



Table 5.24-11. Recommended Plan Costs by Decade for North Bosque WSC

Plan Element	2020	2030	2040	2050	2060	2070
<i>Projected Surplus/(Shortage) (acft/yr)</i>	(14)	(146)	(265)	(385)	(507)	(628)
Conservation						
Supply From Plan Element (acft/yr)	33	99	183	280	390	452
Annual Cost (\$/yr)	\$16,476	\$49,108	\$90,667	\$138,754	\$193,295	\$224,365
<i>Projected Surplus/(Shortage) after Conservation (acft/yr)</i>	20	(47)	(82)	(105)	(117)	(175)
Purchase Water Supply from City of Waco						
Supply From Plan Element (acft/yr)	—	200	200	200	200	200
Annual Cost (\$/yr)	—	\$465,000	\$465,000	\$281,000	\$281,000	\$281,000
Unit Cost (\$/yr)	—	\$2,325	\$2,325	\$1,405	\$1,405	\$1,405

5.24.16 City of Riesel

Description of Supply

The City of Riesel obtains its water supply from the Trinity Aquifer. Based on the available groundwater supply, the City of Riesel is projected to have a shortage through the year 2070.

Water Supply Plan

Working within the planning criteria established by the Brazos G RWPG and TWDB, the following water management strategies are recommended for the City of Riesel. Associated costs are included for each strategy.

a. Additional Purchase from RMS WSC

- Cost Source: Volume II, Chapter 12
- Date to be Implemented: 2020
- Annual Cost: \$19,540
- Unit Cost: \$977/acft (RMS WSC wholesale water rate)

b. Purchase Supply from City of Waco (McLennan County Arsenic Mitigation)

- Cost Source: Volume II, Chapter 12.4
- Date to be Implemented: 2020
- Project Cost: \$1,000,000
- Unit Cost: \$2,179/acft

c. Alternative: Purchase reuse water from WMARSS (Waco East Reuse). The reuse supply will reduce demands for landscape irrigation at existing or future parks,

schools, ball fields, and other green spaces. Reuse water may also potentially supply existing or future industrial customers.

- Cost Source: Volume II, Chapter 3
- Date to be Implemented: 2020
- Project Cost:\$348,000 (City's portion)
- Unit Cost: \$869/acft

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

Table 5.24-12. Recommended Plan Costs by Decade for City of Riesel

Plan Element	2020	2030	2040	2050	2060	2070
<i>Projected Surplus/(Shortage) (acft/yr)</i>	(11)	(11)	(11)	(12)	(15)	(19)
Conservation						
Supply From Plan Element (acft/yr)	—	—	—	—	—	—
Annual Cost (\$/yr)	—	—	—	—	—	—
<i>Projected Surplus/(Shortage) after Conservation</i>	(11)	(11)	(11)	(12)	(15)	(19)
Purchase Water Supply from RMS WSC						
Supply From Plan Element (acft/yr)	20	20	20	20	20	20
Annual Cost (\$/yr)	\$19,540	\$19,540	\$19,540	\$19,540	\$19,540	\$19,540
Unit Cost (\$/yr)	\$977	\$977	\$977	\$977	\$977	\$977
Purchase Water Supply from City of Waco (McLennan County Arsenic Mitigation)						
Supply From Plan Element (acft/yr)	78	78	78	78	80	82
Annual Cost (\$/yr)	\$170,000	\$170,000	\$86,000	\$86,000	\$88,000	\$90,000
Unit Cost (\$/yr)	\$2,179	\$2,179	\$1,103	\$1,103	\$1,100	\$1,098
Alternative: WMARSS East Reuse						
Supply From Plan Element (acft/yr)	43	43	43	43	43	43
Annual Cost (\$/yr)	\$37,000	\$37,000	\$8,000	\$8,000	\$8,000	\$8,000
Unit Cost (\$/yr)	\$869	\$869	\$191	\$191	\$191	\$191

5.24.17 City of Robinson

Description of Supply

The City of Robinson obtains its water supply from the Trinity Aquifer, the Brazos River and the City of Waco. Western Brazos WSC also serves some customers within the city limits of Robinson, which is considered a supply for the City's demand. The city also has a 140 acft/yr contract to provide treated supply to the City of Lorena, which utilizes Lorena's contract with the BRA. Based on the constrained supply amounts, the City of Robinson is projected to have shortages. Although the City has sufficient raw water



Water Supply Plan

Working within the planning criteria established by the Brazos G RWPG and TWDB, the following water management strategy is recommended for the City of Woodway.

a. Conservation

- Cost Source: Volume II, Chapter 2
- Date to be Implemented: 2020
- Annual Cost: maximum \$896,000 in 2070
- Unit Cost: \$474/acft

b. Water Supply from Bluebonnet WSC

- Cost Source: BRA to firm up water supply
- Date to be Implemented: 2030
- Project Cost: assumes infrastructure in place to deliver supply
- Unit Cost: \$500/acft (wholesale water rate from Bluebonnet WSC)

Table 5.24-15. Recommended Plan Costs by Decade for City of Woodway

Plan Element	2020	2030	2040	2050	2060	2070
<i>Projected Surplus/(Shortage) (acft/yr)</i>	0	(7)	(20)	(57)	(74)	(103)
Conservation						
Supply From Plan Element (acft/yr)	208	512	832	1,180	1,541	1,906
Annual Cost (\$/yr)	\$98,592	\$242,688	\$394,368	\$559,320	\$730,434	\$903,444
<i>Projected Surplus/(Shortage) after Conservation</i>	208	506	812	1,123	1,466	1,804
Water Supply from Bluebonnet WSC						
Supply From Plan Element (acft/yr)	—	7	20	57	74	103
Annual Cost (\$/yr)	—	\$3,500	\$10,000	\$28,500	\$37,000	\$51,500
Unit Cost (\$/acft)	—	\$500	\$500	\$500	\$500	\$500

5.24.22 County-Other

Description of Supply

McLennan County-Other entities obtain water supply from groundwater from the Trinity Aquifer and surface water from Lake Belton and Lake Waco. Entities in County-Other provide additional supply to the cities of Hallsburg and Riesel, and provide supply to industrial customers in McLennan County. Various entities are dealing with elevated levels of arsenic in groundwater supplies and have been pursuing water management strategies through the FHLM WSC. Through a TWDB sponsored study coordinated by FHLM WSC, these entities have considered a regional brackish RO WTP in Limestone County, Carrizo-Wilcox Regional Groundwater in Limestone County, Tehuacana Reservoir, and supplies from City of Marlin (Brushy Creek Reservoir), and City of Waco.

The recommended strategy is to purchase water from the City of Waco to blend with water having large arsenic concentrations to reduce the total arsenic concentration to acceptable levels.

The recommended alternative strategy is to provide for arsenic treatment for individual entities. This strategy does not provide new supply. Surpluses are projected 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.

Water Supply Plan

Working within the planning criteria established by the Brazos G RWPG and TWDB, the following water management strategies are recommended for McLennan County-Other.

a. Purchase from City of Waco (McLennan County Arsenic Mitigation)

Entities within County-Other participating in this strategy include Axtell WSC, Birome WSC (Plant 5 only), Elk Oak Lake WSC, H & H WSC, Leroy-Tours-Gerald WSC, Moore Water System, Meier Settlement WSC, Prairie Hill WSC, and Riesel-Meier Settlement WSC. Note that H & H WSC has not experienced elevated levels of arsenic, but has chosen to participate to augment existing supplies.

- Cost Source: Volume II, Chapter 12.4
- Date to be Implemented: 2020
- Project Cost: \$14,802,000
- Unit Cost: \$2,425/acft

b. **Alternative:** Upgrade Treatment for Arsenic

Entities within County-Other for which Arsenic treatment is recommended include EOL WSC, LTG WSC, MS WSC, and RMS WSC. This is a treatment strategy and does not increase the supply available to these entities. Total treatment is estimated at 917 acft/yr.

- Cost Source: Volume II, Chapter 12.5
- Date to be Implemented: 2020
- Project Cost: \$3,811,000

Unit Cost: \$1,021/acft

Table 5.24-16. Recommended Plan Costs by Decade for the McLennan County – Other

Plan Element	2020	2030	2040	2050	2060	2070
<i>Projected Surplus/(Shortage) (acft/yr)</i>	84	204	301	344	349	340
Conservation						
Supply From Plan Element (acft/yr)	—	—	—	—	—	—
Annual Cost (\$/yr)	—	—	—	—	—	—



Table 5.24-16. Recommended Plan Costs by Decade for the McLennan County – Other

Plan Element	2020	2030	2040	2050	2060	2070
<i>Projected Surplus/(Shortage) after Conservation</i>	84	204	301	344	349	340
Purchase Water from City of Waco (McLennan County Arsenic Mitigation)						
Supply From Plan Element (acft/yr)	972	1,030	1,093	1,163	1,240	1,325
Annual Cost (\$/yr)	\$2,357,000	\$2,417,400	\$1,236,000	\$1,306,000	\$1,382,000	\$1,466,000
Unit Cost (\$/yr)	\$2,425	\$2,347	\$1,132	\$1,123	\$1,115	\$1,106
Alternative: Upgrade Treatment for Arsenic						
Supply From Plan Element (acft/yr)	—	—	—	—	—	—
Annual Cost (\$/yr)	\$936,000	\$936,000	\$617,000	\$617,000	\$617,000	\$617,000
Unit Cost (\$/yr)	\$1,021	\$1,021	\$673	\$673	\$673	\$673

5.24.23 Manufacturing

Description of Supply

Water supply for manufacturing in McLennan County is obtained by purchase from a city or water supply corporation, from Trinity Aquifer wells operated by the manufacturing entity, and from run-of-river rights and Lake Waco. McLennan County Manufacturing is projected to have shortages beginning in 2020. However, purchase of supplemental reuse water from WMARSS is recommended to reduce demands on water supplied by the run-of-river rights, Lake Waco and groundwater from the Trinity Aquifer

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 McLennan County Manufacturing.

a. Conservation

- Cost Source: Volume II, Chapter 2
- Date to be Implemented: before 2020
- Annual Cost: Not determined

b. WMARSS Flat Creek Reuse Project

- Cost Source: Volume II, Chapter 3
- Date to be Implemented: 2020
- Project Cost: None. City of Waco is the project sponsor. Entity will purchase from the City.
- Unit Cost: \$205/acft