Appendix 4C
Methodology for Selecting Feasible Water Management Strategies

Appendix 4C – Feasible Water Management Strategies

After completion of the 2001 regional water plans, the TWDB revised and updated the Regional Water Planning Guidelines to comply with SB2 legislation and clarify some requirements. One of the new requirements adopted by the TWDB is an open meeting presentation of the methodology that will be used to identify, screen and select water management strategies for a region. Specifically, 31 TAC Chapter 357(e)(4) states:

> *Before a regional water planning group begins the process of identifying potentially feasible water management strategies, it shall document the process by which it will list all possible water management strategies and identify the water management strategies that are potentially feasible for meeting a need in the region. Once this process is identified, the regional water planning group shall present it to the public for comment at the public meeting required by §357.12(a)(1) of this title (relating to Notice and Public Participation);*

This memorandum presents the methodology for screening and selecting feasible water management strategies adopted by the Region F Water Planning Group on November 22, 2004.

Methodology for Selecting Feasible Water Management Strategies

1. The consultants will identify needs for individual water user groups and regional water providers. "Need" can include, but is not limited to:
    a. Shortage identified from supply/demand comparison using firm yields
    b. Shortage due to established operation policies of water supplies (e.g., safe yield vs. firm yield)
    c. Water quality issues
2. Each need will be presented to the RWPG at an open meeting for review and public input. The RWPG will consider the types of strategies considered to be feasible to meet each need. Potential strategies include:
    a. Water conservation and drought management
    b. Wastewater reuse
    c. Expanded use of existing supplies
        i. System operation,
        ii. Conjunctive use of groundwater and surface water,
        iii. Reallocation of reservoir storage
        iv. Voluntary redistribution of water resources
        v. Voluntary subordination of water rights
        vi. Yield enhancement

vii. Water quality improvements

d. New supply development

i. Surface water resources
ii. Groundwater resources
iii. Brush control
iv. Precipitation enhancement
v. Desalination
vi. Water right cancellation
vii. Aquifer storage and recovery

e. Interbasin transfers

3. The RWPG will select strategies considered to be potentially feasible for further evaluation by the consultants.

Screening Criteria

The following offers screening criteria that will be used to assess the feasibility of potential strategies. These criteria are suggested guidelines. A strategy may be retained or dismissed at the discretion of the RWPG.

General

1. Feasible strategy must have an identified sponsor or authority.
2. Feasible strategy must consider the end use. This includes water quality, distance to end use, etc. For example, long transmission systems with pumping are not economically feasible for irrigation use.
3. Strategy should provide a reasonable percentage of the projected need (except conservation, which will be evaluated for all needs).
4. Strategy must meet existing federal and state regulations.
5. Strategies must be based on proven technology.
6. Strategy must be politically and culturally acceptable.
7. Strategy must be appropriate for regional water planning.

By Water Strategy Type (as required in TWDB Guidelines):

WATER CONSERVATION - Water conservation must be considered as a strategy for every identified need. If water conservation is not adopted, the reason must be documented.

DROUGHT MANAGEMENT MEASURES - RWPG may choose to implement emergency water management strategies where appropriate to help meet the projected water needs. Drought management is typically not considered for long-range water supply planning.

WASTEWATER REUSE - Reuse projects will be considered on a case-by-case basis. Both direct and indirect reuse will be considered as appropriate.

EXPANDED USE OF EXISTING SUPPLIES

System Operation - New or additional system operations may be considered pending owner consent. The RWPG will include existing operating policies.

Conjunctive Use of Groundwater and Surface Water - The conjunctive use of groundwater and surface water supplies may be considered when groundwater supplies are available. Applicable groundwater conservation district rules will be considered for such conjunctive systems.

Reallocation of Reservoir Storage - The RWPG will consider reallocation of reservoir storage if the owner is amenable to reallocation.

Voluntary Redistribution of Water Resources - The RWPG will discuss the possible redistribution with the involved parties and come to a consensus on an approach. If the involved parties are not interested, the RWPG will not pursue this option.

Voluntary Subordination of Existing Water Rights - The RWPG will consider voluntary subordination of existing water rights if the TCEQ water availability model shows significantly less supply than assumed in previous planning efforts. Alternatively, the RWPG may recommend that the water right holder consider selling water under their water right to the willing buyer.

Yield Enhancement - The RWPG will consider yield enhancement projects as appropriate for the water source and identified need.

Water Quality Improvement - The RWPG will consider water quality improvement projects for municipal supplies that bring the existing water supply into compliance with state and federal regulations. General water quality projects may be considered if it improves the usability of the water source to help meet demands.

NEW SUPPLY DEVELOPMENT

Surface Water Resources - The RWPG will consider new surface water resources that can be permitted, provide a reasonable amount of supply to meet the identified need, and is located within a reasonable distance to the end users.

Groundwater Resources - The RWPG will consider groundwater supplies in areas where additional groundwater is available.

Brush Control - The RWPG will consider brush control as a general regional strategy. Specific impacts and quantity of supply will not be evaluated unless there is available

data from existing studies. Note: Studies sponsored by the TSSWCB provide information on average stream flow. Reservoir yields were not evaluated.

Precipitation Enhancement - The RWPG will consider precipitation enhancement as a general regional strategy. Specific impacts and quantity of supply will not be evaluated unless there is available data from existing studies.

Desalination - The RWPG will consider desalination on a case-by-case basis.

Water Right Cancellation - The RWPG will generally not pursue water right cancellation as a means of obtaining additional water supplies. Instead, the RWPG will recommend that the water right holder consider selling water under their water right to the willing buyer.

Aquifer Storage and Recovery (ASR) - The RWPG will consider aquifer storage and recovery where the structure of the aquifer is such that this method is applicable. An ASR study must have already been performed to consider an area feasible for an ASR project.

INTERBASIN TRANSFERS - The RWPG will recommend interbasin transfers when necessary to transport water from the source to its destination. Interbasin transfers will be evaluated in accordance with current regulations.

Attachment 4C-1
Feasible Strategy Screening Matrices for Water User Groups

Table 4C-1
Potentially Feasible Strategies for Brown County Other (Colorado Basin)

Strategy	Identified Sponsor	Com-patible with End Use	Reasonable Percentage of Need	Consistent with State and Federal Regulations	Based on Proven Tech-nology	Politically & Culturally Acceptable	Appropriate for Regional Water Planning	Feasible?	Comments
Water Conservation	**No**	Yes	*	Yes	Yes	Yes	Yes	Yes	Based on criteria developed by the RWPG. No clear sponsor for conservation
Drought Management	**No**							**No**	No sponsor
Reuse	**No**		**No**					**No**	Rural area with little wastewater infrastructure
System Optimization	**No**		**No**					**No**	Single source of water
Reservoir Reallocation			**No**		does not apply			**No**	No reasonable reservoir source available in area
Voluntary Redistribution	BCWID, Brookesmith SUD, Zephyr WSC	Yes	Yes	Yes	does not apply	Yes	Yes	Yes	Deliver treated water to northern Brown County.
Subordination	**No**				does not apply			**No**	Subordination not applicable. Mostly groundwater supplies
Yield Enhancement	**No**		**No**					**No**	No strategy identified.
Quality Improvement	**No**		**No**					**No**	Current supplies not limited by water quality
New Surface Water	**No**	Yes	**No**	Yes	does not apply	Yes	Yes	**No**	No unappropriated water available in Region F
New Groundwater	**No**		**No**		does not apply			**No**	Groundwater supplies less than demand
Brush Control	BCWID and others	Yes	Unknown	Yes	Yes	Yes	Yes	Yes	Amount of water uncertain. Brush control discussed in section 4.xx.
Precipitation Enhancement	**No**	Yes	Unknown	Yes	Yes	Yes	Yes	**No**	Amount of water uncertain. No sponsor in area.

Table 4C-1 – Potentially Feasible Strategies for Brown County Other (Continued)

Strategy	Identified Sponsor	Com-patible with End Use	Reasonable Percentage of Need	Consistent with State and Federal Regulations	Based on Proven Tech-nology	Politically & Culturally Acceptable	Appropriate for Regional Water Planning	Feasible?	Comments
Desalination	**No**		**No**					**No**	No source or sponsor identified
Water Right Cancellation	**No**		**No**		does not apply	**No**	**No**	**No**	Politically unacceptable for pursuit by City
ASR	**No**	Yes	Unknown	Yes	Yes	Yes	Yes	**No**	Rural area, no identified sponsor
Interbasin Transfers			**No**					**No**	No reasonable out-of-basin supplies identified
Other Strategies									None identified

* Water conservation is evaluated for all municipal needs regardless of the quantity of water saved.

Table 4C-2
Potentially Feasible Strategies for the City of Bronte

Strategy	Identified Sponsor	Com-patible with End Use	Reasonable Percentage of Need	Consistent with State and Federal Regulations	Based on Proven Tech-nology	Politically & Culturally Acceptable	Appropriate for Regional Water Planning	Feasible?	Comments
Water Conservation	City of Bronte	Yes	*	Yes	Yes	Yes	Yes	Yes	Based on criteria developed by the RWPG
Drought Management	City of Bronte	Yes	Unknown	Yes	Yes	Yes	Yes	Yes	No data on specific practices
Reuse	City of Bronte	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Golf course irrigation
System Optimization	City of Bronte	Yes	**No**	Yes	Yes	Yes	Yes	**No**	
Reservoir Reallocation	**No**		**No**		does not apply			**No**	No storage in area reservoirs available for reallocation
Voluntary Redistribution	**No**		**No**		does not apply			**No**	No sources identified.
Subordination	City of Sweetwater	Yes	Yes	Yes	does not apply	Yes	Yes	Yes	See subordination analysis
Yield Enhancement			**No**					**No**	No strategy identified.
Quality Improvement	City of Bronte								Water quality not a limiting factor
New Surface Water	City of Bronte	Yes	**No**	Yes	does not apply	Yes	Yes	**No**	No unappropriated water available in Region F
New Groundwater	City of Bronte	Yes	Yes	Yes	does not apply	Yes	Yes	Yes	Up to 5 new wells
Brush Control	City of Sweetwater	Yes	Unknown	Yes	Yes	Yes	Yes	Yes	Amount of water uncertain. See section 4.x
Precipitation Enhancement	CRMWD	Yes	Unknown	Yes	Yes	Yes	Yes	CRMWD	Amount of water uncertain.See section 4.x
Desalination	City of San Angelo	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Regional desalination project

Table 4C-2: Potentially Feasible Strategies for the City of Bronte (Continued)

Strategy	Identified Sponsor	Com-patible with End Use	Reasonable Percentage of Need	Consistent with State and Federal Regulations	Based on Proven Tech-nology	Politically & Culturally Acceptable	Appropriate for Regional Water Planning	Feasible?	Comments
Water Right Cancellation	TCEQ, City of Bronte	Yes	**No**	Yes	does not apply	**No**	**No**	**No**	Politically unacceptable for pursuit by City
ASR	City of Bronte	Yes	**No**	Yes	Yes	Yes	Yes	**No**	No suitable aquifer in area
Interbasin Transfers			**No**					**No**	No reasonable out-of-basin supplies identified
Other Strategies	City of Bronte								Rehabilitate Oak Creek pipeline

* Water conservation is evaluated for all municipal needs regardless of the quantity of water saved.

Table 4C-3
Potentially Feasible Strategies for the City of Robert Lee

Strategy	Identified Sponsor	Com-patible with End Use	Reasonable Percentage of Need	Consistent with State and Federal Regulations	Based on Proven Tech-nology	Politically & Culturally Acceptable	Appropriate for Regional Water Planning	Feasible?	Comments
Water Conservation	City of Robert Lee	Yes	*	Yes	Yes	Yes	Yes	Yes	Based on criteria developed by the RWPG
Drought Management	City of Robert Lee	Yes	Unknown	Yes	Yes	Yes	Yes	Yes	No data on specific practices
Reuse	City of Robert Lee	Yes	**No**	Yes	Yes	Yes	Yes	Yes	City already uses discharge for irrigation
System Optimization	City of Robert Lee, CRMWD	Yes	**No**	Yes	Yes	Yes	Yes	**No**	
Reservoir Reallocation	**No**		**No**		does not apply			**No**	No storage in area reservoirs available for reallocation
Voluntary Redistribution	**No**		**No**		does not apply			**No**	No sources identified.
Subordination	CRMWD, UCRA	Yes	Yes	Yes	does not apply	Yes	Yes	Yes	See subordination analysis
Yield Enhancement			**No**					**No**	No strategy identified.
Quality Improvement	City of Robert Lee								See desalination
New Surface Water	City of Robert Lee	Yes	**No**	Yes	does not apply	Yes	Yes	**No**	No unappropriated water available in Region F
New Groundwater	City of Robert Lee	Yes	**No**	Yes	does not apply	Yes	Yes	**No**	Insufficient groundwater supplies in the area
Brush Control	CRMWD	Yes	Unknown	Yes	Yes	Yes	Yes	CRMWD	Amount of water uncertain. See section 4.x
Precipitation Enhancement	CRMWD	Yes	Unknown	Yes	Yes	Yes	Yes	CRMWD	Amount of water uncertain.See section 4.x
Desalination	City of Robert Lee	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Advanced treatment of Spence water

Table 4C-3: Potentially Feasible Strategies for the City of Robert Lee (continued)

Strategy	Identified Sponsor	Com-patible with End Use	Reasonable Percentage of Need	Consistent with State and Federal Regulations	Based on Proven Tech-nology	Politically & Culturally Acceptable	Appropriate for Regional Water Planning	Feasible?	Comments
Water Right Cancellation	TCEQ, City of Robert Lee	Yes	**No**	Yes	does not apply	**No**	**No**	**No**	Politically unacceptable for pursuit by City
ASR	City of Robert Lee	Yes	**No**	Yes	Yes	Yes	Yes	**No**	No suitable aquifer in area
Interbasin Transfers			**No**					**No**	No reasonable out-of-basin supplies identified
Other Strategies	City of Robert Lee	Yes	Yes	Yes	Yes	Yes	Yes	Yes	New storage facilities, expand WTP, new intakes

* Water conservation is evaluated for all municipal needs regardless of the quantity of water saved.

Table 4C-4
Potentially Feasible Strategies for the Colorado River Municipal Water District

Strategy	Identified Sponsor	Com-patible with End Use	Reasonable Percentage of Need	Consistent with State and Federal Regulations	Based on Proven Tech-nology	Politically & Culturally Acceptable	Appropriate for Regional Water Planning	Feasible?	Comments
Water Conservation	CRMWD Customers	Yes	*	Yes	Yes	Yes	Yes	Yes	Water conservation will be evaluated for individual customers, not CRMWD as a whole
Drought Management	CRMWD, customers	Yes	Unknown	Yes	Yes	Yes	Yes	Yes	CRMWD drought plan
Reuse	CRMWD	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Regional Water Reclamation Project
System Optimization	CRMWD	Yes	**No**	Yes	Yes	Yes	Yes	**No**	Insufficient unappropriated water
Reservoir Reallocation	None	Yes	**No**	Yes	does not apply	Yes	Yes	**No**	No supplies for reallocation
Voluntary Redistribution	BRA, Mesa, University Lands, others	Yes	Yes	Yes	does not apply	Yes	Yes	Yes	Various sources
Subordination	CRMWD, LCRA, others	Yes	Yes	Yes	does not apply	Yes	See Comments column	Yes	Specific form of agreement will not be evaluated
Yield Enhancement			**No**					**No**	No strategy identified. Brush control and precipitation enhancement are a separate strategy
Quality Improvement	CRMWD	Yes	**No**	Yes	Yes	Yes	Yes	**No**	Quality improvement will not increase available supplies
New Surface Water	CRMWD	Yes	**No**		does not apply	No	Yes	**No**	No new surface sources identified. Existing sources covered under voluntary redistribution
New Groundwater	CRMWD	Yes	Yes	Yes	does not apply	Political barriers for some sources	Yes	Yes	Winkler well field

Table 4C-4: Potentially Feasible Strategies for the Colorado River Municipal Water District (continued)

Strategy	Identified Sponsor	Com-patible with End Use	Reasonable Percentage of Need	Consistent with State and Federal Regulations	Based on Proven Tech-nology	Politically & Culturally Acceptable	Appropriate for Regional Water Planning	Feasible?	Comments
Brush Control	CRMWD, others	Yes	Unknown	Yes	Yes	Yes	Yes	Yes	Amount of water uncertain
Precipitation Enhancement	CRMWD, others	Yes	Unknown	Yes	Yes	Yes	Yes	Yes	Amount of water uncertain
Desalination	CRMWD	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Trans-Pecos desalination facility
Water Right Cancellation	TCEQ, CRMWD	Yes	Yes	Yes	does not apply	**No**	**No**	**No**	Politically unacceptable for pursuit by Distric
ASR	CRMWD	Yes	Yes	Yes	Yes	Yes	Yes	Yes	In conjunction with Regional Water Reclamation Project
Interbasin Transfers	CRMWD	Yes	**No**	Yes	Yes	Yes	Yes	**No**	No reasonable source of water identified
Other Strategies									None identified

* Water conservation is evaluated for all municipal needs regardless of the quantity of water saved.

Table 4C-5
Potentially Feasible Strategies for the City of Menard

Strategy	Identified Sponsor	Com-patible with End Use	Reasonable Percentage of Need	Consistent with State and Federal Regulations	Based on Proven Tech-nology	Politically & Culturally Acceptable	Appropriate for Regional Water Planning	Feasible?	Comments
Water Conservation	City of Menard	Yes	*	Yes	Yes	Yes	Yes	Yes	Based on criteria developed by the RWPG
Drought Management	City of Menard	Yes	Unknown	Yes	Yes	Yes	Yes	Yes	No data on specific practices
Reuse	City of Menard	Yes	**No**	Yes	Yes	Yes	Yes	**No**	City does not have a wastewater collection system
System Optimization	City of Menard	Yes	**No**	Yes	Yes	Yes	Yes	**No**	Single source of water
Reservoir Reallocation	**No**	Yes	**No**	Yes	does not apply	Yes	Yes	**No**	No reasonable reservoir source available in area
Voluntary Redistribution	City of Menard, LCRA	Yes	Yes	Yes	does not apply	Yes	Yes	Yes	Off-channel reservoir on the San Saba River. Limited partnering options.
Subordination	City of Menard	Yes	**No**	Yes	does not apply	Yes	Yes	**No**	City water right has a senior priority date
Yield Enhancement			**No**					**No**	No strategy identified.
Quality Improvement	City of Menard	Yes	**No**	Yes	Yes	Yes	Yes	**No**	Current supplies not limited by water quality
New Surface Water	City of Menard	Yes	**No**	Yes	does not apply	Yes	Yes	**No**	No unappropriated water available in Region F
New Groundwater	City of Menard	Yes	Yes	Yes	does not apply	Yes	Yes	Yes	Hickory aquifer or Edwards-Trinity Plateau aquifer. Hickory may have water quality issues
Brush Control	**No**	Yes	Unknown	Yes	Yes	Yes	Yes	**No**	Amount of water uncertain. No sponsor in area
Precipitation Enhancement	**No**	Yes	Unknown	Yes	Yes	Yes	Yes	**No**	Amount of water uncertain. No sponsor in area.

Table 4C-5: Potentially Feasible Strategies for the City of Menard (continued)

Strategy	Identified Sponsor	Com-patible with End Use	Reasonable Percentage of Need	Consistent with State and Federal Regulations	Based on Proven Tech-nology	Politically & Culturally Acceptable	Appropriate for Regional Water Planning	Feasible?	Comments
Desalination			**No**					**No**	No source or sponsor identified
Water Right Cancellation	TCEQ, City of Menard	Yes	Yes	Yes	does not apply	**No**	**No**	**No**	Politically unacceptable for pursuit by City
ASR	City of Menard	Yes	Unknown	Yes	Yes	Yes	Yes	Yes	Potential strategy for future evaluations
Interbasin Transfers			**No**					**No**	No reasonable out-of-basin supplies identified
Other Strategies									None identified

* Water conservation is evaluated for all municipal needs regardless of the quantity of water saved.

Table 4C-6
Potentially Feasible Strategies for the City of Midland

Strategy	Identified Sponsor	Com-patible with End Use	Reasonable Percentage of Need	Consistent with State and Federal Regulations	Based on Proven Tech-nology	Politically & Culturally Acceptable	Appropriate for Regional Water Planning	Feasible?	Comments
Water Conservation	City of Midland	Yes	*	Yes	Yes	Yes	Yes	Yes	City of Midland is implementing an aggressive water conservation program
Drought Management	City of Midland, CRMWD	Yes	Unknown	Yes	Yes	Yes	Yes	Yes	Apply drought management identified in Midland and CRMWD drought contingency plans
Reuse	CRMWD	Yes	Yes	Yes	Yes	Unknown	Yes	Yes	See CRMWD strategies
System Optimization	CRMWD	Yes	**No**	Yes	Yes	Yes	Yes	**No**	Previous studies did not identify significant yield gains due to system optimization
Reservoir Reallocation	CRMWD	Yes	**No**	Yes	does not apply	Yes	Yes	**No**	No storage available for reallocation
Voluntary Redistribution	CRMWD	Yes	Yes	Yes	does not apply	Yes	Yes	Yes	Renew contract with CRMWD
Subordination	CRMWD, LCRA, others	Yes	Yes	Yes	does not apply	Yes	See Comments column	Yes	Implemented by CRMWD
Yield Enhancement			**No**					**No**	No strategy identified. Brush control and precipitation enhancement are a separate strategy
Quality Improvement	City of Midland, CRMWD	Yes	**No**	Yes	Yes	Yes	Yes	**No**	Will not make more water available for use
New Surface Water	City of Midland, CRMWD	Yes	**No**		does not apply	**No**	Yes	**No**	No new surface sources identified. Existing sources covered under voluntary redistribution
New Groundwater	City of Midland	Yes	Yes	Yes	does not apply	Yes	Yes	Yes	T-Bar Well Field

Table 4C-6 (Continued) Potentially Feasible Strategies for the City of Midland

Strategy	Identified Sponsor	Com-patible with End Use	Reasonable Percentage of Need	Consistent with State and Federal Regulations	Based on Proven Tech-nology	Politically & Culturally Acceptable	Appropriate for Regional Water Planning	Feasible?	Comments
Brush Control	CRMWD	Yes	Unknown	Yes	Yes	Yes	Yes	Yes	CRMWD is participating in salt cedar removal programs. Amount of water uncertain
Precipitation Enhancement	CRMWD	Yes	Unknown	Yes	Yes	Yes	Yes	Yes	CRMWD sponsors a precipitation enhancement program. Amount of water uncertain
Desalination	CRMWD	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Pecos County Regional Desalination Facility. Implemented by CRMWD.
Water Right Cancellation	TCEQ, CRMWD	Yes	Yes	Yes	does not apply	**No**	**No**	**No**	Considered to be politically and culturally unacceptable by Region F
ASR	CRMWD	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Assumed to be implemented by CRMWD
Interbasin Transfers	CRMWD	Yes	**No**	Yes	Yes	Yes	Yes	**No**	No reasonable source of water available
Other Strategies									None identified

* Water conservation is evaluated for all municipal needs regardless of the quantity of water saved.

Table 4C-7
Potentially Feasible Strategies for the City of Ballinger

Strategy	Identified Sponsor	Com-patible with End Use	Reasonable Percentage of Need	Consistent with State and Federal Regulations	Based on Proven Tech-nology	Politically & Culturally Acceptable	Appropriate for Regional Water Planning	Feasible?	Comments
Water Conservation	City of Ballinger	Yes	*	Yes	Yes	Yes	Yes	Yes	Based on criteria developed by the RWPG
Drought Management	City of Ballinger	Yes	Unknown	Yes	Yes	Yes	Yes	Yes	No data on specific practices
Reuse	City of Ballinger	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
System Optimization	City of Ballinger	Yes	**No**	Yes	Yes	Yes	Yes	**No**	May be a future strategy if other sources become available
Reservoir Reallocation	**No**		**No**		does not apply			**No**	No storage in area reservoirs available for reallocation
Voluntary Redistribution	City of Ballinger, City of Coleman, CRMWD, BCWID	Yes	Yes	Yes	does not apply	Yes	Yes	Yes	Hords Creek Reservoir, Brown/Coleman/Runnels Regional System, CRMWD sources
Subordination	City of Ballinger	Yes	Yes	Yes	does not apply	Yes	Yes	Yes	See subordination analysis
Yield Enhancement			**No**					**No**	No strategy identified.
Quality Improvement	City of Ballinger								Water quality not a limiting factor
New Surface Water	City of Ballinger	Yes	**No**	Yes	does not apply	Yes	Yes	**No**	No unappropriated water available in Region F
New Groundwater	City of Ballinger	Yes	**No**	Yes	does not apply	Yes	Yes	**No**	No source identified
Brush Control	CRMWD, others	Yes	Unknown	Yes	Yes	Yes	Yes		Amount of water uncertain. See section 4.x
Precipitation Enhancement	CRMWD	Yes	Unknown	Yes	Yes	Yes	Yes		Amount of water uncertain. See section 4.x

Table 4C-7 Potentially Feasible Strategies for the City of Ballinger (continued)

Strategy	Identified Sponsor	Com-patible with End Use	Reasonable Percentage of Need	Consistent with State and Federal Regulations	Based on Proven Tech-nology	Politically & Culturally Acceptable	Appropriate for Regional Water Planning	Feasible?	Comments
Desalination	City of San Angelo	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Regional desalination project. Included with voluntary redistribution.
Water Right Cancellation	TCEQ, City of Ballinger	Yes	**No**	Yes	does not apply	**No**	**No**	**No**	Politically unacceptable for pursuit by City
ASR	City of Ballinger	Yes	**No**	Yes	Yes	Yes	Yes	**No**	No suitable aquifer identified
Interbasin Transfers			**No**					**No**	No reasonable out-of-basin supplies identified
Other Strategies									None identified

* Water conservation is evaluated for all municipal needs regardless of the quantity of water saved.

Table 4C-8
Potentially Feasible Strategies for the City of Winters

Strategy	Identified Sponsor	Com-patible with End Use	Reasonable Percentage of Need	Consistent with State and Federal Regulations	Based on Proven Tech-nology	Politically & Culturally Acceptable	Appropriate for Regional Water Planning	Feasible?	Comments
Water Conservation	City of Winters	Yes	*	Yes	Yes	Yes	Yes	Yes	Based on criteria developed by the RWPG
Drought Management	City of Winters	Yes	Unknown	Yes	Yes	Yes	Yes	Yes	No data on specific practices
Reuse	City of Winters	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
System Optimization	City of Winters	Yes	**No**	Yes	Yes	Yes	Yes	**No**	Single source
Reservoir Reallocation	**No**		**No**		does not apply			**No**	No storage in area reservoirs available for reallocation
Voluntary Redistribution	BCWID	Yes	Yes	Yes	does not apply	Yes	Yes	Yes	Brown/Coleman/Runnels Regional System
Subordination	City of Winters	Yes	Yes	Yes	does not apply	Yes	Yes	Yes	See subordination analysis
Yield Enhancement			**No**					**No**	No strategy identified.
Quality Improvement	City of Winters								Water quality not a limiting factor
New Surface Water	City of Winters	Yes	**No**	Yes	does not apply	Yes	Yes	**No**	No unappropriated water available in Region F
New Groundwater	City of Winters	Yes	**No**	Yes	does not apply	Yes	Yes	**No**	No source identified
Brush Control	City of Winters, CRMWD	Yes	Unknown	Yes	Yes	Yes	Yes	Yes	Amount of water uncertain. See section 4.x
Precipitation Enhancement	CRMWD	Yes	Unknown	Yes	Yes	Yes	Yes	CRMWD	Amount of water uncertain. See section 4.x
Desalination	City of San Angelo	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Regional desalination project

Table 4C-8: Potentially Feasible Strategies for the City of Winters (Continued)

Strategy	Identified Sponsor	Com-patible with End Use	Reasonable Percentage of Need	Consistent with State and Federal Regulations	Based on Proven Tech-nology	Politically & Culturally Acceptable	Appropriate for Regional Water Planning	Feasible?	Comments
Water Right Cancellation	TCEQ, City of Winters	Yes	**No**	Yes	does not apply	**No**	**No**	**No**	Politically unacceptable for pursuit by City
ASR	City of Winters	Yes	**No**	Yes	Yes	Yes	Yes	**No**	No suitable aquifer in area
Interbasin Transfers			**No**					**No**	No reasonable out-of-basin supplies identified
Other Strategies									

* Water conservation is evaluated for all municipal needs regardless of the quantity of water saved.

Table 4C-9
Potentially Feasible Strategies for the City of San Angelo

Strategy	Identified Sponsor	Com-patible with End Use	Reasonable Percentage of Need	Consistent with State and Federal Regulations	Based on Proven Tech-nology	Politically & Culturally Acceptable	Appropriate for Regional Water Planning	Feasible?	Comments
Water Conservation	City of San Angelo	Yes	*	Yes	Yes	Yes	Yes	Yes	Based on current practices by the City of San Angelo plus criteria developed by the RWPG
Drought Management	City of San Angelo	Yes	Unknown	Yes	Yes	Yes	Yes	Yes	Based on the City's experience during recent drought
Reuse	City of San Angelo	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
System Optimization	City of San Angelo, CRMWD	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Reservoir Reallocation	BurRec, COE	Yes	**No**	Yes	does not apply	Yes	Yes	**No**	Insufficient extra supplies for reallocation
Voluntary Redistribution	CRMWD, others	Yes	Yes	Yes	does not apply	Yes	Yes	Yes	Additional water from CRMWD, purchase water rights, Lake Alan Henry
Subordination	CRMWD, LCRA, others	Yes	Yes	Yes	does not apply	Yes	See Comments column	Yes	Specific form of agreement will not be evaluated
Yield Enhancement			**No**					**No**	No strategy identified. Brush control and precipitation enhancement are a separate strategy
Quality Improvement	City of San Angelo	Yes	**No**	Yes	Yes	Yes	Yes	**No**	Quality improvement will not increase available supplies
New Surface Water	City of San Angelo	Yes	**No**		does not apply	No	Yes	**No**	No new surface sources identified. Existing sources covered under voluntary redistribution
New Groundwater	City of San Angelo	Yes	Yes	Yes	does not apply	Political barriers for some sources	Yes	Yes	Hickory aquifer, Edwards-Trinity Plateau aquifer, Ogallala aquifer, Hovey trough. Other sources covered under desalination.

Table 4C-9: Potentially Feasible Strategies for the City of San Angelo (Continued)

Strategy	Identified Sponsor	Com-patible with End Use	Reasonable Percentage of Need	Consistent with State and Federal Regulations	Based on Proven Tech-nology	Politically & Culturally Acceptable	Appropriate for Regional Water Planning	Feasible?	Comments
Brush Control	City of San Angelo, UCRA, others	Yes	Unknown	Yes	Yes	Yes	Yes	Yes	Amount of water uncertain
Precipitation Enhancement	City of San Angelo, UCRA, others	Yes	Unknown	Yes	Yes	Yes	Yes	Yes	Amount of water uncertain
Desalination	City of San Angelo	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Dockum aquifer, Whitehorse aquifer, Lipan aquifer, possibly in conjunction with Spence water.
Water Right Cancellation	TCEQ, City of San Angelo	Yes	Yes	Yes	does not apply	**No**	**No**	**No**	Politically unacceptable for pursuit by City
ASR	City of San Angelo	Yes	**No**	Yes	Yes	Yes	Yes	**No**	Does not provide significant additional supplies
Interbasin Transfers		Yes	**No**	Yes	Yes	Yes	Yes	**No**	No reasonable source of water identified
Other Strategies	City of San Angelo	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Rehab Spence pipeline, store water in O.C. Fisher

* Water conservation is evaluated for all municipal needs regardless of the quantity of water saved.