

5.16 Hood County Water Supply Plan

Table 5.16-1 lists each water user group in Hood 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 5.16-1. Hood County Surplus/(Shortage)

Water User Group	Surplus/(Shortage) ¹		Comment
	2040 (acft/yr)	2070 (acft/yr)	
Acton MUD	(1,126)	(4,203)	Projected shortage - see plan below.
City of Granbury	144	(342)	Projected shortage - see plan below.
City of Lipan	33	9	Projected surplus
Santo SUD			See Palo Pinto County
City of Tolar	41	4	Projected surplus
County-Other	(759)	924	Projected surplus
Manufacturing	10,008	10,008	Projected surplus
Steam-Electric	(14,153)	(15,760)	Projected shortage - see plan below.
Mining	(821)	(656)	Projected shortage - see plan below.
Irrigation	417	417	Projected surplus
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.

5.16.1 Acton MUD

Description of Supply

The Acton MUD service area includes portions of Hood and Johnson Counties. Acton MUD obtains its water supply from groundwater from the Trinity Aquifer and a contract with the Brazos River Authority for water from Lake Granbury. Treated surface water is constrained by the SWATS plant capacity, co-owned with Johnson County SUD through the Brazos Regional Public Utility Agency. The surpluses and shortages shown in Table 5.16-2 represent the cumulative totals for Acton MUD in Hood and Johnson Counties.

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 the projected water shortage for Acton MUD. Conservation was also considered; however, the entity’s current per capita use rate is below the selected target rate of 140 gpcd.

a. Groundwater Development – Trinity Aquifer

- Cost Source: Volume II

- Date to be implemented: by 2030
 - Project Cost: \$280,000
 - Annual Cost: \$580/acft
- b. Increase WTP Capacity:
- Cost Source: Volume II
 - Date to be Implemented: by 2040
 - Project Cost: \$25,380,000
 - Annual Cost: \$768/acft

Table 5.16-2. Recommended Plan Costs by Decade for Acton MUD

Plan Element	2020	2030	2040	2050	2060	2070
<i>Projected Surplus/(Shortage) (acft/yr)</i>	1,546	(50)	(1,126)	(1,708)	(2,933)	(4,203)
Conservation						
Supply From Plan Element (acft/yr)	—	—	—	—	—	—
Annual Cost (\$/yr)	—	—	—	—	—	—
<i>Projected Surplus/ (Shortage) after Conservation (acft/yr)</i>	1,546	(50)	(1,126)	(1,708)	(2,933)	(4,203)
Groundwater Development – Trinity Aquifer						
Supply From Plan Element (acft/yr)	—	50	50	50	50	50
Annual Cost (\$/yr)	—	\$29,000	\$29,000	\$9,000	\$9,000	\$9,000
Unit Cost (\$/acft)	—	\$580	\$580	\$180	\$180	\$180
Increase WTP Capacity						
Supply From Plan Element (acft/yr)	—	—	4,153	4,153	4,153	4,153
Annual Cost (\$/yr)	—	—	\$3,191,000	\$3,191,000	\$1,405,000	\$1,405,000
Unit Cost (\$/acft)	—	—	\$768	\$768	\$338	\$338

5.16.2 City of Granbury

Description of Supply

The City of Granbury obtains its water supply from groundwater from the Trinity Aquifer and a contract with the Brazos River Authority for water from Lake Granbury. There is a water treatment plant constraint on the surface water from Lake Granbury, and a water supply shortage is projected beginning in 2050.

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 the projected water shortage for Acton MUD. Conservation was also considered; however, the entity's current per capita use rate is below the selected target rate of 140 gpcd.



- a. Increase WTP Capacity:
 - Cost Source: Volume II
 - Date to be Implemented: before 2050
 - Project Cost: \$4,515,000
 - Annual Cost: \$1,840/acft

Table 5.16-3. Recommended Plan Costs by Decade for the City of Granbury

Plan Element	2020	2030	2040	2050	2060	2070
<i>Projected Surplus/(Shortage) (acft/yr)</i>	673	365	144	(55)	(216)	(342)
Conservation						
Supply From Plan Element (acft/yr)	—	—	—	—	—	—
Annual Cost (\$/yr)	—	—	—	—	—	—
<i>Projected Surplus/(Shortage) after Conservation (acft/yr)</i>	673	365	144	(55)	(216)	(342)
Increase WTP Capacity						
Supply From Plan Element (acft/yr)	—	—	—	350	350	350
Annual Cost (\$/yr)	—	—	—	\$644,000	\$644,000	\$326,000
Unit Cost (\$/acft)	—	—	—	\$1,840	\$1,840	\$931

5.16.3 City of Lipan

The City of Lipan receives supply from the Trinity Aquifer. There is a surplus projected for the City throughout the planning period and no changes in water supply are recommended. Conservation was also considered; however, the entity’s current per capita use rate is below the selected target rate of 140 gpcd.

5.16.4 City of Tolar

The City of Lipan receives supply from the Trinity Aquifer. There is a surplus projected for the City throughout the planning period and no changes in water supply are recommended. Conservation was also considered; however, the entity’s current per capita use rate is below the selected target rate of 140 gpcd.

5.16.5 County-Other

Description of Supply

Entities in Hood County-Other receive groundwater from the Trinity Aquifer and surface water supplies through contracts with Acton MUD. Future population in County-Other is expected to decrease over time as those people begin to be served by retail water utilities. Shortages are projected from 2020 through 2050.

Water Supply Plan

Working within the planning criteria established by the Brazos G RWPG and TWDB, the following water management strategy is recommended to meet water needs for County-Other entities. Conservation was also considered; however, the entity’s current per capita use rate is below the selected target rate of 140 gpcd.

- a. Trinity Aquifer Development
 - Cost Source: Volume II
 - Date to be Implemented: before 2030
 - Project Cost: \$4,395,000
 - Unit Cost: \$225/acft

Table 5.16-4. Plan Costs by Decade for Hood County – Other

Plan Element	2020	2030	2040	2050	2060	2070
<i>Projected Surplus/(Shortage) (acft/yr)</i>	(1,845)	(1,135)	(759)	(687)	77	924
Conservation						
Supply From Plan Element (acft/yr)	—	—	—	—	—	—
Annual Cost (\$/yr)	—	—	—	—	—	—
<i>Projected Surplus/(Shortage) after Conservation</i>	(1,845)	(1,135)	(759)	(687)	77	924
Trinity Aquifer Development						
Supply From Plan Element (acft/yr)	1,845	1,845	1,845	1,845	1,845	1,845
Annual Cost (\$/yr)	\$416,000	\$416,000	\$107,000	\$107,000	\$107,000	\$107,000
Unit Cost (\$/acft)	\$225	\$225	\$58	\$58	\$58	\$58

5.16.6 Manufacturing

Hood County Manufacturing obtains treated water from the Trinity Aquifer untreated surface water from the BRA. Hood County Manufacturing is projected to have a surplus of water through the year 2070 and no changes in water supply are recommended.

5.16.7 Steam-Electric

Description of Supply

Steam-Electric operations in Hood County are supplied by water from Lake Granbury. Demands for Steam-Electric are projected to increase, resulting in shortages beginning in 2020.

Recommended Strategy

Working within the planning criteria established by the Brazos G RWPG and TWDB, the following water management strategy is recommended to meet water needs for Hood County Steam-Electric.

- a. Leave Needs Unmet
 - Cost Source: Cost Source: Cost of not meeting needs – see Appendix H
 - Date to be implemented: 2020

Table 5.16-5. Plan Costs by Decade for Hood County – Steam-Electric

Plan Element	2020	2030	2040	2050	2060	2070
<i>Projected Surplus/(Shortage) (acft/yr)</i>	(13,082)	(13,618)	(14,153)	(14,689)	(15,225)	(15,760)
Conservation						
Supply From Plan Element (acft/yr)	—	—	—	—	—	—
Annual Cost (\$/yr)	—	—	—	—	—	—
<i>Projected Surplus/ (Shortage) after Conservation</i>	(13,082)	(13,618)	(14,153)	(14,689)	(15,225)	(15,760)
Leave Needs Unmet						
Supply From Plan Element (acft/yr)	13,082	13,618	14,153	14,689	15,225	15,760
Annual Cost (\$/yr)	—	—	—	—	—	—
Unit Cost (\$/acft)	—	—	—	—	—	—

5.16.8 Mining

Description of Supply

Mining operations in Hood 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 water management strategies are recommended to meet water needs for Hood County-Mining.

- a. Conservation
 - Cost Source: Volume II
 - Date to be Implemented: before 2030
 - Annual Cost: not determined
- b. Groundwater Development – Trinity Aquifer
 - Cost Source: Volume II
 - Date to be Implemented: before 2030
 - Project Cost: \$1,162,000
 - Unit Cost: Max of \$123/acft

Table 5.16-6. Recommended Plan Costs by Decade for Hood County – Mining

Plan Element	2020	2030	2040	2050	2060	2070
<i>Projected Surplus/(Shortage) (acft/yr)</i>	(677)	(1,035)	(821)	(732)	(642)	(656)
Conservation						
Supply From Plan Element (acft/yr)	62	122	156	149	143	144
Annual Cost (\$/yr)	ND	ND	ND	ND	ND	ND
<i>Projected Surplus/(Shortage) after Conservation (acft/yr)</i>	(615)	(913)	(665)	(583)	(499)	(512)
Groundwater Well Development – Trinity Aquifer						
Supply From Plan Element (acft/yr)	913	913	913	913	913	913
Annual Cost (\$/yr)	\$112,000	\$112,000	\$30,000	\$30,000	\$30,000	\$30,000
Unit Cost (\$/acft)	\$123	\$123	\$33	\$33	\$33	\$33

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

5.16.9 Irrigation

Hood County Irrigation is projected to have a surplus of 417 acft/yr through 2070. No changes in water supply are recommended.

5.16.10 Livestock

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



This page intentionally left blank.