

Agenda Item 6h-j. Task 5A Additional Funding, Public Comment on Request for Task 5A Funds, and Consider Approval of Request for Remainder of Task 5A Funds

The TWDB contract with CRMWD for regional water planning includes a detailed scope of work to develop the water plan. However, Task 5A (Water Management Strategies) requires the consultant to develop a region-specific scope of work, which must be approved by the RWPG and submitted to the TWDB. Work under this task is to be performed only after TWDB approval and written notice to proceed. The consultant can proceed with working on this task after RWPG approval at its own risk that the TWDB will approve the requested scope and fee.

At the March 15, 2018 Region F RWPG meeting, the group approved a partial scope of work for Task 5A. This agenda item considers the approval of the remainder of the scope and fee necessary to complete Task 5A. The complete list of potentially feasible strategies to be evaluated is included in the Technical Memorandum.

Attachments:

1. Remaining Scope of Work for Task 5A

TO: Region F RWPG
FROM: Simone Kiel
SUBJECT: Scope of Work for Water Management Strategies, Phase 2
DATE: October 23, 2018
PROJECT: Region F 2021 Water Plan, CMD17216

The TWDB developed a scope of work for Task 5A, which includes the evaluation of water management strategies and development of Chapter 5 of the 2021 Region F Water Plan. This scope of work considers all regulatory requirements and TWDB guidance. The scope items that are necessary for regulatory compliance are outlined in the executed contracts. However, specific scopes of work for the evaluations of potentially feasible water management strategies are to be developed by the regions. All funds for this task are contingent upon written notice to proceed. The total budget in the executed contract for this effort is \$330,868.

At the March 15, 2018 Region F Planning Group meeting, the RWPG approved a partial scope of work to develop water management strategies. This request for \$160,000 was submitted to the TWDB for review and approval. On July 3, 2018, the TWDB sent a letter to CRMWD authorizing this request along with a contract amendment that includes the partial scope of work. The strategies that have been approved and funded include subordination, municipal and agricultural conservation, reuse, and desalination.

The current request outlines the remaining scope of work to evaluate water management strategies and the associated budget. The remaining available funding is \$170,868.

SCOPE OF WORK FOR THE REMAINDER OF TASK 5A FUNDS

Task 5A funds are specified for water management strategy development. To facilitate the development of the remaining scope of work, Region F has completed the needs assessment to identify entities that will require water management strategies. Based on this assessment, many of the strategies in the 2016 plan will be retained for the 2021 regional water plan. A few strategies have been implemented or are no longer being considered by the sponsor. In addition, there will be several new strategies developed to meet the projected needs for new water user groups.

The types of strategies to be evaluated include:

- Infrastructure Improvements
- New Groundwater Development
- Voluntary Redistribution
- New Surface Water
- Aquifer Storage and Recovery
- Regional Projects
- Brush Control

Infrastructure Improvements

There are several strategies in the 2016 Region F Water Plan that require infrastructure improvements to utilize available water supplies. These include the rehabilitation of Spence pipeline, advanced water treatment of impaired quality water, increased water treatment capacities, dredging the river intake for Junction, new technologies for power cooling and other system improvements necessary to utilize available water supplies. A brief description of the proposed infrastructure is included in Table 1. Specific tasks associated with this effort include:

Scope of Work

- Evaluate the available supplies and appropriate sizing required for the infrastructure improvements.
- Evaluate each strategy in accordance with the Regional Water Planning Guidelines. This will include the evaluation of reliability, cost, environmental issues, impacts to agricultural and rural areas, natural resources and other issues deemed relevant by the region.
- Develop cost estimates for all infrastructure strategies.
- Develop GIS maps for all strategies showing linear infrastructure improvements and supply sources. (Note: GIS maps are to be provided to the TWDB and any maps included in the Region F plan will be approved by the respective sponsor of the strategy.)
- Distribute supplies to customers of the sponsoring entity.

Entities Potentially Receiving Water from this WMS:

City of Big Spring

City of Brady

Bronte Village

City of Mason

City of Robert Lee

City of San Angelo

City of Junction

CRMWD

Steam Electric Power WUGs (All)

Table 1 Description of Projects for Infrastructure Improvement WMS

Water User	County	Project Description
Big Spring	Howard	Water Treatment Plant Expansion
Brady	McCulloch	Advanced Water Treatment
Bronte	Coke	Rehabilitation of the Oak Creek Pipeline
Bronte	Coke	Water Treatment Plant Expansion
Colorado River MWD	Multiple	Transmission of Additional Groundwater Supplies from Western Region F Counties
Junction	Kimble	Dredge Intake
Mason	Mason	Advanced Water Treatment
Robert Lee	Coke	New Water Treatment Plant
San Angelo	Tom Green	Hickory Well Field and Treatment Expansion
Steam Electric Power, All	Multiple	CCGT and ACC Generation

New Groundwater Development

New groundwater development has been and will continue to be a major water supply strategy for Region F. The reliability of the surface water supplies in Region F have prompted several water providers to look towards groundwater for future supplies. This may include new groundwater development both inside and outside of Region F. The 2016 Region F Water Plan identifies “New groundwater development” for several wholesale water providers and many of water user groups in Region F. Water user groups and providers that are looking to develop groundwater include Great Plains, Fort Stockton, Greater Gardendale WSC, Ector County Utility District, and the City of Balmorhea.

In addition, with the current oil and gas activities in Region F, the mining demands have increased significantly. Much of the water needed for this increased demand is anticipated to come from conservation, reuse and/or new groundwater development. Some groundwater development has already occurred, but more is expected. To meet the future mining demands in Region F, the RWPG will be evaluating new groundwater supplies. Specific tasks associated with this effort include:

Scope of Work

- Evaluate the available supplies and appropriate sizing required for the infrastructure improvements for new groundwater development. Available supply will consider MAGs, other demands on the aquifer and needs of the entity. As appropriate, consider potential phasing of new groundwater projects to economically meet projected needs.
- Consider potential regionalization, as appropriate.
- Coordinate with other regions for strategies that propose to use water from outside of Region F.
- Evaluate the water quality of the potential source(s) for the end use purpose.
- Evaluate each strategy in accordance with the Regional Water Planning Guidelines. This will include the evaluation of reliability, cost, environmental issues, impacts to agricultural and rural areas, natural resources and other issues deemed relevant by the region.
- Develop cost estimates for all new and/or expanded groundwater strategies.
- Develop GIS maps for all strategies showing linear infrastructure improvements and supply sources. (Note: GIS maps are to be provided to the TWDB and any maps included in the Region F plan will be approved by the respective sponsor of the strategy.)
- Distribute supplies to customers of the sponsoring entity.

Entities Potentially Receiving Water from these WMSs:

Colorado Municipal Water District (CRMWD) and its customers (22)

San Angelo and its customers (3)

Great Plains and its customers (6)

Midland

Odessa

Bronte Village

City of Andrews

City of Balmorhea

City of Fort Stockton

Colorado City

Ector County Utility District
Greater Gardendale WSC
Junction
Menard
Robert Lee
Sonora
Pecos County WCID#1
Brown County WCID
County Other (2)
Mining WUGs (3)
Manufacturing (3)
Livestock (Andrews)
Steam Electric Power (Howard)

Voluntary Redistribution

The Voluntary Redistribution strategy is a general strategy that includes sales of water from one entity to another, new or extended contracts, or other types of transfers of water. This strategy does not apply to entities having sufficient existing contracts with sellers that are developing additional water supplies to meet the contractual demands. In Region F most of the voluntary redistribution strategies involve new sales or increased sales of water from a provider and may include new infrastructure as needed to transport the water. New strategies will be considered for entities with needs. Also, we will consider change of use type strategies, such as using surface water permitted for steam electric use for municipal, industrial and/or mining use.

Specific tasks associated with this effort include:

Scope of Work

- Coordinate with entities with expiring contracts to confirm whether the contracts will be extended and at what level of supply.
- Evaluate whether an entity has supply available for redistribution. Confirm with the water provider that it is willing to provide water to the respective WUG(s). Confirm with the receiving WUG(s), as appropriate, that it is willing to purchase water.
- Develop or update the appropriate sizing required for the infrastructure improvements for transfers of water. As appropriate, consider potential phasing of new re-distribution projects to economically meet projected needs.
- Consider potential regionalization, as appropriate.
- Evaluate the water quality of the potential source(s) for the end use purpose.
- Evaluate each strategy in accordance with the Regional Water Planning Guidelines. This will include the evaluation of reliability, cost, environmental issues, impacts to agricultural and rural areas, natural resources and other issues deemed relevant by the region.
- Develop cost estimates for all new and/or expanded voluntary re-distribution strategies.
- Develop GIS maps for all strategies showing linear infrastructure improvements and supply sources. (Note: GIS maps are to be provided to the TWDB and any maps included in the Region F plan will be approved by the respective sponsor of the strategy.)
- Distribute supplies to customers of the sponsoring entity.

Entities Potentially Receiving Water from this WMS:

City of Andrews
Robert Lee
Stanton
Millersview-Doole WSC
Ballinger
Greater Gardendale WSC
Stanton
Winters
Ector County Utility District (ECUD)
County-Other WUGs (4)
Manufacturing WUGs (5)
Mining WUGs (Pecos)
Steam Electric Power (2)

New Surface Water

While there is little to no available surface water in the Colorado River Basin, there is interest in using developed storm water to supplement existing surface water supplies. The UCRA is considering a project that would use developed storm water and a possible upstream diversion of an existing water right to provide additional supplies. The water would be stored in the Red Arroyo near San Angelo for users in Tom Green County. Region F would work with the UCRA to develop the project and evaluate it in accordance with RWPG guidelines.

Entities Potentially Receiving Water from this WMS:

San Angelo
UCRA

Aquifer Storage and Recovery

There are two aquifer storage and recovery (ASR) projects identified in the 2016 Region F Water Plan. Both strategies were evaluated for CRMWD and include: 1) using ASR to store excess surface water during wet periods, and 2) using ASR to store brackish groundwater supplies. There may be other water users/providers interested in ASR, but they have not indicated as such in previous correspondence. To address the potential for future interest in ASR, Region F will develop a generic regional ASR strategy.

Entities Potentially Receiving Water from this WMS:

Colorado Municipal Water District (CRMWD) and its customers (22)
Other water providers

Regional Water Projects

Several regional projects were identified and evaluated in a special study for the 2011 Region F Water Plan. These projects were retained and refined for the 2016 Water Plan. Two regional projects evaluate the potential to serve multiple users in Coke and Runnels Counties. Another regional project, the West Texas Water Partnership,

proposes to develop water for multiple entities in Regions F and G. There is also interest in developing a regional project for water from Pecos County. This project proposes to transport groundwater from Pecos County to a major end user with the potential to serve smaller communities along the way. Each of these projects will be evaluated for the 2021 Region F Water Plan.

Entities Potentially Receiving Water from this WMS:

Ballinger
Bronte
Robert Lee
Midland
San Angelo and its customers
Potential other water providers

Brush Control

Brush control has always been an important strategy to water providers in Region F. Watersheds for many of the regional lakes and reservoirs have large areas of brush growth that inhibits groundwater recharge and runoff. There are multiple active brush control programs in Region F. The region will consider and evaluate brush control for the Lake Brownwood, San Angelo System reservoirs, and the Concho River. Supplies from this strategy may be evaluated conjunctively with other strategies.

Entities Potentially Receiving Water from this WMS:

Brown County WCID and its customers
San Angelo and its customers
UCRA and its customers
Potential other water users

Other Projects:

There are other projects that may be identified during the planning process. These projects will be developed and evaluated for the 2021 Region F Water Plan as more information becomes available.

Data Base Entry

As required by the TWDB rules, all water management strategies and projects that are recommended must be entered into the TWDB database for the 2021 State Water Plan. Also, specific reports must be included in the 2021 Region F Water Plan. For Phase 2, this task applies only to the strategies developed under this scope of work. Specific tasks associated with the database entry include:

Scope of Work

- Define each water management strategy (WMS) in accordance with the specific requirements of the database.
- Assign WUGs and WWPs to a specific WMSs. Enter the amount of supply received for each decade. Enter other data required for the WMS source, user and seller, as appropriate.
- Relate WMSs to projects with an associated capital cost and WUG/WWP as appropriate.

- Enter capital costs and annual costs for each WUG/WWP as appropriate.
- Coordinate with shared regions as appropriate.
- Perform appropriate QC checks on data entry.
- Coordinate with TWDB database staff.
- Prepare all necessary reporting for the 2021 Region F Water Plan.

Entities

All WUGs and WWPs receiving water from a WMS and/or project.

Report Preparation and Coordination

Chapter 5 of the 2021 Region F Water Plan is one of the most important chapters in the plan. This chapter is the compilation of the future direction for water supply in the region. The 2016 Region F Water Plan has four subchapters dedicated to this section of the report along with several appendices that document the data evaluation. The basics of the strategy development and technical evaluations are included in the scopes of work for the specific strategy types. This task is for the effort to compile all the information into Chapter 5 of the 2021 Region F report. It also includes coordination with the RWPG on the draft chapter and the incorporation of comments for the final chapters in the Initially Prepared Plan and Final Plan.

Fee Summary

The total budget for developing the water management strategies for the 2021 Region F Water Plan (Task 5A) is \$330,868. The Phase 1 Scope of Work effort was authorized for \$160,000. Phase 2 effort represents the remaining budget of \$170,868. Below is a breakdown of the fee by major strategy category.

TASK 5A	BUDGET
Infrastructure Improvements	\$20,000
New Groundwater	\$25,000
Voluntary Redistribution	\$15,000
New Surface Water	\$15,000
Aquifer Storage and Recovery	\$15,000
Regional Projects	\$25,000
Brush Control	\$10,000
Database Entry	\$20,000
Report Preparation and Coordination	\$25,868
TOTAL	\$170,868

ATTACHMENT NO. 1

**TASK 5A SCOPE OF WORK
REGION F CURRENT CONTRACTS**

TASK 5A - EVALUATION AND RECOMMENDATION OF WMS AND ASSOCIATED WATER MANAGEMENT STRATEGY PROJECTS (WMSPS)

The objective of this task is to evaluate and recommend WMS and their associated WMSPs, including preparing a separate chapter and subchapter (on conservation recommendations see - Task 5B) to be included in the 2021 RWP that describes the work completed, presents the potentially feasible WMSs, recommended and alternative WMSs and WMSPs, including all the technical evaluations, and presents which water user entities will rely on the recommended WMSs and WMSPs.

Work shall be contingent upon a written notice-to-proceed and shall include but not be limited to the following:

- a) In addition to generally meeting all applicable rules and statute requirements governing regional and state water planning under 31 TAC Chapters 357 and 358, this portion of work shall, in particular, include all work necessary to meet all the requirements of 31 TAC §357.34 and §357.35 that is not already included under Tasks 4B, 5A, or 5B.¹
- b) Plans to be considered in developing WMSs include those referenced under 31 TAC §357.22.
- c) Inclusion of a list of the potentially feasible WMSs that were identified by the RWPG. Information to include what past evaluations have been performed for each potentially feasible WMS listed.
- d) Technical evaluations of all categories of potentially feasible WMSs including previously identified or recommended WMSs and newly identified WMSs including drought management and conservation WMSs; WMS and WMSP documentation shall include a strategy description, discussion of associated facilities, project map, and technical evaluation addressing all considerations and factors required under 31 TAC §357.34(d)-(h) and §357.35.
- e) Process of selecting all recommended WMSs and associated WMSPs including development of WMS evaluations matrices and other tools required to assist the RWPG in comparing and selecting recommended WMSs and WMSPs.
- f) Consideration of water conservation and drought contingency plans from each WUG, as necessary, to inform WMS evaluations and recommendations.
- g) Communication, coordination, and facilitation required within the RWPA and with other RWPGs to develop recommendations.
- h) Updates to descriptions and associated technical analyses and documentation of any WMSs and WMSPs that are carried forward from the previous RWP to address:
 - Changed conditions or project configuration
 - Changes to sponsor of WMS and WMSP(s)
 - Updated costs (based on use of required costing tool²)
 - Other changes that must be addressed to meet requirements of 31 TAC §357.34 and §357.35.
- i) Assignment of all recommended WMS water supplies to meet projected needs of specific WUGs.
- j) Documentation of the evaluation and selection of all recommended WMS and WMSPs, including an explanation for why certain types of strategies (e.g., aquifer storage and recovery, seawater desalination, brackish groundwater desalination) may not have been recommended.

¹ Requirements are further explained in the guidance document *First Amended General Guidelines for Fifth Cycle of Regional Water Plan Development*.

² See section 5.1.1 under 'Financial Costs' in *First Amended General Guidelines for Fifth Cycle of Regional Water Plan Development*.

- k) Coordination with sponsoring water user groups, wholesale water providers, and/or other resource agencies regarding any changed conditions in terms of projected needs, strategy modifications, planned facilities, market costs of water supply, endangered or threatened species, etc.
- l) If applicable, determination of the “highest practicable level” of water conservation and efficiency achievable (as existing conservation or proposed within a water management strategy) for each WUG that relies on a WMS involving and interbasin transfer to which TWC 11.085 applies. Recommended conservation WMSs associated with this analysis shall be presented by WUG.
- m) Presentation of the water supply plans in the RWP for each WUG and WWP relying on the recommended WMSs and WMSPs.
- n) Consideration of alternative WMSs and WMSPs for inclusion in the plan. Alternative water management strategies must be fully evaluated in accordance with 31 TAC §357.34(d)-(h).
- o) Incorporation of all required DB22 reports into document.
- p) Submission of data through the Regional Water Planning Application (DB22) to include the following work:
 - review of the data,
 - confirmation that data is accurate,
 - incorporation of the required DB22 reports into the draft and final regional water planning chapter document
- q) Review of the chapter document and related information by RWPG members,
- r) Modifications to the chapter document based on RWPG, public, and or agency comments.
- s) Submittal of chapter document to TWDB for review and approval; and
- t) All effort required to obtain final approval of the regional water plan chapter and associated DB22 data by TWDB.
- u) *[SCOPE OF WORK TO BE DETERMINED]*

Scope of Work to be amended based on specific Task 5A scope of work to be developed and negotiated with TWDB. Work under this Task to be performed only after approval and incorporation of Task 5A scope of work and written notice-to-proceed. NOTE: Work effort associated with preparing and submitting a proposed Task 5A scope of work for the purpose of obtaining a written ‘notice-to-proceed’ from TWDB is not included in Task 5A and shall not be reimbursed under the Contract.

Deliverables: A completed Chapter 5 shall be delivered in the 2021 RWP as a work product to include technical analyses of all evaluated WMSs and WMSPs. Data shall be submitted and finalized through DB22 in accordance with the Guidelines for Regional Water Planning Data Deliverables.

SCOPING TEMPLATE FOR CURRENTLY CONTRACTED TASK 5A FUNDING - PHASE 2

ASR	Conservation/Drought Management	Groundwater Desal	Groundwater D/Ip	Reuse	New Major Reservoir	Other Surface Water	seawater Desal	Conjunctive Use	Other WMS	Region	Overall TWDB Task Number	SubTask / WMS evaluation number	SubTask / WMS(s) Title	SubTask Scope of Work Write-up	Deliverable	SubTask Budget	WUG(s) &/OR WWP Entities Potentially Served by WMS(s)	Addressing a changed condition from previous cycle?	When was this WMS identified by RWPG as a potentially feasible WMS?	Was WMS evaluated in any previous Regional Water Planning Cycles?	Is evaluation a limited update to previous technical evaluation information?
								X	F		5A	7	Infrastructure Improvements	See attached Scope of Work	Updated section of Chapter 5	\$20,000	See attached Scope of Work	Yes	Different dates	Yes	No
			X						F		5A	8	New Groundwater	See attached Scope of Work	Technical memorandum	\$25,000	See attached Scope of Work	Yes	Different dates	Yes for some entities but not for all entities	No
								X	F		5A	9	Voluntary Redistribution	See attached Scope of Work	Updated section of Chapter 5	\$15,000	See attached Scope of Work	Yes	Different dates	Yes for some entities but not for all entities	No
					X				F		5A	10	New Surface Water	See attached Scope of Work	Updated section of Chapter 5	\$15,000	See attached Scope of Work	Yes. New WAM	2016	Yes	No
X									F		5A	11	Aquifer Storage and Recovery	See attached Scope of Work	Technical memorandum	\$15,000	See attached Scope of Work	Yes	2016	Yes for some entities but not for all entities	No
								X	F		5A	12	Regional Projects	See attached Scope of Work	Technical memorandum	\$25,000	See attached Scope of Work	Yes	Different dates	Yes for some entities but not for all entities	No
								X	F		5A	13	Brush Control	See attached Scope of Work	Updated section of Chapter 5	\$10,000	See attached Scope of Work	Yes	Different dates	Yes for some entities but not for all entities	No
									F		5A	5	Database Entry	Phase 2 scope of work supplements the scope submitted for Phase 1. See attached Scope of Work - Phase 2	All required DB22 reports	\$20,000	See attached Scope of Work	Yes	NA	NA	NA
									F		5A	6	RWPG Coordination/ Documentation	Phase 2 scope of work supplements the scope submitted for Phase 1. See attached Scope of Work - Phase 3	Final Chapter 5 and appendices	\$25,868	See attached Scope of Work	Yes	NA	NA	NA
TOTAL BUDGET																\$ 170,868					

The subtask budgets include applicable scope of work items outlined in the TWDB scope of work (Attachment 1) necessary to develop and evaluate each strategy.