

5.34 Throckmorton County Water Supply Plan

Table 5.34-1 lists each water user group in Throckmorton County and their corresponding surplus or shortage in years 2040 and 2070. For each water user group with a projected shortage, a water supply plan has been developed and is presented in the following subsections.

Table 5.34-1. Throckmorton County Surplus/(Shortage)

Water User Group	Surplus/(Shortage) ¹		Comment
	2040 (acft/yr)	2070 (acft/yr)	
Fort Belknap WSC			See Young County for Plan
Stephens Regional SUD			See Stephens County for Plan
City of Throckmorton	150	151	Projected surplus
County-Other	54	54	Projected surplus
Manufacturing	0	0	No projected demand
Steam-Electric	0	0	No projected demand
Mining	(171)	(116)	Projected shortage –see plan below
Irrigation	8	8	No projected demand
Livestock	0	0	Demand equals supply

1 – From Tables C-67 and C-68, Appendix C – Comparison of Water Demands with Water Supplies to Determine Needs.

5.34.1 City of Throckmorton

Description of Supply

The City of Throckmorton obtains water from Lake Throckmorton and shows a projected surplus through 2070. Should Lake Throckmorton become unreliable, the City is connected to Graham through Fort Belknap WSC.

Water Supply Plan

Working within the planning criteria established by the Brazos G RWPG and the TWDB, the following water supply plan is recommended for the City of Throckmorton. Associated costs are included for each strategy.

a. Conservation

- Cost Source: Volume II, Chapter 2
- Date to be Implemented: 2020
- Annual Cost: \$21,000 maximum in 2070
- Unit Cost: \$474/acft

b. Water Supply from Throckmorton Reservoir:

- Strategy to develop new raw supply, only. Delivery and treatment would be required when supplies are needed.
- Cost Source: Volume II, Chapter 4.12
 - Project requires a subordination agreement with the BRA, which is dependent on the BRA obtaining the System Operations permit
- Date to be Implemented: 2020
- Project Cost: \$28,041,000
- Unit Cost: \$1,760/acft

c. Water Supply from Midway Group and WCBWDS:

- Cost Source: Volume II, Chapter 8.4
 - Supply dependent on BRA obtaining the System Operations permit from TCEQ
- Date to be Implemented: 2020
- Annual Cost: \$481,000 (\$2,492/acft or \$7.65/kgal)

Table 5.34-2. Recommended Plan Costs by Decade for the City of Throckmorton

Plan Element	2020	2030	2040	2050	2060	2070
<i>Projected Surplus/(Shortage) (acft/yr)</i>	143	147	150	150	151	151
Conservation						
Supply From Plan Element (acft/yr)	8	20	32	45	44	44
Annual Cost (\$/yr)	\$3,641	\$9,645	\$15,369	\$21,179	\$20,705	\$20,705
<i>Projected Surplus/(Shortage) after Conservation (acft/yr)</i>	151	167	182	195	195	195
Water Supply from Throckmorton Reservoir						
Supply From Plan Element (acft/yr)	1,125	1,125	1,125	1,125	1,125	1,125
Annual Cost (\$/yr)	\$1,979,000	\$1,979,000	\$1,979,000	\$1,979,000	\$233,000	\$233,000
Unit Cost (\$/acft)	\$1,760	\$1,760	\$1,760	\$1,760	\$207	\$207
Water Supply from Midway Group and WCBWDS						
Supply From Plan Element (acft/yr)	193	193	193	193	193	193
Annual Cost (\$/yr)	\$481,000	\$481,000	\$237,000	\$237,000	\$237,000	\$237,000
Unit Cost (\$/acft)	\$2,492	\$2,492	\$1,228	\$1,228	\$1,228	\$1,228



5.34.2 County-Other

The entities in Throckmorton County-Other receive treated surface water supplies from Stephens Regional SUD and show a projected surplus through 2070. Conservation was considered but the current per capita use is below the targeted gpcd of 140. No change is recommended in water supplies.

5.34.3 Manufacturing

No Manufacturing demand exists or is projected for the county.

5.34.4 Steam-Electric

No Steam-Electric demand exists or is projected for the county.

5.34.5 Mining

Description of Supply

Mining in Throckmorton County currently has no associated supplies. Projections indicate an increase in water demand for Mining and shortages projected beginning in 2020. Changes in water supply are recommended.

Water Supply Plan

Working within the planning criteria established by the Brazos G RWPG and TWDB, the following water management strategies are recommended to meet water needs for Mining. Associated costs are included for each strategy.

- a. Conservation:
 - Cost Source: Volume II, Chapter 2
 - Date to be Implemented: before 2020
 - Unit Cost: not determined
- b. Groundwater Development (Other Aquifer):
 - Cost Source: Volume II, Chapter 12.1
 - Date to be Implemented: before 2020
 - Project Cost: \$2,344,000
 - Unit Cost: Max of \$1,072/acft (2020)

Table 5.34-3. Recommended Plan Costs by Decade for Throckmorton County – Mining

Plan Element	2020	2030	2040	2050	2060	2070
<i>Projected Surplus/(Shortage) (acft/yr)</i>	(194)	(191)	(171)	(150)	(132)	(116)
Conservation						
Supply From Plan Element (acft/yr)	6	10	12	11	9	8
Annual Cost (\$/yr)	ND	ND	ND	ND	ND	ND
<i>Projected Surplus/(Shortage) after Conservation (acft/yr)</i>	(188)	(181)	(159)	(140)	(123)	(108)
Groundwater Well Development						
Supply From Plan Element (acft/yr)	200	200	200	200	200	200
Annual Cost (\$/yr)	\$214,373	\$214,373	\$17,373	\$17,373	\$17,373	\$17,373
Unit Cost (\$/acft)	\$1,072	\$1,072	\$87	\$87	\$87	\$87

ND – Not determined. Costs to implement industrial conservation technologies will vary based on each location

5.34.6 Irrigation

No Irrigation demand is projected for the county.

5.34.7 Livestock

No projected shortage exists and no change in water supply is recommended.