

SOUTH CENTRAL TEXAS REGIONAL WATER PLANNING AREA 2006 REGIONAL WATER PLAN SUPPLEMENTAL SCOPE OF WORK

Technical Evaluation of Water Management Strategies Proposed by Canyon Regional Water Authority for Potential Amendment of the 2001 South Central Texas Regional Water Plan

Background

Pursuant to a January 6, 2005 letter from River City Engineering, Ltd. to the South Central Texas Regional Water Planning Group (SCTRWPG), presentations to the SCTRWPG on January 13, 2005 and February 3, 2005, various meetings between representatives of Canyon Regional Water Authority (CRWA) and the San Antonio River Authority (SARA), and February 14, 2005 action of the CRWA Board of Directors, CRWA is requesting amendments to the 2001 South Central Texas Regional Water Plan (SCTRWP). More specifically, CRWA is asking the SCTRWPG to add two (2) additional water management strategies to those recommended in the 2001 SCTRWP and attempt to clarify whether a third water management strategy that CRWA is developing with the Bexar Metropolitan Water District (BMWD) is consistent with the 2001 SCTRWP. The two additional water management strategies are identified as the Dunlap Project and the Siesta Project and the water management strategy for which clarification is sought is identified as the Wells Ranch Project. Technical evaluations of these three (3) water management strategies and other activities requisite to amendment of the 2001 SCTRWP pursuant to Texas Water Development Board (TWDB) rules and SCTRWPG procedures are summarized in the following tasks and work elements to be performed by HDR Engineering, Inc. (HDR) as Technical Consultant to the SCTRWPG.

Task A – Technical Evaluation of Dunlap Project

The CRWA Dunlap Project is envisioned as a conjunctive use project using interruptible diversions from the Guadalupe River at Lake Dunlap along with groundwater from a well field in Gonzales and Guadalupe Counties. These raw water sources would be treated and distributed as a new municipal water supply for CRWA members. The surface water component of the Lake Dunlap Project involves the amendment of a surface water right held by CRWA in order to increase authorized diversions from the Guadalupe River at Lake Dunlap from 18.52 acft/yr to 5,600 acft/yr and to obtain authorization for interbasin transfer of this water.

- 1) Using the Region L Guadalupe – San Antonio River Basin Water Availability Model (GSA WAM), quantify surface water potentially available to CRWA subject to senior water rights, Consensus Criteria for Environmental Flow Needs (CCEF), Hydrologic Assumptions and Operational Procedures for Assessment of Surface Water Supply adopted by the SCTRWPG and approved by the TWDB, constraints associated with maximum diversion rate, and a municipal seasonal use pattern.
- 2) Summarize potential instream flow and freshwater inflow changes in the Guadalupe River below Lake Dunlap and for the Guadalupe Estuary, respectively.
- 3) Calculate and summarize groundwater supplies necessary to develop a firm municipal supply of 5,600 acft/yr in combination with surface water supplies. Consider consistency

with the management plans of the Gonzales County and Guadalupe County groundwater conservation districts. Approximate effects of groundwater production will be simulated in combination with other water management strategies under Task C herein and work tasks previously authorized by SARA on behalf of the SCTRWPG and the TWDB.

- 4) Perform preliminary environmental assessment in accordance with TWDB Guidelines for Regional Water Plan Development.
- 5) Using standard procedures for the 2006 SCTRWP, estimate costs for construction and operation of surface water diversion, treatment, and transmission facility expansions at Lake Dunlap plus wells, well field collection piping, treatment, and transmission systems for delivery of groundwater to the CRWA Lake Dunlap Water Treatment Plant.
- 6) Document technical evaluation in formats consistent with other water management strategies to be included in the 2006 SCTRWP.
- 7) Coordinate with CRWA and the SCTRWPG (including the Staff Workgroup) regarding technical aspects of the evaluation and refinement of documentation.

Task B – Technical Evaluation of Siesta Project

The CRWA Siesta Project is envisioned as a conjunctive use project using interruptible diversions from Cibolo Creek in Wilson County along with treated effluent from wastewater treatment facilities operated by SARA as raw water sources for treatment and distribution as a new municipal water supply for CRWA members. The Siesta Project involves the acquisition/lease of additional water rights and amendment of a surface water right presently held by CRWA in order to increase authorized diversions from Cibolo Creek by CRWA from 42 acft/yr to 5,042 acft/yr.

- 1) Using the Region L Guadalupe – San Antonio River Basin Water Availability Model (GSA WAM), quantify surface water potentially available to CRWA subject to senior water rights, Consensus Criteria for Environmental Flow Needs (CCEFN), Hydrologic Assumptions and Operational Procedures for Assessment of Surface Water Supply adopted by the SCTRWPG and approved by the TWDB, constraints associated with maximum diversion rate, and a municipal seasonal use pattern.
- 2) Summarize potential instream flow and freshwater inflow changes in Cibolo Creek near Falls City and for the Guadalupe Estuary, respectively.
- 3) Calculate and summarize treated effluent supplies necessary to develop a firm municipal supply of 5,042 acft/yr in combination with CRWA water rights (including proposed acquisitions/leases) along Cibolo Creek.
- 4) Perform preliminary environmental assessment in accordance with TWDB Guidelines for Regional Water Plan Development.
- 5) Using standard procedures for the 2006 SCTRWP, estimate costs for construction and operation of diversion, treatment, and transmission facilities.
- 6) Document technical evaluation in formats consistent with other water management strategies to be included in the 2006 SCTRWP.
- 7) Coordinate with CRWA, SARA, and the SCTRWPG (including the Staff Workgroup) regarding technical aspects of the evaluation and refinement of documentation.

Task C – Consistency and Technical Evaluation of Wells Ranch Project

The Wells Ranch Project appeared in the 2001 SCTRWP as a water management strategy identified as “Carrizo Aquifer – Bexar & Guadalupe (BMWD).” In the 2001 SCTRWP, the strategy had an estimated supply of 4,000 acft/yr, as compared to the present 9,000 acft/yr planned by BMWD and CRWA, and did not explicitly identify Gonzales County as a source. As described in Task A, some 5,600 acft/yr of the 9,000 acft/yr project may be committed to the Dunlap Project, with the balance of 3,400 acft/yr being delivered directly to BMWD.

- 1) Summarize information relevant to assessment of consistency of the Wells Ranch Project with the 2001 SCTRWP and water management strategies identified therein.
- 2) Summarize information relevant to assessment of consistency of the Wells Ranch Project with the management plans of the Gonzales and Guadalupe County groundwater conservation districts.
- 3) Using standard procedures for the 2006 SCTRWP, estimate costs for construction and operation of wells, well field collection piping, treatment, and transmission systems for delivery of up to 3,400 acft/yr of groundwater to the Wagner Booster Station. Approximate effects of groundwater production will be simulated in combination with other water management strategies under Task A herein and work tasks previously authorized by SARA on behalf of the SCTRWPG and the TWDB.
- 4) Perform preliminary environmental assessment in accordance with TWDB Guidelines for Regional Water Plan Development.
- 5) Document technical evaluation in formats consistent with other water management strategies to be included in the 2006 SCTRWP.
- 6) Coordinate with CRWA, BMWD, SARA, and the SCTRWPG (including the Staff Workgroup) regarding technical aspects of the evaluation and refinement of documentation.

Task D – Miscellaneous Technical Support Associated with Potential Amendment(s)

Should the SCTRWPG choose to proceed with amending the 2001 SCTRWP pursuant to CRWA requests, HDR will assist the SCTRWPG in complying with pertinent TWDB requirements by providing technical support as follows:

- 1) Draft an executive summary of requested amendment(s).
- 2) Attend one required public hearing regarding the requested amendment(s).
- 3) Summary of written and oral comments received and development of draft responses.

Budget Summary¹

<u>Task</u>	<u>Description</u>	<u>Budget</u>
A	Technical Evaluation of Lake Dunlap Project	\$ 10,700
B	Technical Evaluation of Siesta Project	\$ 13,000
C	Consistency and Technical Evaluation of Wells Ranch Project	\$ 9,400
D	Misc. Technical Support Associated with Potential Amendment(s)	\$ 6,200
	Total	\$ 39,300

¹ Budget does not include potential costs associated with integration of one or more of these water management strategies proposed by CRWA into the 2006 South Central Texas Regional Water Plan.