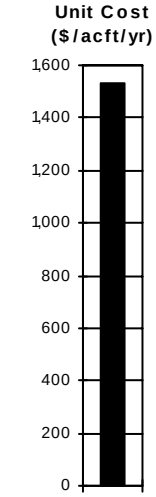
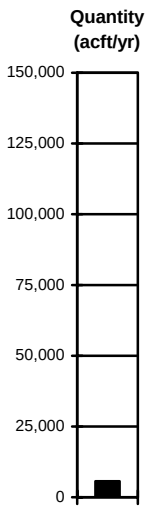
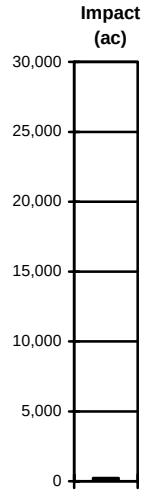
# *2006 South Central Texas Regional Water Plan*
# *Water Management Strategy Summary Sheet*




***Name: Brackish Groundwater Desalination - Wilcox Aquifer*** **(Twin Oaks WTP Delivery, 20 MGD Peak, 5 MGD Yearly Average)**

***Description:*** Strategy involves the development of a well field in the brackish portion of the Wilcox Aquifer in Bexar County. Facilities include a well field with production capacity of 25,163 acft/yr (56 wells at 300 gpm, including 4 back-up wells), brackish groundwater desalination plant with finished water capacity of 10,065 acft/yr, deep well injection of desalination concentrate, finished water tank, finished water pump station and 8-mile 33-inch transmission pipeline to transport blended finished water to the clearwell at the Twin Oaks WTP, and treated water transmission system improvements for integration of the additional supply. Strategy has been sized for delivery on a seasonal basis with 20 MGD peak capacity and 5 MGD yearly average.

***Decade Needed*****:** 2000 – 2010

## *Cost, Quantity of Water, and Land Impacted*

| | | | |
|---|---|---|---|
| **Unit Cost of Water:** | **1,533** | **$/acft/yr** | **Treated Water Delivered** |
| **Quantity of Water:** | **5,662** | **acft/yr** | **Reliability = Firm** |
| **Land Impacted:** | **220** | **acres** | |

## *Additional Considerations per Regional Water Planning Guidelines*

**Environmental Factors:**

Permits required for deep well injection of desalination concentrate.

**Impacts on Water Resources:**

Long-term reductions in aquifer levels.

**Impacts on Agricultural & Natural Resources:**

Minimal, if any.

**Other Relevant Factors per SCTRWPG:**

Beneficial use of groundwater now unused. Currently no groundwater conservation district for the Carrizo-Wilcox Aquifer in Bexar County.

**Comparison of Strategies to Meet Needs:**

No conflicts with other recommended water management strategies.

**Interbasin Transfer Issues:**

None anticipated.

**Third-Party Impacts of Voluntary Transfers:**

None anticipated.

**Regional Efficiency:**

Beneficial use of groundwater currently unused. Proximate to existing transmission system for Twin Oaks WTP into San Antonio.

**Water Quality Considerations:**

Strategy assumes desalination of 50% of brackish groundwater with 1,200 mg/l TDS required to decrease dissolved solids below regulatory levels and allow blending with other distribution system water sources without adverse water quality impacts. Desalination process recovery of 80% with 20% rejected concentrate to deep well injection.