5.13 Hamilton County Water Supply Plan

Table 5.13-1 lists each water user group in Hamilton County and their corresponding surplus or shortage in years 2040 and 2070. A brief summary of the water user groups and the plan for the selected water user are presented in the following subsections.

Table 5.13-1. Hamilton County Surplus/(Shortage)

Water User Group	Surplus/(Shortage)[1]		Comment
	2040 (acft/yr)	2070 (acft/yr)	
City of Hamilton	137	52	Projected surplus
City of Hico	212	216	Projected surplus
County-Other	175	178	Projected surplus
Multi-County WSC			See Coryell County
Manufacturing	0	0	Demand equals supply
Steam-Electric	0	0	No projected demand
Mining	(89)	13	Projected shortage – see plan below
Irrigation	(61)	(6)	Projected shortage – see plan below
Livestock	0	0	Demand equals supply

1 – From Tables C-25 and C-26, Appendix C – Comparison of Water Demands with Water Supplies to Determine Needs.

5.13.1 City of Hamilton

Description of Supply

The City of Hamilton obtains its water supply from Lake Proctor through the Upper Leon Municipal Water District with a contract for 921 acft/yr of supply. The City of Hamilton sells a portion of its supply to Multi-County WSC and to Manufacturing in Bosque County and Hamilton County. The City's available supply exceeds the 2070 demands.

Water Supply Plan

Although, the City has sufficient supplies, working within the planning criteria established by the Brazos G RWPG and TWDB, conservation is recommended as the current per capita use rate is above the selected target of 140 gpcd.

a. Conservation

- Cost Source: Volume II, Section 2
- Date to be Implemented: before 2020 – use rate exceeds 140 gpcd
- Unit Cost: $474/acft
- Annual Cost: $14,963 in 2030

Table 5.13-2. Recommended Plan Costs by Decade for City of Hamilton

Plan Element	2020	2030	2040	2050	2060	2070
Projected Surplus/(Shortage) (acft/yr)	*140*	*136*	*137*	*88*	*75*	*52*
Conservation						
Supply From Plan Element (acft/yr)	18	32	20	14	13	13
Annual Cost ($/yr)	$8,434	$14,963	$9,275	$6,431	$5,957	$5,957
Projected Surplus/(Shortage) after Conservation (acft/yr)	*157*	*168*	*157*	*102*	*87*	*65*

5.13.2 City of Hico

The City of Hico obtains its water supply from groundwater from the Trinity Aquifer. The existing production capacity of the wells and groundwater availability is adequate to supply the needs of the City of Hico through the year 2070. Conservation was considered; however, the entity's current per capita use rate is below the selected target rate of 140 gpcd. No change in water supply is recommended.

5.13.3 County-Other

Entities in Hamilton County-Other receive groundwater from the Trinity Aquifer. Conservation was considered; however, the entity's current per capita use rate is below the selected target rate of 140 gpcd. No future shortages are projected and no changes in water supply are recommended.

5.13.4 Manufacturing

Hamilton County Manufacturing is supplied by City of Hamilton and Trinity groundwater. No future shortages are projected and no changes in water supply are recommended.

5.13.5 Steam-Electric

There is no projected water demand for Steam-Electric in Hamilton County.

5.13.6 Mining

Description of Supply

Mining operations in Hamilton County are supplied by Trinity Groundwater. Demands for Mining are projected to increase significantly resulting in shortages beginning in 2020.

Recommended Strategy

Working within the planning criteria established by the Brazos G RWPG and TWDB, the following plan is recommended for Hamilton County Mining. Associated costs are included for each strategy.

a. Conservation
   - Cost Source: Volume II, Chapter 2
   - Date to be Implemented: before 2020
   - Annual Cost: not determined

b. Groundwater Development – Trinity Aquifer
   - Cost Source: Volume II, Chapter 12
   - Date to be Implemented: 2020
   - Project Cost: $2,734,000
   - Unit Cost: Max of $680/acft (2020)

Table 5.13-3. Recommended Plan Costs by Decade for Hamilton County – Mining

Plan Element	2020	2030	2040	2050	2060	2070
Projected Surplus/(Shortage) (acft/yr)	*(381)*	*(224)*	*(89)*	*13*	*13*	*13*
Conservation						
Supply From Plan Element (acft/yr)	12	12	7	—	—	—
Annual Cost ($/yr)	ND	ND	ND	—	—	—
Projected Surplus/(Shortage) after Conservation (acft/yr)	*(369)*	*(212)*	*(81)*	*13*	*13*	*13*
Groundwater Well Development - Trinity						
Supply From Plan Element (acft/yr)	370	370	370	—	—	—
Annual Cost ($/yr)	$251,735	$251,735	$22,735	—	—	—
Unit Cost ($/acft)	$680	$680	$61	—	—	—

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

5.13.7 Irrigation

Description of Supply

Irrigation demands are currently met with Trinity groundwater and run of river rights. An increase of Irrigation demand is projected for Hamilton County and shortages are projected beginning in 2020.

Recommended Strategy

Working within the planning criteria established by the Brazos G RWPG and TWDB, the following plan is recommended for Hamilton County Irrigation. Associated costs are included for each strategy.

a. Conservation
   - Cost Source: Volume II, Chapter 2
   - Date to be Implemented: 2020
   - Unit Cost: $230/acft

b. Groundwater Development –Trinity Aquifer
   - Cost Source: Volume II, Chapter 12
   - Date to be Implemented: 2020
   - Project Cost: $1,173,000
   - Unit Cost: Max of $1,779/acft (2020)

Table 5.13-4. Recommended Plan Costs by Decade for Hamilton County – Irrigation

Plan Element	2020	2030	2040	2050	2060	2070
Projected Surplus/(Shortage) (acft/yr)	*(71)*	*(69)*	*(61)*	*(39)*	*(17)*	*(6)*
Conservation						
Supply From Plan Element (acft/yr)	16	25	34	33	32	30
Annual Cost ($/yr)	$3,680	$5,750	$7,820	$7,590	$7,360	$6,900
Projected Surplus/(Shortage) after Conservation (acft/yr)	*(55)*	*(44)*	*(27)*	*(6)*	*15*	*24*
Groundwater Well Development – Trinity Aquifer						
Supply From Plan Element (acft/yr)	60	60	60	60	—	—
Annual Cost ($/yr)	$106,733	$106,733	$8,733	$8,733	—	—
Unit Cost ($/acft)	$1,779	$1,779	$146	$146	—	—

5.13.8 Livestock

Livestock water supply is projected to meet demands through 2070 and no change in water supply is recommended.