NOTICE OF OPEN MEETING OF THE
SOUTH CENTRAL TEXAS REGIONAL
WATER PLANNING GROUP

TAKE NOTICE that a meeting of the South-Central Texas Regional Water Planning Group (SCTRWPG) as established by the Texas Water Development Board will be held on Thursday, August 1, 2024 at 9:30 AM both in person and virtually. The in-person meeting will be held at the San Antonio Water System's Customer Service Building, Room CR-145, 2800 US Hwy 281 North, San Antonio, TX 78212. You can attend virtually on WebEx at https://saws.webex.com/saws/j.php?MTID=m23e3d61939dadb5fc2ef0ae6eb50f466. The planning group members will consider and may take action regarding:

1. (9:30 AM) Roll-Call
2. Public Comment (Limited to 3 minutes)
3. Approval of the Minutes from the Previous Meeting of the South-Central Texas Regional Water Planning Group (SCTRWPG)
4. Status Reports and Communications by TWDB
5. Status Reports and Communications Related to Regional Water Planning including reports by the Chair, Regional Liaisons, Groundwater Management Area Representatives, and Members of the Planning Group
6. Consideration and Appropriate Action Regarding Briefings on Workgroup Activities:
   a. Chapter 8 Policy and Legislative Recommendations Workgroup
   b. Rural and Community Outreach Workgroup
7. Consideration and Appropriate Action Regarding Presentation by Technical Consultant Regarding Schedule and Progress Update
8. Consideration and Appropriate Action for the Technical Consultant to Evaluate Weather Modification as a New Water Management Strategy
9. Consideration and Appropriate Action Regarding Designation of the Nueces River Authority as a Wholesale Water Provider (WWP) as defined in 31 TAC §357.10(44) for Regional Water Planning Purposes
10. Discussion and Appropriate Action Regarding the Establishment of Additional Subcommittees
11. Schedule and Potential Agenda Items for the Next Meeting of the SCTRWPG
12. Public Comment (Limited to 3 minutes)
13. Adjourn

Comments and submissions may be submitted through email to ccastillo@sariverauthority.org and include “Region L South Central Texas Water Planning Group Meeting Public Comment” in the subject line of the email. Any written documentation can be sent to Tim Andruss, Chair, South Central Texas Regional Water Planning Group, c/o San Antonio River Authority, Attn: Caye Castillo, 100 E. Guenther Street, San Antonio, TX 78204. Please direct any questions to Caye Castillo at (210) 302-4258, ccastillo@sariverauthority.org.

AGENDA ITEM NO.3 – APPROVAL OF THE MINUTES FROM THE PREVIOUS MEETING OF THE SOUTH-CENTRAL TEXAS REGIONAL WATER PLANNING GROUP (SCTRWPG)

Minutes of the South Central Texas Regional Water Planning Group
May 2, 2024

Chair Andruss called the hybrid meeting to order at 9:30 a.m., held both in person and through WebEx online platform.

24 of the 32 voting members, or their alternates, were present.

Voting Members Present:

Tim Andruss
Curt Campbell
Andra Wisian
Debbie Farmer
Steve Metzler
Thomas Jungman
Aarin Teague
Jason Ammerman
Scooter Mangold
Andrew McBride
Daniel Meyer
Gary Middleton
Travis Pruski
Robert Puente
Humberto Ramos
Weldon Riggs
Roland Ruiz
Darrell Brownlow
Mitchell Sowards
Jonathan Stinson
Thomas Taggart
Ryan Kelso
Adam Yablonski
Dan Yoxall

Voting Members Absent:

Ryan Bayle
John Byrum
Vanessa Puig-Williams
Charlie Flatten
Terrell Graham
Vic Hilderbran
Darren Simmons
Dianne Wassenich

Non-Voting Members Present:

Carly Rotzler, TX Department of Parks and Wildlife
Michele Foss, Texas Water Development Board (TWDB)
Jami McCool, TX Dept. of Agriculture

Non-Voting Members Absent:

Iliana Delgado, TCEQ
Don McGhee, Region M Liaison
Charles Wiedenfeld, Region J Liaison
Carl Crull, Region N Liaison
Rusty Ray, Texas Soil & Water Cons. Board
Tom Hegemier, Region K Liaison

Beginning with the February 11, 2016, meeting of the South Central Texas Regional Water Planning Group, all recordings are available for the public at www.regionltexas.org.

AGENDA ITEM NO.1: ROLL CALL

Ms. Castillo took roll call.

AGENDA ITEM NO.2: PUBLIC COMMENT (LIMITED TO 3 MINUTES)

No public comments.

AGENDA ITEM NO.3: APPROVAL OF THE MINUTES FROM THE PREVIOUS MEETING OF THE SOUTH CENTRAL TEXAS REGIONAL WATER PLANNING GROUP (SCTRWPG)

Mr. Middleton motioned to approve the minutes from the previous meeting. Mr. Mangold seconded, the motion passed by consensus.

AGENDA ITEM NO.4: DISCUSSION AND APPROPRIATE ACTION REGARDING FILLING EXISTING VACANCIES AND VACANCIES TO RESULT FROM FUTURE TERM EXPIRATIONS OR RESIGNATIONS

Chair Andruss provided background on the solicitation of the River Authorities vacancy that was sent out after the February 14, 2024 Region L meeting. Chair Andruss stated that Mr. Steve Metzler applied for the River Authorities vacancy from the San Antonio River Authorities. Additionally, to address a future term expiration, Mr. John Byrum with the Nueces River Authority submitted a nomination form to renew his current River Authorities term which expires in 2024.

Mr. Stinson motioned to approve the recommendation to nominate Mr. Metzler for the River Authorities vacancy and approve Mr. Byrum's term renewal, there was a second by Mr. Pruski. The motion passed by consensus.

AGENDA ITEM NO.5: ELECTION OF OFFICERS FOR THE 2024 SCTRWPG EXECUTIVE COMMITTEE

Chair Andruss provided an overview of the by-laws regarding the Executive Committee election, background on the committee, as well as who is currently on the committee and will no longer be serving. Discussion ensued on if there was any current interest by planning group members to be elected for Chair, Vice-Chair, or At-Large positions.

Chair Andruss provided a slate of nominees for each position as his recommendation to the planning group for consideration. The recommended slate of nominees by position is below as follows:

- Chair: Curt Campbell
- Vice Chair: Humberto Ramos

- Secretary: Gary Middleton
- At-Large Members: Jason Ammerman & Steve Metzler

Mr. Puente requested that all newly nominated members to be considered for the Executive Committee have an opportunity to provide the Planning Group with their background and interest in being elected to serve on the Executive Committee.

Mr. Campbell, Mr. Ammerman, and Mr. Metzler provided the planning group with a self-background and what they hope to contribute to Region L moving forward.

Mr. Middleton motioned to elect proposed slate of nominees, second by Mr. Andruss, motion passed by consensus.

AGENDA ITEM NO.6: STATUS REPORTS AND COMMUNICATIONS BY TWDB

Ms. Foss provided an update from TWDB including the Prop 6/Texas Water Fund public input opportunity that closed April 30, 2024, SWIFT full application due in May, and the 2025 State Revolving Fund Solicitations being open as well. Ms. Foss also included new planning resources for the SCTRWPG.

Ms. Foss also included a presentation on the Conservation Resources Guide for Development of the 2026 Regional Water Plans. Her presentation is available online at www.regionltexas.org.

AGENDA ITEM NO.7: STATUS REPORTS AND COMMUNICATIONS RELATED TO REGIONAL WATER PLANNING INCLUDING REPORTS BY THE CHAIR, REGIONAL LIAISONS, GROUNDWATER MANAGEMENT AREA REPRESENTATIVES AND MEMBERS OF THE PLANNING GROUP

Mr. Andruss provided an update on GMA 15 stating that they learned that the new golf coast aquifer model will not be able to be used at this time.

Mr. Brownlow provided an update on GMA 13 stating that they don't meet until later in the year (June 2024) and suspects similar complications as GMA 15.

Mr. Meyer provided an update on GMA 10 stating that they had a meeting on April 15th, and they have selected a technical consultant. He included that the model they will be using for DFC development covers the southern portion of the Trinity which is still being revised by the TWDB.

Mr. Pruski provided an update on the Region L Rural Community Outreach Workgroup meetings that have recently occurred.

AGENDA ITEM NO.8: CONSIDERATION AND APPROPRIATE ACTION REGARDING BRIEFINGS ON WORKGROUP ACTIVITIES

Ms. Gonzalez provided workgroup briefing overviews for the following workgroups: Groundwater Availabilities Workgroup, Chapter 8 Policy and Legislative Recommendations Workgroup, and the Rural Community Outreach Workgroup. Ms. Gonzalez stated that the Groundwater Availabilities Workgroup considered the RWPG estimates included in the Region L Technical Memorandum (Tech Memo or TM) and recommended revisions to two of the 18 RWPG estimates to address the public comments received by the Leona Gravel Aquifer in Medina County at the February 14th RWPG meeting.

Mr. Andruss motioned to approve incorporation of availability recommendations from the Groundwater Availabilities Workgroup into the 2026 Region L Regional Water Plan., Mr. Metzler seconded the motion, the motion passed by consensus.

AGENDA ITEM NO.9: PRESENTATION BY TECHNICAL CONSULTANT REGARDING SCHEDULE AND PROGRESS UPDATE

Ms. Gonzales provided a conceptual schedule for Region L plan development. Her presentation is available online at www.regionltexas.org.

Ms. Gonzales also provided a presentation to review the Regional Water Planning process and the Region L Guiding Principles. Additionally, she included details on the Drought Contingency Plans and updates on Water Management Strategies in the 2026 Plan (WMS).

AGENDA ITEM NO.10: CONSIDERATION AND APPROPRIATE ACTION FOR THE TECHNICAL CONSULTANT TO EVALUATE THE MEDINA COUNTY REGIONAL ASR PROJECT AS A NEW WATER MANAGEMENT STRATEGY

Discussion ensued on costs and the deadline for analysis, with Gonzales stating the last opportunity would be the August 2024 meeting.

Mr. Puente noted that with there being no water in the in the Medina Lake, the evaluation process and costs are not necessary.

Mr. Brownlow motioned to approve the Technical Consultant to use Scope 5B funds to evaluate the Medina County Regional ASR Project as New Water Management Strategy, Mr. Ruiz seconded. Mr. Puente provided an objection to the motion. The motion passed by consensus.

AGENDA ITEM NO.11: CONSIDERATION AND APPROPRIATE ACTION REGARDING THE PROPOSED MINOR AMENDMENT NO. 1 TO THE 2021 SOUTH CENTRAL TEXAS (REGION L) REGIONAL WATER PLAN TO UPDATE THE GUADALUPE-BLANCO RIVER AUTHORITY LOWER BASIN STORAGE PROJECT

Ms. Gonzales provides a presentation on the proposed minor amendment to the 2021 SCTRWP to update the GBRA Lower Basin Storage Project. Her presentation is available online at www.regionltexas.org.

A. PUBLIC COMMENT REGARDING THE PROPOSED MINOR AMENDMENT NO. 1

No public comment was provided.

B. REVIEW AND CONSIDERATION OF COMMENTS RECEIVED FROM THE PUBLIC, TWDB, AND OTHER STATE OR FEDERAL AGENCIES

No public comment was provided.

C. CONSIDERATION AND APPROPRIATE ACTION TO ADOPT THE PROPOSED MINOR AMENDMENT NO. 1

Mr. Stinson motioned to adopt the Proposed Minor Amendment No. 1 to the 2021 Region L Regional Water Plan to Update the GBRA Lower Basin Storage Project, Mr. Pruski seconded the motion. The motion passed by consensus.

D. CONSIDERATION OF AUTHORIZING THE TECHNICAL CONSULTANT TO SUBMIT PROOF OF ADOPTION AND ANY COMMENTS TO TWDB AND TO ADDRESS ANY REQUESTS FROM TWDB ASSOCIATED WITH THE PROPOSED MINOR AMENDMENT NO. 1 ON BEHALF OF THE RWPG

Mr. Stinson motioned to authorize the Technical Consultant to submit proof of adoption and any comments to TWDB and to address any requests from TWDB associated with the Proposed Minor Amendment No. 1 on behalf of the SCTRWPG, Mr. Pruski seconded the motion. The motion passed by consensus.

AGENDA ITEM NO.12: DISCUSSION AND APPROPRIATE ACTION REGARDING THE ESTABLISHMENT OF ADDITIONAL SUBCOMMITTEES

No additional subcommittees were established.

AGENDA ITEM NO.13: SCHEDULE AND POTENTIAL AGENDA ITEMS FOR THE NEXT MEETING OF THE SCTRWPG

The next SCTRWPG meeting is scheduled for August 1, 2024, at 9:30 AM.

AGENDA ITEM NO.14: PUBLIC COMMENT (LIMITED TO 3 MINUTES)

No public comment.

AGENDA ITEM NO.15: ADJOURN

Mr. Ramos motioned to adjourn. Mr. Riggs seconded the motion, motion passed.

The meeting adjourned at 11:09am.

AGENDA ITEM NO.4 – STATUS REPORTS AND COMMUNICATIONS BY TWDB

Region L Update August 1, 2024

- **2024 SWIFT Funding for Region L Projects**
  - Alliance Regional Water Authority Phase 1B
  - Canyon Regional Water Authority Hays Caldwell WTP Expansion
  - GBRA Carrizo Groundwater Supply Project

- **Region L 2021 RWP Amendment for GBRA Lower Basin Storage Project**
  Expected to be Considered during **August 15, 2024** TWDB Board Meeting

- **REMINDER: The following data can be found in the Conservation Dashboard!**
  - GPCD Statistics
  - GPCD Trends and Targets
  - BMPs and Projects

Texas Water Fund (TWF) Implementation Plan

- TWDB sought stakeholder feedback through surveys, invitations for public comment at board and stakeholder meetings, and a dedicated TWF email from January to April 2024.
- **Three surveys** on (1) Financial Assistance for Water Infrastructure Projects, (2) New Water Supply for Texas Fund, and (3) Statewide Water Public Awareness Program
  - Feedback summarized in July 23, 2024 Board Item memorandum
- **Implementation Plan** released July 23, 2024
  - Addresses statutory directives and responsive to stakeholder feedback
  - Plan is flexible and subject to change
  - Plan includes proposed funding distribution and timeline
  - https://www.twdb.texas.gov/board/2024/07/Board/Brd02.pdf
- Receive future updates by signing up for TWDB's Financial Assistance email list: https://www.twdb.texas.gov/newsmedia/signup.asp

TWF Implementation Plan – Proposed Funding Allocations

Rural Water Assistance Fund	
100 % grant for conservation/water loss projects from SRF solicitation (under 1,000 population)	$45M
90 % grant/10 % loan or local match for conservation/water loss projects from SRF solicitation (1,000 to 10,000 in population)	$130M
High-risk or need projects (100 % grant)	$20M
Rural Water Assistance Fund subtotal:	**$195M**

Water Loan Assistance Fund	
70 % grant/30 % loan or local match for conservation/water loss projects from 2025 SRF solicitation (10,001 to 150,000 in population)	$90M
SWIFT program support	$300M
New Water Supply for Texas Fund	$250M
Potential bond leveraged funding through existing financial assistance programs	$150M
Statewide water public awareness program	$15M
Grand total:	**$1B**

TWF Implementation Plan Updates - Timeline

July 2024

- TWDB Board adopted Rural Water Assistance Fund (RWAF) rules, SWIFT program commitments for financial assistance, and Texas Water Fund transfer to SWIFT
- Invitations to apply were sent to entities with high-risk projects.
- Draft prioritization of RWAF and Water Loan Assistance Fund (WLAF) water loss projects were posted for public comment.

August 2024

- TWDB Board to consider WLAF rule proposal, adoption of RWAF and WLAF water conservation/water loss project prioritization, and high-risk project commitments.
- Invitations will be sent to apply sent to RWAF water conservation/water loss projects.

Fall 2024

- TWDB Board to consider adoption of WLAF rules, New Water Supply for Texas Fund rule proposal, and statewide water public awareness campaign contract.
- Invitations to apply will be sent to WLAF water conservation/water loss projects.

Winter 2024/2025

- TWDB Board to consider RWAF and high-risk project commitments
- TWDB Board to consider adopting New Water Supply for Texas Fund rules

Spring 2025

- TWDB Board to consider WLAF project commitments

Questions?

Michele Foss
michele.foss@twdb.Texas.gov

Stay connected:

AGENDA ITEM NO.6 – CONSIDERATION AND APPROPRIATE ACTION REGARDING BRIEFINGS ON WORKGROUP ACTIVITIES:

A. CHAPTER 8 POLICY AND LEGISLATIVE RECOMMENDATIONS WORKGROUP

B. RURAL AND COMMUNITY OUTREACH WORKGROUP

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8/1/2024

Agenda Item 6: Consideration and Appropriate Action Regarding Briefings on Workgroup Activities

Workgroup Briefings: Overview

Workgroup	Meeting Dates	Next Steps
Chapter 8 Policy and Legislative Recommendations Workgroup	• April 25 • June 5 • July 10 • Next: August 1	Continue developing Chapter 8 language in future meetings.
Rural Community Outreach Workgroup	• April 25 • June 5 • July 10	Continue rural outreach activities; no additional meetings scheduled currently.

Chapter 8 Policy and Legislative Recommendations Workgroup Activities

- Held two meetings in-person and virtually since the May Regional Water Planning Group (RWPG) meeting: June 5th and July 10th
- Meeting Activities:
  - Discussed new or proposed recommendations to consider including in Chapter 8
  - Reviewed and revised Chapter 8 language
- Next Meeting Scheduled August 1st after the Region L RWPG meeting
- Workgroup will finalize draft Chapter 8 and provide to RWPG for consideration at the November 7th RWPG meeting

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Rural Community Outreach Workgroup Activities

- Held two meetings in-person and virtually since the May RWPG meeting: June 5th and July 10th
- Meeting Activities:
  - Identified and developed water management strategies (WMSs) that could benefit rural entities
  - Developed and finalized methodologies for consideration by RWPG for the following WMSs:
    - Irrigation Conservation
    - Irrigation Drought Management
    - Rainwater Harvesting
  - WMS evaluations are presented in subsequent agenda items
- No additional meetings are currently scheduled

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AGENDA ITEM NO.7 – CONSIDERATION AND APPROPRIATE ACTION REGARDING PRESENTATION BY TECHNICAL CONSULTANT REGARDING SCHEDULE AND PROGRESS UPDATE

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8/1/2024

Agenda Item 7: Consideration and Appropriate Action Regarding Presentation by Technical Consultant Regarding Schedule and Progress Updates

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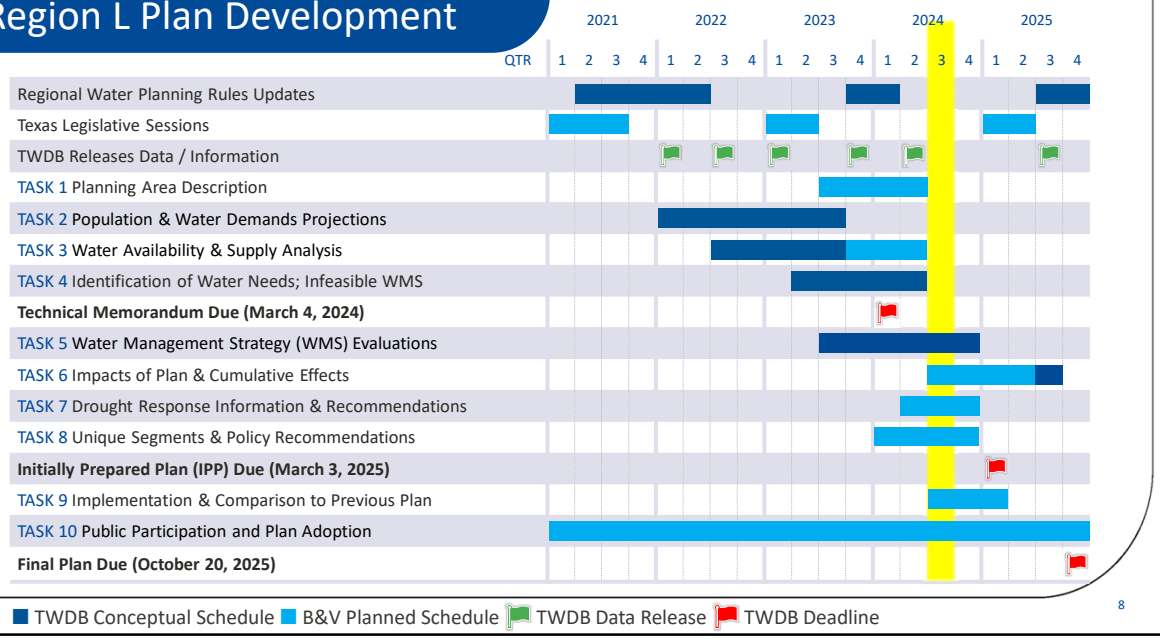
Schedule and Progress Updates – Overview

A. Schedule Progress
B. Update on Completed Efforts
C. Update on New or Ongoing Efforts
D. Drought Contingency Plans Updates
E. Significant Identified Needs Definition
F. Major Water Providers
G. Water Management Strategy (WMS) Updates

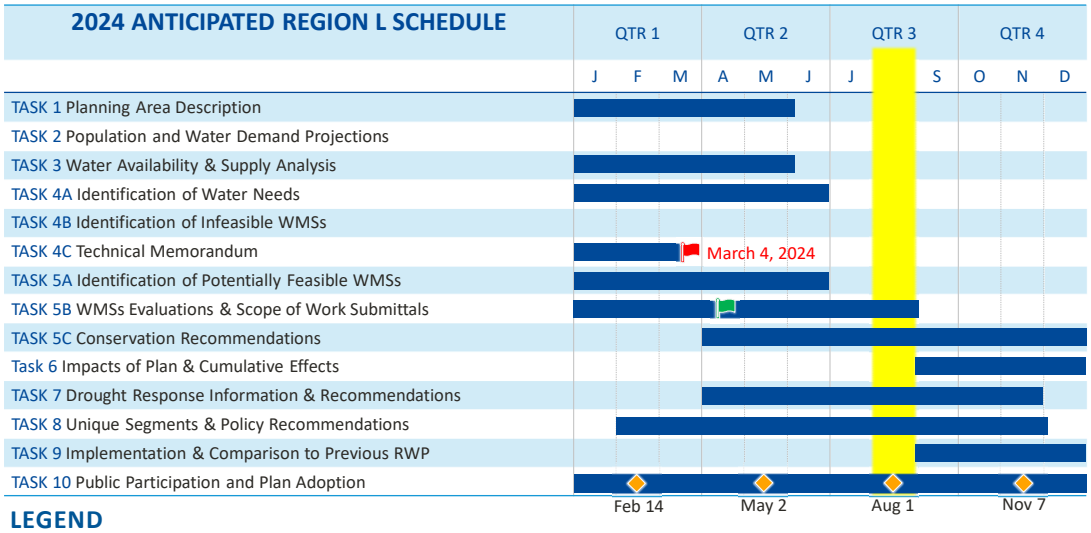
TOPIC A

Schedule Progress

Conceptual Schedule for Region L Plan Development



2024 ANTICIPATED REGION L SCHEDULE



LEGEND

Region L Activities | TWDB Data Release | TWDB Deadline | Region L RWPG Meeting

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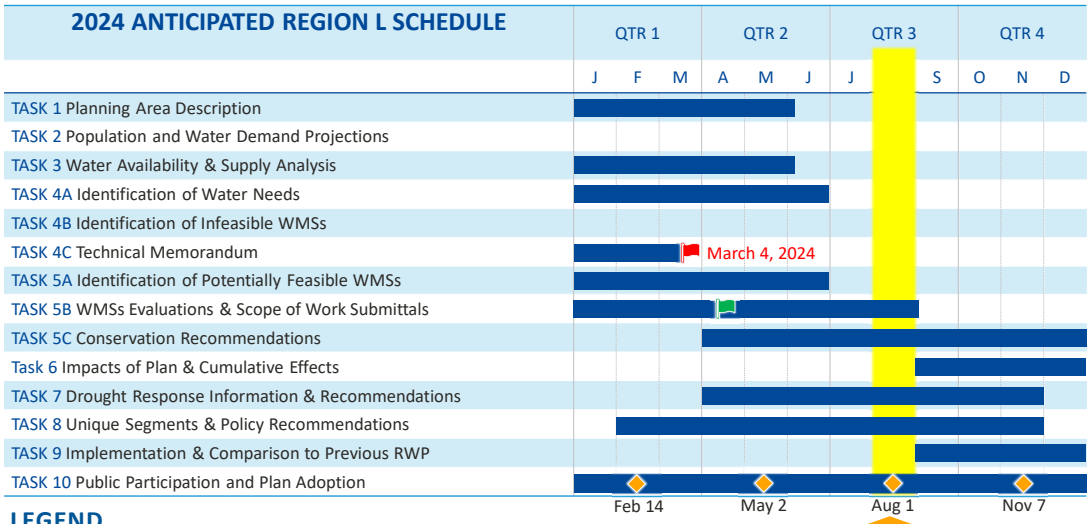
2024 ANTICIPATED REGION L SCHEDULE



LEGEND

Region L A

AUGUST RWPG MEETING TOPICS:

- Updates on WMSs, DCPs, and others

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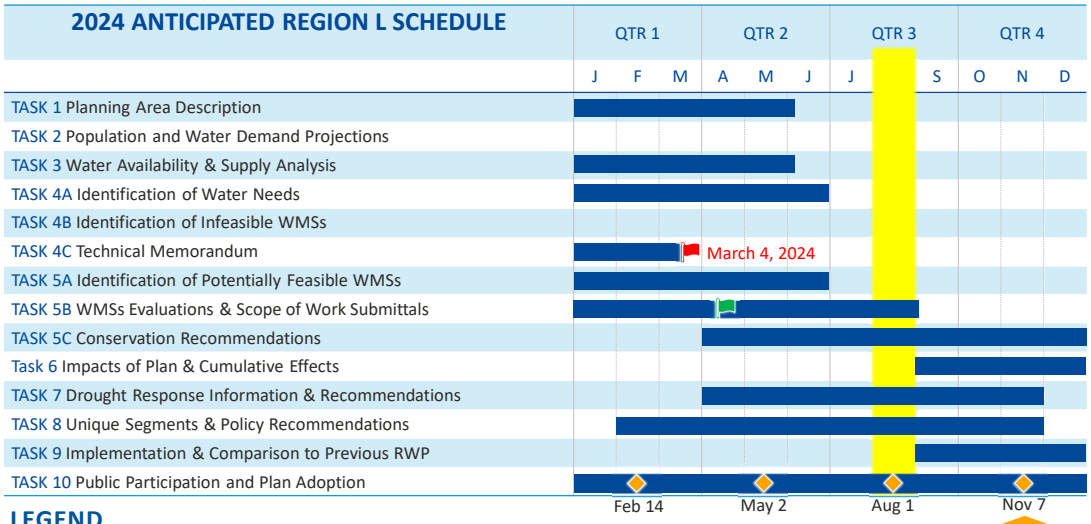
2024 ANTICIPATED REGION L SCHEDULE



LEGEND

■ Region L A

NOVEMBER RWPG MEETING TOPICS:

- Updates on Chapters, WMSs, and others
- RWPG Consider and Recommend WMSs

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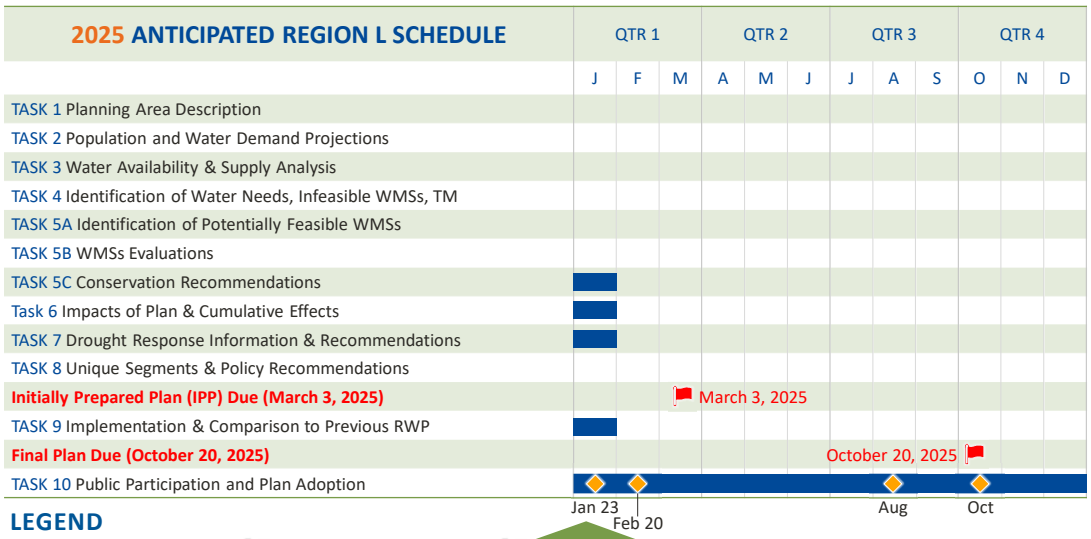
2025 ANTICIPATED REGION L SCHEDULE



LEGEND

JANUARY RWPG MEETING TOPICS:

- Ch. 6 Cumulative Effects Analysis
- Ch. 9 Implementation/Comparison to Prev. RWP
- Updates on any remaining chapters

VPG Meeting

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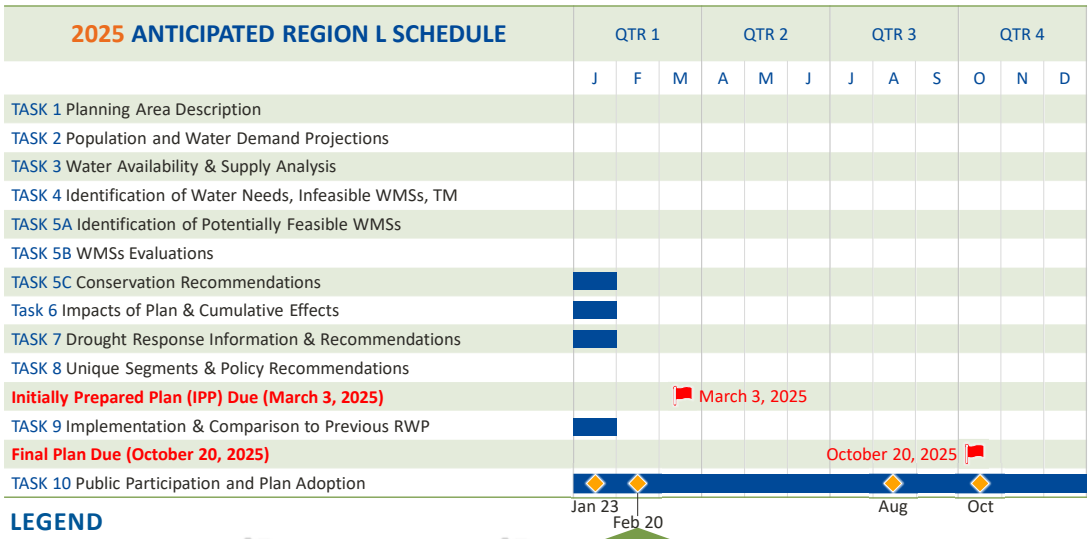
2025 ANTICIPATED REGION L SCHEDULE



LEGEND

■ Region L Activit… …Meeting

FEBRUARY RWPG MEETING TOPICS:

- Adopt IPP

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TOPIC B

Update on Completed Efforts

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Update on Completed Efforts

See Handout A for TWDB's TM Comments

- Completed Water Supplies Identification (Task 3)
  - Sent surveys to water user groups (WUGs) and wholesale water providers (WWPs) soliciting feedback on Existing Water Supplies and future WMSs
  - Met with certain WUGs and WWPs to obtain feedback
  - Completed identification of supplies; minor updates may occur, as needed, before IPP submittal

- Completed Technical Memorandum (Task 4C)
  - Finalized and Submitted to TWDB on March 4th
  - TWDB declared Technical Memorandum Administratively Complete on March 11th
  - TWDB provided informal comments on June 3rd (**See Handout A**)

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Update on Completed Efforts

- Completed development of draft Minor Amendment to the 2021 Regional Water Plan to update the Guadalupe-Blanco River Authority (GBRA) Lower Basin Storage Project
  - Submitted Draft Minor Amendment with a Request for Minor Amendment Determination to TWDB on March 11th
  - TWDB determined amendment to be Minor on April 17th
  - Minor Amendment submitted to TWDB on May 17th
  - TWDB Board to consider approval of Minor Amendment at August 15th Board Meeting

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TOPIC C

Update on New or Ongoing Efforts

Update on New or Ongoing Efforts

- Will Provide Draft Chapters for RWPG review and comment (Tasks 1, 2, 3, and 4)
  - Additional information will be forthcoming via email to RWPG members
- Continuing Evaluations of WMSs (Task 5)
  - Sent emails to sponsors of WMSs in 2021 RWP to request any updates to schedule, approach (yield, infrastructure components, etc.), and others
  - Conducted outreach for submitting new and additional projects
  - Developed and evaluated Block 1 strategies
  - Additional information will be presented in subsequent agenda items
- Began Drafting Chapter 7: Drought Response Information, Activities, and Recommendations (Task 7)
  - Gathering and reviewing Drought Contingency Plans (DCPs)
  - Additional information will be presented in subsequent slides

Update on New or Ongoing Efforts

- Continuing Drafting Chapter 8: Recommendations Regarding Unique Stream Segments and/or Reservoir Sites and Legislative & Regional Policy Issues (Task 8)
  - Workgroup held meetings on April 25th, June 5th, and July 10th
  - Will have additional meetings and present draft Chapter 8 at November 7th RWPG meeting
- Continuing Interregional Coordination Efforts (Task 10)
  - Regular calls with Region K consultant team
  - Connecting with Regions G, N, and P, as needed
- Continuing Rural Outreach (Task 10)
  - Rural Community Outreach Workgroup met on April 25th, June 5th, and July 10th
  - Sent letters to rural entities to provide information about Regional Water Planning in general and to solicit projects for consideration as WMSs
  - TWDB Project Manager (PM) and Technical Consultant PM served on panel for Nueces River Basin Summit to provide information on Regional Water Planning and to encourage engagement

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TOPIC D

Drought Contingency Plans Updates

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Drought Contingency Plans (DCPs)

- Background:
  - Certain entities must prepare DCPs and submit to Texas Commission on Environmental Quality (TCEQ) and RWPGs
  - DCPs updated every five years
  - Submittal deadline to TCEQ was May 1, 2024
- Planning Group must review DCPs and describe Drought Management Measures

Work to Date	Next Steps
• San Antonio River Authority (SARA) provided DCPs to Technical Consultant (BV) • SARA and BV sent reminder emails and called WUGs to request outstanding DCPs • RWPG meetings included updates of outstanding DCPs	• RWPG members are asked to reach out to network to encourage submittal of DCPs • SARA and BV will continue outreach for outstanding DCPs • BV is coordinating with TCEQ to obtain outstanding DCPs • BV will review, evaluate, and present summary of DCPs to RWPG in November

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DCPs Received to Date

37 DCPs Needed

30 DCPs Received

8 Outstanding DCPs

81% Complete

✓ Aqua WSC	✓ County Line SUD	✓ Lockhart	Schertz
✓ Atascosa Rural WSC	✓ Crystal Clear SUD	✓ New Braunfels	✓ Seguin
✓ Benton City WSC	✓ East Central SUD	Oliver Ranch	✓ Selma
✓ Bexar-Medina-Atascosa Counties WCID 1	✓ Goforth SUD	✓ Pleasanton	✓ Springs Hill WSC
✓ Boerne	✓ Gonzales	Plum Creek	Sunilandings Utilities
✓ CRWA	Green Valley SUD	✓ Port Lavaca	Universal City
✓ Canyon Lake Water Service (Texas Water Company)	✓ GBRA	✓ S S WSC	Uvalde
✓ Chaparral Water System Hays	✓ Kendall West Utility (Texas Water Company)	✓ SAWS	✓ Victoria
✓ Cibolo	✓ Kyle	✓ San Marcos	Victoria County WCID 1
✓ Converse			

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TOPIC E

Significant Identified Needs Definition

Significant Identified Needs: Background

Background:

- The TWDB requires RWPGs to provide a specific assessment in the plan of the potential for aquifer storage and recovery (ASR) projects to meet **"significant identified needs"**
- RWPGs must choose a region-specific definition, usually through identifying a threshold (volume, ranking, percentage, etc.)

In the 2021 Plan, the SCTRWPG:

- **Defined significant identified needs as:**
  - a WUG or use type with an identified need of 10,000 ac-ft/yr or greater.
- **Identified the following WUGs:**
  - New Braunfels (NBU)
  - San Antonio Water System (SAWS)
  - San Marcos
  - Victoria
  - Mining
  - Irrigation

Options for Defining Significant Identified Needs

RWPG Action Needed:

Which option does the Region L RWPG select to be the threshold for Significant Identified Needs?

Option 1: Needs > 10,000 acft/yr by 2080	**Option 2:** Municipal Needs > 10,000 acft/yr by 2080	**Option 3:** Municipal Needs > 15,000 acft/yr by 2080	**Option 4:** Municipal Needs > 20,000 acft/yr by 2080
16 WUGs: •New Braunfels •County-Other, Hays •Manufacturing, Victoria •San Antonio Water System •Irrigation, Medina •Canyon Lake Water Service •Irrigation, Uvalde •County-Other, Comal •San Marcos •Crystal Clear SUD •Goforth SUD •Irrigation, Zavala •Fort Sam Houston •Boerne •Mining, Comal •County Line SUD	**11 WUGs:** •New Braunfels •County-Other, Hays •San Antonio Water System •Canyon Lake Water Service •County-Other, Comal •San Marcos •Crystal Clear SUD •Goforth SUD •Fort Sam Houston •Boerne •County Line SUD	**8 WUGs:** •New Braunfels •County-Other, Hays •San Antonio Water System •Canyon Lake Water Service •County-Other, Comal •San Marcos •Crystal Clear SUD •Goforth SUD	**3 WUGs:** •New Braunfels •County-Other, Hays •San Antonio Water System

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TOPIC F

Major Water Providers (MWPs) Definition

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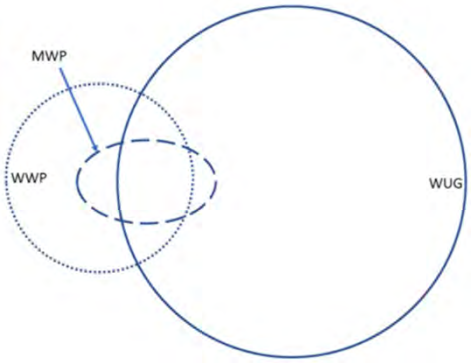
Major Water Providers (MWPs): Background

Per 31 TAC §357.10(19) a Major Water Provider is:

"A WUG or WWP of **particular significance** to the region's water supply as determined by the regional water planning group. This may include public or private entities that provide water for any water use category."



The RWPG's designation of MWPs will not change the role of the entity in the RWP. Information about the MWPs will be summarized in 'snapshots' in the RWP.

224 total WUGs and WWPs in Region L

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2021 Plan: Major Water Providers

- 2021 Plan's Definition: All wholesale water providers (WWPs) and any municipal water user group (WUG) with more than 20,000 acft/yr in demands.

San Antonio Water System (SAWS)	Cibolo Valley Local Government Corporation (CVLGC)	San Marcos
Guadalupe-Blanco River Authority (GBRA)	Alliance Regional Water Authority (ARWA)	New Braunfels (NBU)
Canyon Regional Water Authority (CRWA)	Schertz-Seguin Local Government Corporation (SSLGC)	Victoria

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Options to Designate Major Water Providers

RWPG Action Needed:

Which water providers does the Region L RWPG select to be Major Water Providers?

Option 1:
Retain Existing MWPs

9 Entities:

- ARWA (WWP)
- CRWA (WWP)
- CVLGC (WWP)
- GBRA (WUG/WWP)
- NBU (WUG/WWP)
- San Marcos (WUG/WWP)
- SAWS (WUG/WWP)
- SSLGC (WWP)
- Victoria (WUG)

Option 2:
Entities with 2080 Demands > 20,000 acft/yr

9 Entities:

- 2 WWPs:
  - CRWA
  - GBRA
- 7 WUGs or WUGs/WWPs:
  - Boerne
  - Canyon Lake Water Service
  - Crystal Clear SUD
  - Goforth SUD
  - NBU
  - SAWS
  - San Marcos

Option 3:
Entities with 2080 Demands > 30,000 acft/yr

5 Entities:

- 1 WWP:
  - GBRA
- 4 WUGs or WUGs/WWPs:
  - Canyon Lake Water Service
  - NBU
  - SAWS
  - San Marcos

Option 4:
WWPs with 2080 Demands > 10,000 acft/yr + WUGs/WWPs with 2080 Demands > 30,000 acft/yr

8 Entities:

- 4 WWPs w/ Contract Demands > 10,000 acft/yr:
  - ARWA
  - CRWA
  - GBRA
  - SSLGC
- 4 WUGs or WUGs/WWPs with Demands > 30,000 acft/yr:
  - Canyon Lake Water Service
  - NBU
  - SAWS
  - San Marcos

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TOPIC G

Water Management Strategy (WMS) Updates

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Schedule for Providing Project Information

Activity	Date
~~Initiate process to add a new project or WMS~~	~~July 1, 2024~~
Provide all information to Technical Consultant for WMS evaluation	September 2, 2024
Presentation to RWPG of all WMSs	November 7, 2024

Technical Consultant Information to Add a WMS:

Lauren Gonzalez
GonzalezL@bv.com
512-782-4914

We cannot guarantee we will be able to include a WMS in the 2026 Plan if information is provided after the deadlines

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List of WMSs Identified to Date

1. Advanced Water Conservation
2. Non-municipal Water Conservation
3. Drought Management
4. Edwards Transfers
5. Fresh Groundwater Development
6. Brackish Groundwater Development
7. Groundwater Conversions
8. Facilities Expansion
9. Recycled Water Strategies
10. Brush Management
11. Rainwater Harvesting
12. Surface Water Rights
13. Balancing Storage
14. ARWA Expanded Carrizo-Wilcox Project (Phase 2)
15. ARWA DPR Project (Phase 3)
16. CRWA Expanded Brackish Carrizo-Wilcox Project
17. CRWA Siesta Project
18. CRWA Wells Ranch Project (Phase 3)
19. CVLGC Carrizo Project
20. GBRA Lower Basin New Appropriation
21. GBRA WaterSECURE
22. Medina County Regional ASR Project
23. NBU ASR Project
24. NBU Trinity Well Field Expansion
25. SAWS Expanded Local Carrizo Project
26. SAWS Expanded Brackish Groundwater Project
27. SAWS Regional Wilcox Project
28. SSLGC Expanded Brackish Wilcox Project
29. SSLGC Expanded Carrizo Project
30. Victoria ASR Project
31. Victoria Groundwater-Surface Water Exchange
32. **Additional WMSs, As Necessary**

All strategies must be evaluated to quantify the net quantity, reliability, cost, and impacts on environmental factors and agricultural resources.

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Timeline and Process for WMS Evaluations

August Meeting

- Presentation of Block 1 WMSs
- SCTRWPG provides input on methodology for certain WMSs

November Meeting

- Presentation of Block 2 WMSs
- SCTRWPG considers which WMSs to add as Recommended or Alternative WMSs

January Meeting

- Presentation of Cumulative Effects Analysis

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Presentation of WMSs in Two Blocks

1. Advanced Water Conservation
2. Non-municipal Water Conservation
3. Drought Management
4. Edwards Transfers
5. Fresh Groundwater Development
6. Brackish Groundwater Development
7. Groundwater Conversions
8. Facilities Expansion
9. Recycled Water Strategies
10. Brush Management
11. Rainwater Harvesting
12. Surface Water Rights
13. Balancing Storage
14. ARWA Expanded Carrizo-Wilcox Project (Phase 2)
15. ARWA DPR Project (Phase 3)
16. CRWA Expanded Brackish Carrizo-Wilcox Project
17. CRWA Siesta Project
18. CRWA Wells Ranch Project (Phase 3)
19. CVLGC Carrizo Project
20. GBRA Lower Basin New Appropriation
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22. Medina County Regional ASR Project
23. NBU ASR Project
24. NBU Trinity Well Field Expansion
25. SAWS Expanded Local Carrizo Project
26. SAWS Expanded Brackish Groundwater Project
27. SAWS Regional Wilcox Project
28. SSLGC Expanded Brackish Wilcox Project
29. SSLGC Expanded Carrizo Project
30. Victoria ASR Project
31. Victoria Groundwater-Surface Water Exchange
32. Additional WMSs, As Necessary

Legend

Block 1: August RWPG Meeting Presentation

Block 2: November RWPG Meeting Presentation

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Presentation of Block 1 WMS Evaluations

Important Disclaimers and Notes:

- All WMSs are evaluated uniformly.
- All summaries of WMSs are in DRAFT form and are subject to change.
- Location maps include hypothetical locations of facilities for regional planning purposes only as it relates to planning-level cost estimates. The locations shown on the maps are conceptual in nature and are not meant to represent actual locations of facilities. Facilities sitings are subject to studies, designs, engineering, and/or contract negotiations to be determined by the project's sponsor at a later date.
- Several strategies are new and are indicated as such.
- Several strategies are carried forward from 2021 Region L Regional Water Plan. WMS changes or updates are indicated in red text within each WMS evaluation summary.
- Status of state and federally listed species and proposed listings

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F. Water Management Strategy (WMS) Updates, Draft WMS Evaluations

1. Advanced Water Conservation

1. Advanced Water Conservation

- **Description:** WMS includes active conservation measures that conserve water ***over and beyond passive water conservation measures***, which stem from federal and state legislation requiring water efficient plumbing fixtures in new building construction and replacement.

- **Requirements:** TWDB requires RWPGs to:
  - Recommend gallons per capita per day (GPCD) goals for each municipal WUG or specified groupings of municipal WUGs for each planning decade
  - Consider active water conservation measures for WUGs and WWP WUG customers with identified water Needs;
  - Consider WMSs to address any issues identified in the TWDB water loss audits; and
  - Distinguish and separate conservation strategies/projects as to whether they are:
    - 1) Water Loss Mitigation; or
    - 2) Water Use Reduction.

Draft

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1. Advanced Water Conservation

Water Loss Mitigation

- Capital Improvements
  - Leak Detection and Repair
- Non-Capital Mitigation
  - Utility water loss audits
  - Irrigation Evaluations
  - Speed & Quality of Repair
  - Subsidized customer-side service line repairs

Water Use Reduction

- Capital Improvements
  - Advanced Metering Infrastructure
- Non-Capital Reductions
  - Additional passive conservation through Low Flow Plumbing Fixtures
  - Outdoor water restrictions
  - Customer behavioral engagement software
  - Permanent landscape watering schedule
  - Landscape standards
  - Public outreach and education programs
  - Tiered water rates

Draft

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1. Advanced Water Conservation

- **Methodology for WMS in 2026 Plan:**
  1. **Goals:** Identify Region L-specific goals for all municipal WUGs[1] for each planning decade
     - Region L-specific GPCD Goals are similar to the 2021 Region L Plan[2], as follows:
       - GPCD > 140: Apply a 10% Decadal Reduction in GPCD
       - GPCD < 140: Apply a 2.5% Decadal Reduction in GPCD
       - GPCD < 80: Apply a 0% Decadal Reduction in GPCD (i.e., retain existing GPCD)[3]
  2. **Yield:** Consider applying Advanced Water Conservation WMS for all municipal WUGs by determining the WMS savings (yield) that would be realized by meeting the GPCD goal (next slide)

Notes:

[1] San Antonio Water System (SAWS) chose to develop utility-specific conservation goals

[2] Goals are based on a recommendation from the Water Conservation Implementation Task Force (WCITF) to have a GPCD goal of 140 GPCD

[3] Four WUGs had GPCDs less than 80: County Line SUD (77.0), East Medina County SUD (76.2), Port O'Connor Improvement District (64.9), and Randolph Air Force Base (60.0).

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1. Advanced Water Conservation

- **Yield:**
  - Savings (in acft/yr) for each WUG in each decade were calculated by applying the Region L-specific GPCD goal and then separating the components based on whether they are:
    - 1) **Water Loss Mitigation: Leak Detection and Repair;**
    - 2) **Water Use Reduction: Advanced Metering Infrastructure (AMI); or**
    - 3) **Water Use Reduction: Non-Capital**

Notes:

[1] San Antonio Water System (SAWS) chose to develop utility-specific conservation savings

[2] Advanced Water Conservation is not recommended for the four WUGs that have GPCDs < 80

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1. Advanced Water Conservation

See Handout B for breakout by WUG

Project Description

Demand reduction associated with active conservation measures that conserve water over and beyond passive water conservation measures

- Project Sponsor(s): Municipal WUGs with GPCDs > 80
- Implementation Decade: 2030
- Source: Demand reduction
- Yield: Calculated by applying decadal savings based on each WUG's GPCD goals
- Components: Data gathering and monitoring technology; Audit; Distribution system water loss mitigation

	Municipal Water Savings (acft/yr)					
	2030	2040	2050	2060	2070	2080
Region L Total	16,664	34,387	56,791	79,548	105,701	136,306

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F. Water Management Strategy (WMS) Updates, Draft WMS Evaluations

2. Non-Municipal Water Conservation

2. Non-Municipal Water Conservation: Irrigation

Issues

- 13 Counties with Irrigation Needs
  1. Bexar
  2. Caldwell
  3. Calhoun
  4. Dimmit
  5. Goliad
  6. Guadalupe
  7. Karnes
  8. La Salle
  9. Medina
  10. Uvalde
  11. Victoria
  12. Wilson
  13. Zavala
- Total Irrigation Needs (2080): 72,074 acft/yr
- Majority of Needs are in the Nueces River Basin: 58,847 acft/yr

Solutions

- Add New Strategies into the 2026 Plan to Address Irrigation Needs
  - Identify appropriate irrigation measures/strategies for counties with Needs
  - Develop methodology to determine water savings (yields) and costs
  - Evaluate impacts of strategies on natural resources

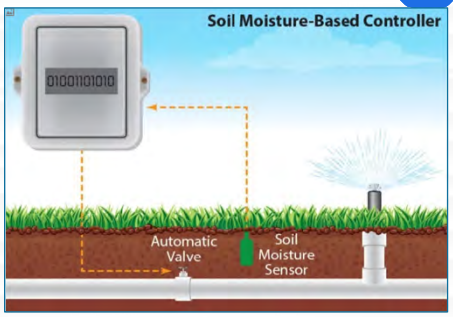
2. Non-Municipal Water Conservation: Irrigation

New in 2026 Plan

Project Description

Demand reduction associated with irrigation-related conservation measures

- Project Sponsor(s): Irrigation WUGs demonstrating needs
- Implementation Decade: 2030
- Source: Demand reduction
- Yield: Calculated by summing the water savings from implementing three different conservation measures (shown below as A, B, and C).
- Components: Data gathering and monitoring technology; Cropping and management practices



A. Soil Moisture Monitoring and Irrigation Scheduling + **B.** Real-time Use Metering and Monitoring + **C.** Soil Conservation Tillage = Irrigation Conservation WMS

2. Non-Municipal Water Conservation: Irrigation

	A. Soil Moisture Monitoring & Irrigation Scheduling	B. Real-time Use Metering and Monitoring	C. Soil Conservation Tillage	Total (A + B + C)
Implementation	10% of planted acres would implement strategy by 2030, 3% of planted acres would implement strategy from 2040-2080	3% of planted acres would implement strategy per decade	Decadal increase of 6% until 95% of all irrigated acreage practices some sort of conservation tillage	N/A
Water Savings	10% savings for applied acres	10% savings for applied acres	1.75 ac-in/ac	N/A
2080 Region L Yields	5,289 acft/yr	3,807 acft/yr	6,375 acft/yr	15,471 acft/yr
Cost Assumptions	$1,000 per sensor, 1 sensor per 10 acres (10-year life)	$6,000 per meter, 1.5 meters per farm (20-year life)	None	$336/acft
Total Project Costs	$19,993,000	$20,767,000	$0	$40,758,000

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2. Non-Municipal Water Conservation: Irrigation

No.	County	Yield or Water Savings (acft/yr)					
		2030	2040	2050	2060	2070	2080
1	Bexar	222	362	501	640	757	874
2	Caldwell	13	21	29	37	44	51
3	Calhoun	156	239	322	406	481	558
4	Dimmit	85	136	188	240	284	327
5	Goliad	69	117	164	212	250	287
6	Guadalupe	17	28	37	48	57	67
7	Karnes	19	31	43	55	66	75
8	La Salle	82	134	184	237	279	322
9	Medina	1,042	1,701	2,359	3,017	3,566	4,115
10	Uvalde	1,050	1,731	2,413	3,094	3,654	4,215
11	Victoria	177	276	375	474	562	651
12	Wilson	246	399	552	704	833	962
13	Zavala	767	1,235	1,704	2,173	2,571	2,967
TOTAL		3,945	6,410	8,871	11,337	13,404	15,471

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Project Cost Estimate Summary

2. Non-Municipal Water Conservation: Irrigation

WMS Cost Summary	
Cost of Facilities	$ 29,241,000
Total Project Costs	$ 40,758,000
Annual Costs*	$ 5,193,000
Project Yield (acft/yr)	15,471
Unit Costs ($/acft/yr)	$ 336

* Includes debt service amortization at 3.5% for 20 years, O&M, and power costs

- September 2023 dollars
- Developed using Uniform Costing Model (UCM) from TWDB
- Includes capital costs, annual debt service, operation and maintenance and environmental mitigation

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F. Water Management Strategy (WMS) Updates, Draft WMS Evaluations

3. Drought Management
- Municipal
- Irrigation

3. Drought Management: Municipal

Project Description

- Demand reduction associated with activation of drought contingency plan and/or water restrictions
- Project Sponsor(s): Various
  - WUGs or WUG/WWPs with municipal Needs in any decade from 2030 to 2080 (except County-Other); and
  - WUGs or WUG/WWPs with municipal demands that are required to submit a DCP
- Implementation Decade: 2030
- Source: Demand reduction
- Yield: Varies based on chosen scenario
- Components: None

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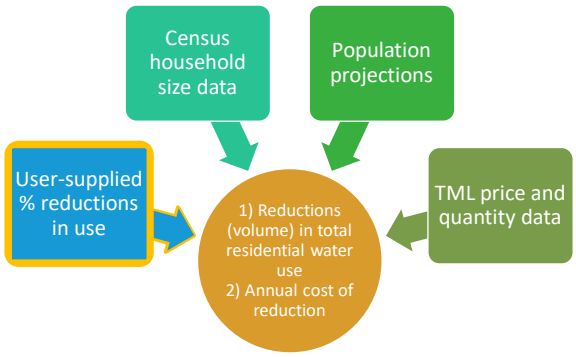
3. Drought Management: Municipal - Costing Tool

- TWDB provided the updated Drought Management Costing Tool in March 2024
- Tool estimates the economic and hydrological impact of reductions due to drought WMS
  - Yield is the total annual reduction of all household water use due to drought management plan implementation
  - Cost is total annual cost of foregone water use
- Tool evaluates:
  - Household size
  - Projected population
  - WUG-specific water use and price data
  - User-determined reduction in water use
- RWPG Input Needed: four scenarios for SCTRWPG to consider



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3. Drought Management: Municipal, Yields Four Scenarios for RWPG Consideration (1 of 2)

Yield (acft/yr) Based on Percent Use Reduction Scenario								
		5%		10%		15%		20%	
No.	County*	2030	2080	2030	2080	2030	2080	2030	2080
1	Atascosa	184	263	367	525	551	787	736	1,048
2	Bexar**	961	1,353	1,922	2,702	2,883	4,053	3,845	5,409
3	Caldwell	265	803	531	1,607	794	2,408	1,060	3,210
4	Calhoun	86	85	170	170	256	255	341	341
5	Comal	1,238	4,302	2,478	8,602	3,716	12,905	4,956	17,205
6	DeWitt	38	37	76	75	114	112	153	150
7	Dimmit	2	4	3	9	5	13	7	17
8	Frio	37	48	74	96	111	145	148	193
9	Gonzales	24	22	48	45	72	67	96	90

** Goliad, La Salle, Refugio, and Zavala Counties do not have any WUGs with the Drought Management WMS*
*** Bexar County Yields do not include San Antonio Water System (SAWS), which chose to develop utility-specific yields*

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3. Drought Management: Municipal, Yields Four Scenarios for RWPG Consideration (2 of 2)

Yield (acft/yr) Based on Percent Use Reduction Scenario								
		5%		10%		15%		20%	
No.	County*	2030	2080	2030	2080	2030	2080	2030	2080
10	Guadalupe	880	1,738	1,761	3,474	2,640	5,211	3,521	6,947
11	Hays	1,523	4,811	3,047	9,621	4,571	14,432	6,096	19,241
12	Karnes	45	55	89	111	134	168	178	223
13	Kendall	115	432	231	864	346	1,295	462	1,727
14	Medina	142	175	281	350	423	525	563	700
15	Uvalde	68	58	135	116	203	174	271	233
16	Victoria	341	342	681	684	1,022	1,025	1,362	1,367
17	Wilson	124	227	247	454	371	681	497	907
REGION L TOTAL		**6,073**	**14,755**	**12,141**	**29,505**	**18,212**	**44,256**	**24,292**	**59,008**

** Goliad, La Salle, Refugio, and Zavala Counties do not have any WUGs with the Drought Management WMS*

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Environmental & Cultural Considerations

3. Drought Management: Municipal

Vegetation, Land Use, & Agricultural Resources 0

- Temporary drying or dormancy of residential lawns

Aquatic Resources 0

- N/A – None

Threatened, Endangered, & Species of Concern 0

- N/A – None

Cultural Considerations 0

- N/A – None

ASSESSMENT RATING LEGEND

0 N/A

1 Minimal concerns; precautions recommended

2 Additional studies recommended

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3. Drought Management: Municipal, Costs Four Scenarios for RWPG Consideration (1 of 2)

Costs (2023 Dollars) Based on Percent Use Reduction Scenario									
		5%		10%		15%		20%	
No.	County*	Avg. Unit $	2080 Total Annual $	Avg. Unit $	2080 Total Annual $	Avg. Unit $	2080 Total Annual $	Avg. Unit $	2080 Total Annual $
1	Atascosa	152	44,164	320	186,470	508	444,236	720	839,113
2	Bexar**	132	171,085	279	722,358	443	1,720,915	628	3,250,616
3	Caldwell	133	103,009	280	434,929	444	1,036,154	629	1,957,181
4	Calhoun	137	11,306	289	47,739	459	113,733	651	214,828
5	Comal	128	469,990	269	1,984,407	428	4,727,557	606	8,929,828
6	DeWitt	124	4,623	261	19,519	414	46,501	587	87,835
7	Dimmit	157	684	331	2,888	526	6,880	745	12,996
8	Frio	124	5,958	261	25,154	414	59,926	587	113,194
9	Gonzales	103	2,311	217	9,759	345	23,250	489	43,917

** Goliad, La Salle, Refugio, and Zavala Counties do not have any WUGs with the Drought Management WMS*
*** Bexar County Costs do not include San Antonio Water System (SAWS), which chose to develop utility-specific yields*

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3. Drought Management: Municipal, Costs Four Scenarios for RWPG Consideration (2 of 2)

Costs (2023 Dollars) Based on Percent Use Reduction Scenario									
		5%		10%		15%		20%	
No.	County	Avg. Unit $	2080 Total Annual $	Avg. Unit $	2080 Total Annual $	Avg. Unit $	2080 Total Annual $	Avg. Unit $	2080 Total Annual $
10	Guadalupe	146	250,406	308	1,057,269	488	2,518,789	692	4,757,713
11	Hays	138	662,876	291	2,798,815	461	6,667,764	654	12,594,663
12	Karnes	123	7,000	258	29,557	410	70,416	582	133,007
13	Kendall	145	57,855	306	244,275	485	581,949	687	1,099,237
14	Medina	130	23,529	275	99,350	437	236,682	619	447,067
15	Uvalde	63	3,636	132	15,350	210	36,570	297	69,076
16	Victoria	119	28,152	251	118,862	399	283,173	565	534,882
17	Wilson	141	28,867	296	121,884	470	290,370	666	548,479
REGION L TOTAL			**1,875,287**		**7,918,585**		**18,864,865**		**35,633,632**
** Goliad, La Salle, Refugio, and Zavala Counties do not have any WUGs with the Drought Management WMS*									

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3. Drought Management: Municipal, SAWS-Specific Savings

	2030	2040	2050	2060	2070	2080
SAWS Total Demand (acft/yr)	268,649	298,339	316,699	330,991	342,110	358,791
% Reduction	10%	10%	10%	10%	10%	10%
DM Yield (acft/yr)	26,865	29,834	31,670	33,099	34,211	35,879
Total Annual Cost (2023 $)	6,515,377	7,235,427	7,680,699	8,027,264	8,296,950	8,701,478

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3. Drought Management: Municipal, Four Reduction Scenarios for RWPG Consideration

RWPG Action Needed:

Which reduction scenario does the Region L RWPG choose to pursue?

	5% Reduction		10% Reduction		15% Reduction		20% Reduction	
	Yield (acft/yr)	Costs ($)	Yield (acft/yr)	Costs ($)	Yield (acft/yr)	Costs ($)	Yield (acft/yr)	Costs ($)
Average	146	18,647	292	78,732	438	187,567	584	354,294
Minimum	2	270	3	1,141	5	2,718	7	5,135
Maximum	2,160	221,343	4,319	934,561	6,479	2,226,454	8,639	4,205,524
Total for Region L	**14,755**	**1,875,451**	**29,505**	**7,918,585**	**44,256**	**18,864,865**	**59,008**	**35,633,632**

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3. Drought Management: Irrigation

New in 2026 Plan

Project Description

Demand reduction associated with irrigation-related, voluntary reductions of groundwater(GW) during severe drought conditions

- Project Sponsor(s):
  - Irrigation WUGs demonstrating needs that do not fall under EAA's jurisdiction
- Implementation Decade: 2030
- Source: Demand reduction
- Yield: 10% Reduction of Groundwater Use
- Components: None
- Costs:
  - No capital costs are associated with this strategy; however, costs will be determined using the TWDB Socioeconomic Impact Analysis of Unmet Needs for the 2026 Region L Water Plan, which will show an impact cost to the local economy based on the missed opportunity to grow agriculture. Unit costs will vary by county.

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Demand Reduction (Yield) by WUG

3. Drought Management: Irrigation

No.	County	% Demand Met by Groundwater	Demand Expected to be met by GW (acft/yr)	Water Demand Reduction, Based on 10% GW Use Reduction (acft/yr)					
				2030	2040	2050	2060	2070	2080
1	Caldwell	100%	680	34	34	34	34	34	34
2	Calhoun	100%	10,460	1,046	1,046	1,046	1,046	1,046	1,046
3	Dimmit	40%	1,886	189	189	189	189	189	189
4	Goliad	100%	3,126	313	313	313	313	313	313
5	Guadalupe	60%	564	28	28	28	28	28	28
6	Karnes	90%	820	82	82	82	82	82	82
7	La Salle	88%	3,939	394	394	394	394	394	394
8	Victoria	100%	11,092	1,109	1,109	1,109	1,109	1,109	1,109
9	Wilson	92%	12,232	1,223	1,223	1,223	1,223	1,223	1,223
10	Zavala	100%	42,574	4,257	4,257	4,257	4,257	4,257	4,257
REGION L TOTAL				8,675	8,675	8,675	8,675	8,675	8,675

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Environmental & Cultural Considerations

3. Drought Management: Irrigation

Vegetation, Land Use, & Agricultural Resources 0

- Temporary drying or dormancy of crops

Aquatic Resources 0

- N/A - None

Threatened, Endangered, & Species of Concern 0

- N/A - None

Cultural Considerations 0

- N/A - None

ASSESSMENT RATING LEGEND

0 N/A

1 Minimal concerns; precautions recommended

2 Additional studies recommended

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F. Water Management Strategy (WMS) Updates, Draft WMS Evaluations

11. Rainwater Harvesting

11. Rainwater Harvesting

New in 2026 Plan

Project Description

Demand reduction on a whole-WUG level that is associated with residential users collecting the run-off from a structure or other impervious surface to store for later use

- Project Sponsor(s): As requested by WUG
  - Boerne, Kirby, Kyle, Leon Valley, Port Lavaca, and Poteet
- Implementation Decade: 2040
- Source: Demand reduction (on treated municipal supplies)
- Yield: Varies based on WUG
- Components: Rainwater harvesting system

Image Source: TWDB

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Demand Reduction (Yield) by WUG

11. Rainwater Harvesting

Yield Assumptions:

- 10% of households (one catchment area per household) will implement small-scale rainwater harvesting starting in 2040
- A catchment area of 2,000 square feet yields about 1,000 gallons for 1 inch of rainfall
- Storage capacity limitation of 2,000 gallons/household

WUG	County	Basin	Yield (acft/yr)					
			2030	2040	2050	2060	2070	2080
Boerne	Kendall	San Antonio	-	51	69	90	114	141
Kirby	Bexar	San Antonio	-	16	16	16	16	16
Kyle	Hays	Guadalupe	-	132	180	201	208	214
Leon Valley	Bexar	San Antonio	-	28	28	28	28	28
Port Lavaca	Calhoun	Lavaca-Guadalupe	-	17	17	17	17	17
Poteet	Atascosa	Nueces	-	3	3	3	3	3
REGION L TOTAL			-	247	313	355	386	419

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Environmental & Cultural Considerations

11. Rainwater Harvesting

Vegetation, Land Use, & Agricultural Resources 0

- Small footprint of infrastructure; no significant environmental or energy consumption impacts

Aquatic Resources 0

- Reduces runoff, which may improve stormwater water quality and flood impacts during significant storm events
- Conserves and reduces use of surface water or groundwater for residential irrigation

Threatened, Endangered, & Species of Concern 0

- N/A - none

Cultural Considerations 0

- N/A - none

ASSESSMENT RATING LEGEND

0 N/A

1 Minimal concerns; precautions recommended

2 Additional studies recommended

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Project Cost Estimate Summary

11. Rainwater Harvesting

One household system = $8,000

WUG	Cost of Facilities	Annual Costs*	2080 Project Yield (acft/yr)	Unit Costs ($/acft/yr)
Boerne	$ 29,856,000	$ 3,590,000	141	$ 25,461
Kirby	$ 3,144,000	$ 378,000	16	$ 23,625
Kyle	$ 41,760,000	$ 5,021,000	214	$ 23,463
Leon Valley	$ 5,480,000	$ 659,000	28	$ 23,536
Port Lavaca	$ 3,296,000	$ 396,000	17	$ 23,294
Poteet	$ 632,000	$ 76,000	3	$ 25,333

* Includes debt service amortization at 3.5% for 10 years

- September 2023 dollars
- Developed using Uniform Costing Model (UCM) methodology from TWDB
- Includes capital costs and annual debt service

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F. Water Management Strategy (WMS) Updates, Draft WMS Evaluations

12. Surface Water Rights

12. Surface Water Rights

Project Description

Develop or enhance water supplies through lease or purchase of existing water rights with consumptive use and/or impoundment authorizations (does not address applications for new surface water appropriations; only maximizes beneficial use of existing surface water rights).

Included as a WMS to explicitly recognize that the following activities are consistent with the 2026 SCTRWP:
- Transfer of water rights are consistent with 2026 SCTRWP if between willing sellers and buyers.
- Additions of diversion points or types and places of use for existing surface water rights.

- Project Sponsor(s): As requested by WUG; None currently.
- Implementation Decade: N/A – None currently.
- Source: N/A – None currently.
- Yield: N/A – None currently. Would be determined by applicable water availability model (WAM), which accounts for relative seniority, authorized annual divers, types of use, maximum diversion rate, instream flow requirements, physical location, and authorized storage
- Components: None currently.
- Costs: N/A – None currently. Costs would be variable due to the potential transactions between willing buyers and sellers

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F. Water Management Strategy (WMS) Updates, Draft WMS Evaluations

13. Balancing Storage

13. Balancing Storage

Project Description

Develop storage facilities to store surplus flows during high flows for use during drought. Included as WMS to explicitly recognize that storage is needed to:

- Firm up supplies from run-of-river diversions or interruptible groundwater sources
- Ensure that supplies delivered through long distance conveyance facilities are available to meet daily and seasonal demands

- Project Sponsor(s): As requested by WUG; None currently.
- Implementation Decade: N/A – None currently.
- Source: N/A – None currently.
- Yield: N/A – None currently. Would be determined by applicable water availability model (WAM), groundwater availability model (GAM) or other TWDB-authorized model/tool.
- Components: None currently.
- Costs: N/A – None currently. Costs would be variable due to specific project needs

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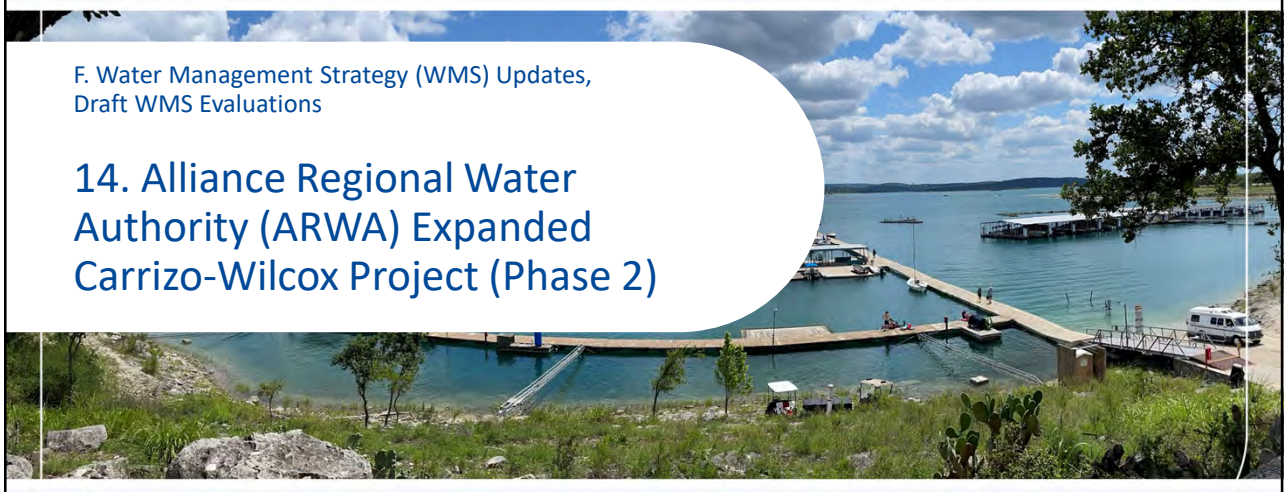


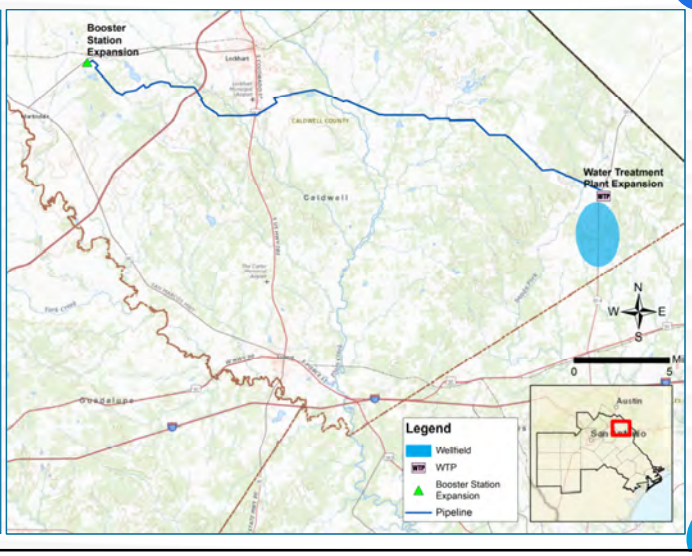
F. Water Management Strategy (WMS) Updates, Draft WMS Evaluations

14. Alliance Regional Water Authority (ARWA) Expanded Carrizo-Wilcox Project (Phase 2)

14. Alliance Regional Water Authority (ARWA) Expanded Carrizo-Wilcox Project (Phase 2)

Project Description

- Project Sponsor(s): ARWA
- Source: Groundwater from the Carrizo-Wilcox Aquifer in Caldwell County
- Yield: 21,000 acft/yr
- Components:
  - Well field (wells, pumps, pipelines)
  - Water treatment plant expansion (28 MGD)
  - Transmission pipeline (28-mile, 48-inch diameter parallel pipeline)
  - Booster pump station expansion
  - Two 10 MG ground storage tanks



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Environmental & Cultural Considerations

14. ARWA Expanded Carrizo-Wilcox Project (Phase 2)

Vegetation, Land Use, & Agricultural Resources — 2

- Permanent conversion of woody vegetation to pipeline easement and well field
- Opportunity to plant native herbaceous species which are beneficial to native wildlife

Aquatic Resources — 2

- Pipeline crosses multiple stream segments and floodplains, including an impaired stream segment
- Project will require on-site delineation of streams; additional studies recommended

Threatened, Endangered, & Species of Concern — 2

- Suitable habitat may occur for federally endangered whooping crane, federally threatened black rail, proposed endangered tricolored bat, freshwater mussels, monarch butterfly, and several state listed threatened species
- Site-specific assessments for whooping crane, black rail, tricolored bat, and other state-listed species will be required

Cultural Considerations — 2

- The likelihood of encountering unidentified archaeological resources varies by landforms
- Structured cultural resources survey of the final design plan is recommended

ASSESSMENT RATING LEGEND

- 0 — N/A
- 1 — Minimal concerns; precautions recommended
- 2 — Additional studies recommended

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Project Cost Estimate Summary

14. ARWA Expanded Carrizo-Wilcox Project (Phase 2)

WMS Cost Summary	
Cost of Facilities	$190,499,000
Total Project Costs	$259,879,000
Annual Costs*	$33,160,000
Project Yield (acft/yr)	21,000
Unit Costs ($/acft)	$1,579

* Includes debt service amortization at 3.5% for 20 years, O&M, and power costs

Based on a peaking factor of 1.5.

- September 2023 dollars
- Developed using Uniform Costing Model (UCM) from TWDB
- Includes capital costs, annual debt service, operation and maintenance, power, land acquisition, and environmental mitigation

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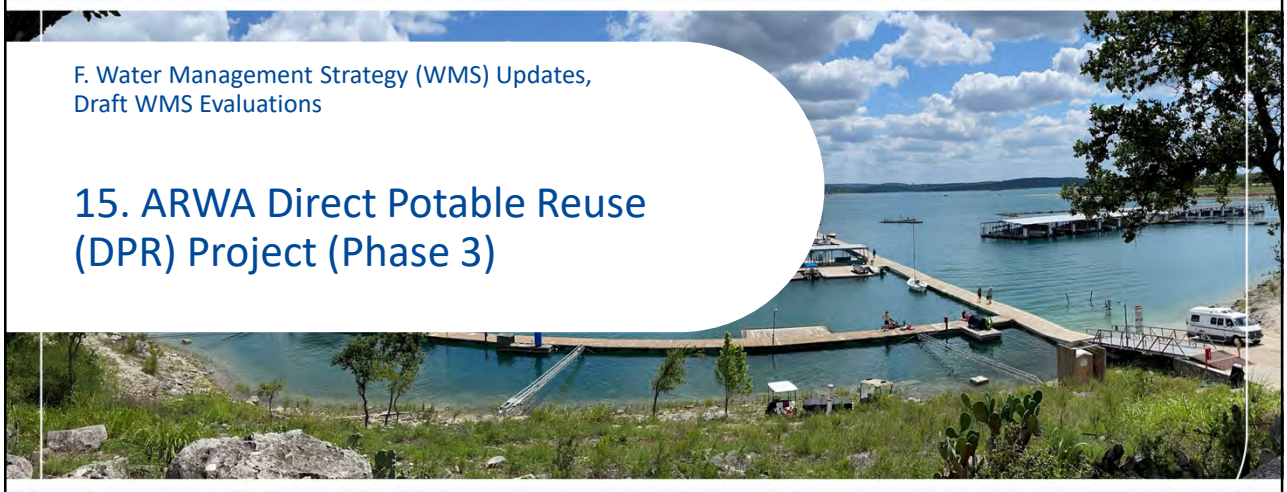


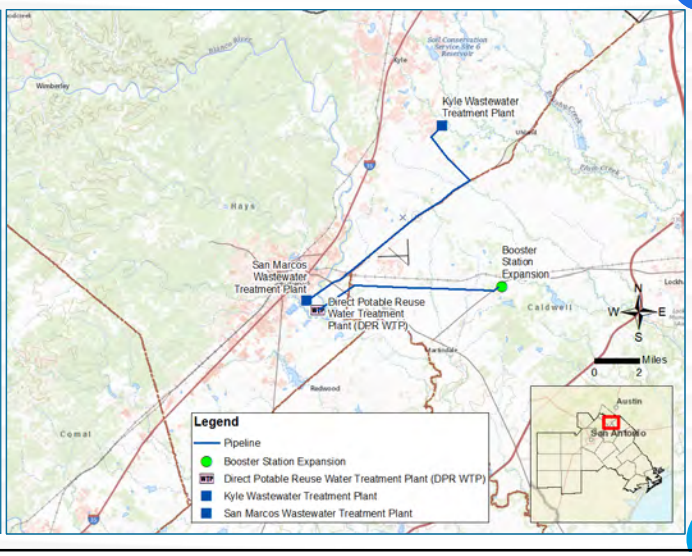
F. Water Management Strategy (WMS) Updates, Draft WMS Evaluations

15. ARWA Direct Potable Reuse (DPR) Project (Phase 3)

15. ARWA Direct Potable Reuse (DPR) Project (Phase 3)

Project Description

- Project Sponsor(s): ARWA
- Source: San Marcos WWTP effluent treated via reverse osmosis
- Yield: 5,494 acft/yr
- Components:
  - New advanced water treatment plant (5.0 mgd)
  - Pump station(s)
  - Booster station expansion
  - Ground storage tank (1 MG)
  - Transmission pipelines (16-inch diameter [4 miles] and 18-inch diameter [11 miles])



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Environmental & Cultural Considerations

15. ARWA DPR Project (Phase 3)

Vegetation, Land Use, & Agricultural Resources — 2

- Permanent conversion of native vegetation and cropland to pipeline easement and treatment facilities
- Opportunity to plant native herbaceous species which are beneficial to native wildlife

Aquatic Resources — 2

- Pipeline crosses one river and two mapped streams
- Project will require on-site delineation of streams; additional studies recommended

Threatened, Endangered, & Species of Concern — 2

- Suitable habitat may occur for federally endangered whooping crane, federally threatened black rail, proposed endangered tricolored bat, freshwater mussels, monarch butterfly, and several state listed threatened species
- Site-specific assessments for whooping crane, black rail, tricolored bat, and other state-listed species will be required

Cultural Considerations — 2

- The likelihood of encountering unidentified archaeological resources varies by landforms
- Structured cultural resources survey of the final design plan is recommended

ASSESSMENT RATING LEGEND

- 0 — N/A
- 1 — Minimal concerns; precautions recommended
- 2 — Additional studies recommended

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Project Cost Estimate Summary

15. ARWA DPR Project (Phase 3)

WMS Cost Summary	
Cost of Facilities	$83,737,000
Total Project Costs	$117,658,000
Annual Costs*	$14,954,000
Project Yield (acft/yr)	5,494
Unit Costs ($/acft)	$2,722

* Includes debt service amortization at 3.5% for 20 years, O&M, and power costs

No peaking factor.

- September 2023 dollars
- Developed using Uniform Costing Model (UCM) from TWDB
- Includes capital costs, annual debt service, operation and maintenance, power, land acquisition, and environmental mitigation

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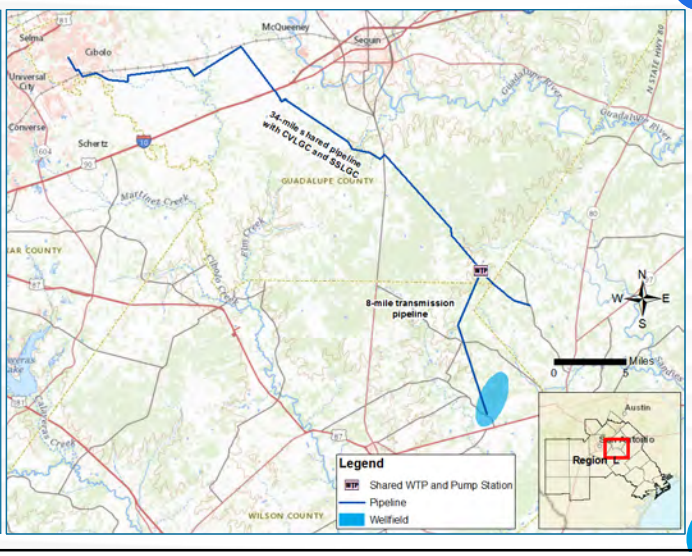
F. Water Management Strategy (WMS) Updates, Draft WMS Evaluations

19. Cibolo Valley Local Government Corporation (CVLGC) Carrizo Project

19. Cibolo Valley Local Government Corporation (CVLGC) Carrizo Project

Project Description

- Project Sponsor(s): CVLGC (Schertz and Cibolo)
- Source: Carrizo-Wilcox Aquifer in Wilson County
- Yield: 11,802 acft/yr
- Components:
  - Well field (wells, pumps, and pipelines)
  - Transmission pipeline (36-inch dia, 8-mile)
  - Water treatment plant expansion (12 MGD)
  - 34-mile shared pipeline and pump station from SSLGC facilities in Guadalupe County to the City of Cibolo



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Environmental & Cultural Considerations

19. CVLGC Carrizo Project

Vegetation, Land Use, & Agricultural Resources — 2

- Permanent conversion of woody vegetation to pipeline easement and well field
- Opportunity to plant native herbaceous species which are beneficial to native wildlife

Aquatic Resources — 2

- Pipeline crosses multiple stream segments, one impaired stream segment
- Project will require on-site delineation of streams; additional studies recommended

Threatened, Endangered, & Species of Concern — 2

- Suitable habitat may occur for federally endangered whooping crane, proposed endangered tricolored bat, freshwater mussels, monarch butterfly, and several state listed threatened species
- Site-specific assessments for whooping crane, tricolored bat, and other state-listed species will be required

Cultural Considerations — 2

- The likelihood of encountering unidentified archaeological resources varies by landforms
- Structured cultural resources survey of the final design plan is recommended

ASSESSMENT RATING LEGEND

- 0 — N/A
- 1 — Minimal concerns; precautions recommended
- 2 — Additional studies recommended

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Project Cost Estimate Summary

19. CVLGC Carrizo Project

WMS Cost Summary	
Cost of Facilities	$188,032,000
Total Project Costs	$262,492,000
Annual Costs*	$24,339,000
Project Yield (acft/yr)	11,802
Unit Costs ($/acft)	$2,062

* Includes debt service amortization at 3.5% for 20 years, O&M, and power costs

Based on peaking factor of 1.25.

- September 2023 dollars
- Developed using Uniform Costing Model (UCM) from TWDB
- Includes capital costs, annual debt service, operation and maintenance, power, land acquisition, and environmental mitigation

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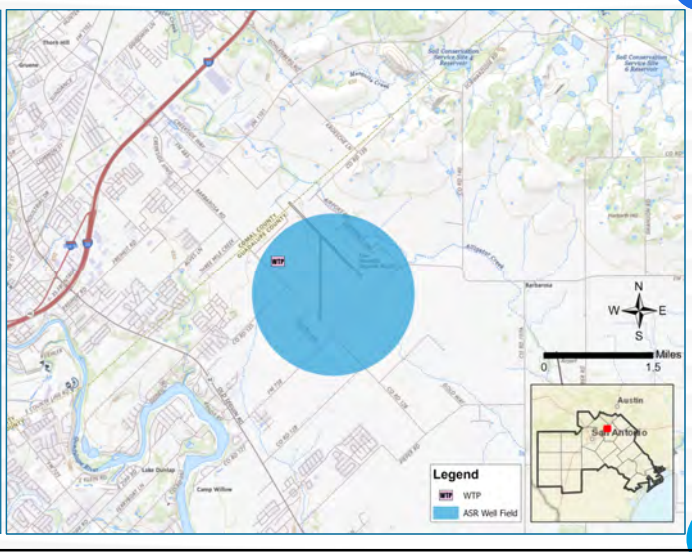
F. Water Management Strategy (WMS) Updates, Draft WMS Evaluations

23. New Braunfels Utilities (NBU) Aquifer Storage and Recovery (ASR) Project

23. New Braunfels Utilities (NBU) Aquifer Storage and Recovery (ASR) Project

Project Description

- Project Sponsor(s): NBU
- Implementation Decade: 2030
- Source: Excess treated water from distribution system (combination of surface water from Guadalupe River, Canyon Reservoir, and groundwater from Edwards Aquifer)
- Storage: 14,000 acft/yr in saline portion of Edwards Aquifer
- Yield: 7,000 acft/yr
- Components:
  - Well field for withdrawal (9 wells)



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Environmental & Cultural Considerations

23. NBU ASR Project

Vegetation, Land Use, & Agricultural Resources — 2

- Permanent conversion of native or agricultural vegetation for well field development
- Opportunity to plant native species which are beneficial to native wildlife

Aquatic Resources — 1

- Mapped streams and water bodies occur in the general project area
- Well facilities can typically be sited to avoid wetland impacts

Threatened, Endangered, & Species of Concern — 2

- Suitable habitat may occur for state listed threatened species
- Site-specific habitat evaluations will be required

Cultural Considerations — 2

- The likelihood of encountering unidentified archaeological resources varies by landforms
- Structured cultural resources survey of the final design plan is recommended

ASSESSMENT RATING LEGEND

- 0 — N/A
- 1 — Minimal concerns; precautions recommended
- 2 — Additional studies recommended

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Project Cost Estimate Summary

23. NBU ASR Project

WMS Cost Summary	
Cost of Facilities	$25,904,000
Total Project Costs	$36,622,000
Annual Costs*	$4,317,000
Project Yield (acft/yr)	7,000
Unit Costs ($/acft)	$617

* Includes debt service amortization at 3.5% for 20 years, O&M, and power costs

- September 2023 dollars
- Developed using Uniform Costing Model (UCM) from TWDB
- Includes capital costs, annual debt service, operation and maintenance, power, land acquisition, and environmental mitigation

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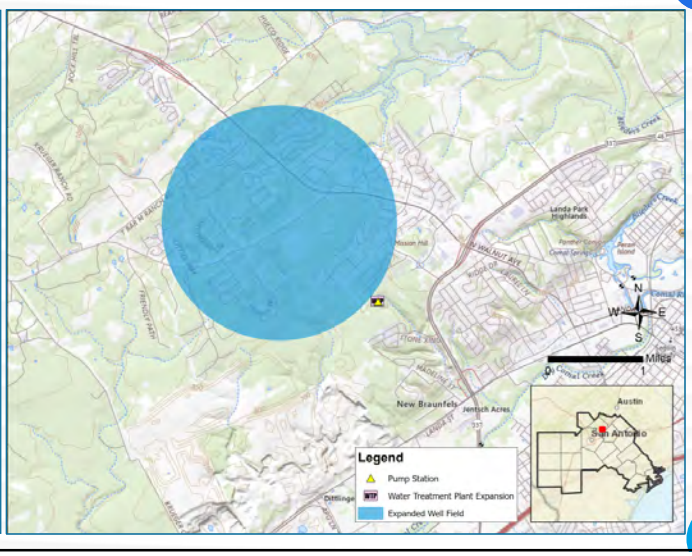
F. Water Management Strategy (WMS) Updates, Draft WMS Evaluations

24. NBU Trinity Well Field Expansion

24. NBU Trinity Well Field Expansion

Project Description

- Project Sponsor(s): NBU
- Implementation Decade: 2030
- Source: Groundwater from Trinity Aquifer in Comal County
- Yield: 3,900 acft/yr
- Components:
  - Well field expansion (3 wells, pumps, pipelines)
  - Water treatment plant expansion (3.6 MGD)
  - Ground storage tank (3.6 MG)
  - Pump station expansion



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Environmental & Cultural Considerations

24. NBU Trinity Well Field Expansion

Vegetation, Land Use, & Agricultural Resources — 1

- Minor native vegetation impacts
- Opportunity to plant native species which are beneficial to native wildlife

Aquatic Resources — 1

- Project area contains mapped wetlands/ponds
- Well facilities can typically be sited to avoid wetland impacts

Threatened, Endangered, & Species of Concern — 2

- Suitable habitat for protected species may occur near project area
- Site-specific habitat evaluations will be required

Cultural Considerations — 2

- The likelihood of encountering unidentified archaeological resources varies by landforms
- Structured cultural resources survey of the final design plan is recommended

ASSESSMENT RATING LEGEND

- 0 — N/A
- 1 — Minimal concerns; precautions recommended
- 2 — Additional studies recommended

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Project Cost Estimate Summary

24. NBU Trinity Well Field Expansion

WMS Cost Summary	
Cost of Facilities	$29,310,427
Total Project Costs	$48,627,000
Annual Costs*	$7,979,000
Project Yield (acft/yr)	3,900
Unit Costs ($/acft)	$2,046

* Includes debt service amortization at 3.5% for 20 years, O&M, and power costs

Based on peaking factor of 1.04.

- September 2023 dollars
- Developed using Uniform Costing Model (UCM) from TWDB
- Includes capital costs, annual debt service, operation and maintenance, power, land acquisition, and environmental mitigation

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F. Water Management Strategy (WMS) Updates, Draft WMS Evaluations

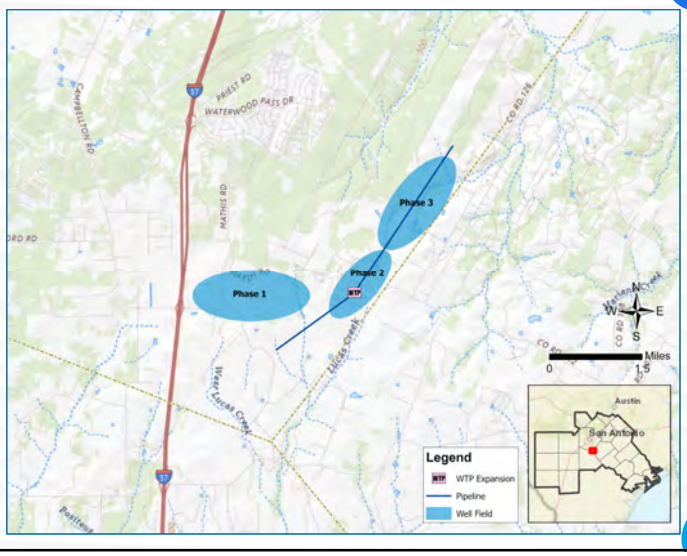
25. San Antonio Water System (SAWS) Expanded Local Carrizo Project

25. San Antonio Water System (SAWS) Expanded Local Carrizo Project

Project Description

- Project Sponsor(s): SAWS
- Implementation Decade: 2030
- Source: Groundwater from Carrizo-Wilcox Aquifer in Bexar County
- Yield: 21,000 acft/yr total (7,000 acft/yr in each of three phases)
- Components:
  - Well fields (12 wells, pumps, pipelines)
  - Integration pipeline

** Note: Water treatment plant shown on map is not included in this WMS; it is included in the Facilities Expansion WMS.*



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Environmental & Cultural Considerations

25. SAWS Expanded Local Carrizo Project

Vegetation, Land Use, & Agricultural Resources — 2

- Permanent conversion of woody terrestrial vegetation to pipeline easement/well fields
- Opportunity to plant native herbaceous species which are beneficial to native wildlife

Aquatic Resources — 2

- Project area includes mapped streams and floodplains
- Project will require on-site delineation of aquatic features

Threatened, Endangered, & Species of Concern — 2

- Suitable habitat may occur for proposed endangered tricolored bat, monarch butterfly, and several state listed threatened species
- Site-specific assessments for tricolored bat and other state-listed species will be required

Cultural Considerations — 2

- Low likelihood of encountering unidentified archaeological resources
- Structured cultural resources survey of the final design plan is recommended

ASSESSMENT RATING LEGEND

- 0 — N/A
- 1 — Minimal concerns; precautions recommended
- 2 — Additional studies recommended

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Project Cost Estimate Summary

25. SAWS Expanded Local Carrizo Project

WMS Cost Summary	
Cost of Facilities	$26,326,000
Total Project Costs	$37,095,000
Annual Costs*	$3,878,000
Project Yield (acft/yr)	21,000
Unit Costs ($/acft)	$185

* Includes debt service amortization at 3.5% for 20 years, O&M, and power costs

Based on a peaking factor of 1.0

- September 2023 dollars
- Developed using Uniform Costing Model (UCM) from TWDB
- Includes capital costs, annual debt service, operation and maintenance, power, land acquisition, and environmental mitigation

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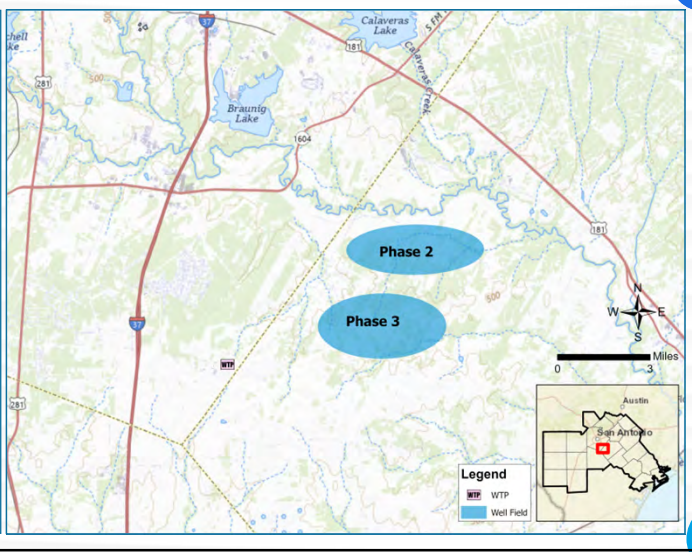
F. Water Management Strategy (WMS) Updates, Draft WMS Evaluations

26. SAWS Expanded Brackish Groundwater Project

26. SAWS Expanded Brackish Groundwater Project

Project Description

- Project Sponsor(s): SAWS
- Implementation Decade: 2040
- Source: Brackish groundwater from Carrizo-Wilcox Aquifer in Wilson County
- Yield: 22,400 acft/yr (Phase 2: 13,440 acft/yr; and Phase 3: 8,960 acft/yr)
- Components:
  - Pump station
  - Transmission pipeline (42-in dia., 6-miles)
  - Well fields (well, pumps, pipelines)
  - Water treatment plant expansion (20 MGD)
  - Brine disposal via deep well injection



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Environmental & Cultural Considerations

26. SAWS Expanded Brackish Groundwater Project

Vegetation, Land Use, & Agricultural Resources — 2

- Permanent conversion of woody vegetation for well field development
- Opportunity to plant native herbaceous species which are beneficial to native wildlife

Aquatic Resources — 2

- Project area contains several mapped streams and floodplains, including two impaired stream segments
- Project will require on-site delineation of aquatic features; wells can typically be sited to avoid impacts

Threatened, Endangered, & Species of Concern — 2

- Suitable habitat may occur for federally threatened black rail, proposed endangered tricolored bat, and several state listed threatened species
- Site-specific assessments for black rail, tricolored bat, and other state-listed species will be required

Cultural Considerations — 2

- The likelihood of encountering unidentified archaeological resources varies by landforms
- Structured cultural resources survey of the final design plan is recommended

ASSESSMENT RATING LEGEND

- 0 — N/A
- 1 — Minimal concerns; precautions recommended
- 2 — Additional studies recommended

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Project Cost Estimate Summary

26. SAWS Expanded Brackish Groundwater Project

WMS Cost Summary	
Cost of Facilities	$226,145,000
Total Project Costs	$319,181,000
Annual Costs*	$40,391,000
Project Yield (acft/yr)	22,400
Unit Costs ($/acft)	$1,803

* Includes debt service amortization at 3.5% for 20 years, O&M, and power costs

Based on a peaking factor of 1.0

- September 2023 dollars
- Developed using Uniform Costing Model (UCM) from TWDB
- Includes capital costs, annual debt service, operation and maintenance, power, land acquisition, and environmental mitigation

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F. Water Management Strategy (WMS) Updates, Draft WMS Evaluations

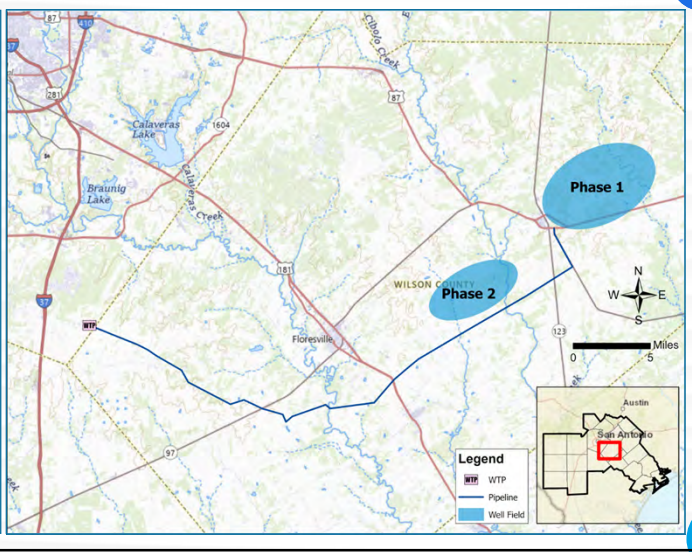
27. SAWS Regional Wilcox Project

27. SAWS Regional Wilcox Project

New in 2026 Plan

Project Description

- Project Sponsor(s): SAWS
- Implementation Decade: 2040
- Source: Brackish groundwater from Carrizo-Wilcox Aquifer in Wilson County
- Yield: 50,000 acft/yr (Phase 4: 32,000 acft/yr; and Phase 5: 18,000 acft/yr)
- Components:
  - Well field expansion
  - Pump station
  - Ground storage tank
  - Transmission pipeline (42. in dia.)
  - Water treatment plant expansion (44.7 MGD)
  - Brine disposal via deep well injection



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Environmental & Cultural Considerations

27. SAWS Regional Wilcox Project

Vegetation, Land Use, & Agricultural Resources — 2

- Permanent conversion of woody vegetation for well field development
- Opportunity to plant native herbaceous species which are beneficial to native wildlife

Aquatic Resources — 2

- Project area contains several mapped streams and floodplains
- Project will require on-site delineation of aquatic features; wells can typically be sited to avoid impacts

Threatened, Endangered, & Species of Concern — 2

- Suitable habitat may occur for federally threatened black rail, proposed endangered tricolored bat, monarch butterfly, and several state listed threatened species
- Site-specific assessments for black rail, tricolored bat, and other state-listed species will be required

Cultural Considerations — 2

- The likelihood of encountering unidentified archaeological resources varies by landforms
- Structured cultural resources survey of the final design plan is recommended

ASSESSMENT RATING LEGEND

- 0 — N/A
- 1 — Minimal concerns; precautions recommended
- 2 — Additional studies recommended

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Project Cost Estimate Summary

27. SAWS Regional Wilcox Project

WMS Cost Summary	
Cost of Facilities	$902,359,000
Total Project Costs	$1,267,722,000
Annual Costs*	$144,850,000
Project Yield (acft/yr)	50,000
Unit Costs ($/acft)	$2,897

* Includes debt service amortization at 3.5% for 20 years, O&M, and power costs

Based on a peaking factor of 1.0

- September 2023 dollars
- Developed using Uniform Costing Model (UCM) from TWDB
- Includes capital costs, annual debt service, operation and maintenance, power, land acquisition, and environmental mitigation

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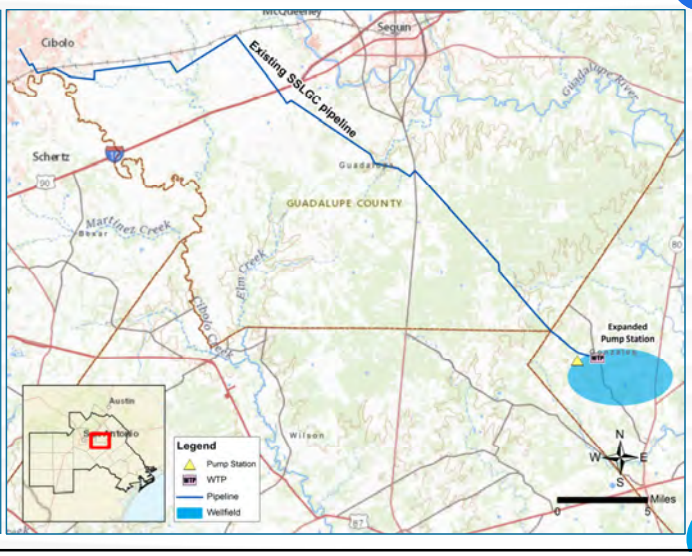
F. Water Management Strategy (WMS) Updates, Draft WMS Evaluations

28. Schertz-Seguin Local Government Corporation (SSLGC) Expanded Brackish Wilcox Project

28. Schertz-Seguin Local Government Corporation (SSLGC) Expanded Brackish Wilcox Project

Project Description

- Project Sponsor(s): SSLGC
- Source: Brackish groundwater from Carrizo-Wilcox Aquifer in Gonzales County
- Yield: 5,000 acft/yr
- Components:
  - Well field expansion for withdrawal and injection (7 wells)
  - Water treatment plant expansion (5 MGD)
  - Pump Station



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Environmental & Cultural Considerations

28. SSLGC Expanded Brackish Wilcox Project

Vegetation, Land Use, & Agricultural Resources — 2

- Permanent conversion of woody vegetation to pipeline easement and well field development
- Opportunity to plant native herbaceous species which are beneficial to native wildlife

Aquatic Resources — 2

- Project area contains several mapped streams
- Project will require on-site delineation of streams; additional studies recommended

Threatened, Endangered, & Species of Concern — 2

- Suitable habitat may occur for federally threatened black rail, proposed endangered tricolored bat, monarch butterfly, and several state listed threatened species
- Site-specific assessments for black rail, tricolored bat, and other state-listed species will be required

Cultural Considerations — 2

- The likelihood of encountering unidentified archaeological resources varies by landforms
- Structured cultural resources survey of the final design plan is recommended

ASSESSMENT RATING LEGEND

- 0 — N/A
- 1 — Minimal concerns; precautions recommended
- 2 — Additional studies recommended

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Project Cost Estimate Summary

28. SSLGC Expanded Brackish Wilcox Project

WMS Cost Summary	
Cost of Facilities	$33,088,000
Total Project Costs	$46,966,000
Annual Costs*	$7,517,000
Project Yield (acft/yr)	5,000
Unit Costs ($/acft)	$1,503

*Includes debt service amortization at 3.5% for 20 years, O&M, and power costs

Based on a peaking factor of 1.25

- September 2023 dollars
- Developed using Uniform Costing Model (UCM) from TWDB
- Includes capital costs, annual debt service, operation and maintenance, power, land acquisition, and environmental mitigation

BLACK & VEATCH

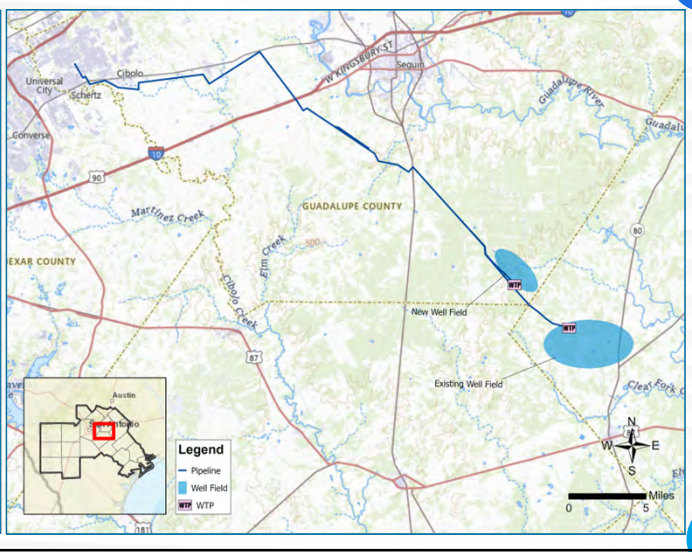
F. Water Management Strategy (WMS) Updates, Draft WMS Evaluations

29. SSLGC Expanded Carrizo Project

29. SSLGC Expanded Carrizo Project

Project Description

- Project Sponsor(s): SSLGC
- Source: Groundwater from the Carrizo-Wilcox Aquifer in Guadalupe County
- Yield: 6,000 acft/yr
- Components:
  - Well field (wells, pumps, and piping)
  - New water treatment plant (6 MGD)
  - Pump station
  - Shared transmission pipeline (with CVLGC) and 2 new segments to expand capacity
  - Transmission pump station(s) and storage tanks



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Environmental & Cultural Considerations

29. SSLGC Expanded Carrizo Project

Vegetation, Land Use, & Agricultural Resources — 2

- Permanent conversion of woody vegetation to pipeline easement and well field development
- Opportunity to plant native herbaceous species which are beneficial to native wildlife

Aquatic Resources — 2

- Pipeline crosses several streams/tributaries, including one impaired stream segment
- Project will require on-site delineation of streams; additional studies recommended

Threatened, Endangered, & Species of Concern — 2

- Suitable habitat may occur for federally threatened black rail, proposed endangered tricolored bat, monarch butterfly, and several state listed threatened species
- Site-specific assessments for black rail, tricolored bat, and other state-listed species will be required

Cultural Considerations — 2

- The likelihood of encountering unidentified archaeological resources varies by landforms
- Structured cultural resources survey of the final design plan is recommended

ASSESSMENT RATING LEGEND

- 0 — N/A
- 1 — Minimal concerns; precautions recommended
- 2 — Additional studies recommended

Draft Black & Veatch

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Project Cost Estimate Summary

29. SSLGC Expanded Carrizo Project

WMS Cost Summary	
Cost of Facilities	$236,724,000
Total Project Costs	$327,709,000
Annual Costs*	$28,448,000
Project Yield (acft/yr)	6,000
Unit Costs ($/acft)	$4,741

*Includes debt service amortization at 3.5% for 20 years, O&M, and power costs

Based on peaking factor of 1.25

- September 2023 dollars
- Developed using Uniform Costing Model (UCM) from TWDB
- Includes capital costs, annual debt service, operation and maintenance, power, land acquisition, and environmental mitigation

Draft Black & Veatch 109

AGENDA ITEM NO.8 – CONSIDERATION AND APPROPRIATE ACTION FOR THE TECHNICAL CONSULTANT TO EVALUATE WEATHER MODIFICATION AS A NEW WATER MANAGEMENT STRATEGY

BLACK & VEATCH

8/1/2024

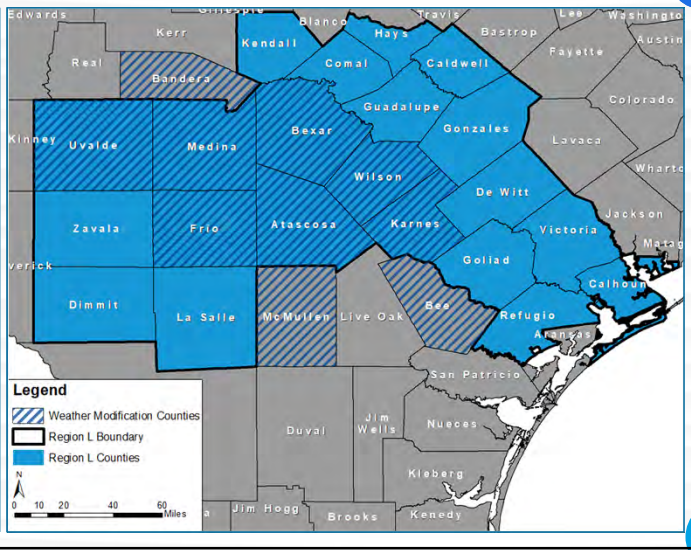
Agenda Item 8: Consideration and Appropriate Action for the Technical Consultant to Evaluate Weather Modification as a New Water Management Strategy

Weather Modification Project

Project Description

Cloud seeding with sodium chloride (NaCl) or calcium chloride (CaCl) prior to a desired rain event to increase precipitation and suppress hail formation.

- Project Requested by: Weldon Riggs
- Project Sponsor(s): Irrigation WUGs in Uvalde, Medina, Bexar, Atascosa, Wilson, Frio, and Karnes Counties
- Implementation Decade: 2030
- Source: Atmosphere
- Yield: ~117,000 acft/yr
- Components: airplanes and associated infrastructure
- Costs:
  - Annual Operating Expenses: $329,000
  - Capital Costs (cost of airplane): $905,000



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RWPG Consideration and Action

Consider Action to:

Approve the Technical Consultant to use Scope 5B funds to evaluate the Weather Modification Project as a New Water Management Strategy

AGENDA ITEM NO.9 – CONSIDERATION AND APPROPRIATE ACTION REGARDING DESIGNATION OF THE NUECES RIVER AUTHORITY AS A WHOLESALE WATER PROVIDER (WWP) AS DEFINED IN 31 TAC §357.10(44) FOR REGIONAL WATER PLANNING PURPOSES

BLACK & VEATCH

8/1/2024

Agenda Item 9: Consideration and Appropriate Action Regarding Designation of the Nueces River Authority as a Wholesale Water Provider (WWP) as defined in 31 TAC §357.10(44) for Regional Water Planning Purposes

Recommendation

Consider Action to:

Approve the Designation of the Nueces River Authority as a Wholesale Water Provider (WWP) for Regional Water Planning Purposes

HANDOUT A

P.O. Box 13231, 1700 N. Congress Ave.
Austin, TX 78711-3231, www.twdb.texas.gov
Phone (512) 463-7847, Fax (512) 475-2053

June 3, 2024

Mr. Curt Campbell
Chair
South Central Texas (Region L) Regional Water Planning Group
c/o San Antonio River Authority
100 East Guenther Street
San Antonio, TX 78204

Dear Chairman Campbell:

In addition to reviewing the Technical Memorandum report for administrative completeness, Texas Water Development Board (TWDB) staff have reviewed the draft data and methodologies presented in the planning group's Technical Memorandum. The attached comments are being provided for Region L's consideration during the remainder of their regional water plan development.

Unlike TWDB comments on the initially prepared plans (IPP), these informal comments do not require responses from the planning group. This process allows for TWDB staff to conduct a more thorough review of source data and methodologies and provides a longer timeline for planning group consideration, prior to the IPP comment and response period.

While resolution of state water planning database (DB27) data checks and appeals must be resolved no later than the Initially Prepared Plan (IPP) deadline (March 3, 2025), RWPG consultants are requested to make a best effort to complete the DB27 data checks related to source and existing supply/sales by October 2024 to ensure accurate water supply needs data for the region's socioeconomic impact analysis and lessen the chance of errors from working through large batches of data checks. TWDB staff will use needs identified in DB27 as of March 3, 2025 to conduct the socioeconomic impact analysis.

Please do not hesitate to contact Michele Foss of our Regional Water Planning staff at 512-463-9225 or michele.foss@twdb.texas.gov if you have any questions.

Sincerely,

Matt Nelson
Deputy Executive Administrator
Office of Planning

Attachment: TWDB Informal Comments on Technical Memorandum

cc: Cayethania Castillo, San Antonio River Authority
Lauren Gonzalez, Black & Veatch
Jaime Burke, Black & Veatch
John Dupnik, Water Science and Conservation
Temple McKinnon, Water Supply Planning
Sarah Lee, Water Supply Planning
Nelun Fernando, Ph.D., Surface Water
Daryn Hardwick, Groundwater
James Golab, Ph.D., Conservation and Innovative Water Technologies
Michele Foss, Water Supply Planning

Region L Regional Water Planning Group
TWDB Informal Comments on the Technical Memorandum

1. Modeling files submitted with the technical memorandum do not appear to include run-of-river modeling files to back up the 38,812 acre-feet per year availability from the Guadalupe run-of-river source. Please include these run-of-river modeling files in the initially prepared plan (IPP) submittal.

2. Attachment A, Region L Source Total Availability Table and Page 6, Section 4.2.2.2. TWDB staff have confirmed that the table presents the correct modeled available groundwater (MAG) values for groundwater sources with an associated MAG value, except for the Edwards (BFZ)-L-Hays-Guadalupe split (SourceID 1077). For the Edwards (BFZ)-L-Hays-Guadalupe split, there is a 7,116 acre-feet per year difference in availability between the MAG and what is presented in the Region L Source Total Availability Table. As noted in Section 4.2.2.2, this difference occurs due to Edwards Aquifer Authority (i.e., in the non-MAG portion of this split) permitting data and is therefore acceptable.

3. TWDB staff have determined that the regional water planning group methodology for developing groundwater availabilities for the remaining non-MAG sources is acceptable.

4. Attachment A, Region L Source Total Availability Table. The table presents a total availability of 200,000 acre-feet per year for the Carrizo-Aquifer ASR source in Bexar County. The technical memorandum does not provide additional details on the source water determination for Carrizo-Aquifer ASR. However, source notes entered into the state water planning database (DB27) indicate that the total storage for the source is 200,000 acre-feet per year, but only 50,400 acre-feet per year is available for use in a drought of record. Per the regional water planning contract Exhibit C, Section 2.3, water availability in the regional water plan should be based on the amount of water available during a repeat of the drought of record. Please review the availability of the Carrizo-Aquifer ASR source and ensure that all availabilities presented in the IPP are based on water that is available during drought of record conditions.

5. Reuse sources are included in the technical memorandum. At this time, the TWDB has not reviewed the region’s reuse methodology. Per Exhibit C Section 2.3.3, please ensure that Chapter 3 of the IPP includes a separate subsection on reuse that describes the data sources and methodology used to calculate reuse availability.

HANDOUT B

South Central Texas Regional Water Planning Group
August 1, 2024, Meeting
HANDOUT B: Advanced Municipal Water Conservation Yield and Costs

No.	WUG Primary Region	WUG Name	WUG Split Regions	Goal GPCD (gallons per capita daily)						Advanced Municipal Conservation WMS Yield (acft/yr)						Costs (2023 Dollars)		Water Use Reduction: Advanced Metering Infrastructure (AMI) Yield (acft/yr)						Water Loss Mitigation: Leak Detection and Repair Yield (acft/yr)						Water Use Reduction: Non-Capital Yield (acft/yr)					
				2030	2040	2050	2060	2070	2080	2030	2040	2050	2060	2070	2080	Total Costs	Unit Cost ($ per AF)	2030	2040	2050	2060	2070	2080	2030	2040	2050	2060	2070	2080	2030	2040	2050	2060	2070	2080
1	L	3009 Water	L	219.3	197.4	177.7	159.9	143.9	129.5	40	96	177	290	435	614	$ 5,621,340	$ 16,111	20	26	33	42	53	13	12	15	20	25	32	13	8	55	124	223	350	588
2	L	Air Force Village II Inc	L	199.2	179.3	161.4	145.3	130.8	127.5	13	25	36	46	54	56	$ 2,129,470	$ 19,047	7	7	7	7	1	1	4	4	4	4	1	1	2	14	25	35	52	54
3	L	Alamo Heights	L	216.1	194.5	175.1	157.6	141.8	127.6	209	393	563	716	854	978	$ 22,960,480	$ 12,931	105	105	105	105	105	21	63	63	63	63	63	21	41	225	395	548	686	936
4	K	Aqua WSC	G; K; L	129.4	126.2	123.0	119.9	116.9	114.0	18	26	33	43	54	67	$ 4,382,605	$ 28,737	2	2	2	3	3	3	2	2	2	3	3	3	14	22	29	37	48	61
5	L	Asherton	L	159.5	143.6	129.2	126.0	122.9	119.8	14	24	33	33	33	32	$ 2,795,455	$ 23,423	7	6	1	1	1	1	4	4	1	1	1	1	3	14	31	31	31	30
6	L	Atascosa Rural WSC	L	107.1	104.4	101.8	99.3	96.8	94.4	42	88	150	219	301	395	$ 44,312,785	$ 125,096	16	19	22	24	26	29	16	19	22	24	26	29	10	50	106	171	249	337
7	L	Batesville WSC	L	134.0	130.7	127.4	124.2	121.1	118.1	14	16	19	20	22	23	$ 3,499,405	$ 29,476	1	1	1	1	1	1	1	1	1	1	1	1	12	14	17	18	20	21
8	L	Benton City WSC	L	90.6	88.3	86.1	83.9	81.8	80.0	56	111	186	264	345	428	$ 150,876,020	$ 319,101	22	25	27	29	30	32	22	25	27	29	30	32	12	61	132	206	285	364
9	L	Bexar County WCID 10	L	169.1	152.2	137.0	133.6	130.3	127.0	130	275	435	503	580	671	$ 20,899,845	$ 18,976	65	73	16	18	19	21	39	44	16	18	19	21	26	158	403	467	542	629
10	L	Big Wells	L	135.0	131.6	128.3	125.1	122.0	119.0	2	2	4	5	6	6	$ 2,080,830	$ 121,500	1	1	1	1	1	-	1	1	1	1	1	-	-	-	2	3	4	6
11	L	Boerne	L	169.8	152.8	137.5	134.1	130.7	127.4	537	1,387	2,690	3,738	5,030	6,597	$ 53,205,645	$ 11,520	269	370	100	130	165	204	162	222	100	130	165	204	106	795	2,490	3,478	4,700	6,189
12	L	C Willow Water	L	144.1	129.7	126.5	123.3	120.2	117.2	12	25	30	35	41	49	$ 1,518,725	$ 14,801	6	1	1	2	2	2	4	1	1	2	2	2	2	23	28	31	37	45
13	L	Canyon Lake Water Service	K; L	106.2	103.5	100.9	98.4	95.9	93.5	304	752	1,331	1,929	3,164	4,762	$ 141,434,180	$ 55,405	119	161	188	206	271	343	119	161	188	206	271	343	66	430	955	1,517	2,622	4,076
14	L	Carrizo Hill WSC	L	136.7	133.3	130.0	126.8	123.6	120.5	11	15	21	27	38	58	$ 2,970,860	$ 31,886	1	1	1	2	2	3	1	1	1	2	2	3	9	13	19	23	34	52
15	L	Carrizo Springs	L	214.5	193.1	173.8	156.4	140.8	126.7	120	214	291	348	388	412	$ 16,478,170	$ 16,219	60	57	54	51	48	9	36	34	32	31	29	9	24	123	205	266	311	394
16	L	Castroville	L	144.1	129.7	126.5	123.3	120.2	117.2	116	237	294	371	451	519	$ 11,920,095	$ 12,147	58	13	14	16	18	20	35	13	14	16	18	20	23	211	266	339	415	479
17	L	Charlotte	L	135.3	131.9	128.6	125.4	122.3	119.2	21	22	25	30	34	39	$ 4,247,675	$ 23,914	2	2	2	2	2	2	2	2	2	2	2	2	17	18	21	26	30	35
18	L	Cibolo	L	86.5	84.3	82.2	80.1	80.0	80.0	63	134	248	396	469	546	$ 34,832,540	$ 66,022	26	31	37	44	51	59	26	31	37	44	51	59	11	72	174	308	367	428
19	L	Clear Water Estates Water System	L	970.2	873.2	785.9	707.3	636.6	572.9	108	286	563	964	1,487	2,145	$ 4,478,595	$ 4,356	54	76	104	140	182	229	33	45	62	84	109	137	21	165	397	740	1,196	1,779
20	L	Concan WSC	L	215.9	194.3	174.9	157.4	141.7	127.5	8	15	20	24	28	30	$ 2,078,540	$ 30,326	4	4	4	4	3	1	2	2	2	2	2	1	2	9	14	18	23	28
21	L	Converse	L	91.1	88.8	86.6	84.4	82.3	80.2	74	129	199	269	336	403	$ 30,261,615	$ 48,598	30	30	30	30	30	30	30	30	30	30	30	30	14	69	139	209	276	343
22	L	Cotulla	L	247.9	223.1	200.8	180.7	162.6	146.3	105	194	277	355	432	513	$ 8,579,625	$ 9,610	53	52	51	52	53	55	32	31	31	31	32	33	20	111	195	272	347	425
23	L	County-Other, Atascosa	L	108.8	106.1	103.4	100.8	98.3	95.8	3	6	11	11	9	6	$ 47,050	$ 1,870	1	1	2	1	1	-	-	-	-	-	-	-	2	5	9	10	8	6
24	L	County-Other, Bexar	L	109.6	106.9	104.2	101.6	99.1	96.6	7	17	39	58	82	70	$ 643,570	$ 11,174	3	4	6	7	8	5	-	-	-	-	-	-	4	13	33	51	74	65
25	L	County-Other, Caldwell	L	100.7	98.2	95.7	93.3	91.0	88.7	2	5	13	14	24	50	$ 465,030	$ 28,153	1	1	2	1	2	4	-	-	-	-	-	-	1	4	11	13	22	46
26	L	County-Other, Calhoun	L	96.5	94.1	91.7	89.4	87.2	85.0	5	7	13	18	23	30	$ 321,540	$ 7,983	2	2	2	2	2	2	-	-	-	-	-	-	3	5	11	16	21	28
27	L	County-Other, Comal	L	132.4	129.1	125.9	122.8	119.7	116.7	340	469	782	1,972	2,971	4,328	$ 19,780,075	$ 7,039	34	39	55	122	162	213	-	-	-	-	-	-	306	430	727	1,850	2,809	4,115
28	L	County-Other, DeWitt	L	115.1	112.2	109.4	106.7	104.0	101.4	24	42	64	86	108	130	$ 1,072,600	$ 5,553	10	10	9	9	10	10	-	-	-	-	-	-	14	32	55	77	98	120
29	L	County-Other, Dimmit	L	116.2	113.3	110.5	107.7	105.0	102.4	6	8	12	15	13	5	$ 50,965	$ 1,153	3	2	2	2	1	-	-	-	-	-	-	-	3	6	10	13	12	5
30	L	County-Other, Frio	L	109.7	107.0	104.3	101.7	99.2	96.7	12	10	4	7	10	16	$ 137,575	$ 1,511	5	2	1	1	1	1	-	-	-	-	-	-	7	8	3	6	9	15
31	L	County-Other, Goliad	L	102.7	100.1	97.6	95.2	92.8	90.5	15	27	40	53	65	75	$ 693,045	$ 5,716	6	6	6	6	6	6	-	-	-	-	-	-	9	21	34	47	59	69
32	L	County-Other, Gonzales	L	100.0	97.5	95.1	92.7	90.4	88.1	3	6	8	11	13	15	$ 142,270	$ 5,870	1	1	1	1	1	1	-	-	-	-	-	-	2	5	7	10	12	14
33	L	County-Other, Guadalupe	L	95.9	93.5	91.2	88.9	86.7	84.5	5	13	32	58	94	143	$ 1,414,260	$ 34,383	2	3	5	6	8	11	-	-	-	-	-	-	3	10	27	52	86	132
34	L	County-Other, Hays	K; L	104.0	101.4	98.9	96.4	94.0	91.7	123	302	755	2,031	4,039	7,231	$ 65,274,025	$ 64,005	49	66	108	218	349	526	-	-	-	-	-	-	74	236	647	1,813	3,690	6,705
35	L	County-Other, Karnes	L	119.2	116.2	113.3	110.5	107.7	105.0	7	13	21	29	38	49	$ 399,725	$ 7,031	3	3	3	3	3	4	-	-	-	-	-	-	4	10	18	26	35	45
36	L	County-Other, Kendall	L	102.9	100.3	97.8	95.4	93.0	90.7	60	105	195	317	477	682	$ 6,280,760	$ 12,783	24	24	28	35	42	50	-	-	-	-	-	-	36	81	167	282	435	632
37	L	County-Other, La Salle	L	96.7	94.3	91.9	89.6	87.4	85.2	6	10	16	19	20	17	$ 173,490	$ 3,653	3	3	2	2	2	1	-	-	-	-	-	-	3	7	14	17	18	16
38	L	County-Other, Medina	L	108.9	106.2	103.5	100.9	98.4	95.9	17	37	59	71	82	103	$ 883,280	$ 6,415	7	8	9	8	7	7	-	-	-	-	-	-	10	29	50	63	75	96
39	L	County-Other, Refugio	L	99.6	97.1	94.7	92.3	90.0	87.8	8	12	18	24	27	28	$ 266,930	$ 4,191	3	3	3	3	2	2	-	-	-	-	-	-	5	9	15	21	25	26
40	L	County-Other, Uvalde	L	119.6	116.6	113.7	110.9	108.1	105.4	16	28	41	55	68	79	$ 633,265	$ 4,941	6	6	6	6	6	6	-	-	-	-	-	-	10	22	35	49	62	73
41	L	County-Other, Victoria	L	97.9	95.5	93.1	90.8	88.5	86.3	69	123	194	259	325	384	$ 3,751,580	$ 6,732	28	29	29	29	29	28	-	-	-	-	-	-	41	94	165	230	296	356
42	L	County-Other, Wilson	L	99.8	97.3	94.9	92.5	90.2	87.9	17	29	43	53	58	60	$ 571,080	$ 4,238	7	7	6	6	5	4	-	-	-	-	-	-	10	22	37	47	53	56
43	L	County-Other, Zavala	L	129.7	126.5	123.3	120.2	117.2	114.3	18	21	24	26	28	30	$ 139,845	$ 1,160	2	2	2	2	2	1	-	-	-	-	-	-	16	19	22	24	26	29
44	K	Creedmoor-Maha WSC	K; L	92.7	90.4	88.1	85.9	83.8	81.7	29	86	196	345	532	761	$ 35,089,335	$ 143,970	11	20	29	38	47	57	11	20	29	38	47	57	7	46	138	269	438	647
45	L	Crystal City	L	165.9	149.3	134.4	131.0	127.7	124.5	123	224	307	314	318	319	$ 18,930,195	$ 18,216	61	59	11	11	10	10	37	36	11	11	10	10	25	129	285	292	298	299
46	L	Crystal Clear SUD	L	121.4	118.4	115.4	112.5	109.7	107.0	207	623	1,082	1,635	2,301	3,099	$ 121,716,725	$ 69,833	83	139	157	177	200	227	83	139	157	177	200	227	41	345	768	1,281	1,901	2,645
47	L	Cuero	L	210.1	189.1	170.2	153.2	137.9	134.5	220	413	588	746	885	914	$ 24,144,350	$ 12,934	110	110	109	109	22	22	66	66	66	65	22	22	44	237	413	572	841	870
48	L	Devine	L	124.1	121.0	118.0	115.1	112.2	109.4	16	28	43	59	76	91	$ 10,905,485	$ 80,764	6	6	6	6	7	7	6	6	6	6	7	7	4	16	31	47	62	77
49	L	Dilley	L	186.9	168.2	151.4	136.3	132.9	129.6	123	286	464	595	631	667	$ 13,771,455	$ 13,176	61	76	86	17	18	18	37	45	52	17	18	18	25	165	326	561	595	631
50	L	East Central SUD	L	119.3	116.3	113.4	110.6	107.8	105.1	168	340	572	827	1,126	1,469	$ 84,206,775	$ 59,494	66	75	83	90	98	107	66	75	83	90	98	107	36	190	406	647	930	1,255
51	L	El Oso WSC	L; N	160.7	144.6	130.1	126.8	123.6	120.5	149	294	444	502	573	654	$ 171,839,270	$ 136,444	74	78	17	18	19	20	45	47	17	18	19	20	30	169	410	466	535	614
52	L	Elmendorf	L	122.5	119.4	116.4	113.5	110.7	107.9	14	34	70	125	194	319	$ 4,734,265	$ 40,329	6	8	10	14	17	23	6	8	10	14	17	23	2	18	50	97	160	273
53	L	Encinal WSC	L	164.7	148.2	133.4	130.1	126.8	123.6	22	42	63	71	82	95	$ 3,628,145	$ 19,297	11	11	2	2	3	3	6	7	2	2	3	3	5	24	59	67	76	89
54	L	Fair Oaks Ranch	L	209.4	188.5	169.7	152.7	137.4	134.0	258	579	894	1,171	1,406	1,457	$ 25,009,645	$ 11,378	129	154	166	171	34	34	78	92	100	103	34	34	51	333	628	897	1,338	1,389
55	L	Falls City	L	176.5	158.9	143.0	128.7	125.5	122.4	11	20	31	42	46	52	$ 2,142,250	$ 22,720	5	6	6	1	1	1	3	3	3	1	1	1	3	11	22	40	44	50
56	L	Floresville	L	187.5	168.8	151.9	136.7	133.3	130.0	136	269	406	539	592	649	$ 19,406,575	$ 16,825	68	72	75	16	16	17	41	43	45	16	16	17	27	154	286	507	560	615
57	L	Fort Sam Houston	L	1,701.5	1,531.4	1,378.3	1,240.5	1,116.5	1,004.9	1,752	3,319	4,737	6,014	7,162	8,196	$ 25,948,780	$ 1,678	876	875	875	875	875	875	525	525	525	525	525	525	351	1,919	3,337	4,614	5,762	6,796
58	L	Garden Ridge	L	279.5	251.6	226.4	203.8	183.4	165.1	202	469	800	1,203	1,701	2,307	$ 15,093,160	$ 8,621	101	124	148	175	208	247	60	75	89	105	125	148	41	270	563	923	1,368	1,912
59	L	Goforth SUD	K; L	94.7	92.3	90.0	87.8	85.6	83.5	123	357	803	1,529	2,569	3,954	$ 99,268,680	$ 96,366	50	78	115	165	223	289	50	78	115	165	223	289	23	201	573	1,199	2,123	3,376

South Central Texas Regional Water Planning Group
August 1, 2024, Meeting
HANDOUT B: Advanced Municipal Water Conservation Yield and Costs

No.	WUG Primary Region	WUG Name	WUG Split Regions	Goal GPCD (gallons per capita daily)						Advanced Municipal Conservation WMS Yield (acft/yr)						Costs (2023 Dollars)		Water Use Reduction: Advanced Metering Infrastructure (AMI) Yield (acft/yr)						Water Loss Mitigation: Leak Detection and Repair Yield (acft/yr)						Water Use Reduction: Non-Capital Yield (acft/yr)					
				2030	2040	2050	2060	2070	2080	2030	2040	2050	2060	2070	2080	Total Costs	Unit Cost ($ per AF)	2030	2040	2050	2060	2070	2080	2030	2040	2050	2060	2070	2080	2030	2040	2050	2060	2070	2080
60	L	Goliad	L	157.5	141.8	127.6	124.4	121.3	118.3	29	55	78	84	89	94	$ 4,991,840	$ 20,156	15	15	3	3	3	3	9	9	3	3	3	3	5	31	72	78	83	88
61	L	Gonzales	L	195.7	176.1	158.5	142.7	128.4	125.2	183	343	483	604	708	720	$ 26,174,230	$ 16,887	91	91	90	88	17	17	55	55	54	53	17	17	37	197	339	463	674	686
62	L	Gonzales County WSC	L	215.5	194.0	174.6	157.1	141.4	127.3	207	387	548	690	812	919	$ 199,882,095	$ 114,207	103	103	102	101	100	20	62	62	61	61	60	20	42	222	385	528	652	879
63	L	Green Valley SUD	L	96.5	94.1	91.7	89.4	87.2	85.0	131	311	613	1,011	1,525	2,191	$ 157,328,265	$ 142,582	52	69	88	109	132	159	52	69	88	109	132	159	27	173	437	793	1,261	1,873
64	L	Guadalupe-Blanco River Authority	L	127.5	124.3	121.2	118.2	115.2	112.3	141	234	269	299	326	349	$ 25,460,075	$ 21,599	14	20	19	18	18	17	14	20	19	18	18	17	113	194	231	263	290	315
65	L	Hondo	L	214.5	193.1	173.8	156.4	140.8	126.7	211	379	530	678	814	937	$ 22,909,585	$ 12,786	106	101	99	99	100	20	63	61	59	59	60	20	42	217	372	520	654	897
66	L	Jourdanton	L	166.9	150.2	135.2	131.8	128.5	125.3	103	204	309	348	391	439	$ 12,411,355	$ 14,237	51	54	11	12	13	14	31	33	11	12	13	14	21	117	287	324	365	411
67	L	Karnes City	L	147.1	132.4	129.1	125.9	122.8	119.7	43	83	97	112	129	148	$ 10,689,480	$ 29,413	21	4	5	5	5	6	13	4	5	5	5	6	9	75	87	102	119	136
68	L	Kendall County WCID 1	L	80.0	80.0	80.0	80.0	80.0	80.0	4	1	2	2	2	3	$ 5,575,915	$ 32,479	1	1	1	1	1	2	-	-	-	-	-	-	3	-	1	1	1	1
69	L	Kendall West Utility	L	103.9	101.3	98.8	96.3	93.9	91.6	9	19	36	61	93	134	$ 11,438,770	$ 150,768	3	4	5	7	8	10	3	4	5	7	8	10	3	11	26	47	77	114
70	L	Kenedy	L	312.5	281.3	253.2	227.9	205.1	184.6	134	267	401	538	681	832	$ 15,614,450	$ 13,688	67	71	74	79	83	89	40	42	45	47	50	53	27	154	282	412	548	690
71	L	Kirby	L	85.1	83.0	80.9	80.0	80.0	80.0	22	43	69	79	79	79	$ 25,326,995	$ 136,601	9	10	10	10	10	10	9	10	10	10	10	10	4	23	49	59	59	59
72	L	Knippa WSC	L	164.0	147.6	132.8	129.5	126.3	123.1	10	19	25	27	26	26	$ 2,101,625	$ 24,561	5	5	1	1	1	1	3	3	1	1	1	1	2	11	23	25	24	24
73	L	KT Water Development	L	270.2	243.2	218.9	197.0	177.3	159.6	89	261	548	979	1,552	2,281	$ 13,998,755	$ 18,047	45	69	102	143	190	244	27	41	61	86	114	146	17	151	385	750	1,248	1,891
74	L	Kyle	L	84.5	82.4	80.3	80.0	80.0	80.0	150	386	818	963	998	1,022	$ 75,813,480	$ 60,518	59	88	120	134	139	143	59	88	120	134	139	143	32	210	578	695	720	736
75	L	La Coste	L	87.2	85.0	82.9	80.8	80.0	80.0	3	5	8	12	13	13	$ 4,270,355	$ 167,102	1	1	1	1	1	1	1	1	1	1	1	1	1	3	6	10	11	11
76	L	La Vernia	L	166.6	149.9	134.9	131.5	128.2	125.0	65	134	212	243	280	322	$ 9,863,110	$ 17,902	33	36	8	8	9	10	20	22	8	8	9	10	12	76	196	227	262	302
77	L	Lackland Air Force Base	L	90.1	87.8	85.6	83.5	81.4	80.0	36	59	94	127	160	182	$ 33,825,970	$ 111,384	15	14	14	14	14	14	15	14	14	14	14	14	6	31	66	99	132	154
78	L	Leon Valley	L	102.7	100.1	97.6	95.2	92.8	90.5	44	94	145	194	244	291	$ 36,730,945	$ 98,987	18	21	21	21	21	21	18	21	21	21	21	21	8	52	103	152	202	249
79	L	Live Oak	L	138.9	135.4	132.0	128.7	125.5	122.4	171	200	238	274	309	343	$ 27,595,245	$ 19,326	17	17	17	17	17	17	17	17	17	17	17	17	137	166	204	240	275	309
80	L	Lockhart	L	121.4	118.4	115.4	112.5	109.7	107.0	74	146	242	349	466	590	$ 32,948,720	$ 52,855	30	32	35	38	40	43	30	32	35	38	40	43	14	82	172	273	386	504
81	L	Loma Alta Chula Vista Water System	L	254.6	229.1	206.2	185.6	167.0	150.3	10	19	26	31	36	38	$ 2,082,760	$ 24,361	5	5	5	5	4	4	3	3	3	3	3	2	2	11	18	23	29	32
82	L	Luling	L	120.3	117.3	114.4	111.5	108.7	106.0	19	35	56	77	100	123	$ 72,454,025	$ 451,417	8	8	8	8	9	9	8	8	8	8	9	9	3	19	40	61	82	105
83	L	Lytle	L	152.4	137.2	133.8	130.5	127.2	124.0	67	135	158	182	209	239	$ 14,364,405	$ 25,373	34	7	8	8	8	9	20	7	8	8	8	9	13	121	142	166	193	221
84	L	Marion	L	105.7	103.1	100.5	98.0	95.6	93.2	5	8	13	19	26	32	$ 5,038,540	$ 118,261	2	2	2	2	2	2	2	2	2	2	2	2	1	4	9	15	22	28
85	L	Martindale WSC	L	89.3	87.1	84.9	82.8	80.7	80.0	11	27	47	69	95	112	$ 12,648,670	$ 136,482	5	6	7	7	8	9	5	6	7	7	8	9	1	15	33	55	79	94
86	L	Maxwell SUD	L	85.5	83.4	81.3	80.0	80.0	80.0	50	122	251	411	553	610	$ 51,576,130	$ 123,021	20	27	36	49	66	72	20	27	36	49	66	72	10	68	179	313	421	466
87	L	McCoy WSC	L; N	103.7	101.1	98.6	96.1	93.7	91.4	24	44	72	103	134	171	$ 137,722,225	$ 679,259	10	10	11	11	12	13	10	10	11	11	12	13	4	24	50	81	110	145
88	L	Medina County WCID 2	L	155.3	139.8	136.3	132.9	129.6	126.4	8	16	17	19	20	22	$ 2,103,100	$ 30,788	4	1	1	1	1	1	3	1	1	1	1	1	1	14	15	17	18	20
90	L	Medina River West WSC	L	85.2	83.1	81.0	80.0	80.0	80.0	3	5	8	9	10	10	$ 4,271,440	$ 167,102	1	1	1	1	1	1	1	1	1	1	1	1	1	3	6	7	8	8
91	L	Moore WSC	L	152.7	137.4	134.0	130.7	127.4	124.2	11	24	30	33	37	40	$ 2,839,590	$ 30,237	6	1	1	1	1	1	3	1	1	1	1	1	2	22	28	31	35	38
92	L	Natalia	L	134.6	131.2	127.9	124.7	121.6	118.6	19	22	28	32	37	40	$ 4,249,980	$ 26,451	2	2	2	2	2	2	2	2	2	2	2	2	15	18	24	28	33	36
93	L	New Braunfels	L	160.9	144.8	130.3	127.0	123.8	120.7	2,814	7,514	14,851	21,184	28,963	38,425	$ 278,745,335	$ 11,497	1,406	1,997	551	736	947	1,189	843	1,198	551	736	947	1,189	565	4,319	13,749	19,712	27,069	36,047
94	L	Nixon	L	132.2	128.9	125.7	122.6	119.5	116.5	9	16	24	31	37	43	$ 5,983,285	$ 78,768	3	3	3	3	3	3	3	3	3	3	3	3	3	10	18	25	31	37
95	L	Oak Hills WSC	L	131.1	127.8	124.6	121.5	118.5	115.5	99	134	184	246	320	412	$ 30,257,460	$ 36,385	10	11	13	15	17	20	10	11	13	15	17	20	79	112	158	216	286	372
96	L	Pearsall	L	156.0	140.4	126.4	123.2	120.1	117.1	166	355	553	598	646	694	$ 25,618,250	$ 18,241	83	95	21	21	21	22	50	57	21	21	21	22	33	203	511	556	604	650
97	L	Picosa WSC	L	80.0	80.0	80.0	80.0	80.0	80.0	8	7	8	9	9	11	$ 14,523,525	$ 215,528	2	2	2	2	3	3	2	2	2	2	3	3	4	3	4	5	3	5
98	L	Pleasanton	L	172.1	154.9	139.4	135.9	132.5	129.2	267	543	848	986	1,140	1,312	$ 30,328,150	$ 13,395	133	144	31	34	37	41	80	87	31	34	37	41	54	312	786	918	1,066	1,230
99	L	Point Comfort	L	86.7	84.5	82.4	80.3	80.0	80.0	1	2	3	5	4	4	$ 2,774,525	$ 7,000	1	1	-	-	-	-	-	-	-	-	-	-	-	1	3	5	4	4
100	L	Polonia WSC	K; L	105.4	102.8	100.2	97.7	95.3	92.9	27	56	102	160	236	332	$ 6,363,620	$ 28,205	11	12	15	17	20	24	11	12	15	17	20	24	5	32	72	126	196	284
101	L	Port Lavaca	L	118.3	115.3	112.4	109.6	106.9	104.2	39	68	99	125	145	162	$ 27,386,090	$ 83,209	16	15	14	13	13	12	16	15	14	13	13	12	7	38	71	99	119	138
102	L	Poteet	L	103.8	101.2	98.7	96.2	93.8	91.5	8	14	18	25	32	39	$ 7,161,065	$ 106,201	3	3	3	3	3	3	3	3	3	3	3	3	2	8	12	19	26	33
103	L	Poth	L	135.6	132.2	128.9	125.7	122.6	119.5	6	11	17	21	26	31	$ 4,968,235	$ 97,102	2	2	2	2	2	2	2	2	2	2	2	2	2	7	13	17	22	27
104	L	Quail Creek MUD	L	97.7	95.3	92.9	90.6	88.3	86.1	4	6	10	14	17	20	$ 4,271,880	$ 125,403	1	2	2	2	2	2	1	2	2	2	2	2	2	2	6	10	13	16
105	L	Refugio	L	149.6	134.6	131.2	127.9	124.7	121.6	47	87	97	106	119	136	$ 8,373,430	$ 21,101	24	5	5	5	5	5	14	5	5	5	5	5	9	77	87	96	109	126
106	L	Runge	L	160.4	144.4	130.0	126.8	123.6	120.5	18	34	52	59	67	74	$ 3,582,350	$ 23,290	9	9	2	2	2	2	5	6	2	2	2	2	4	19	48	55	63	70
107	L	S S WSC	L	102.2	99.6	97.1	94.7	92.3	90.0	59	123	213	313	432	574	$ 46,093,450	$ 92,718	24	27	31	34	37	42	24	27	31	34	37	42	11	69	151	245	358	490
108	L	Sabinal	L	189.2	170.3	153.3	138.0	134.6	131.2	30	55	77	94	94	93	$ 857,145	$ 3,328	15	15	14	3	3	2	9	9	9	3	3	2	6	31	54	88	88	89
109	L	San Antonio Water System	L	94.0	89.0	86.0	84.0	81.0	79.0	21,071	25,450	28,486	27,462	30,050	34,483	$ 534,591,315	$ 3,384	2,686	2,983	3,167	3,310	3,421	3,588	-	-	-	-	-	-	20,465	24,940	28,486	27,462	30,050	34,483
110	L	San Marcos	L	106.8	104.1	101.5	99.0	96.5	94.1	429	650	827	1,319	1,864	2,802	$ 141,217,790	$ 39,449	174	239	288	324	346	362	174	239	288	324	346	362	81	172	251	671	1,172	2,078
111	L	Schertz	L	126.5	123.3	120.2	117.2	114.3	111.4	802	1,159	1,631	2,177	2,837	3,649	$ 84,268,755	$ 12,648	80	97	116	134	155	179	80	97	116	134	155	179	642	965	1,399	1,909	2,527	3,291
112	L	Seadrift	L	130.7	127.4	124.2	121.1	118.1	115.1	15	17	18	20	22	22	$ 3,494,100	$ 27,531	1	1	1	1	1	1	1	1	1	1	1	1	13	15	16	18	20	20
113	L	Seguin	L	131.0	127.7	124.5	121.4	118.4	115.4	192	408	667	925	1,194	1,481	$ 77,595,825	$ 47,965	76	89	96	100	104	108	76	89	96	100	104	108	40	230	475	725	986	1,265
114	L	Selma	L	129.4	126.2	123.0	119.9	116.9	114.0	264	378	526	687	880	1,111	$ 22,186,305	$ 10,162	26	32	37	42	48	55	26	32	37	42	48	55	212	314	452	603	784	1,001
115	L	Shavano Park	L	250.3	225.3	202.8	182.5	164.3	147.9	56	120	188	260	337	422	$ 5,951,750	$ 12,328	28	32	35	38	41	45	17	19	21	23	25	27	11	69	132	199	271	350
116	L	Smiley	L	158.6	142.7	128.4	125.2	122.1	119.0	10	17	25	26	27	27	$ 2,105,625	$ 24,661	5	5	1	1	1	1	3	3	1	1	1	1	2	9	23	24	25	25
117	L	South Buda WCID 1	L	134.1	130.7	127.4	124.2	121.1	118.1	15	48	110	212	357	552	$ 9,510,960	$ 75,394	6	10	15	22	30	40	6	10	15	22	30	40	3	28	80	168	297	472
118	L	Springs Hill WSC	L	94.2	91.8	89.5	87.3	85.1	83.0	137	291	522	804	1,158	1,585	$ 144,009,665	$ 124,746	55	64	76	87	101	116	55	64	76	87	101	116	27	163	370	630	956	1,353
119	L	Stockdale	L	166.0	149.4	134.5	131.1	127.8	124.6	30	57	83	89	95	102	$ 3,643,280	$ 14,194	15	15	3	3	3	3	9	9	3	3	3	3	6	33	77	83	89	96
120	L	Sunko WSC	L	127.4	124.2	121.1	118.1	115.1	112.2	66	87	112	140	172	206	$ 74,722,730	$ 134,195	7	7	8	9	9	10	7	7	8	9	9	10	52	73	96	122	154	186
121	L	Texas State University	L	150.6	135.5	132.1	128.8	125.6	122.5	176	329	365	400	434	466	$ 26,437,150	$ 17,794	88	18	18	18	18	18	53	18	18	18	18	18	35	293	329	364	398	430

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No.	WUG Primary Region	WUG Name	WUG Split Regions	Goal GPCD (gallons per capita daily)						Advanced Municipal Conservation WMS Yield (acft/yr)						Costs (2023 Dollars)		Water Use Reduction: Advanced Metering Infrastructure (AMI) Yield (acft/yr)						Water Loss Mitigation: Leak Detection and Repair Yield (acft/yr)						Water Use Reduction: Non-Capital Yield (acft/yr)					
				2030	2040	2050	2060	2070	2080	2030	2040	2050	2060	2070	2080	Total Costs	Unit Cost ($ per AF)	2030	2040	2050	2060	2070	2080	2030	2040	2050	2060	2070	2080	2030	2040	2050	2060	2070	2080
122	L	The Oaks WSC	L	136.6	133.2	129.9	126.7	123.5	120.4	22	29	38	48	59	71	$ 1,671,825	$ 9,159	2	2	3	3	3	3	2	2	3	3	3	3	18	25	32	42	53	65
123	L	Three Oaks WSC	L	196.4	176.8	159.1	143.2	128.9	125.7	35	74	116	158	204	230	$ 26,181,100	$ 87,452	18	20	21	23	5	5	11	12	13	14	5	5	6	42	82	121	194	220
124	L	Tri Community WSC	L	106.0	103.4	100.8	98.3	95.8	93.4	4	8	12	16	23	28	$ 5,002,320	$ 146,500	2	2	2	2	2	2	2	2	2	2	2	2	-	4	8	12	19	24
125	L	Universal City	L	126.9	123.7	120.6	117.6	114.7	111.8	74	141	219	295	367	441	$ 25,987,985	$ 41,679	30	31	32	32	32	32	30	31	32	32	32	32	14	79	155	231	303	377
126	L	Uvalde	L	185.8	167.2	150.5	135.5	132.1	128.8	387	712	992	1,220	1,235	1,244	$ 38,728,290	$ 11,826	194	190	184	36	34	33	116	114	111	36	34	33	77	408	697	1,148	1,167	1,178
127	L	Victoria	L	199.1	179.2	161.3	145.2	130.7	127.4	1,639	3,118	4,482	5,675	6,732	6,937	$ 126,122,745	$ 9,054	821	831	834	831	165	164	493	499	501	498	165	164	325	1,788	3,147	4,346	6,402	6,609
128	L	Victoria County WCID 1	L	91.3	89.0	86.8	84.6	82.5	80.4	4	8	12	17	21	25	$ 2,973,405	$ 87,250	2	2	2	2	2	2	2	2	2	2	2	2	-	4	8	13	17	21
129	L	Ville Dalsace Water Supply	L	217.3	195.6	176.0	158.4	142.6	128.3	11	23	35	45	55	66	$ 2,130,520	$ 22,510	6	6	6	7	7	1	3	4	4	4	4	1	2	13	25	34	44	64
130	L	Waelder	L	134.4	131.0	127.7	124.5	121.4	118.4	17	20	24	26	29	32	$ 3,537,540	$ 24,586	2	2	2	2	2	2	2	2	2	2	2	2	13	16	20	22	25	28
131	L	Water Services	L	136.3	132.9	129.6	126.4	123.2	120.1	22	44	70	98	129	165	$ 19,289,005	$ 103,874	9	10	10	11	11	12	9	10	10	11	11	12	4	24	50	76	107	141
132	L	West Medina WSC	L	161.9	145.7	131.1	127.8	124.6	121.5	20	41	59	64	71	71	$ 16,467,435	$ 96,361	10	11	2	2	2	2	6	7	2	2	2	2	4	23	55	60	67	67
133	L	Wimberley WSC	L	96.6	94.2	91.8	89.5	87.3	85.1	15	39	83	154	253	387	$ 24,154,955	$ 191,261	6	8	12	17	22	28	6	8	12	17	22	28	3	23	59	120	209	331
134	L	Windmill WSC	L	173.5	156.2	140.6	126.5	123.3	120.2	32	56	72	82	74	63	$ 1,493,790	$ 5,463	16	15	13	2	2	2	10	9	8	2	2	2	6	32	51	78	70	59
135	L	Wingert Water Systems	L	157.8	142.0	127.8	124.6	121.5	118.5	32	68	112	122	130	137	$ 5,103,345	$ 18,651	16	18	4	4	4	4	10	11	4	4	4	4	6	39	104	114	122	129
136	L	Woodsboro	L	128.2	125.0	121.9	118.9	115.9	113.0	20	22	25	27	27	27	$ 3,519,625	$ 20,844	2	2	2	2	1	1	2	2	2	2	1	1	16	18	21	23	25	25
137	L	Yancey WSC	L	94.1	91.7	89.4	87.2	85.0	82.9	17	31	51	69	89	110	$ 221,241,670	$ 1,540,230	7	7	8	8	8	8	7	7	8	8	8	8	3	17	35	53	73	94
138	P	Yoakum	L; P	139.7	136.2	132.8	129.5	126.3	123.1	35	42	48	54	59	64	$ 19,564,690	$ 66,378	4	3	3	3	3	3	4	3	3	3	3	3	27	36	42	48	53	58
139	L	Yorktown	L	137.9	134.5	131.1	127.8	124.6	121.5	31	37	44	50	57	62	$ 6,381,080	$ 24,343	3	3	3	3	3	3	3	3	3	3	3	3	25	31	38	44	51	56
140	L	Zavala County WCID 1	L	226.4	203.8	183.4	165.1	148.6	133.7	34	62	86	104	118	128	$ 5,606,210	$ 19,269	17	17	16	15	15	3	10	10	10	9	9	3	7	35	60	80	94	122

Notes:
San Antonio Water System uses utility-specific goals and yields. Some values in table are hard-coded to reflect SAWS' requested data