

5B.36 Williamson County Water Supply Plan

Table 5B.36-1 lists each water user group in Williamson County and their corresponding surplus or shortage in years 2030 and 2050. For each water user group with a projected shortage, a water supply plan has been developed and is presented in the following subsections. Water supply plans are also presented for some entities that need pumping/conveyance facilities to utilize their existing water resources, or to become a regional provider.

**Table 5B.36-1.
Williamson County Surplus/(Shortage)**

Water User Group	Surplus/(Shortage)¹		Comment
	2030 (acft/yr)	2050 (acft/yr)	
City of Bartlett	49	27	Projected surplus
Brushy Creek MUD (CDP)	(4,020)	(3,887)	Projected shortage – see plan below
City of Cedar Park	7,584	6,584	Projected surplus
City of Florence	(136)	(212)	Projected shortage – see plan below
City of Georgetown	(8,151)	(18,535)	Projected shortage – see plan below
City of Granger	(129)	(224)	Projected shortage – see plan below
City of Hutto	(265)	(550)	Projected shortage – see plan below
City of Leander	1,931	(171)	Projected shortage – see plan below
City of Round Rock	(12,157)	(21,543)	Projected shortage – see plan below
City of Taylor	590	(1,507)	Projected shortage – see plan below
City of Thrall	(40)	(63)	Projected shortage – see plan below
County-Other	(11,750)	(11,302)	Projected shortage – see plan below
Manufacturing	4,971	4,895	Projected surplus
Steam-Electric	0	0	No demand or supply
Mining	(1,543)	(1,663)	Projected shortage – see plan below
Irrigation	797	797	Projected surplus
Livestock	0	0	No shortage

¹ From Tables 4-71 and 4-72, Section 4 – Comparison of Water Demands with Water Supplies to Determine Needs.

5B.36.1 City of Bartlett

The City of Bartlett is in both Bell and Williamson Counties, consequently, its water demand and supply values are split into the tables for each county. Bartlett's water supply is groundwater from both the Trinity and Edwards Aquifers. No future shortages are projected for the City of Bartlett and no changes in water supply are recommended.

5B.36.2 Brushy Creek Municipal Utility District

The Brushy Creek Municipal Utility District (BCMUD) currently has a contract for water supply from the City of Round Rock which expires in 2006. In 1994 the BCMUD entered into an agreement with the Brazos River Authority (BRA) to purchase 4,000 acft/yr of water from Stillhouse Hollow Reservoir, and became part of the Williamson County Regional Project. This water supply was intended to serve as a replacement supply for the water that is currently being obtained from the City of Round Rock. According to the contract with BRA, the BCMUD is responsible for 9.551 percent of the Regional Project. The BCMUD is currently evaluating several options for treating and delivering water to the District. Presently, the MUD is working toward construction of its own water treatment plant and transmission line. However, the MUD also continues to consider options for development of a regional water treatment plant, and the potential for more economical approaches that would provide a cost effective equivalent water supply from the LCRA.

5B.36.2.2 Options Considered

Table 5B.36-2 lists the water management strategies, references to the report section discussing the strategy, total project cost, and unit costs that were considered for meeting Brushy Creek MUD's shortage.

5B.36.2.3 Water Supply Plan

Working within the planning criteria established by the Brazos G RWPG and TWDB, the following water supply plan is recommended to meet the projected 2030 shortage of Brushy Creek MUD:

- Diversion and treatment facilities to use Lake Stillhouse Hollow water delivered to Lake Georgetown.

**Table 5B.36-2.
Water Management Strategies Considered for Brushy Creek MUD**

Option	Yield (acft/yr)	Approximate Cost ¹	
		Total	Unit (\$/acft)
Additional Water Conservation (Section 5A.2)	200	\$115,000/yr	\$574 ²
Wastewater Reuse (Section 5A.3)	400	\$1,615,000	\$326 ³
Voluntary Redistribution from In-County Source, Transmission through existing facilities	4,000	\$3,250,000/yr	\$812 ⁴
Voluntary Redistribution from City of Austin	4,000	\$3,000,000/yr	\$750 ⁵
Diversion and treatment facilities to use Lake Stillhouse Hollow water through Lake Georgetown	4,000	\$3,028,000/yr	\$757 ⁶
Carrizo-Wilcox Aquifer Development (Section 5A.17)	36,514	\$189,341,000	\$699
Little River Reservoir (Section 5A.14)	129,000	\$361,065,000	\$197 ⁷
No Action	-	\$147,264,000 ⁸	\$61,565 ⁸

¹ Unless otherwise noted, costs are Total Project Cost and Unit Cost (\$/acft per year) for treated water delivered to the water supply entity or entities. Unit cost is for full utilization of project capacity.

² Source of Cost Estimate: Section 5A.2.

³ Source of Cost Estimate: Table 5A.3.

⁴ Estimated wholesale treated water rate.

⁵ Estimated wholesale treated water rate. Does not include cost of new treatment or delivery facilities, if needed. Does not include cost for use of City of Round Rock facilities, if needed.

⁶ Estimated unit cost of stand-alone diversion, treatment, and transmission facilities from Lake Georgetown to BCMUD. Source: "Water Supply System Rate Analysis," BCMUD, June 2000.

⁷ Source of Cost Estimate: Section 5A.14. Unit Cost for raw water. Treatment and transmission costs for individual users would be additional.

⁸ Economic Impact of not meeting shortage (i.e., "no action" alternative) in 2030 as estimated by TWDB.

5B.36.2.4 Costs

Costs of the Recommended Plan for Brushy Creek MUD:

- a. Diversion and treatment facilities to use Lake Stillhouse Hollow water delivered to Lake Georgetown:
- Cost Source: "Water Supply System Rate Analysis, Williamson County Regional Water Project and External Water Treatment and Transmission Facilities" prepared for Brushy Creek MUD by Naismith Engineering, Inc., June 2000.
 - Date to be Implemented: By year 2006
 - Annual Cost: \$2,970,000 per year

5B.36.3 City of Cedar Park

The City of Cedar Park purchases water from the Lower Colorado River Authority at Lake Travis. No shortages are projected for the City of Cedar Park and no changes in water supply are recommended.

**Table 5B.36-3.
Recommended Plan Costs by Decade for Brushy Creek MUD**

<i>Plan Element</i>	<i>2000</i>	<i>2010</i>	<i>2020</i>	<i>2030</i>	<i>2040</i>	<i>2050</i>
Voluntary Redistribution						
Projected Surplus/(Shortage) (acft/yr)	1,147	(3,630)	(3,889)	(4,020)	(3,914)	(3,887)
Supply From Plan Element (acft/yr)	-	4,000	4,000	4,000	4,000	4,000
Annual Cost (\$/yr)	-	\$3,028,000	\$3,287,000	\$1,355,000	\$1,355,000	\$1,355,000
Unit Cost (\$/acft)	-	\$757	\$822	\$339	\$339	\$339

5B.36.4 City of Florence

5B.36.4.1 Description of Supply

The City of Florence relies on Trinity Aquifer groundwater for its supply. Although Florence's pumping capability is significantly greater, proration of estimated reliable groundwater in Williamson County results in an allocation of about 204 acft/yr to Florence.

5B.36.4.2 Options Considered

The City of Florence has a shortage of 136 acft per year in 2030, which is about 40 percent of demand. Table 5B.36-4 lists the water management strategies, references to the report section discussing the strategy, total project cost, and unit costs that were considered for meeting the City of Florence's shortage.

5B.36.4.3 Water Supply Plan

Working within the planning criteria established by the Brazos G RWPG and TWDB, the following water supply plan is recommended to meet the projected 2030 shortage of the City of Florence:

- Voluntary Redistribution from Brazos River Authority, Transmission and Treatment through existing Central Texas WSC and Chisholm Trail SUD facilities; source will probably be Lake Stillhouse Hollow; City of Florence will need to negotiate for about 250 acft per year of water from either BRA or an existing contract holder.

**Table 5B.36-4.
Water Management Strategies Considered for the City of Florence**

Option	Yield (acft/yr)	Approximate Cost ¹	
		Total	Unit (\$/acft)
Additional Water Conservation (Section 5A.2)	20	\$11,500/yr	\$574 ²
Voluntary Redistribution from City of Georgetown, Chisholm Trail SUD, or BRA	250	\$244,000/yr	\$975 ³
Carrizo-Wilcox Aquifer water purchased through Chisholm Trail SUD (Section 5A.17)	36,514	\$189,341,000	\$699
No Action	-	\$5,772,000 ⁵	\$42,443 ⁵

¹ Unless otherwise noted, costs are Total Project Cost and Unit Cost (\$/acft per year) for treated water delivered to the water supply entity or entities. Unit cost is for full utilization of project capacity.
² Source of Cost Estimate: Section 5A.2
³ Estimated wholesale treated water rate. Costs of delivery facilities, if needed, are not included.
⁴ Source of Cost Estimate: Section 5A.14. Unit Cost for raw water. Treatment and transmission costs for individual users would be additional.
⁵ Economic Impact of not meeting shortage (i.e., "no action" alternative) in 2030 as estimated by TWDB.

5B.36.4.4 Costs

Costs of the Recommended Plan for the City of Florence.

- a. Voluntary Redistribution:
 - Cost Source: estimated wholesale treated water rate
 - Date to be Implemented: By year 2010
 - Annual Cost: \$244,000 per year

**Table 5B.36-5.
Recommended Plan Costs by Decade for the City of Florence**

Plan Element	2000	2010	2020	2030	2040	2050
Voluntary Redistribution						
Projected Surplus/(Shortage) (acft/yr)	111	42	(44)	(87)	(96)	(94)
Supply From Plan Element (acft/yr)	-	250	250	250	250	250
Annual Cost (\$/yr)	-	\$244,000	\$244,000	\$244,000	\$244,000	\$244,000
Unit Cost (\$/acft)	-	\$975	\$975	\$975	\$975	\$975

5B.36.5 City of Georgetown

5B.36.5.1 Water Supply

The City of Georgetown purchases water from the Brazos River Authority at Lake Georgetown and at Lake Stillhouse Hollow. Their water purchase contracts total 22,168 acft/yr. Water from Lake Stillhouse Hollow will be delivered to Lake Georgetown through the Williamson County Raw Waterline. This water supply is sufficient to meet Georgetown's needs beyond 2040. However, Georgetown's estimated diversion capacity at Lake Georgetown is about 8,344 acft/yr and they will need to construct additional intake and conveyance facilities to fully use the remaining 13,824 acft/yr that is under contract. Georgetown also pumps groundwater from the Edwards Aquifer and the estimated reliable supply is about 921 acft/yr. Georgetown is also implementing wastewater reuse projects where appropriate to meet demands with non-potable water.

5B.36.5.2 Options Considered and Recommended Plan

The shortage reported for Georgetown of 8,151 acft/yr in 2030, is a result of infrastructure constraints of their intake and conveyance facilities. The following water supply plan is recommended to meet the projected 2030 shortage of the City of Georgetown:

- Expand intake, pumping, and conveyance facilities at Lake Georgetown
- Construct river intake, pumping, and conveyance facilities to use the Park plant to treat surface water

5B.36.5.3 Costs

Costs of the Recommended Plan for the City of Georgetown:

- Cost Source: HDR Engineering, "Evaluation of Water Supply Alternatives for the City of Georgetown", July 2000.
- Date to be Implemented: By year 2010
- Total Project Cost: \$3,494,000
- Total Annual Cost: \$266,000

**Table 5B.36-6.
Recommended Plan Costs by Decade for the City of Georgetown**

<i>Plan Element</i>	<i>2000</i>	<i>2010</i>	<i>2020</i>	<i>2030</i>	<i>2040</i>	<i>2050</i>
Infrastructure Improvements						
Projected Surplus/(Shortage) (acft/yr)	2,213	(1,179)	(4,561)	(8,151)	(12,697)	(18,535)
Supply From Plan Element (acft/yr)	-	13,824	13,824	13,824	13,824	13,824
Annual Cost (\$/yr)	-	\$266,000	\$266,000	\$266,000	\$0	\$0
Unit Cost (\$/acft)	-	\$19	\$19	\$19	\$19	\$19

5B.36.5.4 Long-term Strategies

The following long-term strategies, beyond 2030, are recommended to meet Georgetown's water needs:

- Participate in the Little River Reservoir project; water availability up to 129,000 acft/yr; total project cost: \$361,000,000; unit cost of raw water in the reservoir: \$197/acft.
- Develop a groundwater supply from the Carrizo-Wilcox Aquifer; water availability up to 36,500 acft; total project cost: \$189,341,000; unit cost of treated water delivered to Georgetown: \$699/acft.
- Purchase water from BRA/LCRA Alliance; water availability up to 25,000 acft; total project cost: \$126,457,000; unit cost of treated water delivered to Williamson County: \$597.

5B.36.6 City of Granger

5B.36.6.1 Description of Supply

The City of Granger obtains its water supply from the Trinity Aquifer.

5B.36.6.2 Options Considered

The City of Granger has a projected shortage of 129 acft per year in 2030, which is about 34 percent of demand. Table 5B.36-7 lists the water management strategies, references to the report section discussing the strategy, total project cost, and unit costs that were considered for meeting the City of Granger shortage.

**Table 5B.36-7.
Water Management Strategies Considered for the City of Granger**

Option	Yield (acft/yr)	Approximate Cost ¹	
		Total	Unit (\$/acft)
Additional Water Conservation (Section 5A.2)	20	\$11,500/year	\$574 ²
Little River Reservoir (Section 5A.14)	129,000	\$361,065,000	\$197 ³
Voluntary Redistribution from City of Taylor, BRA, or other	250	\$203,000/yr	\$812 ⁴
Carrizo-Wilcox Aquifer (Section 5A.17)	36,514	\$189,341,000	\$699
No Action	-	\$5,475,000 ⁵	\$42,443 ⁵

¹ Unless otherwise noted, costs are Total Project Cost and Unit Cost (\$/acft per year) for treated water delivered to the water supply entity or entities. Unit cost is for full utilization of project capacity.
² Source of Cost Estimate: Section 5A.2.
³ Source of Cost Estimate: Section 5A.14. Unit Cost for raw water. Treatment and transmission costs for individual users would be additional.
⁴ Estimated wholesale treated water cost.
⁵ Economic impact of not meeting shortage (i.e., "no action" alternative) in 2030 as estimated by TWDB.

5B.36.6.3 Water Supply Plan

Working within the planning criteria established by the Brazos G RWPG and TWDB, the following water supply plan is recommended to meet the projected 2030 shortage of the City of Granger:

- Participate in a regional water supply project with the City of Taylor and obtain water either from the Brazos River Authority (Lake Granger) or from the Carrizo-Wilcox Aquifer.

5B.36.6.4 Costs

Costs of the recommended plan for the City of Granger to meet 2030 shortages are:

- Regional water supply system:
 - Cost Source: Section 5A.17 cost table (for Carrizo-Wilcox supply option)
 - Date to be Implemented: By year 2010
 - Total Project Cost (Granger's portion): \$1,237,000
 - Annual Cost: \$175,000 per year

Cost is based on unit rate of \$699/acft (actual cost to Granger is likely to be lower). Debt service is 54% of total annual cost (Table 5.17-2). Total project cost is for Granger's portion of project.

**Table 5B.36-8.
Recommended Plan Costs by Decade for the City of Granger**

<i>Plan Element</i>	<i>2000</i>	<i>2010</i>	<i>2020</i>	<i>2030</i>	<i>2040</i>	<i>2050</i>
Carrizo-Wilcox Aquifer						
Projected Surplus/(Shortage) (acft/yr)	- -	(47)	(66)	(129)	(179)	(224)
Supply From Plan Element (acft/yr)	-	250	250	250	250	250
Annual Cost (\$/yr)	-	\$175,000	\$175,000	\$175,000	\$175,000	\$175,000
Unit Cost (\$/acft)	-	\$699	\$699	\$699	\$699	\$699

5B.36.7 City of Hutto

5B.36.7.1 Description of Supply

The City of Hutto obtains its water supply from the Trinity and Edwards Aquifers.

5B.36.7.2 Options Considered

The City of Hutto has a projected shortage of 265 acft per year in 2030, which is about 67 percent of demand. Table 5B.36-9 lists the water management strategies, references to the report section discussing the strategy, total project cost, and unit costs that were considered for meeting the City of Hutto shortage.

**Table 5B.36-9.
Water Management Strategies Considered for the City of Hutto**

<i>Option</i>	<i>Yield (acft/yr)</i>	<i>Approximate Cost¹</i>	
		<i>Total</i>	<i>Unit (\$/acft)</i>
Additional Water Conservation (Section 5A.2)	20	\$11,500/year	\$574 ²
Little River Reservoir (Section 5A.14)	129,000	\$361,065,000	\$197 ³
Voluntary Redistribution from City of Taylor, BRA, or other	600	\$487,000/yr	\$812 ⁴
Carrizo-Wilcox Aquifer (Section 5A.17)	36,514	\$189,341,000	\$699
No Action	-	\$11,247,000 ⁵	\$42,443 ⁵

¹ Unless otherwise noted, costs are Total Project Cost and Unit Cost (\$/acft per year) for treated water delivered to the water supply entity or entities. Unit cost is for full utilization of project capacity.
² Source of Cost Estimate: Section 5A.2.
³ Source of Cost Estimate: Section 5A.14. Unit Cost for raw water. Treatment and transmission costs for individual users would be additional.
⁴ Estimated wholesale treated water cost.
⁵ Economic Impact of not meeting shortage (i.e., "no action" alternative) in 2030 as estimated by TWDB.

5B.36.7.3 Water Supply Plan

Working within the planning criteria established by the Brazos G RWPG and TWDB, the following water supply plan is recommended to meet the projected 2030 shortage of the City of Hutto:

- Participate in a regional water supply project with the City of Taylor and obtain water either from the Brazos River Authority (Lake Granger) or from the Carrizo-Wilcox Aquifer.

5B.36.7.4 Costs

Costs of the recommended plan for the City of Hutto to meet 2030 shortages are:

- Regional water supply system:
 - Cost Source: Section 5A.17 cost table (for Carrizo-Wilcox supply option)
 - Date to be Implemented: By year 2010
 - Total Project Cost (Granger’s portion): \$2,970,000
 - Annual Cost: \$419,000 per year

Cost is based on unit rate of \$699/acft. Debt service is 54% of total annual cost (Table 5.17-2). Total project cost is for Hutto’s portion of project.

**Table 5B.36-10.
Recommended Plan Costs by Decade for the City of Hutto**

<i>Plan Element</i>	<i>2000</i>	<i>2010</i>	<i>2020</i>	<i>2030</i>	<i>2040</i>	<i>2050</i>
Carrizo-Wilcox Aquifer						
Projected Surplus/(Shortage) (acft/yr)	--	(63)	(150)	(265)	(401)	(550)
Supply From Plan Element (acft/yr)	-	600	600	600	600	600
Annual Cost (\$/yr)	-	\$419,000	\$419,000	\$419,000	\$419,000	\$419,000
Unit Cost (\$/acft)	-	\$699	\$699	\$699	\$699	\$699

5B.36.8 City of Leander

5B.36.8.1 Description of Supply

The City of Leander has contracted with the Lower Colorado River Authority to purchase treated water from Lake Travis. Leander also has a supply contract with Chisholm Trail SUD and pumps groundwater from the Trinity Aquifer. Based on these supply sources, Leander’s needs are met beyond 2040 and no change in their water supply situation is recommended.

5B.36.9 City of Round Rock

5B.36.9.1 Water Supply

The City of Round Rock purchases water from the Brazos River Authority at Lake Georgetown and at Lake Stillhouse Hollow. Their water purchase contracts total 24,854 acft/yr. Water from Lake Stillhouse Hollow will be delivered to Lake Georgetown through the Williamson County Raw Waterline. This water supply is sufficient to meet Round Rock's needs until about 2015. Round Rock's estimated diversion capacity at Lake Georgetown is limited to about 17,800 acft/yr and they will need to construct additional intake and conveyance facilities to fully use the remaining 7,000 acft/yr that is under contract. Round Rock also pumps groundwater from the Edwards Aquifer and the estimated reliable supply is about 921 acft/yr. Round Rock is also implementing wastewater reuse projects.

5B.36.9.2 Options Considered

The shortage reported for Round Rock is 12,157 acft/yr in 2030 and 21,543 acft/yr in 2050. About 7,000 acft/yr of this shortage results from intake and conveyance constraints at Lake Georgetown. Table 5B.36-11 lists the water management strategies, references to the report section discussing the strategy, total project cost, and unit costs that were considered for meeting Round Rock's shortage.

5B.36.9.3 Water Supply Plan

Working within the planning criteria established by the Brazos G RWPG and TWDB, the following water supply plan is recommended to meet the projected 2030 shortage of the City of Round Rock:

- Expand the raw water intake and conveyance facilities at Lake Georgetown (7,000 acft/yr).
- Participate in a regional Carrizo-Wilcox Aquifer supply project (6,000 acft/yr).
- Purchase Lake Travis water from the BRA/LCRA Alliance (6,000 acft/yr).
- Continue to implement wastewater reuse (5,000 acft/yr)

**Table 5B.36-11.
Water Management Strategies Considered for the City of Round Rock**

Option	Yield (acft/yr)	Approximate Cost ¹	
		Total	Unit (\$/acft)
Additional Water Conservation (Section 5A.2)	1,500	\$861,000/yr	\$574 ²
Wastewater Reuse (Section 5A.3)	5,000	\$19,239,000	\$326 ³
Expand intake and conveyance facilities at Lake Georgetown	7,000	\$1,744,000	\$19 ⁴
Voluntary Redistribution from LCRA (Section 5.16.3)	36,514	\$125,457,000	\$597
Carrizo-Wilcox Aquifer Development (Section 5A.17)	36,514	\$189,341,000	\$699
Little River Reservoir (Section 5A.14)	129,000	\$361,065,000	\$197 ⁵
No Action	-	\$1,157,354,000 ⁶	\$95,201 ⁶

¹ Unless otherwise noted, costs are Total Project Cost and Unit Cost (\$/acft per year) for treated water delivered to the water supply entity or entities. Unit cost is for full utilization of project capacity.
² Source of Cost Estimate: Section 5A.2.
³ Source of Cost Estimate: Table 5A.3.
⁴ Same unit cost as upgrade of Georgetown's facilities.
⁵ Source of Cost Estimate: Section 5A.14. Unit cost for raw water. Treatment and transmission costs for individual users would be additional.
⁶ Economic impact of not meeting shortage (i.e., "no action" alternative) in 2030 as estimated by TWDB.

5B.36.9.4 Costs

Costs of the recommended plan for the City of Round Rock:

- a. Expand the raw water intake and conveyance facilities at Lake Georgetown:
 - Cost Source: use estimated unit cost from City of Georgetown water supply evaluation (See Section 5B.36.4.3)
 - Date to be Implemented: By year 2010
 - Total Project Cost: \$1,744,000
 - Annual Cost: \$133,000
- b. Participate in a regional Carrizo-Wilcox Aquifer supply project:
 - Cost Source: Section 5A.17
 - Date to be Implemented: By year 2010
 - Total Project Cost: \$29,702,000
 - Annual Cost: \$4,194,000

Cost is based on unit rate of \$699/acft applied to Round Rock's portion of about 6,000 acft/yr. Debt service is 54% of total annual cost (Table 5.17-2). Total project cost is for Round Rock's portion only.

c. Purchase Lake Travis water from the BRA/LCRA Alliance.

- Cost Source: Section 5A.16
- Date to be Implemented: By year 2020
- Total Project Cost: \$19,730,000
- Annual Cost: \$3,582,000

Cost is based on unit rate of \$597/acft applied to Round Rock's portion of about 6,000 acft/yr. Debt service is 42% of total annual cost (Table 5.16-8). Total project cost is for Round Rock's portion only.

d. Wastewater Reuse.

- Cost Source: Section 5A.3
- Date to be Implemented: By year 2030
- Total Project Cost: \$19,239,000
- Annual Cost: \$1,630,000

**Table 5B.36-12.
Recommended Plan Costs by Decade for City of Round Rock**

<i>Plan Element</i>	<i>2000</i>	<i>2010</i>	<i>2020</i>	<i>2030</i>	<i>2040</i>	<i>2050</i>
Projected Surplus/(Shortage) (acft/yr)	5,343	(990)	(7,663)	(12,157)	(16,636)	(21,543)
Expand Intake/Conveyance Facilities at Lake Georgetown						
Supply From Plan Element (acft/yr)	-	7,000	7,000	7,000	7,000	7,000
Annual Cost (\$/yr)	-	\$133,000	\$133,000	\$133,000	\$0	\$0
Unit Cost (\$/acft)	-	\$19	\$19	\$19	\$0	\$0
Carrizo-Wilcox Aquifer Supply						
Supply From Plan Element (acft/yr)	-	6,000	6,000	6,000	6,000	6,000
Annual Cost (\$/yr)	-	\$4,194,000	\$4,194,000	\$4,194,000	\$1,929,000	\$1,929,000
Unit Cost (\$/acft)	-	\$699	\$699	\$699	\$321	\$321
BRA/LCRA Alliance Supply from Lake Travis						
Supply From Plan Element (acft/yr)	-	-	6,000	6,000	6,000	6,000
Annual Cost (\$/yr)	-	-	\$3,582,000	\$3,582,000	\$3,582,000	\$2,078,000
Unit Cost (\$/acft)	-	-	\$597	\$597	\$597	\$346
Wastewater Reuse						
Supply From Plan Element (acft/yr)	-	-	-	5,000	5,000	5,000
Annual Cost (\$/yr)	-	-	-	\$1,630,000	\$1,630,000	\$1,630,000
Unit Cost (\$/acft)	-	-	-	\$326	\$326	\$326
Total New Supply (acft/yr)	0	13,000	19,000	28,000	28,000	28,000

5B.36.9.5 Long-term Strategies

The following long-term strategies, beyond 2030, are recommended to meet Round Rock's water needs:

- Participate in the Little River Reservoir project; water availability up to 129,000 acft/yr; total project cost: \$361,000,000; unit cost of raw water in the reservoir: \$197/acft.

5B.36.10 City of Taylor

5B.36.10.1 Description of Supply

The City of Taylor purchases 8,525 acft/yr of surface water from the Brazos River Authority at Lake Granger and this supply is projected to be sufficient past year 2050. However, water shortages are created by infrastructure limitations sometime after 2030 and water intake, conveyance, and treatment capacity expansions will be needed to utilize contracted water.

5B.36.10.2 Options Considered

The City of Taylor has an infrastructure-caused shortage of 1,507 acft/yr in 2050, which is about 19 percent of demand in 2050. Options considered to meet this projected long-term shortage are:

- Infrastructure expansion (2,250 acft/yr)
- Water conservation (400 acft/yr)
- Little River Reservoir (1,507 acft/yr)
- Carrizo-Wilcox Aquifer Supply (1,507 acft/yr)

5B.36.10.3 Water Supply Plan

Working within the planning criteria established by the Brazos G RWPG and TWDB, the following water supply plan is recommended to meet the projected 2050 shortage of the City of Taylor:

- Infrastructure expansion to supply 2,250 acft/yr (2.0 MGD)
- Carrizo-Wilcox Aquifer project to supply 1,507 acft/yr.

5B.36.10.4 Costs

Costs of the Recommended Plan for the City of Taylor:

a. Infrastructure expansion for City of Taylor:

- Cost Source: HDR Engineering (consultant to City of Taylor)
- Date to be Implemented: By year 2035
- Total Project Cost: \$7,439,000
- Annual Cost: \$621,000

Cost is based on 2 MGD new intake pumping station, conveyance, and treatment facilities.

b. Carrizo-Wilcox Aquifer supply:

- Cost Source: Section 5A.17
- Date to be Implemented: By year 2035
- Total Project Cost: \$7,460,000
- Annual Cost: \$1,053,000

Cost is based on unit rate of \$699/acft applied to Taylor's portion of about 1,507 acft/yr. Debt service is 54% of total annual cost (Table 5A.17-2). Total project cost is for Taylor's portion only.

**Table 5B.36-13.
Recommended Plan Costs by Decade for the City of Taylor**

<i>Plan Element</i>	<i>2000</i>	<i>2010</i>	<i>2020</i>	<i>2030</i>	<i>2040</i>	<i>2050</i>
Projected Surplus/(Shortage) (acft/yr)	3,435	2,577	1,296	590	(212)	(1,507)
Infrastructure Expansion						
Supply From Plan Element (acft/yr)	-	-	-	-	2,250	2,250
Annual Cost (\$/yr)	-	-	-	-	\$621,000	\$621,000
Unit Cost (\$/acft)	-	-	-	-	\$276	\$276
Carrizo-Wilcox Aquifer Supply						
Supply From Plan Element (acft/yr)	-	-	-	1,507	1,507	1,507
Annual Cost (\$/yr)	-	-	-	\$1,053,000	\$1,053,000	\$1,053,000
Unit Cost (\$/acft)	-	-	-	\$699	\$699	\$699

5B.36.11 City of Thrall

The City of Thrall obtains its water supply from groundwater from the Trinity Aquifer and through Noack WSC from the City of Taylor. Thrall has a projected shortage of 40 acft/yr in 2030 and 63 acft/yr shortage in 2050. The recommended plan for Thrall to meet this projected shortage is to continue buying water from Taylor and to negotiate a contract to receive additional water sufficient to meet needs.

**Table 5B.36-14.
Recommended Plan Costs by Decade for the City of Thrall**

<i>Plan Element</i>	<i>2000</i>	<i>2010</i>	<i>2020</i>	<i>2030</i>	<i>2040</i>	<i>2050</i>
Voluntary Redistribution from City of Taylor						
Projected Surplus/(Shortage) (acft/yr)	- -	(4)	(19)	(40)	(50)	(63)
Supply From Plan Element (acft/yr)	-	70	70	70	70	70
Annual Cost (\$/yr)	-	\$56,800	\$56,800	\$56,800	\$56,800	\$56,800
Unit Cost (\$/acft)	-	\$812	\$812	\$812	\$812	\$812

5B.36.12 County-Other

5B.36.12.1 Water Supply

Entities in the County-Other category in Williamson County obtain their water supply from groundwater (Trinity and Edwards Aquifers), the Brazos River Authority at Lake Georgetown and Lake Stillhouse Hollow, and by purchasing from adjacent cities. Jonah Special Utility District and Chisholm Trail Special Utility District both purchase water from the Brazos River Authority at Lake Stillhouse Hollow. Water from Lake Stillhouse Hollow will be delivered to Lake Georgetown through the Williamson County Raw Waterline. The County-Other category is shown to have a current shortage, based primarily on the conservatively low groundwater supply values in the projections. The projected shortages increase to 11,750 acft/yr in 2030 and then stay relatively the same through 2050. Because the County-Other demands are closely linked to what is occurring in the cities, and because the shortages are similar, the options and plan presented here is similar to the City of Round Rock plan.

5B.36.12.2 Options Considered

Table 5B.36-15 lists the water management strategies, references to the report section discussing the strategy, total project cost, and unit costs that were considered for meeting the Williamson County-Other shortage.

**Table 5B.36-15.
Water Management Strategies Considered for Williamson County-Other**

Option	Yield (acft/yr)	Approximate Cost ¹	
		Total	Unit (\$/acft)
Additional Water Conservation (Section 5A.2)	1,500	\$861,000/yr	\$574 ²
Wastewater Reuse (Section 5A.3)	5,000	\$19,239,000	\$326 ³
Voluntary Redistribution from LCRA (Section 5.16.3)	36,514	\$125,457,000	\$597
Carrizo-Wilcox Aquifer Development (Section 5.17)	36,514	\$189,341,000	\$699
Little River Reservoir (Section 5A.14)	129,000	\$361,065,000	\$197 ⁴
No Action	-	\$244,864,000 ⁵	\$18,080 ⁵
¹ Unless otherwise noted, costs are Total Project Cost and Unit Cost (\$/acft per year) for treated water delivered to the water supply entity or entities. Unit cost is for full utilization of project capacity. ² Source of Cost Estimate: Section 5A.2. ³ Source of Cost Estimate: Table 5A.3. ⁴ Source of Cost Estimate: Section 5A.14. Unit cost for raw water. Treatment and transmission costs for individual users would be additional. ⁵ Economic Impact of not meeting shortage (i.e., "no action" alternative) in 2030 as estimated by TWDB.			

5B.36.12.3 Water Supply Plan

Working within the planning criteria established by the Brazos G RWPG and TWDB, the following water supply plan is recommended to meet the projected 2030 shortage of County-Other in Williamson County:

- Participate in a regional Carrizo-Wilcox Aquifer supply project (6,000 acft/yr).
- Purchase Lake Travis water from the BRA/LCRA Alliance (6,000 acft/yr).
- Continue to implement wastewater reuse (5,000 acft/yr)

5B.36.12.4 Costs

Costs of the Recommended Plan for County-Other.

- a. Participate in a regional Carrizo-Wilcox Aquifer supply project.
 - Cost Source: Section 5A.17
 - Date to be Implemented: By year 2010
 - Total Project Cost: \$29,702,000
 - Annual Cost: \$4,194,000

Cost is based on unit rate of \$699/acft applied to County-Other portion of about 6,000 acft/yr. Debt service is 54% of total annual cost (Table 5.17-2). Total project cost is for County-Other portion only.

- b. Purchase Lake Travis water from the BRA/LCRA Alliance.
 - Cost Source: Section 5A.16

- Date to be Implemented: By year 2020
- Total Project Cost: \$19,730,000
- Annual Cost: \$3,582,000

Cost is based on unit rate of \$597/acft applied to County-Other portion of about 6,000 acft/yr. Debt service is 42% of total annual cost (Table 5.16-8). Total project cost is for County-Other portion only.

c. Wastewater Reuse.

- Cost Source: Section 5A.3
- Date to be Implemented: By year 2030
- Total Project Cost: \$19,239,000
- Annual Cost: \$1,630,000

5B.36.12.5 Long-term Strategies

The following long-term strategies, beyond 2030, are recommended to meet County-Other water needs:

- Participate in the Little River Reservoir project; water availability up to 129,000 acft/yr; total project cost: \$361,000,000; unit cost of raw water in the reservoir: \$197/acft.

**Table 5B.36-16.
Recommended Plan Costs by Decade for County-Other in Williamson County**

<i>Plan Element</i>	<i>2000</i>	<i>2010</i>	<i>2020</i>	<i>2030</i>	<i>2040</i>	<i>2050</i>
Projected Surplus/(Shortage) (acft/yr)	(713)	(2,232)	(8,693)	(11,750)	(12,818)	(11,302)
Carrizo-Wilcox Aquifer Supply						
Supply From Plan Element (acft/yr)	-	6,000	6,000	6,000	6,000	6,000
Annual Cost (\$/yr)	-	\$4,194,000	\$4,194,000	\$4,194,000	\$1,929,000	\$1,929,000
Unit Cost (\$/acft)	-	\$699	\$699	\$699	\$321	\$321
BRA/LCRA Alliance Supply from Lake Travis						
Supply From Plan Element (acft/yr)	-	-	6,000	6,000	6,000	6,000
Annual Cost (\$/yr)	-	-	\$3,582,000	\$3,582,000	\$3,582,000	\$2,078,000
Unit Cost (\$/acft)	-	-	\$597	\$597	\$597	\$346
Wastewater Reuse						
Supply From Plan Element (acft/yr)	-	-	-	5,000	5,000	5,000
Annual Cost (\$/yr)	-	-	-	\$1,630,000	\$1,630,000	\$1,630,000
Unit Cost (\$/acft)	-	-	-	\$326	\$326	\$326
Total New Supply (acft/yr)	0	6,000	12,000	17,000	17,000	17,000

5B.36.13 Manufacturing

5B.36.13.1 Water Supply and Demand

Manufacturing water use is projected to be 481 acft/yr in 2050, comprising about 0.4 percent of county-wide water M&I water use. These projections are reported from the 1997 Consensus State Water Plan and appear to be relatively low for the level of economic activity in Williamson County. Previously, the Trans-Texas Water Plan had projected 23,700 acft/yr of Manufacturing demand in the county by 2050. It would be prudent that each city in the county and the County-Other category plan accordingly for more Manufacturing water use than shown in the current projections in Table 4-71. To that end, the City of Round Rock's water plan has supply in it that could be used for Manufacturing use, as does the County-Other plan. The City of Georgetown's water plan recommends participation in the Little River Reservoir as a long-term option and that supply could be used for Manufacturing use if needed.

5B.36.14 Steam-Electric

There is no Steam-Electric demand or supply in Williamson County.

5B.36.15 Mining

The projections show a shortage of 1,543 acft/yr in 2030 for Williamson County Mining. The shortage is due largely, if not completely, to the conservatively low groundwater supply figures used for Williamson County. It is anticipated that Mining use will continue to be from locally available groundwater. If groundwater becomes unavailable due to drought or overpumpage, the Mining demand will either purchase new supplies from nearby water utilities, or will cease operation until groundwater levels (i.e., Edwards Aquifer) return. No water supply plan is proposed to meet projected Mining demands.

5B.36.16 Irrigation

No shortages are projected for Williamson County Irrigation and no changes in water supply are recommended.

5B.36.17 Livestock

No shortages are projected for Williamson County Livestock and no changes in water supply are recommended.