
Groundwater Wells	1.2 MGD	0.7 MGD	1,080 LUEs
TOTAL		1.9 MGD	4,478 LUEs

CURRENTLY OPERATED PARAMETERS			
Plant	Current Treatment	Peak Usage	Available
*Inks Lake	2.1 MGD	1.2 MGD	1,948 LUEs
Groundwater Wells	1.2 MGD	0.7 MGD	1,080 LUEs
TOTAL		1.9 MGD	3,028 LUEs

*To get near 2.77 MGD, filter, piping, (and pumps), and some operational changes are needed.

- Assumes both ground and surface are operational
- Peak Day 462 Gallons per LUE per Day
- Average Day 207 Gallons per LUE per Day

Compared to:
Ultimate Future Build-out
7,369 LUE's

Current:
4,600 LUE's

Water Storage Capacity (Connections)

Tank Storage	Water Stored	*Connections Used	Storage Used	**Additional Available
Surface Water	2 MG	1,500 Conn.	0.3 MG	8,500 LUE's
Ground Water	1.2 MG	1,500 Conn.	0.3 MG	4,500 LUE's
TOTAL AVAILABLE CONNECITONS				13,000 LUE's

Compare 13,000 Water Storage Available LUE's to 7,369 Ultimate build-out LUE's

Compared to:
Ultimate Future Build-out
7,369 LUE's

Current:
4,600 LUE's

*Although 1 connection does not equal 1 LUE, this is equivalent only in residential, but not in commercial applications.

** This only looks at an overall system wide. Individual neighborhood storage capacity is different and is analyzed through a separate model.

- TCEQ requires 200 gal/connection, although there is somewhat of a difference; for consistency purposes, this analysis uses LUEs instead
- City has approx. 2,900 connections

Compared to:
Ultimate Future Build-out
7,369 LUE's

Current:
4,600 LUE's

Pump Station Capacity

Tank Storage	Pumps Installed	Rated Capacity	Capacity Used	Capacity Available	Additional Available
Inks Raw Intake	2 Raw	2K GPMx1	870 GPM	1,130 GPM	3,013 LUE
Inks Plant Pumps	3 High Svc	1K GPMx2	870 GPM	1,130 GPM	3,012 LUE
**Cheatham Pump	2 Well Pumps	1.3K GPMx1	850 GPM	450 GPM	1,200 LUE
Main St	3 High Svc	600 GPMx2	850 GPM	350 GPM	933 LUE
				TOTAL PUMP CAPACITY AVAILABLE:	*3,945 LUE

*Total 2,466 Connections x 1.6 (Conn/LUE)=3,945 LUE's

**Valley Well can add over 1,500 LUE's from pump capacity standpoint.

- TCEQ Requires 0.6 gal/min/connection
- Assume 1 Pump OFF (Except Wells)
- City has approx. 2,900 connections x 0.6 gpm=1,740 gpm entire city

Water Line Extension from Wastewater Plant to CR 330 & CR 340 Likely Required to Maximize Production and Benefits from Valley Street Well

Future Valley Well

Under Design

- TCEQ Permit
- Casing Replacement

Highly productive well

- 1,000 Gallons Per Minute

Future Plant Capacity

- Surface Water: 1,948 LUE's can be added with pump upgrades (assuming transmission line can handle additional pressure)
- FUTURE Ground Water 1,121 LUEs limited by historical use permit

EXECUTIVE SUMMARY

Water Contracts: 15,965 LUE's

Plant Treatment Capacity:

Design Capacity: 4,478 LUE's

Current Operations: 3,028 LUE's

Water Storage Capacity: 13,000 LUE's

Pump Capacity: 3,945 LUE's

Compared to:
Ultimate Future Build-out
7,369 LUE's

Current:
4,600 LUE's

Questions?