## *4C.16 Hood County Water Supply Plan*

Table 4C.16-1 lists each water user group in Hood County and their corresponding surplus or shortage in years 2030 and 2060. For each water user group with a projected shortage, a water supply plan has been developed and is presented in the following subsections.

***Table 4C.16-1.***
***Hood County Surplus/(Shortage)***

| *Water User Group* | *Surplus/(Shortage)*[1] | | *Comment* |
|---|---|---|---|
| | *2030 (acft/yr)* | *2060 (acft/yr)* | |
| Acton MUD | 2,347 | 484 | Projected surplus |
| City of Granbury | 4,888 | 3,252 | Projected surplus |
| Oak Trail Shores Subdivision | (114) | (101) | Projected shortage – see plan below |
| City of Tolar | 58 | 62 | Projected surplus |
| County-Other | (1,195) | (3,543) | Projected shortage – see plan below |
| Manufacturing | (8) | (15) | Projected shortage – see plan below |
| Steam-Electric | 33,980 | 27,794 | Projected surplus |
| Mining | (25) | (24) | Projected shortage – see plan below |
| Irrigation | 10,346 | 10,628 | Projected surplus |
| Livestock | 0 | 0 | No projected surplus/shortage |

[1] From Tables C-31 and C-32, Appendix C – Comparison of Water Demands with Water Supplies to Determine Needs.

### *4C.16.1 Acton MUD*

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. No shortages are projected for Acton MUD and no changes in water supply are recommended.

### *4C.16.2 City of Granbury*

#### *4C.16.2.1 Description of Supply*

The City of Granbury obtains its water supply from groundwater from the Trinity Aquifer and from surface water from Lake Granbury. No shortages are projected for the City of Granbury. However, the City of Granbury is planning to construct a new surface water treatment plant with increased capacity to replace the aging plant currently in operation on Lake Granbury.

#### *4C.16.2.2 Water Supply Plan*

Working within the planning criteria established by the Brazos G RWPG and TWDB, the following water supply plan is recommended to supplement existing supplies for the City of Granbury:

- City of Granbury Surface Water Treatment Plant – the project will treat raw water from Lake Granbury and deliver treated water to City of Granbury customers.

#### *4C.16.2.3 Costs*

Costs of the Recommended Plan for the City of Granbury.

a. City of Granbury Surface Water Treatment Plant:
   - Cost Source: Cost estimate from strategy evaluation
   - Date to be Implemented: before 2010 with future phases
   - Total Project Cost: $48,511,660
   - Annual Cost: $1,650,430 (Phase 1 Only)

***Table 4C.16-2.***
***Recommended Plan Costs by Decade for City of Granbury Surface Water Treatment Plant***

| *Plan Element* | *2010* | *2020* | *2030* | *2040* | *2050* | *2060* |
|---|---|---|---|---|---|---|
| Projected Surplus/(Shortage) (acft/yr) | 5,731 | 5,290 | 4,888 | 4,451 | 3,901 | 3,252 |
| **City of Granbury Surface Water Treatment Plant** | | | | | | |
| | Phase 1 | Phase 2 | | Phase 3 | Phase 4 | |
| Supply From Plan Element (acft/yr) | 1,680 | 5,040 | 5,040 | 6,720 | 8,400 | 8,400 |
| Annual Cost ($/yr) | $1,650,430 | $4,100,365 | $4,100,365 | $4,434,360 | $3,985,010 | $3,985,010 |
| Unit Cost ($/acft) | $982 | $814 | $814 | $660 | $474 | $474 |

### *4C.16.3 Oak Trail Shores Subdivision*

#### *4C.16.3.1 Description of Supply*

- Source: Groundwater – Trinity Aquifer
- Estimated Reliable Supply: 379 acft/yr

#### *4C.16.3.2 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 shortage of Oak Trail Shores Subdivision:

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

#### *4C.16.3.3 Costs*

Costs of the Recommended Plan for Oak Trail Shores Subdivision.

a. Purchase Water from the City of Granbury:
   - Cost Source: Assumed unit cost of $815/acft treated water ($2.50/1,000 gal)
   - Date to be Implemented: before 2010
   - Annual Cost: $122,250

***Table 4C.16-3.***
***Recommended Plan Costs by Decade for Oak Trail Shores Subdivision***

| *Plan Element* | *2010* | *2020* | *2030* | *2040* | *2050* | *2060* |
|---|---|---|---|---|---|---|
| Projected Surplus/(Shortage) (acft/yr) | (133) | (126) | (114) | (105) | (101) | (101) |
| **Purchase water from City of Granbury** | | | | | | |
| Supply From Plan Element (acft/yr) | 150 | 150 | 150 | 150 | 150 | 150 |
| Annual Cost ($/yr) | $122,250 | $122,250 | $122,250 | $122,250 | $122,250 | $122,250 |
| Unit Cost ($/acft) | $815 | $815 | $815 | $815 | $815 | $815 |

### *4C.16.4 City of Tolar*

The City of Tolar obtains its water supply from groundwater from the Trinity Aquifer. The city owns and operates five wells that are projected to supply the needs of the City of Tolar through the year 2060. No shortages are projected for the City of Tolar and no changes in water supply are recommended.

### *4C.16.5 County-Other*

#### *4C.16.5.1 Description of Supply*

- Source: Groundwater – Trinity Aquifer; Surface water – Brazos River Authority contracts (Lake Granbury)
- Estimated Reliable Supply: 3,729 acft/yr in 2060

#### *4C.16.5.2 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 shortage of Hood County-Other:

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

#### *4C.16.5.3 Costs*

Costs of the Recommended Plan for Hood County-Other.

a. Purchase Water from the City of Granbury:
   - Cost Source: Assumed unit cost of $815/acft treated water ($2.50/1,000 gal)
   - Date to be Implemented: before 2010
   - Annual Cost: $3,015,500 (at full implementation)

***Table 4C.16-4.***
***Recommended Plan Costs by Decade for Hood County-Other***

| *Plan Element* | *2010* | *2020* | *2030* | *2040* | *2050* | *2060* |
|---|---|---|---|---|---|---|
| Projected Surplus/(Shortage) (acft/yr) | (19) | (627) | (1,195) | (1,816) | (2,596) | (3,543) |
| **Purchase water from City of Granbury** | | | | | | |
| Supply From Plan Element (acft/yr) | 20 | 700 | 1,300 | 2,000 | 2,700 | 3,700 |
| Annual Cost ($/yr) | $16,300 | $570,500 | $1,059,500 | $1,630,000 | $2,200,500 | $3,015,500 |
| Unit Cost ($/acft) | $815 | $815 | $815 | $815 | $815 | $815 |

### *4C.16.6 Manufacturing*

#### *4C.16.6.1 Description of Supply*

- Source: Groundwater – Trinity Aquifer
- Estimated Reliable Supply: 22 acft/yr

#### *4C.16.6.2 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 shortage of Hood County Manufacturing:

- Conservation, and
- Purchase water from the City of Granbury.

#### *4C.16.6.3 Costs*

Costs of the Recommended Plan for Hood County Manufacturing.

a. Conservation:
   - Date to be Implemented: before 2010
   - Annual Cost: Not determined

b. Purchase Water from the City of Granbury:
   - Cost Source: Assumed unit cost of $815/acft treated water ($2.50/1,000 gal)
   - Date to be Implemented: before 2010
   - Annual Cost: 16,300 in 2060

***Table 4C.16-5.***
***Recommended Plan Costs by Decade for Hood County Manufacturing***

| *Plan Element* | *2010* | *2020* | *2030* | *2040* | *2050* | *2060* |
|---|---|---|---|---|---|---|
| Projected Surplus/(Shortage) (acft/yr) | (3) | (6) | (8) | (10) | (12) | (15) |
| **Conservation** | | | | | | |
| Supply From Plan Element (acft/yr) | 1 | 1 | 2 | 2 | 2 | 3 |
| Annual Cost ($/yr) | — | — | — | — | — | — |
| Unit Cost ($/acft) | — | — | — | — | — | — |
| **Purchase water from City of Granbury** | | | | | | |
| Supply From Plan Element (acft/yr) | 5 | 10 | 10 | 15 | 15 | 20 |
| Annual Cost ($/yr) | $4,075 | $8,150 | $8,150 | $12,225 | $12,225 | $16,300 |
| Unit Cost ($/acft) | $815 | $815 | $815 | $815 | $815 | $815 |

### *4C.16.7 Steam-Electric*

Steam-Electric water demand in Hood County is associated with the DeCordova Power Plant owned and operated by Texas Utilities Company (TXU). The DeCordova Power Plant is supplied by water from Lake Granbury. TXU has contracted with the Brazos River Authority for water from the BRA system in sufficient quantity to exceed its needs through the year 2060. No changes in water supply are recommended.

### *4C.16.8 Mining*

#### *4C.1.4.1 Description of Supply*

- Source: Groundwater – Trinity Aquifer
- Estimated Reliable Supply: 133 acft/yr in 2060

#### *4C.16.1.3 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 shortage of Hood County Mining:

- Conservation, and
- Purchase water from the City of Granbury.

#### *4C.16.1.4 Costs*

Costs of the Recommended Plan for Hood County Mining.

a. Conservation:
   - Date to be Implemented: before 2010
   - Annual Cost: Not determined
b. Purchase Water from the City of Granbury:
   - Cost Source: Assumed raw water unit cost of $75/acft
   - Date to be Implemented: before 2010
   - Annual Cost: $2,250

***Table 4C.16-6.***
***Recommended Plan Costs by Decade for Hood County Mining***

| *Plan Element* | *2010* | *2020* | *2030* | *2040* | *2050* | *2060* |
|---|---|---|---|---|---|---|
| Projected Surplus/(Shortage) (acft/yr) | (25) | (25) | (25) | (25) | (24) | (24) |
| **Conservation** | | | | | | |
| Supply From Plan Element (acft/yr) | 5 | 8 | 11 | 11 | 11 | 11 |
| Annual Cost ($/yr) | — | — | — | — | — | — |
| Unit Cost ($/acft) | — | — | — | — | — | — |
| **Purchase water from City of Granbury** | | | | | | |
| Supply From Plan Element (acft/yr) | 30 | 30 | 30 | 30 | 30 | 30 |
| Annual Cost ($/yr) | $2,250 | $2,250 | $2,250 | $2,250 | $2,250 | $2,250 |
| Unit Cost ($/acft) | $75 | $75 | $75 | $75 | $75 | $75 |

### *4C.16.9 Irrigation*

Irrigation is projected to have a surplus of water through the year 2060 and no changes in water supply are recommended.

### *4C.16.10 Livestock*

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