

AGENDA

RIO GRANDE REGIONAL WATER PLANNING GROUP (RGRWPG) (REGION M)

9:30 A.M. WEDNESDAY, FEBRUARY 21, 2024

LRGVDC MAIN CAMPUS
INITIATED AND CHAIRED VIA GoToMeeting & IN PERSON AT
301 W. RAILROAD ST., WESLACO, TEXAS

Virtual access is available at: <https://meet.goto.com/824372509>

WRITTEN PUBLIC COMMENTS RELATED TO AGENDA ITEM 5.A.3 WILL BE
ACCEPTED UNTIL **FEBRUARY 21, 2024, AT 9:30 AM**. COMMENTS MAY BE
SUBMITTED EITHER BY EMAIL TO:

mcruz@lrgvdc.org

OR SENT BY MAIL TO:

JIM DARLING, CHAIRMAN
RIO GRANDE REGIONAL WATER PLANNING GROUP
C/O LRGVDC
301 W. RAILROAD ST.
WESLACO, TX 78596

MEETING MATERIALS WILL BE AVAILABLE AT LEAST 7 DAYS PRIOR TO
THE MEETING.

PRESIDING: JIM DARLING, CHAIR

-
1. Call to Order & Roll Call.....Chairman
 2. Consideration and **ACTION** to Approve November 1, 2023, Meeting MinutesChairman
 3. Public Comment.....Chairman
 4. Annual Election of Officers and Executive Committee Chairman

5. Status Reports

ACTION MAY BE TAKEN ON ANY OF THE FOLLOWING ITEMS

- A. Status on Current TWDB Contract Activities..... Jaime Burke
Black & Veatch
1. Schedule and Progress Update
 2. Briefing on 2026 Region M Regional Water Planning Technical Memorandum
 3. Receive Public Comments on 2026 Region M Regional Water Planning Technical Memorandum
 4. RGRWPG to Consider Public Comments and Discuss and Consider Approval of Results of 2026 Region M Regional Water Planning Technical Memorandum, including:
 - a. Approval and authorization for the technical consultant to submit the technical memorandum to the TWDB
 - b. Authorization for the technical consultant to address DB27 updates and non-substantive revisions to the technical memorandum
 - c. Authorization for the technical consultant to address any requests from TWDB associated with processing the technical memorandum
 5. Consideration and Approval of Task 5B Scope of Work for Evaluating Water Management Strategies
 - a. Approval and authorization for the technical consultant to submit the notice-to-proceed Task 5B scope of work request to the TWDB
 - b. Authorization for the technical consultant and/or the LRGVDC to work with the TWDB on any follow up information that might be required
 - c. Authorization for the LRGVDC to negotiate and execute the subsequent TWDB contract amendment that will be issued.
 6. Related to the Amendment to the 2021 Region M Water Plan to Address Infeasible Water Management Strategies, Consider Approving the Submittal of the Amendment Package to TWDB for Determination of Minor Amendment Status, and Authorization for LRGVDC to Post Public Notice and Hold a Public Hearing Should the Amendment Status be Deemed Major
 7. Briefing on Major Water Providers and Consideration of Potential Change to RWPG Definition for this Cycle
 8. Initial Discussion of Potential Need for Environmental Review Subcommittee and Water Management Strategy Subcommittee and Request for Volunteers

- B. Financial Report.....Chairman
 - 1. Consideration and **ACTION** to Approve 2024 Budget
 - 2. Consideration and **ACTION** to Accept Expenditure Report

- C. Status of Joint Groundwater Area Planning in GMA’s 13 & 16..... Louie Pena, GMA 16
Debbie Farmer, GMA 13

- D. Reports from Other Regional Water Planning Groups
 - 1. Reports from Liaisons with: Region J, Tomas Rodriguez; Region L, Don McGhee,
and Region N, Commissioner David Fuentes

- E. Report on Water Conservation Plans and Drought Management Plans
Filed with Region.....Chairman

- F. Report on Notices of Applications for Funding and GrantsChairman

- G. Report on Regional Water Resource Advisory Committee (RWRAC)..... Melisa Gonzales
RWRAC

6. Reports from Federal and State Agencies

ACTION MAY BE TAKEN ON ANY OF THE FOLLOWING ITEMS

- A. TWDB.....Kevin Smith
Regional Water Planning
 - 1. Upcoming Items
 - 2. RWPG Chair Call – January 16, 2024
 - 3. Interregional Planning Council
 - 4. Upcoming Materials for RWPGs
 - 5. Financial Assistance Workshop

- B. IBWCDr. Maria-Elena Giner
Commissioner

C. TCEQ Watermaster..... Georgina Bermea
Rio Grande Watermaster

1. Status of Reservoirs

7. Discussion, Consideration, and **ACTION** on Date for Next Business Meeting.....Chairman

8. Adjourn

Agenda items may be considered, deliberated and/or acted upon in a different order than numbered above. The Board of Directors of the Rio Grande Regional Water Planning Group (RGRWPG) (Region M) reserves the right to adjourn into Executive (Closed) Session at any time during the course of this meeting to discuss any of the items listed on this agenda as authorized by the Texas Open Meetings Act. No final action will be taken during the Executive Session.

PUBLIC INPUT POLICY

Public Input Policy: "At the beginning of each RGRWPG meeting, the RGRWPG will allow for an open public forum/comment period. This comment period shall not exceed one (1) hour in length, and each speaker will be allowed a maximum of three (3) minutes to speak. All individuals desiring to address the RGRWPG must be signed up to do so, prior to the open comment period. The purpose of this comment period is to provide the public an opportunity to address issues or topics that are under the jurisdiction of the RGRWPG as outlined within final implementation guidelines of Senate Bill 1, 75th Legislative Session (SB-1). For issues or topics which are not otherwise part of the posted agenda for the meeting, RGRWPG members may direct staff to investigate the issue or topic further. No action shall be taken on issues or topics which are not part of the posted agenda for the meeting. Members of the public may be recognized on posted agenda items deemed appropriate by the Chairman as these items are considered, and the same time limitation (3 minutes) applies."

ITEM 2.

MEETING MINUTES

MINUTES

RIO GRANDE REGIONAL WATER PLANNING GROUP (RGRWPG) (REGION M)

9:30 AM WEDNESDAY, November 1, 2023

LRGVDC MAIN CAMPUS
VIA GOTOMEETING VIDEO CONFERENCE & IN PERSON
INITIATED AND CHAIRED AT 301 W. RAILROAD STREET, WESLACO, TX
PRESIDING: JIM DARLING, CHAIRMAN

- DRAFT -

1. **Call to Order and Roll Call**

Mr. Cruz called the meeting to order at 9:32 am and confirmed that a quorum of the voting membership was present.

The following voting members were in attendance:

<u>Board Members</u>	<u>Category</u>
Frank Schuster	Other
Nick Benavides	Small Business
Glenn Jarvis	Other
Tomas Rodriguez	Public
Carlos Garza	Small Business
Judge Joe Rathmell	Counties
Jaime Flores	Environmental
Dr. Neal Wilkins	Agriculture
Jorge Flores	Municipalities
Commissioner David Fuentes	Counties
Tom McLemore	Water Districts
Debbie Farmer	Groundwater Management Area
Robert Latham	Electric Generating Utilities
Steven Sanchez	Water Utilities

The following voting members were not in attendance:

Jim Darling	River Authorities
Sonny Hinojosa	Water Districts
Louie Pena	Groundwater Management Area
Dale Murden	Agriculture
Marilyn Gilbert	Municipality

2. **Consideration and Action to Approve August 2, 2023, Meeting Minutes**

Mr. Tom McLemore made a motion to approve the minutes of the June 7, 2023, meeting as presented. Carlos Garza seconded the motion, and upon a vote, the motion was carried unanimously.

3. **Public Comment**

No public comments were submitted for this meeting.

4. **Discussion and Action to Authorize LRGVDC to Negotiate and Execute an Amendment to the TWDB Contract.**

Mr. Kevin Smith started by explaining to the board that the contract amendment of the past legislative session, The Pledge, appropriated extra money for all planning groups. That amendment is in essence extra money. Mr. Smith mentioned that the amendment will increase

the total project cost and will increase committed funds by more than \$20,000. He also informs that there is one more final amendment to get the final committed funds to that total project. Mr. Smith explains that again this is all extra money on top of what everyone was going to get at the beginning of the cycle. ***Tom McLemore made a motion to approve the Authorization to Negotiate and Execute an Amendment to the TWDB Contract. Tomas Rodriguez seconded the motion, and upon a vote, the motion was carried unanimously.***

5. Status Reports

A. Status on Current TWDB Contract Activities

Ms. Jaime Burke, Black & Veatch Water Planning Leader was recognized and reported on the following items.

1. **Schedule and Progress Update**

Ms. Jaime Burke started with the Schedule and Progress update by showing the board the Conceptual Schedule for Region M plan Development, that was given to them in the packet. She mentioned an important deadline date; coming up in early March 2024 is the technical memorandum. This memorandum will include the following: information that has been gathered so far and future information, population and demand projections, water availability and supply, infeasible strategy analysis, and process for identifying potential feasible strategies and strategies identified to date. Ms. Burke stated this memorandum will show TWDB what work has been done and the progress of this project. Since the last update, the following progress has been made: submitted population and municipal demand revision request to TWDB (all requests (population, municipal demand, and non-municipal demand) were recommended for approval by Executive Administrator) and (projections will be reviewed by other agencies before TWDB Board adoption (expected November 2023), submitted hydrologic variances to TWDB – currently under review, sent survey and emails to certain 2021 Plan project sponsors to request information on project implementation status, and developed survey to send to WUGs and WWP's regarding water supplies and water management strategies for this cycle. With no further questions, Jaime then moved on to the next Agenda Item.

2. **Briefing on Methodology to Identify Infeasible Water Management Strategies and/or Projects in the 2021 Rio Grande Regional Water Plan and Analysis of Results.**

Ms. Burke mentioned that this item was required for a public comment period. This task is a new task and TWDB requested that they go back and look at the 2021 plan that focuses on 2020-decade strategies, as well as some 2030 and 2040 strategies that should be online or that should have action to be implemented. If not, they will need to be identified as infeasible and take action to address them within the 2021 plan through an amendment. The affirmative action related to moving the project forward may include but are not limited to: 1) spending money on the strategy or project, 2) voting to spend money on the strategy or project, or 3) applying for a federal or state permit for the strategy or project.

Moving on, Ms. Burke discussed the Methodology and stated that they were required to review the status of strategy and projects with an online decade of 2020 in 2021 plans. It was encouraged to review additional near-term strategies and projects that have lengthy permitting or construction processes. As for the identification process the following steps were done: reviewed list from TWDB, prepared and sent survey asking about implementation status of each project, sent email reminder about survey, put questions from survey into email and sent (instead of survey link), and lastly sent list of those we had not heard from to RWPG members for assistance. As per TWDB, if good faith effort was made to reach out to a project sponsor and we had not heard back, we can assume the project is feasible.

Jorge Flores comments that Maverick County, just like any other county throughout the state, needs a second water source. Mr. Flores asks Ms. Burke if they would need to make an amendment or would it be later in the plan. Ms. Burke explains that will depend on their timing and when they are looking to get funding. She explained that an amendment would most likely need to be done; however, SWIFT applications are due February 2024 and would be too late to get try to get an amendment done for this year but could get an amendment done for the 2025 SWIFT application cycle. Ms. Burke explains that this would be considered a separate activity, and the county would be responsible for this amendment. TWDB does not allow 2026 planning cycle funds to pay for amendments to be added in between cycles. However, if their timeline is further out and would like to get it into the 2026 plan that would be something that can be incorporated in the next several months and would not cost them.

Moving on, Ms. Burke mentioned the analysis results. Response was received from the following: Edinburg, Laguna Madre Water District, McAllen, Olmito WSC, Rio Grande City, Union WSC, and Zapata County.

No responses from: Agua SUD, Alamo, Brownsville, Donna, Edcouch, El Jardin WSC, Los Fresnos, Mission, Pharr, Rio Hondo, and Weslaco.

All received responses except one said their project was either completed or they had moved forward with implementation,

- Edinburg said their 2020 Non-Potable Reuse project has been put on hold.
- Expect Region M will need to do an amendment to the 2021 Plan to remove this project from the 2020 decade. RWPG-adopted amendments due June 4, 2024.

3. Receive Public Comments on the Results of the Analysis of Infeasible Water Management Strategies and/or Projects in the 2021 Rio Grande Regional Water Plan

There were no public comments received nor were there any comments provided during the meeting.

4. RGRWPG to Consider Public Comments and Discuss and Consider Approval of Results of Analysis of Infeasible Water Management Strategies and /or Projects in the 2021 Rio Grande Regional Water Plan.

Ms. Burke suggested that should like to get approval from the Board, if they would like to consider Edinburg and McAllen's strategies infeasible, which encourages them to start moving forward with the amendment process to address those in the 2021 plan. If approved, they would consider the Edinburg 2020 non-potable re-se strategy and the McAllen 2030 potable reuse strategy to be considered infeasible within the 2021 plan and start moving forward. ***Tomas Rodriguez made a motion to approve consider the Edinburg 2020 non-potable re-se strategy and the McAllen 2030 potable reuse strategy to be considered infeasible within the 2021 plan and start moving forward, Jorge Flores seconded the motion, upon a vote the motion was carried unanimously.***

5. Briefing on Process for Identifying Potentially Feasible Water Management Strategies for the 2026 Rio Grande Regional Water Plan.

Ms. Burke started by explaining the TWDB Guidelines including: 1) The Regional Water Plan shall serve as a long-term water supply plan under drought-of-record conditions, 2) RWPG must identify all potentially feasible WMS, select WMS, and present it to the public for comment, 3) RWPG must identify and evaluate WMS for all WUG and WWP with shortages (Needs), 4) RWPG must evaluate WMS with sufficient specificity to allow agencies to make financial and regulatory decisions. Ms. Burke explained that the local WUG and WWPs are encouraged to review water demand projections and availability determinations for their local community, provide input to the RWPG on recommended WMS, local supply plans, and proposed water facilities for their WUG, develop detailed water conservation and drought management plans, and consider regional solutions to

cooperate with other WUGs when appropriate. Lastly, develop contingency plans and facilities for use during emergency shortages of water.

Ms. Burke informed the board explaining what information is needed from project sponsors and explained if the project information isn't available, Region M will develop planning-level evaluations meeting the TWDB's minimum requirements, under the available time and budget.

Ms. Burke then moved on to the proposed process for identifying potentially feasible water management strategies. Current water planning information, including specific WMS of interest, will be solicited from WUGs and WWPs in Fall 2023. A) - Solicitation of planning information will include the recommended WMS in the 2021 Regional Water Plan, B) - WUGs/WWPs will be encouraged to classify each water management strategy on their 2021 Plan list as included or rejected for the 2026 Planning Cycle and provide comments, and to list additional WMS that will be new for the 2026 Planning Cycle. She mentioned that a list of potential WMSs will be prepared based on an initial technical evaluation and needs analysis and the comments received, which will be available for consideration by the RWPG by early 2024. Additional WMS may be brought forth to the RWPG for consideration until May 2024. The list of potential WMSs will be further considered to identify "potentially feasible" or "not potentially feasible" WMSs for WUGs and WWPs with identified water needs.

Mr. Frank Schuster asked how they reach out to the water providers and water user groups. Ms. Burke stated that they are planning to contact them by email and provide a survey with a list of strategies they had within the 2021 plan and asking if they would like to keep those in the 2026 plan or remove them. Also, if they have any new projects that were not known of in the last cycle to be added to the list.

6. Receive Public Comments on the Process for Identifying Potentially Feasible Water Management Strategies for the 2026 Rio Grande Regional Water Plan.

There were no public comments received nor were there any comments provided during the meeting.

7. RGRWPG to Consider Public Comments and Discuss and Consider Approval of Final Process for Identifying Potentially Feasible Water Management Strategies for the 2026 Rio Grande Regional Water Plan.

Carlos Garza made a motion to approve The Final Process for Identifying potentially Feasible Water Management Strategies for 2026 Rio Grande Regional Water Plan. Tom McLemore seconded the motion, upon vote the motion was carried unanimously.

B. Financial Report

1. Consideration and Action to Accept Expenditure Report

Mr. Manuel Cruz explained to the board the Region M 2023 Budget and Expenditure Report. He informed the board that between January 1st – September 30th the annual budget stayed the same at \$22,650 and explained that there was a budget available of \$15,388.30, the actual cash available balance is \$83,649.95 which includes \$2,197.46 of interest income. ***Steve Sanchez made a motion to approve the Expenditure Report, Mr. Tomas Rodriguez seconded the motion, and upon vote, the motion was carried unanimously.***

C. Status of Joint Groundwater Area Planning in GMA's 13 & 16

Ms. Debbie Farmer started by informing the board that the technical consultant Dr. Bill

Hutchinson presented a status report on the GMA's 13 request amending the groundwater availability model, summarized TWDB requirements for the update, gave an overview of the process calibration targets for the update, and the next steps for completion. Ms. Farmer then closes by telling the board that the committee adopted a resolution to update the groundwater availability model. No further comments from Ms. Farmer.

Mr. Andy Garza with the Kennedy Groundwater Conservation District started by giving a brief update on GMA's 16. He mentioned that they hired a consultant for this next cycle. He stated that they are getting a new model or ground availability model for their area and would run the new model and compare results from the new to the old model to see the difference. No further updates from Mr. Garza.

D. Reports from other regional Water Planning Groups

No updates or reports currently provided.

E. Report on Water Conservation Plans and Drought Management Plans Filed with Region

Mr. Cruz gave a reminder for Municipalities to continue to monitor the water conservation plans and drought conservation plans as he knows that some already have or are in the process of initiating them.

F. Report on Notices of Applications for Funding and Grants

Mr. Cruz reminded municipalities to continue to monitor water conservation plans and drought management plans.

G. Report on Regional Water Resource Advisory Committee (RWRAC)

Mrs. Melisa Gonzales informed the board that they have a membership seat to fill for the next December 12th, 2023, meeting at 2 O'clock and are accepting nominations.

6. Reports from Federal and State Agencies

A. TWDB

Mr. Kevin Smith, TWDB, was recognized and reported on the following items.

1. RWPG Chairs Call held September 28th, 2023.

2. Interregional Planning Council Update

Mr. Smith informed the group that The Regional Planning Group Chairs call was held on Sept 28th. Chairman Jim Darling was there and gave an update on the status of the reservoir levels and water availability that is currently going on in the region. He mentioned that there was discussion on critical timelines, the tech memo that is due next March, and all that needs to be done before that. Mr. Smith let the board know that he was happy to see the progress that has been made, like the amendment, feasible strategies, and the methodologies potential strategies. He also mentioned that at the November 9, 2023, meeting they will be taking to board the recommended population and demand projections. Once you have those the availability now is done, and you can determine needs. Mr. Smith informed the board that they also did an update on the Regional Planning Council. They are finalizing their report which should be finalized by November 30, 2023, and is due on March 4, 2024. He mentioned a new database application has been developed that will now allow for electronic data when requested.

B. IBWC

Ms. Jennifer Pena explained the 1944 Water Treaty, explaining how Mexico must deliver 1.75-million-acre feet over a five-year cycle. As we know, Mexico is not doing as well on delivering water to our community. It is a historic low and is dire situation, and IBWC is aware and doing everything they can to get Mexico to move on this. IBWC does not have the jurisdiction or ability to sue them; therefore, this must be done diplomatically. Ms. Pena informed the board that on October 21, 2020, they signed Minute 325. The Minute is a binding agreement to end the 2015-2020 cycle without a debt. The Minute also established workgroups, a Hydrology Workgroup and Policy Workgroup. The Policy Workgroup was responsible for developing a Minute to provide and improve predictability and reliability on the Rio Grande Minutes. A new Minute is anticipated to be signed by December 2023.

Mr. Frank Schuster took time to thank Ms. Pena and her team for all that they do and the communication under the current commissioner. Mr. Steven Sanchez also gave Ms. Pena a thank you to her and her team. Mr. Sanchez mentioned that some of the irrigation districts have run out of water. One district is no longer delivering to their farmers anymore. In the past month (September) the push waster is going to cost North Alamo about \$80k if this continues, we anticipate a little more than a million cost that will have to be passed on to our constituents, which is something that these people cannot afford. Mr. Sanchez would like to see if Commissioner Giner could get Mexico to release about 100,000 acres to 150,000 acres so farmers can do their work and to get water to the municipalities and water supply corporations.

C. TCEQ Watermaster

Ms. Georgina Bermea provided information from October 21st, the US combined ownership at Amistad and Falcon stood at 21.12% of normal conservation compacity that's impounding 702,940-acre feet and now down from 31.65%. She mentioned last year at the same time we were at 31.65%, currently we are at 21.12%. Overall, the system is holding at 22.64% of the normal conservation capacity, Amistad at 29.66% and Falcon at 14.13% of conservation capacity. Mexico currently is at 24.67% of normal conservation capacity that's impounding 620,926-acre feet of Amistad and Falcon.

7. Discussion, Consideration, and Action on Date for Next Business Meeting

Mr. Cruz mentioned the next meeting would fall on March 6th, 2023, at 9:30 am. He then asked the board if everyone would be okay with that date. Ms. Jaime Burke stated that they would need to meet before March 4th, just because the technical memos are due on March 4th and that will need approval and calls for public comments. It was then decided by the board to schedule the next meeting for February 7, 2024.

8. Adjourn

There being no further business to come before the Group, Mr. Frank Schuster adjourned the meeting at 10:55 am.

Mr. Frank Schuster, Chair

ITEM 4.

ANNUAL ELECTION OF OFFICERS & EXECUTIVE COMMITTEE



*Jim Darling, *Chairman*
Rio Grande Regional Water Authority

*Sonny Hinojosa, *Vice-Chairman*
HCID #2, San Juan,

*Donald K. McGhee, *Secretary*
Hydro Systems, Inc., Harlingen

*Frank Schuster
Val Verde Vegetable Co., McAllen

*Nick Benavides
Nick Benavides, Company, Laredo

Glenn Jarvis
Attorney, McAllen

Marilyn Gilbert
Brownsville PUB

Tomas Rodriguez
Public, Laredo

Carlos Garza, P.E.
AEC Engineering, LLC., Edinburg

Joe Rathmell
Zapata County Judge

Jaime Flores
Arroyo Colorado Partnership, Weslaco

Louie Pena
Brush Country GCD, GMA 16

Dale Murden
Texas Citrus Mutual, Mission

Vacant
City of Laredo,

Neal Wilkins, Ph.D.
East Foundation

Jorge Flores
Eagle Pass Water Works

David L. Fuentes
Hidalgo County Commissioner

Tom McLemore
Harlingen Irrigation District

Debbie Farmer
Wintergarden GCD, GMA 13

Robert Latham
Magic Valley Generating Station

Steven Sanchez
North Alamo Water Supply Corp

***Executive Committee**

MEMORANDUM

TO: RGRWPG Voting Members
FROM: Manuel Cruz, LRGVDC Executive Director
DATE: February 14, 2024
SUBJ: **Election of Officers**

According to the Region M Bylaws:

ARTICLE VII. OFFICERS

Section 1. Officers, Restrictions and Terms of Office

Voting members of the RGRWPG shall select from the voting membership a Chair, a Vice Chair, and a Secretary to serve as officers. *Each officer shall serve a term of one calendar year.*

Section 6. Executive Committee

The Executive Committee shall be composed of five RGRWPG members, including the Chair, Vice Chair, Secretary and two members-at-large. No two voting members representing the same interest shall serve as members of the Executive Committee at the same time. The two members-at-large shall be selected annually in the same manner and with the same terms as set forth for the selection of officers under this Article.

Those currently serving on the Executive Committee are:

NAME	OFFICE	CATEGORY	COUNTY
Jim Darling	Chair	River Authorities	Hidalgo
Sonny Hinojosa	Vice Chair	Water Districts	Hidalgo
Don McGhee	Secretary	Industries	Cameron
Frank Schuster	Member-at-Large	Other	Hidalgo
Nick Benavides	Member-at-Large	Small Business	Webb

Stewards of water resources from Amistad to the Gulf

ITEM 5A.

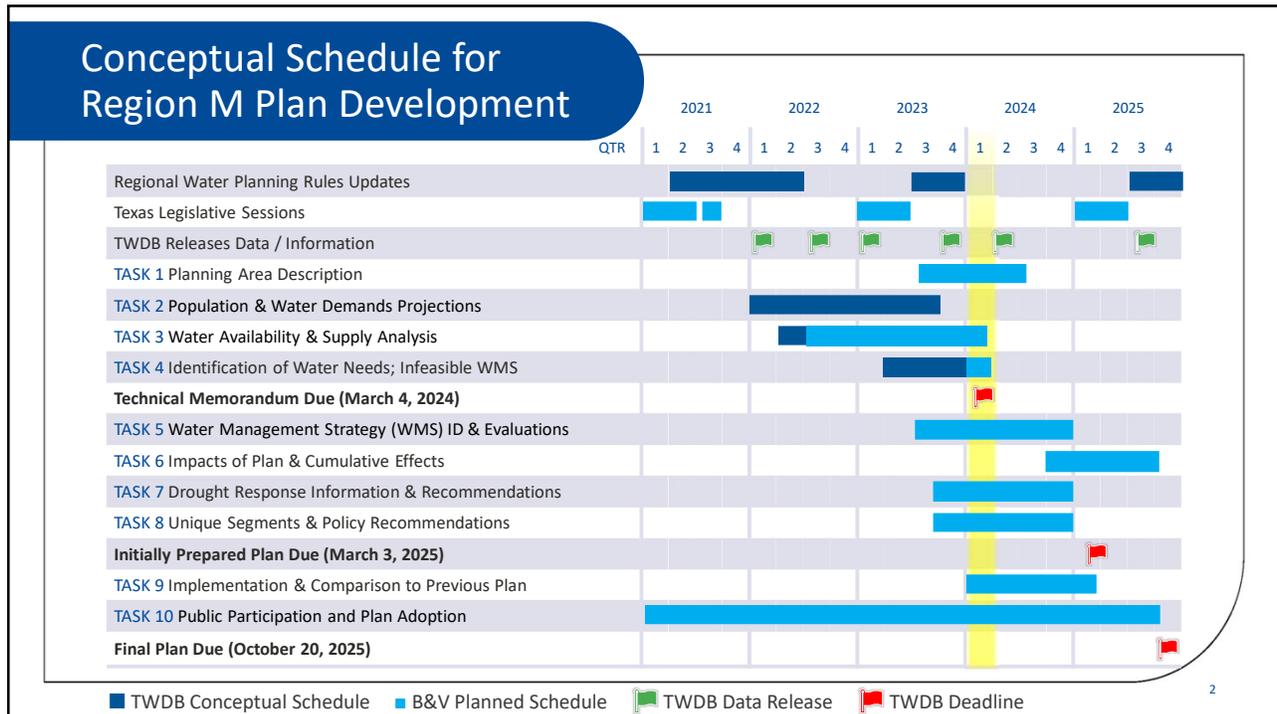
STATUS ON CURRENT TWDB CONTRACT ACTIVITIES

BLACK & VEATCH 2/21/2024

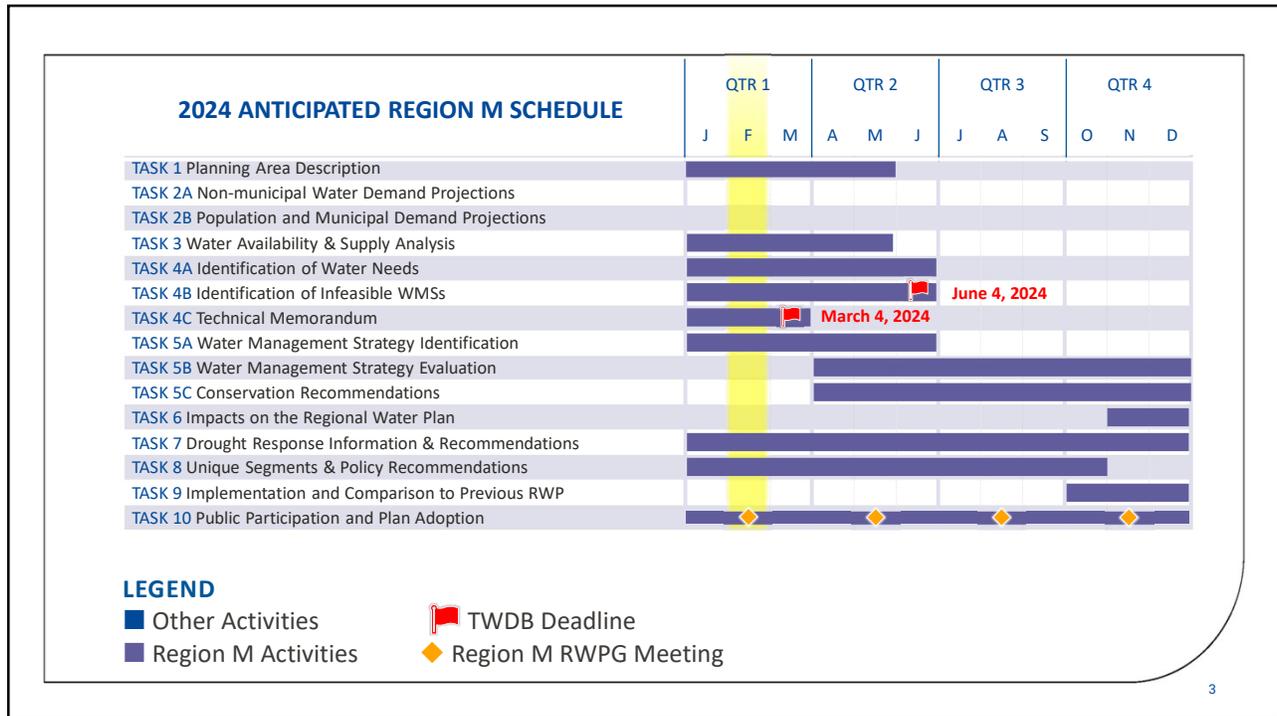
Agenda Item 5.A.1: Schedule and Progress Update

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2



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Progress Since Last Meeting

- TWDB Board adopted Population and Water Demand Projections on November 9, 2023
- TWDB approved Region M hydrologic variances on November 9, 2023
- Sent surveys to WUGs and WWPes regarding water supplies and water management strategies for this cycle
- Prepared draft technical memorandum for submittal to TWDB by March 4, 2024
- Prepared draft amendment for infeasible WMSs
- Prepared draft scope of work for Task 5B WMS evaluations

4

4

Update on New or Ongoing Efforts

- **New: Begin Drought Contingency Plan (DCP) Outreach and Evaluations (Task 7)**
 - **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 is May 1, 2024
 - **Planning Group Responsibilities, for all eligible WUGs:**
 - Gather and request DCPs
 - Review DCPs and describe Drought Management Measures (defined as demand management activities to be implemented during drought that may be evaluated and included as Water Management Strategies)

Next Steps

- **Lower Rio Grande Valley Development Council (LRGVDC) will provide received DCPs to Technical Consultant**
- **Technical Consultant will send emails to request outstanding DCPs from eligible WUGs**

5

5

Agenda Item 5.A.2: Briefing on 2026 Region M Regional Water Planning Technical Memorandum

6

6

Technical Memorandum Deliverable

Task Objective:

Develop a mid-cycle deliverable for the 2026 Regional Water Plan (RWP) with a snapshot of March 2024 data.

The data within the Technical Memorandum (Tech Memo) remains in draft form until the submittal of Adopted Regional Water Plans by the Regional Water Planning Groups in October 2025.

Due to TWDB on March 4, 2024

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Technical Memorandum Deliverable


See Handout A for Tech Memo

Tech Memo Section	Required Contents (per 31 TAC §357.12)	Presented to RWPG	Date Presented to RWPG
3.0	Population and Water Demand projections adopted by Board	<input checked="" type="checkbox"/>	Various
3.0 & 4.0	Updated Source Water Availability , as entered into 2027 State Water Planning Database (DB27)	<input type="checkbox"/>	Today
3.0 & 4.0	Updated Existing Water Supplies , as entered into DB27	<input type="checkbox"/>	Today
3.0	Identified Water Needs and Surpluses	<input type="checkbox"/>	Today
5.0	List of infeasible WMSs and water management strategy projects (WMSPs) or a statement that no infeasible WMSs or WMSPs were identified by the RWPG	<input checked="" type="checkbox"/>	11/1/23
6.0	Region M's documented process to identify potentially feasible WMSs	<input checked="" type="checkbox"/>	11/1/23
7.0	List of potentially feasible WMSs identified to date	<input type="checkbox"/>	Today
8.0	Summary of interregional coordination efforts to date	<input checked="" type="checkbox"/>	Various

8

Population and Water Demand Projections



See Handout A,
Section 3.0

- Approved by RWPG on March 1, 2023, and August 2, 2023
- Adopted by TWDB on November 9, 2023
- Included in Section 3.0 and Appendix A of Tech Memo

9

9

Source Water Availability



See Handout A,
Section 3.0 & 4.0

- **Surface Water Availability**
 - TCEQ water availability models (WAMs) were used to estimate firm yields of reservoirs and surface water availabilities in the Nueces-Rio Grande Coastal Basin and Rio Grande River Basin.
 - Unmodified TCEQ WAM Run 3 for Nueces-Rio Grande Coastal Basin
 - Modified TCEQ WAM Run 3 for Rio Grande River Basin
- **Groundwater Availability**
 - TWDB Modeled Available Groundwater (MAG) volumes used for majority of the groundwater sources.
 - TWDB Non-MAG volumes used for certain groundwater sources, based on the following methodology/sources of information:
 - Non-MAG/non-relevant aquifers with DFC-compatible supplies calculated by TWDB
 - No RWPG-estimated groundwater availabilities to date
- Source availability included as a DB27 report in Appendix A of Tech Memo

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Source Water Availability, Surface Water



See Handout A,
Section 4.1

Table 1: Reservoir Firm Yields Using Rio Grande WAM Run 3 and Modified Rio Grande WAM Run 3

SOURCE	FIRM YIELD FROM UNMODIFIED WAM RUN 3 ^A (ACFT/YR)		FIRM YIELD FROM MODIFIED WAM RUN 3 ^A (ACFT/YR)	
	2030	2080	2030	2080
Amistad-Falcon Reservoir System	999,768	990,268	1,001,776	995,863
Casa Blanca Lake/Reservoir	600	412	600	412

Notes:
A Firm yields incorporate sedimentation

11

11

Source Water Availability, Groundwater



See Handout A,
Section 3.0

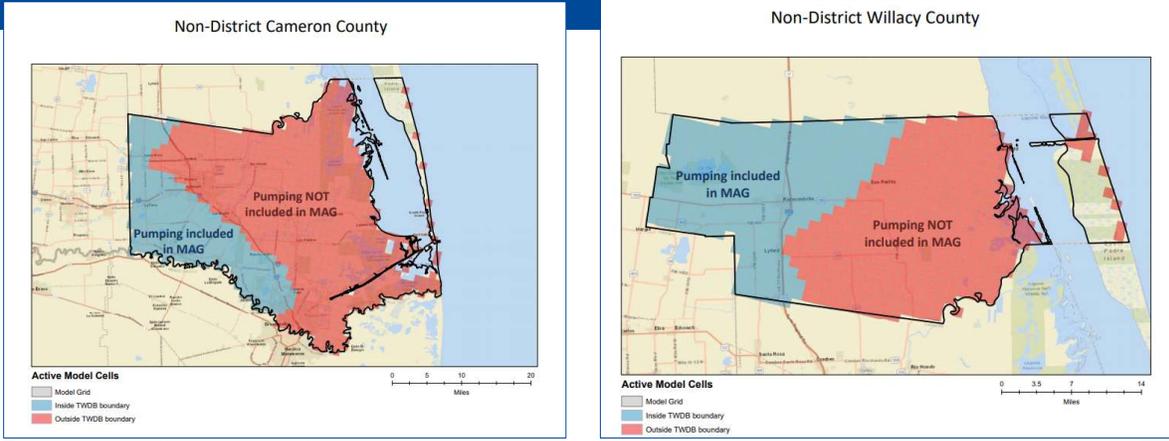
TWDB-provided MAG Volumes in 2022 State Water Plan vs. 2027 State Water Plan. Red text denotes decreased availability this cycle.

Aquifer Name	County	Basin	2022 SWP MAG Availability 2030	2027 SWP MAG Availability 2030	MAG Availability Difference 2030	Percent Change MAG Availability 2030
Carrizo-Wilcox Aquifer	Maverick	Nueces	777	542	(235)	-30.24%
	Maverick	Rio Grande	1,265	3	(1,262)	-99.76%
	Webb	Nueces	92	890	798	867.39%
Gulf Coast Aquifer System	Webb	Rio Grande	824	20	(804)	-97.57%
	Cameron	Nueces-Rio Grande	7,536	7,536	0	0.00%
	Cameron	Rio Grande	463	463	0	0.00%
	Hidalgo	Nueces-Rio Grande	91,810	91,421	(389)	-0.42%
	Hidalgo	Rio Grande	2,041	2,041	0	0.00%
	Jim Hogg	Nueces-Rio Grande	5,236	5,230	(6)	-0.11%
	Jim Hogg	Rio Grande	938	937	(1)	-0.11%
	Starr	Nueces-Rio Grande	1,891	1,958	67	3.54%
	Starr	Rio Grande	2,810	2,839	29	1.03%
	Webb	Nueces	22	22	0	0.00%
	Webb	Nueces-Rio Grande	642	642	0	0.00%
	Webb	Rio Grande	125	125	0	0.00%
	Willacy	Nueces-Rio Grande	1,459	1,150	(309)	-21.18%

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Non-MAG Gulf Coast Aquifer (in red)

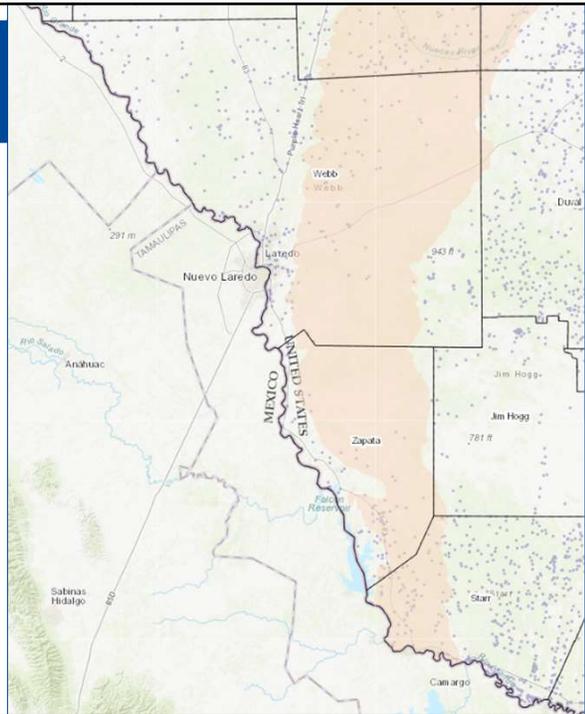


Aquifer	County	Non-MAG Availability (acft/yr)					
		2030	2040	2050	2060	2070	2080
Gulf Coast Aquifer System	Cameron	43,167	46,720	50,273	53,824	53,824	53,824
	Willacy	1,407	1,622	1,838	2,053	2,053	2,053

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Non-MAG Yegua-Jackson (in orange)

Aquifer	County	Non-MAG Availability (acft/yr)					
		2030	2040	2050	2060	2070	2080
Yegua-Jackson Aquifer	Starr	33	38	43	48	48	48
	Webb	20,000	20,000	20,000	20,000	20,000	20,000
	Zapata	7,987	7,987	7,987	7,987	7,987	7,987



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Existing Water Supplies: Methodology

See Handout A, Section 3.0

Data Sources

- 2021 Region M Water Plan
- Supplies & Strategies Survey responses from WUGs and WWP
- Historic TWDB Water Use Survey Detailed Groundwater Pumpage by County
- Historical Water Use Estimates by Industry Type
- TCEQ Drinking Water Watch (DWW)

➔

Compile and Update Data in DB27 (Appendix A of Tech Memo)

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Identified Water Needs

See Handout A, Section 3.0

- WUGs with Identified water needs will be included once DB27 is updated.
- Technical Memorandum includes:
 - WUGs with Needs and their decadal volumes are included in a DB27 report in Section 3.0 and Appendix A of Tech Memo
 - Table of Potentially Feasible WMSs for WUGs with Identified Needs will be included in Appendix D of Tech Memo

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Infeasible WMSs from 2021 Plan



See Handout A,
Section 5.0

Evaluation and Results (Presented to RWPG on November 1, 2023)

- Evaluated WMSs and WMSPs for feasibility
- Reached out to project sponsors via email and phone call to receive updates on project status.

Results of Infeasible WMSs Evaluation

Two projects identified as infeasible, requiring amendment to 2021 Regional Water Plan:

- Non-Potable Reuse WMS for Edinburg: Shift the online decade from 2020 to 2030. This revision results in Unmet Needs in 2020 for Edinburg.
- North WWTP Potable Reuse Phase 1 WMS for McAllen: Shift the online decade from 2030 to 2040. This revision does not result in Unmet Needs for McAllen or other WUGs.

Amendment discussion in subsequent agenda item

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Documented Process for Identifying Potentially Feasible WMS



See Handout A,
Section 6.0

- RWPG approved process presented on November 1, 2023
- Included in Section 6.0 of Tech Memo

Potentially Feasible Water Management Strategies



See Handout A, Section
7.0 & Appendix D

- Included in Section 7.0 and Appendix D of Tech Memo
- Uses template provided by TWDB to identify categories of strategies that are potentially feasible for WUGs with Needs
- List based on strategies from 2021 Plan and feedback from WUGs and WWP's this cycle

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Interregional Coordination Efforts

 See Handout A, Section 8.0

- Included in Section 8.0 of Tech Memo
- Interregional coordination efforts to date include:
 - Regular reports from interregional liaisons
 - Engagement and membership in the Interregional Planning Council
 - Engagement in Regional Water Planning Chairs' Meetings

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Next Steps

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-  RWPG receives and considers public comments
-  RWPG approves Tech Memo submittal (action proposed in next agenda item)
-  Consultant submits Tech Memo to TWDB by March 4, 2024

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2/21/2024

Agenda Item 5.A.3:
Receive Public Comments on 2026 Region M
Regional Water Planning Technical
Memorandum

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2/21/2024

Agenda Item 5.A.4:
RGRWPG to Consider Public Comments and
Discuss and Consider Approval of Results of
2026 Region M Regional Water Planning
Technical Memorandum

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Recommendation

Consider Action to:

-  Approval and authorization for the technical consultant to submit the technical memorandum to the TWDB
-  Authorization for the technical consultant to address DB27 updates and non-substantive revisions to the technical memorandum
-  Authorization for the technical consultant to address any requests from TWDB associated with processing the technical memorandum

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2/21/2024

Agenda Item 5.A.5: Consideration and Approval of Task 5B Scope of Work for Evaluating Water Management Strategies

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Scope of Work for Task 5B



See Handout B
for Draft SOW

- Advanced Municipal Conservation
- Irrigation District Conservation
- Agricultural Conservation
- Industrial Conservation
- Conversion of Water Right Classification
- New or Expanded Surface Water Treatment
- New or Expanded Distribution and Transmission Facilities Resulting in Increased Supplies
- Update to Off-Channel Storage
- New or Expanded Fresh Groundwater Supply
- New or Expanded Brackish Groundwater Desalination
- Seawater Desalination
- Reuse
- Biological Control of *Arundo Donax*
- Drought Management
- Aquifer Storage and Recovery
- Regional Water Supply Facilities

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Recommendation

Consider Action to:



Approval and authorization for the technical consultant to submit the notice-to-proceed Task 5B scope of work request to the TWDB



Authorization for the technical consultant and/or the LRGVDC to work with the TWDB on any follow up information that might be required



Authorization for the LRGVDC to negotiate and execute the subsequent TWDB contract amendment that will be issued.

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2/21/2024

Agenda Item 5.A.6: Consider Amendment to the 2021 Region M Water Plan to Address Infeasible Water Management Strategies

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Infeasible WMSs, Methodology & Results

RWPG Responsibilities:

- Review the status of strategies and projects with an online decade of 2020 in the 2021 RWPs
- Additionally: Review additional, near-term strategies and projects that have lengthy permitting or construction processes

From a survey sent to WUGs regarding implementation status, all received responses, except two, said their project was either completed or they had moved forward with implementation:

- Edinburg said their 2020 Non-Potable Reuse project has been put on hold.
- McAllen has taken no affirmative action to move the 2030 Potable Reuse project forward.
- Region M needs to complete an amendment to the 2021 Plan to remove Edinburg's project from the 2020 decade and McAllen's project from the 2030 decade. RWPG-adopted amendments due **June 4, 2024**

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Amendment to the 2021 Region M Water Plan to Address Infeasible Water Management Strategies



See Handout C for Draft Amendment

Modify infeasible strategies from 2021 Regional Water Plan:

- **Non-Potable Reuse WMS for Edinburg:** Shift the online decade from 2020 to 2030. This revision results in Unmet Needs in 2020 for Edinburg.
- **North WWTP Potable Reuse Phase 1 WMS for McAllen:** Shift the online decade from 2030 to 2040. This revision does not result in Unmet Needs for McAllen or other WUGs.

The following chapters require edits as part of this amendment:

- Chapter 5.** Water Management Strategies
- Chapter 6.** Impacts of Regional Water Plan; Unmet Water Needs
- Chapter 10.** Public Participation and Plan Adoption
- Appendix B.5.** Major Water Provider Second Tier Water Needs

Next Steps



RWPG approves submittal of amendment package to TWDB (subsequent agenda item)



TWDB determines whether it is a major or minor amendment



RWPG adopts amendment at May meeting, pending possible need for a public hearing

Recommendation

Consider Action to:

-  Approve the submittal of the amendment package to TWDB for determination of minor amendment status
-  Authorize the LRGVDC to post public notice and hold a public hearing should the amendment status be deemed major

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2/21/2024

Agenda Item 5.A.7:
Briefing on Major Water Providers and
Consideration of Potential Change to RWPG
Definition for this Cycle

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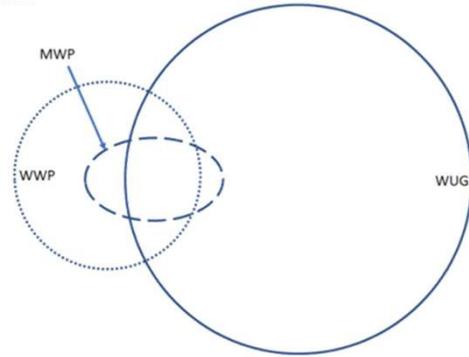
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Major Water Providers (MWP)

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.

91 total WUGs, WWPs & IDs in Region M

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2021 Plan MWP Methodology

- The 2021 Plan Rio Grande RWPG threshold for determination as a MWP:
 - Supplies or delivers 3,000 AF or more of municipal water in 2020
- 2021 MWPs (table to the right) are based on estimates of 2020 municipal demands
- Resulted in 37 MWPs

No.	Major Water Provider	No.	Major Water Provider
1	Agua SUD	20	Hidalgo County Irrigation District #2
2	Alamo	21	Hidalgo County Irrigation District #6
3	Bayview Irrigation District #11	22	Hidalgo County WID #3
4	Brownsville	23	Laguna Madre Water District
5	Brownsville Irrigation District	24	Laguna Madre WD
6	Cameron County Irrigation District #2	25	Laredo
7	Cameron County Irrigation District #3 - La Feria	26	McAllen
8	Cameron County Irrigation District #6 - Los Fresnos	27	Military Highway WSC
9	Cameron County WID #10	28	Mission
10	Delta Lake Irrigation District	29	North Alamo WSC
11	Donna Irrigation District-Hidalgo County #1	30	Pharr
12	Eagle Pass	31	Rio Grande City
13	East Rio Hondo WSC	32	San Benito
14	Edinburg	33	San Juan
15	Harlingen	34	Sharyland WSC
16	Harlingen Irrigation District-Cameron County #1	35	Southmost Regional Water Authority
17	Hidalgo & Cameron Counties Irrigation District #9	36	United Irrigation District
18	Hidalgo County Irrigation District #1	37	Weslaco
19	Hidalgo County Irrigation District #16		

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2026 MWP Methodology

The Rio Grande RWPG threshold for determination as a MWP:

Option 1 (*increased threshold*):

- Municipal demands or Domestic, Municipal, and Industrial (DMI) water delivery of 10,000 AF or more of municipal water in 2030
- Results in 16 MWPs

Option 2 (*increased threshold*):

- Municipal demands or DMI water delivery of 15,000 AF or more of municipal water in 2030
- Results in 11 MWPs

Option 3 (*increased threshold*):

- Municipal demands or DMI water delivery of 20,000 AF or more of municipal water in 2030
- Results in 7 MWPs

Current Definition:

- Municipal demands or DMI delivery of 3,000 AF or more of municipal water in 2030
- Results in 37 MWPs

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2026 MWP: Option 1

MWP Threshold: Municipal demands or DMI water delivery of 10,000 AF or more of municipal water in 2030

No.	Major Water Providers	Demands or DMI Water Delivery (acft/yr)
1	Laredo	41,831
2	McAllen	38,276
3	North Alamo WSC	33,888
4	Brownsville	32,212
5	United Irrigation District	32,085
6	Hidalgo County Irrigation District #2	29,832
7	Harlingen Irrigation District-Cameron County #1	21,340
8	Mission	18,065
9	Sharyland WSC	15,541
10	Hidalgo County WID #3	15,488
11	Hidalgo County Irrigation District #1	15,054
12	Harlingen	14,830
13	Hidalgo & Cameron Counties Irrigation District #9	12,846
14	Cameron County Irrigation District #2	11,508
15	Edinburg	11,209
16	Delta Lake Irrigation District	10,060

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2026 MWP: Option 2

MWP Threshold: Municipal demands or DMI water delivery of 15,000 AF or more of municipal water in 2030

No.	Major Water Providers	Demands or DMI Water Delivery (acft/yr)
1	Laredo	41,831
2	McAllen	38,276
3	North Alamo WSC	33,888
4	Brownsville	32,212
5	United Irrigation District	32,085
6	Hidalgo County Irrigation District #2	29,832
7	Harlingen Irrigation District-Cameron County #1	21,340
8	Mission	18,065
9	Sharyland WSC	15,541
10	Hidalgo County WID #3	15,488
11	Hidalgo County Irrigation District #1	15,054

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2026 MWP: Option 3

MWP Threshold: Municipal demands or DMI water delivery of 20,000 AF or more of municipal water in 2030

No.	Major Water Providers	Demands or DMI Water Delivery (acft/yr)
1	Laredo	41,831
2	McAllen	38,276
3	North Alamo WSC	33,888
4	Brownsville	32,212
5	United Irrigation District	32,085
6	Hidalgo County Irrigation District #2	29,832
7	Harlingen Irrigation District-Cameron County #1	21,340

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2026 MWP Options

Option 1	Option 2	Option 3	Other Option?
<ul style="list-style-type: none"> 16 MWPs Municipal demands or DMI delivery of <u>10,000 AF</u> or more of municipal water in 2030 	<ul style="list-style-type: none"> 11 MWPs Municipal demands or DMI delivery of <u>15,000 AF</u> or more of municipal water in 2030 	<ul style="list-style-type: none"> 7 MWPs Municipal demands or DMI delivery of <u>20,000 AF</u> or more of municipal water in 2030 	

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2/21/2024

Agenda Item 5.A.8:

Initial Discussion of Potential Need for Environmental Review Subcommittee and Water Management Strategy Subcommittee and Request for Volunteers

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Potential to Activate Subcommittees, if needed

- Environmental Review Subcommittee
 - Option to review past cycle(s) environmental assessment methodology for WMS evaluations and impacts to the region and consider need for updates.
 - Main environmental impacts considered:
 - Acres permanently impacted; Construction acreage impacted; Inundation acreage (for reservoirs); Wetland impact; Habitat acreage impacted; Threatened and endangered species count; Cultural resources impacted; Impacts to environmental flows
- Water Management Strategy Subcommittee
 - Option to review WMS evaluations prior to presentation to RWPG
 - Mainly updates to last cycle's WMSs

DRAFT

TECHNICAL MEMORANDUM

2026 Rio Grande Regional Water Plan

B&V PROJECT NO. 411250

PREPARED FOR

**Rio Grande Regional Water Planning Group &
Texas Water Development Board**

13 FEBRUARY 2024

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Appendix C	Model Input/Output Files (Electronic)
Appendix D	Potentially Feasible Water Management Strategies Identified to Meet Needs

List of Abbreviations

AcFt	Acre-Feet
AcFt/Yr	Acre-Feet per Year
ASR	Aquifer Storage and Recovery
DB27	TWDB 2027 State Water Planning Database
DFC	Desired Future Condition
GMA	Groundwater Management Area
IBWC	International Boundary and Water Commission
MAG	Modeled Available Groundwater
Region M	Rio Grande Region
RGRWPG	Rio Grande Regional Water Planning Group
RWPG	Regional Water Planning Group
SV/SA	Storage volume – surface area
TAC	Texas Administrative Code
TCEQ	Texas Commission on Environmental Quality
TWDB	Texas Water Development Board
WAM	Water Availability Model
WMS	Water Management Strategy
WMSP	Water Management Strategy Project
WUG	Water User Group
WWP	Wholesale Water Provider
WWTP	Wastewater Treatment Plant

1.0 INTRODUCTION

This Technical Memorandum is a compilation of the task work performed to date as part of the regional water planning process to develop the 2026 Rio Grande (Region M) Regional Water Plan. It is prepared for the Texas Water Development Board (TWDB) as a deliverable associated with Task 4C. At its meeting on February 21, 2024, the Rio Grande Regional Water Planning Group (RGRWPG) reviewed the information pertinent to this Technical Memorandum, allotted additional time for its technical consultant, Black & Veatch, to continue updating the 2027 State Water Planning Database (DB27), as needed, and approved the submittal of the Technical Memorandum to the TWDB.

Appendix A of this Technical Memorandum includes the draft TWDB DB27 Database Reports that provide data on population, water demand, water availability and supplies, water needs/surpluses, and a comparison of data to the 2021 Rio Grande Regional Water Plan. The data provided in this Technical Memorandum is draft and may be subject to change prior to final adoption of the 2026 Rio Grande Regional Water Plan.

This Technical Memorandum also includes information regarding surface water and groundwater methodologies, water availability model versions and dates, infeasible water management strategies (WMSs) and water management strategy projects (WMSPs) from the 2021 Rio Grande Regional Water Plan, the documented process used by Region M to identify potentially feasible WMSs, a list of potentially feasible WMSs identified to date, and a description of interregional coordination efforts during this cycle.

2.0 SUMMARY OF PUBLIC COMMENTS

Rules in Title 31 of the Texas Administrative Code (31 TAC) Chapter 357.21(g)(2) describe notice requirements when a regional water planning group (RWPG) approves submittal of the Technical Memorandum. Specifically, notice must be provided at least 14 days prior to the meeting, written comment must be accepted for 14 days prior to the meeting and considered by the RWPG members prior to taking the associated action, and meeting materials must be made available on the RWPG website for a minimum of seven days prior to and 14 days following the meeting.

The following summarizes comments received during the required comment period.

3.0 TWDB DB27 REPORTS

The following reports have been generated from DB27 and are included in *Appendix A*.

1. Population Projections
2. Water Demand Projections
3. Source Water Availability
4. Existing Water Supplies
5. Identified Water Needs/Surpluses

6. Comparison of Supply, Demand, and Needs to 2021 RWP
7. Comparison of Source Availability to 2021 RWP

4.0 SOURCE WATER AVAILABILITY ASSUMPTIONS

The following describes the models and assumptions used to estimate the availability of water for surface water, groundwater, and other sources.

4.1. SURFACE WATER

4.1.1. Water Availability Models and Associated Hydrologic Variances

The RGRWPG reviewed, considered, and approved hydrologic assumptions and needed hydrologic variances for submittal to the TWDB at the August 2, 2023, RGRWPG meeting. Region M submitted a Hydrologic Variance Request letter to TWDB on September 5, 2023. The letter included hydrologic variance checklists for the Rio Grande Basin and the Nueces-Rio Grande Basin. The TWDB approved the variances in a letter dated November 9, 2023. *Appendix B* includes copies of correspondence with TWDB regarding hydrologic variance requests for the 2026 Regional Water Plan, including a copy of the TWDB's approval of hydrologic variances to date.

As described in the hydrologic variance checklists, the RGRWPG intends to use the Texas Commission on Environmental Quality (TCEQ) Water Availability Model (WAM) Run 3 to determine surface water availabilities, existing and future supplies, and strategy supplies. The RGRWPG requested variances to use a modified WAM for determining surface water availabilities for existing supplies as follows:

- Nueces-Rio Grande Coastal WAM
 - Incorporate updated water rights data as of July 2023
- Rio-Grande WAM
 - Incorporate updated water rights data as of July 2023
 - Use modified irrigation patterns above Fort Quitman
 - Model the San Solomon Springs as cut off from the rest of the Rio Grande basin

The TWDB subsequently approved use of the modified Rio Grande WAM and Nueces-Rio Grande WAM in their correspondence dated November 9, 2023. In between when the hydrologic variances were requested and when approval from TWDB was received, the TCEQ released updated versions of the Rio Grande WAM and Nueces-Rio Grande Coastal WAM, both dated October 1, 2023. Because of these updated models, the original variance and modification to the WAM to incorporate updated water rights was no longer necessary. Therefore, for supply analysis, the unmodified Nueces-Rio Grande Coastal WAM, dated October 1, 2023, was suitable for use.

Table 1 provides the firm yield for the Amistad-Falcon Reservoir System and Casa Blanca Lake/Reservoir using the original, unmodified Rio Grande WAM Run 3 and the modified Rio Grande WAM Run 3 utilized as the basis for planning. All estimates are shown in acre-feet per year (AcFt/Yr). While these firm yield estimates incorporate sedimentation, the methodology for estimating area-capacity curves and

subsequent model results may change prior to adoption of the 2026 Region M Regional Water Plan. More information regarding sedimentation is provided in Section 4.1.2.

Table 1 Reservoir Firm Yields Using Unmodified Rio Grande WAM Run 3 and Modified Rio Grande WAM Run 3

SOURCE	FIRM YIELD FROM UNMODIFIED WAM RUN 3 ^A (ACFT/YR)		FIRM YIELD FROM MODIFIED WAM RUN 3 ^A (ACFT/YR)	
	2030	2080	2030	2080
Amistad-Falcon Reservoir System	999,768	990,268	1,001,776	995,863
Casa Blanca Lake/Reservoir	600	412	600	412

Notes:

^A Firm yields incorporate sedimentation

Table 2 includes details for hydrologic models used, including the model name, version date, model input/output files used, date model used and any relevant comments. Modeling was performed by Kennedy Resource Company. Appendix C is an electronic appendix that includes all model input/output or other model files used to date in determining water availability.

Table 2 Details for Hydrologic Models Used

MODEL NAME	VERSION DATE	INPUT/OUTPUT FILES USED	DATE MODEL USED	COMMENTS
TCEQ Rio Grande Run 3	10/1/2023	RG3.dat, RG3.dis, RG3.flo, RG3.his, RG3.fad, RG3.eva RG3.out then numerous Tables *.tou July 2022 version of the SIM and TABLES executables.	11/1/23	TCEQ Authorized Diversion Amounts and Authorized Reservoir Capacities – No sedimentation
			12/10/23	Amistad/Falcon and Casa Blanca set to Firm Yield – No sedimentation
			12/15/23	TCEQ Authorized Diversion Amounts and Authorized Reservoir Capacities – sedimentation for 2030 and 2080
			2/8/24	Amistad/Falcon and Casa Blanca set to Firm Yield – sedimentation for 2030 and 2080

TCEQ Rio Grande Run 3 Modified	10/1/2023	RG3.dat, RG3.dis, RG3.flo, RG3.his, RG3.fad, RG3.eva RG3.out then numerous Tables *.tou July 2022 version of the SIM and TABLES executables.	12/15/2023-2/10/2024	Altered to incorporate TWDB Region M Planning Variance Evaluated to determine TCEQ authorized diversions for Run of River water rights and firm yields for Amistad/Falcon and Casa Blanca (2030-2080)
TCEQ Nueces-Rio Grande Coastal WAM Run 3	10/1/2023	NRG3.dat, NRG3.dis, NRG3.flo, NRG3.his, NRG3.fad, NRG3.eva NRG3.out then numerous Tables *.tou July 2022 version of the SIM and TABLES executables.	12/2023	Evaluated to determine TCEQ authorized diversions for Run of River water rights – no reservoirs in WAM, so no sedimentation incorporated

4.1.2. Sedimentation Methodology

Sedimentation is the anticipated decreases in a reservoir’s area-capacity condition, resulting in projected firm yield decreases in each decade. Sedimentation must be performed by RWPGs and incorporated into the unmodified and modified WAM Run 3 models for evaluating the firm yields of major reservoirs (capacity greater than 5,000 AcFt).

Sedimentation was incorporated in the Rio Grande WAM for major reservoirs within the Region M boundary. Sedimentation was not performed for major reservoirs upstream and outside of the Region M boundary because it is more conservative to assume sedimentation will not occur and more water will be captured in those upstream reservoirs. Because there are no major reservoirs modeled in the Nueces-Rio Grande Coastal WAM that are authorized to use Nueces-Rio Grande Coastal waters, no sedimentation was incorporated in that model.

On February 1, 2024, the International Boundary and Water Commission (IBWC) released new reservoir sedimentation surveys for the Amistad-Falcon Reservoir System. The survey represents the best available data and is based on surveys deemed complete in early 2014. In addition, sedimentation analyses were conducted for Casa Blanca Lake/Reservoir. The following summarizes the methodology used for estimating and incorporating sedimentation into the WAMs.

4.1.2.1. Amistad Reservoir

The sedimentation rate for Amistad Reservoir was estimated by comparing the sedimentation observed between the survey conducted in 2014 and the previous survey conducted in 2005. The resulting sedimentation rate is slightly greater than the rate used in previous Region M Regional Water Plans. Because the most-recent sedimentation rate represents the latest information and is more conservative, this sedimentation rate information was imposed on the 2014 storage volume - surface area (SV/SA) tables for Amistad Reservoir to estimate projected firm yields in future decades.

4.1.2.2. Falcon Reservoir

The 2014 SV/SA tables for Falcon Reservoir demonstrate greater capacity than previous surveys, which indicates that there are data inconsistencies. These inconsistencies are likely an artifact due to the significantly increased resolution of the survey in 2014 when compared to previous surveys. In order to accurately estimate the sedimentation rate, surveys of similar resolution must be used. Therefore, for Falcon Reservoir, the sedimentation rate was estimated by comparing the sedimentation observed between a previous survey conducted in 2005 and a survey conducted in 1992. This sedimentation rate was imposed on the 2014 SV/SA tables for Falcon Reservoir to estimate projected firm yields in future decades.

4.1.2.3. Casa Blanca Lake/Reservoir

Sedimentation estimates for Casa Blanca Lake/Reservoir were determined based on a report by Espey and the City of Laredo during the 2007 timeframe. The sedimentation rate was calculated using the 2007 estimate and the sedimentation estimate that was done in the original WAM for the year 2000 condition, and then the resulting annual sedimentation rate was extrapolated out to 2030 through 2080.

4.2. GROUNDWATER

The most recent work from Groundwater Management Areas (GMAs) are detailed in Modeled Available Groundwater (MAG) reports, prepared by the TWDB. Region M intersects two GMAs, GMA 13 and GMA 16. The MAG reports, which show groundwater availability for each decade of the planning horizon for most of the aquifers in Region M, include the following:

- GR21-018 MAG (GMA 13)
- GR21-021 MAG (GMA 16)

Availability for existing and future supplies from the Carrizo-Wilcox Aquifer and Gulf Coast Aquifer System has been developed in accordance with MAG estimates. Additionally, the non-relevant Desired Future Condition (DFC)-compatible aquifer availabilities provided by TWDB for the Yegua-Jackson Aquifer (Jim Hogg, Starr, Webb, and Zapata Counties) and portions of the Gulf Coast Aquifer System (Cameron, Willacy, and Zapata Counties) were included as groundwater available for current and future use.

At present, the RGRWPG has not reallocated annual MAG volumes, nor identified the need to use MAG Peak Factors. Furthermore, the RGRWPG determined that RWPG-estimated groundwater availabilities are not warranted at this time for inclusion in the 2026 Regional Water Plan.

4.3. REUSE/RECYCLE WATER SUPPLIES

As described in the hydrologic variance request correspondence in *Appendix B*, TWDB approved the RGRWPG's request to estimate reuse source water availability based on the estimated amount of water returned to a utility's wastewater treatment plant (WWTP) for each decade, less the amount of reuse water already being utilized as existing supplies. The amount of water returned to a utility's WWTP will be estimated at 50% of the utility's projected water demands, adjusted for water conservation and drought management strategies, unless site-specific information is available.

4.4. LIVESTOCK LOCAL SUPPLIES

Livestock local supplies are dispersed supplies that are available only at the point of use and do not impact firm yield. These supplies are generally runoff collection, such as livestock supply ponds, and are assumed to be fresh water. Livestock is managed in such a way that livestock populations will be maintained at a level that can be supported by a combination of known groundwater supplies and livestock local supplies available during drought conditions.

5.0 INFEASIBLE WATER MANAGEMENT STRATEGIES FROM THE 2021 RWP

The RGRWPG conducted a one-time, mid-cycle analysis of the 2021 Rio Grande Regional Water Plan to identify any newly infeasible WMSs and WMSPs. The RGRWPG reviewed a list of WMSs and WMSPs from TWDB that were feasible and recommended at the time of adoption of the previous plan but which could potentially have become infeasible since. Information from WMS and WMSP sponsors was gathered to determine whether they have taken affirmative steps to implement projects with a near-term online decade (2020, 2030, and 2040).

On November 1, 2023, the RGRWPG held a public meeting to receive results of the analysis. These results were presented at the same public meeting in which the methodology for identifying potentially feasible WMSs for the current plan were presented and approved. At the meeting, after asking for public comments, the planning group considered the results and agreed that two WMSs should be identified as infeasible for the 2020 and 2030 decade, respectively.

As a result, an amendment to the 2021 Rio Grande Regional Water Plan is necessary in order to revise the online decades for the following two WMSs:

Non-Potable Reuse WMS for Edinburg:

- No action has been taken to move this WMS towards implementation, so the original online decade will be moved from 2020 to 2030. This revision results in Unmet Needs in 2020 for Edinburg.

North WWTP Potable Reuse Phase 1 WMS for McAllen:

- No action has been taken to move this WMS towards implementation, so the original online decade will be moved from 2030 to 2040. This revision does not result in Unmet Needs for McAllen or other Water User Groups (WUGs).

It is anticipated that the amendment to the 2021 Rio Grande Regional Water Plan will be adopted by the RGRWPG at its RWPG meeting in May 2024.

6.0 DOCUMENTED PROCESS TO IDENTIFY POTENTIALLY FEASIBLE WATER MANAGEMENT STRATEGIES FOR THE 2026 PLANNING CYCLE

On November 1, 2023, the RGRWPG, after asking for public comments, considered and approved a documented process to identify potentially feasible WMSs for the 2026 Regional Water Planning Cycle. The approved process is as follows:

1. Current water planning information, including specific WMSs of interest, will be solicited from WUGs and Wholesale Water Providers (WWPs) in Fall 2023.
 - a. Solicitation of planning information will include the recommended WMSs in the 2021 Regional Water Plan.
 - b. WUGs/WWPs will be encouraged to classify each WMS on their 2021 Plan list as included or rejected for the 2026 Planning Cycle and provide comments, and also to list additional WMSs that will be new for the 2026 Planning Cycle.
2. A list of potential WMSs will be prepared based on an initial technical evaluation and needs analysis and the comments received, which will be available for consideration by the RWPG by early 2024.
3. Additional WMSs may be brought forth to the RWPG for consideration until May 2024.
4. The list of potential WMSs will be further considered to identify “potentially feasible” or “not potentially feasible” WMSs for WUGs and WWPs with identified water needs.

7.0 POTENTIALLY FEASIBLE WATER MANAGEMENT STRATEGIES IDENTIFIED BY THE RWPG

The RGRWPG has identified potentially feasible WMSs for meeting needs in the region. Over the next two RGRWPG meetings, the RGRWPG may consider additional WMSs, review scope and fee of each, and submit the information to TWDB for notice to proceed. *Appendix D* provides the potentially feasible WMSs identified to date for WUGs specifically with needs. There have also been other strategies identified through the process that may not be specifically for WUGs with needs but have been requested for inclusion in the plan or are carried over from the last cycle. In summary, the potentially feasible WMSs identified to date include the following:

1. Advanced Municipal Conservation
2. Irrigation District Conservation
3. Agricultural Conservation
4. Industrial Conservation
5. Conversion of Water Right Classification
6. New or Expanded Surface Water Treatment
7. New or Expanded Distribution and Transmission Facilities Resulting in Increased Supplies
8. Update to Off-Channel Storage
9. New or Expanded Fresh Groundwater Supply
10. New or Expanded Brackish Groundwater Desalination
11. Seawater Desalination
12. Reuse

13. Biological Control of *Arundo Donax*
14. Drought Management
15. Aquifer Storage and Recovery
16. Regional Water Supply Facilities

8.0 INTERREGIONAL COORDINATION EFFORTS TO DATE

Region M is bordered by three regional water planning areas, including the Plateau (Region J), South Central Texas (Region L), and Coastal Bend (Region N). Region M does not share any WUGs with any other region, so there is limited coordination with other regions related to data entry associated with the planning process. Region M has a liaison for each of the neighboring RWPGs, and there is an agenda item during each Region M meeting to hear reports from those liaisons. Additionally, RGRWPG planning members engage and participate in the Interregional Planning Council and the Regional Water Planning Chairs' meetings.

Appendix A DB27 Reports

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DRAFT Region M Water User Group (WUG) Population

	WUG Population					
	2030	2040	2050	2060	2070	2080
Cameron County Total	453,325	465,039	469,300	468,071	466,828	465,573
Cameron County / Nueces-Rio Grande Basin Total	450,904	462,555	466,796	465,573	464,338	463,091
Brownsville	189,772	194,663	196,412	195,834	195,241	194,634
Combes	3,041	3,120	3,146	3,135	3,124	3,111
East Rio Hondo WSC	26,908	31,911	37,034	40,909	43,001	45,200
El Jardin WSC	12,586	12,910	13,028	12,991	12,954	12,915
Harlingen	85,744	87,959	88,766	88,532	88,296	88,057
La Feria	6,210	6,369	6,425	6,403	6,379	6,353
Laguna Madre Water District	11,100	11,384	11,484	11,445	11,405	11,362
Los Fresnos	7,486	7,678	7,745	7,717	7,689	7,660
Military Highway WSC	28,087	28,807	29,060	28,957	28,850	28,740
North Alamo WSC	4,317	4,428	4,467	4,450	4,434	4,418
Olmito WSC	7,329	7,534	7,643	7,706	7,778	7,864
Palm Valley	1,308	1,341	1,353	1,349	1,342	1,337
Primera	6,782	8,749	10,061	11,067	12,174	12,783
Rio Hondo	1,711	1,755	1,770	1,764	1,758	1,751
San Benito	25,980	26,650	26,890	26,810	26,730	26,646
Santa Rosa	2,947	3,023	3,049	3,039	3,026	3,014
Valley MUD 2	2,884	2,959	2,985	2,974	2,963	2,952
County-Other	26,712	21,315	15,478	10,491	7,194	4,294
Cameron County / Rio Grande Basin Total	2,421	2,484	2,504	2,498	2,490	2,482
Brownsville	1,917	1,966	1,984	1,978	1,972	1,966
El Jardin WSC	91	94	94	94	94	94
Military Highway WSC	218	224	225	225	224	223
Valley MUD 2	195	200	201	201	200	199
Hidalgo County Total	975,403	1,041,413	1,084,465	1,107,185	1,130,153	1,153,373
Hidalgo County / Nueces-Rio Grande Basin Total	947,949	1,022,712	1,075,714	1,097,744	1,119,999	1,142,493
Agua SUD	62,952	67,587	70,581	71,937	73,306	74,688
Alamo	19,549	20,026	20,404	21,105	21,819	22,550
Donna	17,377	18,378	19,045	19,500	19,962	20,430
Edcouch	2,552	2,349	2,246	2,415	2,588	2,765
Edinburg	85,768	93,195	97,911	99,436	100,966	102,501
Elsa	4,659	4,231	4,010	4,334	4,669	5,013
Hidalgo	11,899	12,558	12,998	13,319	13,643	13,972
Hidalgo County MUD 1	5,256	5,449	5,590	5,759	5,931	6,107

*A single asterisk next to a WUG's name denotes that the WUG is split by two or more planning regions.

DRAFT Region M Water User Group (WUG) Population

	WUG Population					
	2030	2040	2050	2060	2070	2080
La Joya	3,859	4,115	4,282	4,373	4,466	4,560
La Villa	2,092	2,491	2,731	2,704	2,676	2,646
McAllen	165,587	184,057	201,554	206,901	212,332	217,849
Mercedes	14,571	14,784	14,985	15,549	16,125	16,714
Military Highway WSC	15,817	15,510	15,418	16,188	16,976	17,783
Mission	88,336	93,383	96,747	99,076	101,437	103,831
North Alamo WSC	212,974	235,887	250,160	252,649	255,098	257,509
Pharr	85,215	91,086	94,908	96,862	98,836	100,833
San Juan	23,805	24,380	24,837	25,693	26,565	27,455
Sharyland WSC	88,944	97,326	102,604	103,989	105,371	106,749
Weslaco	32,414	33,279	33,948	35,089	36,253	37,441
County-Other	4,323	2,641	755	866	980	1,097
Hidalgo County / Rio Grande Basin Total	27,454	18,701	8,751	9,441	10,154	10,880
Agua SUD	3,035	3,259	3,403	3,469	3,535	3,601
Hidalgo	173	182	189	193	198	203
La Joya	905	965	1,004	1,026	1,048	1,070
Military Highway WSC	94	92	92	96	101	106
County-Other	23,247	14,203	4,063	4,657	5,272	5,900
Jim Hogg County Total	4,676	4,622	4,508	4,391	4,273	4,154
Jim Hogg County / Nueces-Rio Grande Basin Total	4,599	4,546	4,434	4,318	4,202	4,085
Jim Hogg County WCID 2	3,482	3,440	3,353	3,261	3,170	3,079
County-Other	1,117	1,106	1,081	1,057	1,032	1,006
Jim Hogg County / Rio Grande Basin Total	77	76	74	73	71	69
County-Other	77	76	74	73	71	69
Maverick County Total	62,424	66,814	70,294	72,996	75,728	78,490
Maverick County / Nueces Basin Total	20	13	9	6	4	3
County-Other	20	13	9	6	4	3
Maverick County / Rio Grande Basin Total	62,404	66,801	70,285	72,990	75,724	78,487
Eagle Pass	58,692	62,688	65,889	68,762	71,614	74,461
Maverick County	2,404	3,243	3,817	3,830	3,836	3,838
County-Other	1,308	870	579	398	274	188

*A single asterisk next to a WUG's name denotes that the WUG is split by two or more planning regions.

DRAFT Region M Water User Group (WUG) Population

	WUG Population					
	2030	2040	2050	2060	2070	2080
Starr County Total	70,499	75,394	79,002	81,275	83,573	85,896
Starr County / Nueces-Rio Grande Basin Total	906	922	955	1,048	1,142	1,235
County-Other	906	922	955	1,048	1,142	1,235
Starr County / Rio Grande Basin Total	69,593	74,472	78,047	80,227	82,431	84,661
Agua SUD	244	242	240	243	245	247
El Sauz WSC	1,708	1,868	1,979	2,022	2,066	2,109
El Tanque WSC	1,385	1,207	1,054	939	836	744
La Grulla	8,309	8,878	9,298	9,569	9,842	10,119
Rio Grande City	17,880	19,073	19,959	20,549	21,147	21,751
Rio WSC	8,102	9,597	10,564	10,561	10,547	10,523
Roma	21,305	22,518	23,450	24,213	24,986	25,771
Union WSC	7,207	7,574	7,864	8,134	8,409	8,687
County-Other	3,453	3,515	3,639	3,997	4,353	4,710
Webb County Total	292,999	304,635	308,179	305,094	301,977	298,824
Webb County / Nueces Basin Total	1,936	2,492	2,991	2,962	2,932	2,903
Webb County	1,635	2,291	2,896	2,867	2,837	2,808
County-Other	301	201	95	95	95	95
Webb County / Nueces-Rio Grande Basin Total	2,856	1,908	896	897	898	899
County-Other	2,856	1,908	896	897	898	899
Webb County / Rio Grande Basin Total	288,207	300,235	304,292	301,235	298,147	295,022
Laredo	267,373	277,989	281,208	278,353	275,465	272,541
Mirando City WSC	268	279	282	279	275	272
Webb County	11,219	15,723	19,868	19,669	19,469	19,265
County-Other	9,347	6,244	2,934	2,934	2,938	2,944
Willacy County Total	19,933	19,647	19,083	18,366	17,641	16,908
Willacy County / Nueces-Rio Grande Basin Total	19,933	19,647	19,083	18,366	17,641	16,908
Lyford	1,992	1,905	1,829	1,766	1,719	1,690
North Alamo WSC	4,517	4,527	4,553	4,607	4,699	4,841
Port Mansfield PUD	358	428	519	660	822	1,011
Raymondville	6,991	6,822	6,681	6,580	6,534	6,555
Sebastian MUD	1,410	1,285	1,175	1,104	1,045	998
County-Other	4,665	4,680	4,326	3,649	2,822	1,813

*A single asterisk next to a WUG's name denotes that the WUG is split by two or more planning regions.

DRAFT Region M Water User Group (WUG) Population

	WUG Population					
	2030	2040	2050	2060	2070	2080
Zapata County Total	14,075	14,288	14,295	14,158	14,019	13,878
Zapata County / Rio Grande Basin Total	14,075	14,288	14,295	14,158	14,019	13,878
Falcon Rural WSC	377	305	246	205	172	146
Siesta Shores WCID	1,552	1,576	1,576	1,558	1,542	1,523
Zapata County	10,099	10,249	10,251	10,146	10,038	9,925
Zapata County San Ygnacio & Ramireño	338	286	243	213	187	166
Zapata County WCID-Hwy 16 East	547	556	555	549	543	537
County-Other	1,162	1,316	1,424	1,487	1,537	1,581
Region M Population Total	1,893,334	1,991,852	2,049,126	2,071,536	2,094,192	2,117,096

*A single asterisk next to a WUG's name denotes that the WUG is split by two or more planning regions.

DRAFT Region M Water User Group (WUG) Demand

	WUG Demand (acre-feet per year)					
	2030	2040	2050	2060	2070	2080
Cameron County Total	594,958	579,086	562,344	544,747	527,184	509,652
Cameron County / Nueces-Rio Grande Basin Total	563,163	548,315	532,605	516,044	499,517	483,020
Brownsville	31,890	32,579	32,872	32,775	32,676	32,574
Combes	275	280	282	281	280	279
East Rio Hondo WSC	3,636	4,290	4,978	5,499	5,781	6,076
El Jardin WSC	1,355	1,381	1,394	1,390	1,386	1,382
Harlingen	14,830	15,149	15,288	15,248	15,208	15,166
La Feria	787	802	810	807	804	800
Laguna Madre Water District	4,638	4,745	4,787	4,771	4,754	4,736
Los Fresnos	503	516	521	519	517	515
Military Highway WSC	4,148	4,234	4,272	4,257	4,241	4,224
North Alamo WSC	687	702	708	705	703	700
Olmito WSC	1,326	1,358	1,377	1,389	1,402	1,417
Palm Valley	236	241	243	242	241	240
Primera	570	730	840	924	1,016	1,067
Rio Hondo	118	120	121	121	120	120
San Benito	3,249	3,316	3,346	3,336	3,326	3,315
Santa Rosa	247	252	254	253	252	251
Valley MUD 2	910	931	939	936	932	928
County-Other	4,244	3,371	2,448	1,659	1,138	679
Manufacturing	460	477	495	513	532	552
Livestock	281	281	281	281	281	281
Irrigation	488,773	472,560	456,349	440,138	423,927	407,718
Cameron County / Rio Grande Basin Total	31,795	30,771	29,739	28,703	27,667	26,632
Brownsville	322	329	332	331	330	329
El Jardin WSC	10	10	10	10	10	10
Military Highway WSC	32	33	33	33	33	33
Valley MUD 2	61	63	63	63	63	63
Steam Electric Power	165	165	165	165	165	165
Livestock	6	6	6	6	6	6
Irrigation	31,199	30,165	29,130	28,095	27,060	26,026
Hidalgo County Total	839,322	828,481	814,820	796,632	778,493	760,402
Hidalgo County / Nueces-Rio Grande Basin Total	809,576	800,649	789,020	771,629	754,283	736,984
Agua SUD	6,773	7,230	7,550	7,695	7,842	7,990
Alamo	2,638	2,688	2,739	2,833	2,929	3,027

*A single asterisk next to a WUG's name denotes that the WUG is split by more than one planning region.

DRAFT Region M Water User Group (WUG) Demand

	WUG Demand (acre-feet per year)					
	2030	2040	2050	2060	2070	2080
Donna	2,192	2,308	2,391	2,449	2,507	2,565
Edcouch	219	200	192	206	221	236
Edinburg	11,209	12,114	12,727	12,925	13,124	13,323
Elsa	508	459	435	470	507	544
Hidalgo	1,512	1,585	1,641	1,682	1,722	1,764
Hidalgo County MUD 1	515	529	543	559	576	593
La Joya	483	513	533	544	556	568
La Villa	225	266	292	289	286	283
McAllen	38,276	42,409	46,441	47,673	48,924	50,195
Mercedes	1,593	1,605	1,627	1,688	1,751	1,815
Military Highway WSC	2,336	2,279	2,267	2,380	2,495	2,614
Mission	18,065	19,030	19,716	20,190	20,672	21,159
North Alamo WSC	33,888	37,393	39,656	40,051	40,439	40,821
Pharr	9,135	9,698	10,105	10,313	10,523	10,736
San Juan	3,324	3,388	3,451	3,570	3,691	3,815
Sharyland WSC	15,541	16,948	17,867	18,108	18,349	18,589
Weslaco	5,500	5,624	5,737	5,930	6,127	6,327
County-Other	505	306	88	100	114	127
Manufacturing	3,878	4,021	4,170	4,324	4,484	4,650
Mining	232	257	283	309	334	357
Steam Electric Power	10,325	10,325	10,325	10,325	10,325	10,325
Livestock	633	633	633	633	633	633
Irrigation	640,071	618,841	597,611	576,383	555,152	533,928
Hidalgo County / Rio Grande Basin Total	29,746	27,832	25,800	25,003	24,210	23,418
Agua SUD	327	349	364	371	378	385
Hidalgo	22	23	24	24	25	26
La Joya	113	120	125	128	131	133
Military Highway WSC	14	14	13	14	15	16
County-Other	2,715	1,647	471	540	611	684
Manufacturing	48	50	52	54	56	58
Mining	2	3	3	3	3	4
Livestock	16	16	16	16	16	16
Irrigation	26,489	25,610	24,732	23,853	22,975	22,096

*A single asterisk next to a WUG's name denotes that the WUG is split by more than one planning region.

DRAFT Region M Water User Group (WUG) Demand

	WUG Demand (acre-feet per year)					
	2030	2040	2050	2060	2070	2080
Jim Hogg County Total	1,432	1,413	1,387	1,364	1,337	1,312
Jim Hogg County / Nueces-Rio Grande Basin Total	1,299	1,282	1,258	1,238	1,213	1,191
Jim Hogg County WCID 2	474	466	454	442	429	417
County-Other	130	128	124	123	119	116
Manufacturing	42	44	46	48	50	52
Mining	9	9	9	9	9	9
Livestock	362	362	362	362	362	362
Irrigation	282	273	263	254	244	235
Jim Hogg County / Rio Grande Basin Total	133	131	129	126	124	121
County-Other	9	9	9	8	8	8
Livestock	58	58	58	58	58	58
Irrigation	66	64	62	60	58	55
Maverick County Total	75,277	73,970	72,556	71,025	69,497	63,076
Maverick County / Nueces Basin Total	175	174	173	173	173	64
County-Other	3	2	1	1	1	0
Mining	108	108	108	108	108	0
Livestock	64	64	64	64	64	64
Maverick County / Rio Grande Basin Total	75,102	73,796	72,383	70,852	69,324	63,012
Eagle Pass	9,579	10,192	10,713	11,180	11,644	12,107
Maverick County	335	450	529	531	532	532
County-Other	166	109	73	50	34	24
Manufacturing	98	102	106	110	114	118
Mining	4,790	4,790	4,790	4,790	4,790	2
Livestock	409	409	409	409	409	409
Irrigation	59,725	57,744	55,763	53,782	51,801	49,820
Starr County Total	35,435	35,364	35,152	34,757	34,365	33,979
Starr County / Nueces-Rio Grande Basin Total	391	396	403	418	432	445
County-Other	111	113	117	128	140	151
Mining	97	100	103	107	109	111
Livestock	183	183	183	183	183	183
Starr County / Rio Grande Basin Total	35,044	34,968	34,749	34,339	33,933	33,534
Agua SUD	26	26	26	26	26	26

*A single asterisk next to a WUG's name denotes that the WUG is split by more than one planning region.

DRAFT Region M Water User Group (WUG) Demand

	WUG Demand (acre-feet per year)					
	2030	2040	2050	2060	2070	2080
El Sauz WSC	167	181	192	196	200	204
El Tanque WSC	201	174	152	136	121	108
La Grulla	1,460	1,554	1,628	1,675	1,723	1,771
Rio Grande City	4,200	4,468	4,676	4,814	4,954	5,096
Rio WSC	809	953	1,049	1,049	1,047	1,045
Roma	2,475	2,603	2,711	2,799	2,888	2,979
Union WSC	1,233	1,291	1,341	1,387	1,434	1,481
County-Other	425	430	445	490	533	577
Manufacturing	81	84	87	90	93	96
Mining	96	100	104	106	109	112
Livestock	762	762	762	762	762	762
Irrigation	23,109	22,342	21,576	20,809	20,043	19,277
Webb County Total	60,066	61,310	61,539	60,738	59,934	55,000
Webb County / Nueces Basin Total	2,535	2,600	2,659	2,658	2,658	771
Webb County	189	263	332	329	326	322
County-Other	34	22	10	10	10	10
Manufacturing	34	36	37	38	40	41
Mining	1,894	1,895	1,896	1,897	1,898	14
Livestock	384	384	384	384	384	384
Webb County / Nueces-Rio Grande Basin Total	422	314	202	202	202	202
County-Other	319	211	99	99	99	99
Livestock	103	103	103	103	103	103
Webb County / Rio Grande Basin Total	57,109	58,396	58,678	57,878	57,074	54,027
Laredo	41,831	43,292	43,794	43,349	42,899	42,444
Mirando City WSC	29	30	30	30	30	29
Webb County	1,294	1,805	2,281	2,258	2,235	2,212
County-Other	1,043	689	324	324	325	326
Manufacturing	44	45	47	49	50	52
Mining	2,248	2,249	2,251	2,252	2,253	17
Steam Electric Power	131	131	131	131	131	131
Livestock	399	399	399	399	399	399
Irrigation	10,090	9,756	9,421	9,086	8,752	8,417

*A single asterisk next to a WUG's name denotes that the WUG is split by more than one planning region.

DRAFT Region M Water User Group (WUG) Demand

	WUG Demand (acre-feet per year)					
	2030	2040	2050	2060	2070	2080
Willacy County Total	99,105	95,891	92,659	89,421	86,188	82,963
Willacy County / Nueces-Rio Grande Basin Total	99,105	95,891	92,659	89,421	86,188	82,963
Lyford	186	177	170	164	160	157
North Alamo WSC	719	718	722	730	745	767
Port Mansfield PUD	138	165	200	254	317	390
Raymondville	796	773	757	746	740	743
Sebastian MUD	95	86	79	74	70	67
County-Other	560	558	515	435	336	216
Mining	2	2	2	2	2	2
Livestock	197	197	197	197	197	197
Irrigation	96,412	93,215	90,017	86,819	83,621	80,424
Zapata County Total	7,788	7,646	7,478	7,286	7,095	6,904
Zapata County / Rio Grande Basin Total	7,788	7,646	7,478	7,286	7,095	6,904
Falcon Rural WSC	70	56	45	38	32	27
Siesta Shores WCID	207	209	209	206	204	202
Zapata County	1,829	1,850	1,851	1,832	1,812	1,792
Zapata County San Ygnacio & Ramireño	63	53	45	39	35	31
Zapata County WCID-Hwy 16 East	161	163	163	161	160	158
County-Other	157	177	191	200	206	212
Mining	6	6	6	6	6	6
Livestock	359	359	359	359	359	359
Irrigation	4,936	4,773	4,609	4,445	4,281	4,117
Region M Demand Total	1,713,383	1,683,161	1,647,935	1,605,970	1,564,093	1,513,288

*A single asterisk next to a WUG's name denotes that the WUG is split by more than one planning region.

DRAFT Region M Source Total Availability

				Source Availability (acre-feet per year)					
Source Name	County	Basin	Salinity*	2030	2040	2050	2060	2070	2080
Groundwater Source Availability Total				188,413	200,494	212,513	224,588	225,342	225,342
Carrizo-Wilcox Aquifer	Maverick	Nueces	Fresh	542	544	542	542	273	273
Carrizo-Wilcox Aquifer	Maverick	Rio Grande	Fresh/ Brackish	3	3	3	3	3	3
Carrizo-Wilcox Aquifer	Webb	Nueces	Fresh	890	892	890	890	890	890
Carrizo-Wilcox Aquifer	Webb	Rio Grande	Fresh/ Brackish	20	20	20	20	20	20
Gulf Coast Aquifer System	Cameron	Nueces- Rio Grande	Fresh/ Brackish	49,931	54,592	59,252	63,914	63,914	63,914
Gulf Coast Aquifer System	Cameron	Rio Grande	Fresh/ Brackish	1,235	1,439	1,641	1,842	1,842	1,842
Gulf Coast Aquifer System	Hidalgo	Nueces- Rio Grande	Fresh/ Brackish	91,421	96,658	101,867	107,103	107,171	107,171
Gulf Coast Aquifer System	Hidalgo	Rio Grande	Fresh/ Brackish	2,041	2,447	2,854	3,260	3,260	3,260
Gulf Coast Aquifer System	Jim Hogg	Nueces- Rio Grande	Fresh/ Brackish	5,230	5,230	5,230	5,230	6,008	6,008
Gulf Coast Aquifer System	Jim Hogg	Rio Grande	Fresh/ Brackish	937	937	937	937	1,076	1,076
Gulf Coast Aquifer System	Starr	Nueces- Rio Grande	Fresh/ Brackish	1,958	2,366	2,772	3,180	3,180	3,180
Gulf Coast Aquifer System	Starr	Rio Grande	Fresh/ Brackish	2,839	3,431	4,022	4,615	4,615	4,615
Gulf Coast Aquifer System	Webb	Nueces	Fresh/ Brackish	22	27	32	37	37	37
Gulf Coast Aquifer System	Webb	Nueces- Rio Grande	Fresh/ Brackish	642	780	918	1,056	1,056	1,056
Gulf Coast Aquifer System	Webb	Rio Grande	Fresh/ Brackish	125	152	179	206	206	206
Gulf Coast Aquifer System	Willacy	Nueces- Rio Grande	Fresh/ Brackish	2,557	2,951	3,324	3,718	3,756	3,756
Gulf Coast Aquifer System	Zapata	Rio Grande	Fresh	0	0	0	0	0	0

* Salinity field indicates whether the source availability is considered 'fresh' (less than 1,000 mg/L), 'brackish' (1,000 to 10,000 mg/L), 'saline' (10,001 mg/L to 34,999 mg/L), or 'seawater' (35,000 mg/L or greater). Sources can also be labeled as 'fresh/brackish' or 'brackish/saline', if a combination of the salinity types is appropriate.

** Since reservoir sources can exist across multiple counties, the county field value, 'reservoir' is applied to all reservoir sources.

DRAFT Region M Source Total Availability

				Source Availability (acre-feet per year)					
Source Name	County	Basin	Salinity*	2030	2040	2050	2060	2070	2080
Yegua-Jackson Aquifer	Jim Hogg	Rio Grande	Fresh	0	0	0	0	0	0
Yegua-Jackson Aquifer	Starr	Rio Grande	Fresh	33	38	43	48	48	48
Yegua-Jackson Aquifer	Webb	Nueces	Fresh	11,969	11,969	11,969	11,969	11,969	11,969
Yegua-Jackson Aquifer	Webb	Rio Grande	Fresh	8,031	8,031	8,031	8,031	8,031	8,031
Yegua-Jackson Aquifer	Zapata	Rio Grande	Fresh	7,987	7,987	7,987	7,987	7,987	7,987

Reuse Source Availability Total				45,342	59,410	63,971	69,981	76,456	79,256
Direct Reuse	Cameron	Nueces-Rio Grande	Fresh	9,064	13,737	15,782	15,782	16,782	16,782
Direct Reuse	Cameron	Rio Grande	Fresh	112	112	112	112	112	112
Direct Reuse	Hidalgo	Nueces-Rio Grande	Fresh	31,856	33,526	34,646	39,446	41,686	41,686
Direct Reuse	Hidalgo	Rio Grande	Fresh	2,887	4,887	6,283	7,493	7,493	7,493
Direct Reuse	Maverick	Rio Grande	Fresh	650	650	650	650	650	650
Direct Reuse	Webb	Rio Grande	Fresh	773	6,498	6,498	6,498	9,733	12,533

Surface Water Source Availability Total				1,046,637	1,046,129	1,045,621	1,044,414	1,042,644	1,040,536
Amistad-Falcon Lake/Reservoir System	Reservoir**	Rio Grande	Fresh	1,001,776	1,001,268	1,000,760	999,553	997,821	995,863
Casa Blanca Lake/Reservoir	Reservoir**	Rio Grande	Fresh	600	600	600	600	562	412
Livestock Local Supply	Jim Hogg	Nueces-Rio Grande	Fresh	260	260	260	260	260	260
Livestock Local Supply	Jim Hogg	Rio Grande	Fresh	14	14	14	14	14	14
Livestock Local Supply	Maverick	Nueces	Fresh	64	64	64	64	64	64

* Salinity field indicates whether the source availability is considered 'fresh' (less than 1,000 mg/L), 'brackish' (1,000 to 10,000 mg/L), 'saline' (10,001 mg/L to 34,999 mg/L), or 'seawater' (35,000 mg/L or greater). Sources can also be labeled as 'fresh/brackish' or 'brackish/saline', if a combination of the salinity types is appropriate.

** Since reservoir sources can exist across multiple counties, the county field value, 'reservoir' is applied to all reservoir sources.

DRAFT Region M Source Total Availability

				Source Availability (acre-feet per year)					
Source Name	County	Basin	Salinity*	2030	2040	2050	2060	2070	2080
Livestock Local Supply	Maverick	Rio Grande	Fresh	409	409	409	409	409	409
Livestock Local Supply	Starr	Rio Grande	Fresh	75	75	75	75	75	75
Livestock Local Supply	Webb	Nueces	Fresh	413	413	413	413	413	413
Livestock Local Supply	Webb	Nueces-Rio Grande	Fresh	72	72	72	72	72	72
Livestock Local Supply	Webb	Rio Grande	Fresh	434	434	434	434	434	434
Livestock Local Supply	Zapata	Rio Grande	Fresh	249	249	249	249	249	249
Loma Alta Lake/Reservoir	Reservoir**	Nueces-Rio Grande	Fresh	0	0	0	0	0	0
Nueces-Rio Grande Run-of-River	Cameron	Nueces-Rio Grande	Fresh	3,115	3,115	3,115	3,115	3,115	3,115
Nueces-Rio Grande Run-of-River	Hidalgo	Nueces-Rio Grande	Fresh	37,100	37,100	37,100	37,100	37,100	37,100
Nueces-Rio Grande Run-of-River	Willacy	Nueces-Rio Grande	Fresh	68	68	68	68	68	68
Rio Grande Run-of-River	Maverick	Rio Grande	Fresh	1,988	1,988	1,988	1,988	1,988	1,988
Region M Source Availability Total				1,280,392	1,306,033	1,322,105	1,338,983	1,344,442	1,345,134

* Salinity field indicates whether the source availability is considered 'fresh' (less than 1,000 mg/L), 'brackish' (1,000 to 10,000 mg/L), 'saline' (10,001 mg/L to 34,999 mg/L), or 'seawater' (35,000 mg/L or greater). Sources can also be labeled as 'fresh/brackish' or 'brackish/saline', if a combination of the salinity types is appropriate.

** Since reservoir sources can exist across multiple counties, the county field value, 'reservoir' is applied to all reservoir sources.

DRAFT Region M Water User Group (WUG) Existing Water Supply

WUG Name	Source	Source Description	Existing Supply (acre-feet per year)					
	Region		2030	2040	2050	2060	2070	2080
Cameron County WUG Total			279,211	279,848	280,948	281,310	281,901	282,140
Cameron County / Nueces-Rio Grande Basin WUG Total			267,966	268,604	269,703	270,065	270,657	270,897
Brownsville	M	Amistad-Falcon Lake/Reservoir System	33,241	33,241	33,240	33,241	33,240	33,240
Brownsville	M	Gulf Coast Aquifer System Cameron County	9,930	9,931	9,930	9,931	9,931	9,930
Combes	M	Amistad-Falcon Lake/Reservoir System	677	677	677	677	677	677
East Rio Hondo WSC	M	Amistad-Falcon Lake/Reservoir System	4,364	4,364	4,364	4,364	4,364	4,364
East Rio Hondo WSC	M	Gulf Coast Aquifer System Cameron County	536	566	598	629	662	662
El Jardin WSC	M	Amistad-Falcon Lake/Reservoir System	1,457	1,457	1,457	1,456	1,457	1,457
Harlingen	M	Amistad-Falcon Lake/Reservoir System	19,838	19,837	19,837	19,840	19,840	19,839
Harlingen	M	Direct Reuse	1,120	1,120	1,120	1,120	1,120	1,120
La Feria	M	Amistad-Falcon Lake/Reservoir System	1,300	1,400	1,500	1,700	2,000	2,200
Laguna Madre Water District	M	Amistad-Falcon Lake/Reservoir System	7,513	7,513	7,513	7,513	7,513	7,513
Los Fresnos	M	Amistad-Falcon Lake/Reservoir System	715	715	715	715	715	715
Los Fresnos	M	Gulf Coast Aquifer System Cameron County	267	267	267	267	267	267
Military Highway WSC	M	Amistad-Falcon Lake/Reservoir System	399	399	399	399	399	399
Military Highway WSC	M	Gulf Coast Aquifer System Cameron County	1,265	1,265	1,265	1,265	1,265	1,265
Military Highway WSC	M	Gulf Coast Aquifer System Hidalgo County	2,435	2,435	2,435	2,435	2,435	2,435
North Alamo WSC	M	Amistad-Falcon Lake/Reservoir System	329	330	331	332	332	332
North Alamo WSC	M	Gulf Coast Aquifer System Cameron County	2	2	2	2	2	2
North Alamo WSC	M	Gulf Coast Aquifer System Hidalgo County	228	229	230	230	230	231
North Alamo WSC	M	Gulf Coast Aquifer System Willacy County	30	35	36	36	36	36
Olmito WSC	M	Amistad-Falcon Lake/Reservoir System	1,251	1,251	1,251	1,251	1,251	1,251

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DRAFT Region M Water User Group (WUG) Existing Water Supply

WUG Name	Source	Source Description	Existing Supply (acre-feet per year)					
	Region		2030	2040	2050	2060	2070	2080
Palm Valley	M	Amistad-Falcon Lake/Reservoir System	266	266	266	266	266	266
Primera	M	Amistad-Falcon Lake/Reservoir System	340	340	340	380	450	523
Primera	M	Gulf Coast Aquifer System Cameron County	205	205	205	205	205	205
Rio Hondo	M	Amistad-Falcon Lake/Reservoir System	712	712	712	712	712	712
San Benito	M	Amistad-Falcon Lake/Reservoir System	3,846	4,346	5,326	5,426	5,626	5,626
Santa Rosa	M	Amistad-Falcon Lake/Reservoir System	612	612	612	612	612	612
Valley MUD 2	M	Amistad-Falcon Lake/Reservoir System	737	737	737	737	737	737
Valley MUD 2	M	Direct Reuse	90	103	103	103	103	103
Valley MUD 2	M	Gulf Coast Aquifer System Cameron County	342	361	378	397	415	415
County-Other	M	Amistad-Falcon Lake/Reservoir System	1,753	1,753	1,753	1,753	1,753	1,753
Manufacturing	M	Amistad-Falcon Lake/Reservoir System	543	543	543	543	543	543
Manufacturing	M	Gulf Coast Aquifer System Cameron County	426	426	426	426	426	426
Livestock	M	Amistad-Falcon Lake/Reservoir System	411	411	411	411	411	411
Irrigation	M	Amistad-Falcon Lake/Reservoir System	166,864	166,833	166,802	166,769	166,740	166,708
Irrigation	M	Direct Reuse	0	0	0	0	0	0
Irrigation	M	Gulf Coast Aquifer System Cameron County	817	817	817	817	817	817
Irrigation	M	Nueces-Rio Grande Run-of-River	3,105	3,105	3,105	3,105	3,105	3,105
Cameron County / Rio Grande Basin WUG Total			11,245	11,244	11,245	11,245	11,244	11,243
Brownsville	M	Amistad-Falcon Lake/Reservoir System	202	202	203	202	203	202
Brownsville	M	Gulf Coast Aquifer System Cameron County	61	60	61	60	60	61
El Jardin WSC	M	Amistad-Falcon Lake/Reservoir System	43	43	43	44	43	43

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DRAFT Region M Water User Group (WUG) Existing Water Supply

WUG Name	Source	Source Description	Existing Supply (acre-feet per year)					
	Region		2030	2040	2050	2060	2070	2080
Military Highway WSC	M	Amistad-Falcon Lake/Reservoir System	3	3	3	3	3	3
Military Highway WSC	M	Gulf Coast Aquifer System Cameron County	8	8	8	8	8	8
Military Highway WSC	M	Gulf Coast Aquifer System Hidalgo County	15	15	15	15	15	15
Valley MUD 2	M	Amistad-Falcon Lake/Reservoir System	61	61	61	61	61	61
Valley MUD 2	M	Direct Reuse	8	9	9	9	9	9
Valley MUD 2	M	Gulf Coast Aquifer System Cameron County	29	30	32	33	35	35
Steam Electric Power	M	Amistad-Falcon Lake/Reservoir System	125	125	125	125	125	125
Livestock	M	Amistad-Falcon Lake/Reservoir System	25	25	25	25	25	25
Irrigation	M	Amistad-Falcon Lake/Reservoir System	10,621	10,619	10,616	10,616	10,613	10,612
Irrigation	M	Direct Reuse	0	0	0	0	0	0
Irrigation	M	Gulf Coast Aquifer System Cameron County	41	41	41	41	41	41
Irrigation	M	Nueces-Rio Grande Run-of-River	3	3	3	3	3	3
Hidalgo County WUG Total			431,970	432,723	429,371	429,199	429,723	429,887
Hidalgo County / Nueces-Rio Grande Basin WUG Total			417,337	418,109	414,759	414,604	415,116	415,283
Agua SUD	M	Amistad-Falcon Lake/Reservoir System	7,148	7,148	7,149	7,147	7,148	7,148
Alamo	M	Amistad-Falcon Lake/Reservoir System	1,694	1,694	1,694	1,694	1,694	1,694
Alamo	M	Gulf Coast Aquifer System Hidalgo County	522	522	522	522	522	522
Donna	M	Amistad-Falcon Lake/Reservoir System	3,126	3,125	3,125	3,125	3,125	3,125
Edcouch	M	Amistad-Falcon Lake/Reservoir System	262	262	262	262	262	262
Edinburg	M	Amistad-Falcon Lake/Reservoir System	6,139	6,139	4,222	4,222	4,222	4,222
Elsa	M	Amistad-Falcon Lake/Reservoir System	568	568	568	567	567	567
Hidalgo	M	Amistad-Falcon Lake/Reservoir System	136	136	136	136	136	136

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DRAFT Region M Water User Group (WUG) Existing Water Supply

WUG Name	Source	Source Description	Existing Supply (acre-feet per year)					
	Region		2030	2040	2050	2060	2070	2080
Hidalgo	M	Gulf Coast Aquifer System Hidalgo County	1,602	1,766	1,766	1,766	1,766	1,766
Hidalgo County MUD 1	M	Amistad-Falcon Lake/Reservoir System	604	604	604	604	604	604
La Joya	M	Amistad-Falcon Lake/Reservoir System	288	288	288	288	288	288
La Villa	M	Amistad-Falcon Lake/Reservoir System	236	236	236	236	236	236
McAllen	M	Amistad-Falcon Lake/Reservoir System	33,544	33,544	31,744	31,744	31,744	31,744
McAllen	M	Direct Reuse	2,251	2,251	2,251	2,251	2,251	2,251
McAllen	M	Gulf Coast Aquifer System Hidalgo County	1,120	1,120	1,120	1,120	1,120	1,120
Mercedes	M	Amistad-Falcon Lake/Reservoir System	2,267	2,267	2,267	2,267	2,267	2,267
Mercedes	M	Gulf Coast Aquifer System Hidalgo County	626	626	626	626	626	626
Military Highway WSC	M	Amistad-Falcon Lake/Reservoir System	327	327	327	327	327	327
Military Highway WSC	M	Gulf Coast Aquifer System Cameron County	1,034	1,034	1,034	1,034	1,034	1,034
Military Highway WSC	M	Gulf Coast Aquifer System Hidalgo County	1,991	1,991	1,991	1,991	1,991	1,991
Mission	M	Amistad-Falcon Lake/Reservoir System	11,550	11,550	11,550	11,550	11,550	11,550
North Alamo WSC	M	Amistad-Falcon Lake/Reservoir System	11,707	11,744	11,772	11,789	11,805	11,817
North Alamo WSC	M	Gulf Coast Aquifer System Cameron County	65	66	66	66	66	66
North Alamo WSC	M	Gulf Coast Aquifer System Hidalgo County	8,132	8,159	8,178	8,191	8,201	8,208
North Alamo WSC	M	Gulf Coast Aquifer System Willacy County	1,070	1,264	1,266	1,268	1,269	1,271
Pharr	M	Amistad-Falcon Lake/Reservoir System	7,978	7,978	7,978	7,978	7,978	7,978
Pharr	M	Direct Reuse	991	1,192	1,401	1,617	1,841	2,060
Pharr	M	Gulf Coast Aquifer System Hidalgo County	1,399	1,399	1,399	1,399	1,399	1,399
San Juan	M	Amistad-Falcon Lake/Reservoir System	3,166	3,166	3,166	3,166	3,166	3,166

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DRAFT Region M Water User Group (WUG) Existing Water Supply

WUG Name	Source	Source Description	Existing Supply (acre-feet per year)					
	Region		2030	2040	2050	2060	2070	2080
San Juan	M	Gulf Coast Aquifer System Cameron County	662	662	662	662	662	662
San Juan	M	Gulf Coast Aquifer System Hidalgo County	1,120	1,120	1,120	1,120	1,120	1,120
Sharyland WSC	M	Amistad-Falcon Lake/Reservoir System	13,195	13,195	13,195	13,195	13,195	13,195
Weslaco	M	Amistad-Falcon Lake/Reservoir System	5,408	5,408	5,408	5,408	5,408	5,408
Weslaco	M	Direct Reuse	770	971	1,052	1,052	1,052	1,052
County-Other	M	Amistad-Falcon Lake/Reservoir System	428	428	428	428	428	428
County-Other	M	Gulf Coast Aquifer System Hidalgo County	78	78	78	78	78	78
Manufacturing	M	Amistad-Falcon Lake/Reservoir System	2,167	2,167	2,167	2,167	2,167	2,167
Manufacturing	M	Gulf Coast Aquifer System Hidalgo County	2,500	2,500	2,500	2,500	2,500	2,500
Mining	M	Amistad-Falcon Lake/Reservoir System	1,203	1,203	1,202	1,202	1,202	1,201
Mining	M	Gulf Coast Aquifer System Hidalgo County	466	466	466	466	466	466
Steam Electric Power	M	Amistad-Falcon Lake/Reservoir System	465	465	465	465	465	465
Steam Electric Power	M	Direct Reuse	7,270	7,270	7,270	7,270	7,270	7,270
Steam Electric Power	M	Gulf Coast Aquifer System Hidalgo County	2,200	2,200	2,300	2,300	2,300	2,300
Livestock	M	Amistad-Falcon Lake/Reservoir System	4	20	20	20	20	20
Livestock	M	Gulf Coast Aquifer System Hidalgo County	686	686	686	686	686	686
Irrigation	M	Amistad-Falcon Lake/Reservoir System	261,605	261,537	261,465	261,065	261,325	261,253
Irrigation	M	Gulf Coast Aquifer System Hidalgo County	5,567	5,567	5,567	5,567	5,567	5,567
Hidalgo County / Rio Grande Basin WUG Total			14,633	14,614	14,612	14,595	14,607	14,604
Agua SUD	M	Amistad-Falcon Lake/Reservoir System	1,357	1,357	1,357	1,358	1,358	1,357
Hidalgo	M	Amistad-Falcon Lake/Reservoir System	1	1	1	1	1	1

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DRAFT Region M Water User Group (WUG) Existing Water Supply

WUG Name	Source	Source Description	Existing Supply (acre-feet per year)					
	Region		2030	2040	2050	2060	2070	2080
Hidalgo	M	Gulf Coast Aquifer System Hidalgo County	15	16	16	16	16	16
La Joya	M	Amistad-Falcon Lake/Reservoir System	76	76	76	76	76	76
Military Highway WSC	M	Amistad-Falcon Lake/Reservoir System	6	6	6	6	6	6
Military Highway WSC	M	Gulf Coast Aquifer System Cameron County	20	20	20	20	20	20
Military Highway WSC	M	Gulf Coast Aquifer System Hidalgo County	39	39	39	39	39	39
County-Other	M	Amistad-Falcon Lake/Reservoir System	1,596	1,596	1,596	1,596	1,596	1,596
County-Other	M	Gulf Coast Aquifer System Hidalgo County	154	154	154	154	154	154
Manufacturing	M	Amistad-Falcon Lake/Reservoir System	66	66	66	66	66	66
Mining	M	Amistad-Falcon Lake/Reservoir System	95	95	95	95	95	95
Mining	M	Gulf Coast Aquifer System Hidalgo County	4	4	4	4	4	4
Livestock	M	Amistad-Falcon Lake/Reservoir System	67	51	51	51	51	51
Livestock	M	Gulf Coast Aquifer System Hidalgo County	20	20	20	20	20	20
Irrigation	M	Amistad-Falcon Lake/Reservoir System	10,885	10,881	10,879	10,861	10,873	10,871
Irrigation	M	Gulf Coast Aquifer System Hidalgo County	232	232	232	232	232	232
Jim Hogg County WUG Total			2,413	2,413	2,413	2,413	2,413	2,413
Jim Hogg County / Nueces-Rio Grande Basin WUG Total			2,257	2,257	2,257	2,257	2,257	2,257
Jim Hogg County WCID 2	M	Gulf Coast Aquifer System Jim Hogg County	1,412	1,412	1,412	1,412	1,412	1,412
County-Other	M	Gulf Coast Aquifer System Jim Hogg County	137	137	137	137	137	137
Manufacturing	M	Gulf Coast Aquifer System Jim Hogg County	52	52	52	52	52	52
Mining	M	Gulf Coast Aquifer System Jim Hogg County	9	9	9	9	9	9
Livestock	M	Gulf Coast Aquifer System Jim Hogg County	105	105	105	105	105	105

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DRAFT Region M Water User Group (WUG) Existing Water Supply

WUG Name	Source	Source Description	Existing Supply (acre-feet per year)					
	Region		2030	2040	2050	2060	2070	2080
Livestock	M	Local Surface Water Supply	260	260	260	260	260	260
Irrigation	M	Gulf Coast Aquifer System Jim Hogg County	282	282	282	282	282	282
Jim Hogg County / Rio Grande Basin WUG Total			156	156	156	156	156	156
County-Other	M	Gulf Coast Aquifer System Jim Hogg County	16	16	16	16	16	16
Livestock	M	Gulf Coast Aquifer System Jim Hogg County	60	60	60	60	60	60
Livestock	M	Local Surface Water Supply	14	14	14	14	14	14
Irrigation	M	Gulf Coast Aquifer System Jim Hogg County	66	66	66	66	66	66
Maverick County WUG Total			58,322	58,310	58,297	58,285	58,145	58,156
Maverick County / Nueces Basin WUG Total			451	451	451	451	347	347
County-Other	M	Amistad-Falcon Lake/Reservoir System	1	1	1	1	1	1
County-Other	M	Carrizo-Wilcox Aquifer Maverick County	5	5	5	5	5	5
Mining	M	Amistad-Falcon Lake/Reservoir System	277	277	277	277	277	277
Mining	M	Carrizo-Wilcox Aquifer Maverick County	64	64	64	64	0	0
Livestock	M	Carrizo-Wilcox Aquifer Maverick County	40	40	40	40	0	0
Livestock	M	Local Surface Water Supply	64	64	64	64	64	64
Maverick County / Rio Grande Basin WUG Total			57,871	57,859	57,846	57,834	57,798	57,809
Eagle Pass	M	Amistad-Falcon Lake/Reservoir System	10,613	10,613	10,613	10,613	10,613	10,613
Eagle Pass	M	Rio Grande Run-of-River	1,180	1,180	1,180	1,180	1,180	1,180
Maverick County	M	Amistad-Falcon Lake/Reservoir System	607	607	606	606	606	606
Maverick County	M	Rio Grande Run-of-River	111	111	111	111	111	111
County-Other	M	Amistad-Falcon Lake/Reservoir System	175	175	175	175	175	175
Manufacturing	M	Amistad-Falcon Lake/Reservoir System	74	74	74	74	50	74

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DRAFT Region M Water User Group (WUG) Existing Water Supply

WUG Name	Source		Existing Supply (acre-feet per year)					
	Region	Source Description	2030	2040	2050	2060	2070	2080
Manufacturing	M	Carrizo-Wilcox Aquifer Maverick County	3	3	3	3	3	3
Mining	M	Amistad-Falcon Lake/Reservoir System	1,107	1,107	1,106	1,106	1,106	1,105
Livestock	M	Local Surface Water Supply	409	409	409	409	409	409
Irrigation	M	Amistad-Falcon Lake/Reservoir System	43,592	43,580	43,569	43,557	43,545	43,533
Starr County WUG Total			14,347	14,351	14,354	14,359	14,357	14,357
Starr County / Nueces-Rio Grande Basin WUG Total			454	454	454	454	454	454
County-Other	M	Gulf Coast Aquifer System Starr County	103	103	103	103	103	103
Mining	M	Amistad-Falcon Lake/Reservoir System	111	111	111	111	111	111
Livestock	M	Gulf Coast Aquifer System Starr County	240	240	240	240	240	240
Starr County / Rio Grande Basin WUG Total			13,893	13,897	13,900	13,905	13,903	13,903
Agua SUD	M	Amistad-Falcon Lake/Reservoir System	40	40	39	40	39	40
El Sauz WSC	M	Amistad-Falcon Lake/Reservoir System	105	105	105	105	105	105
El Tanque WSC	M	Amistad-Falcon Lake/Reservoir System	177	177	177	177	177	177
La Grulla	M	Amistad-Falcon Lake/Reservoir System	600	600	600	600	600	600
Rio Grande City	M	Amistad-Falcon Lake/Reservoir System	3,118	3,118	3,118	3,118	3,118	3,118
Rio WSC	M	Amistad-Falcon Lake/Reservoir System	616	616	616	616	616	616
Roma	M	Amistad-Falcon Lake/Reservoir System	3,377	3,377	3,377	3,377	3,377	3,377
Union WSC	M	Amistad-Falcon Lake/Reservoir System	542	542	542	542	542	542
County-Other	M	Gulf Coast Aquifer System Starr County	185	185	185	185	185	185
County-Other	M	Yegua-Jackson Aquifer Starr County	33	38	43	48	48	48
Manufacturing	M	Gulf Coast Aquifer System Starr County	96	96	96	96	96	96

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DRAFT Region M Water User Group (WUG) Existing Water Supply

WUG Name	Source		Existing Supply (acre-feet per year)					
	Region	Source Description	2030	2040	2050	2060	2070	2080
Mining	M	Amistad-Falcon Lake/Reservoir System	91	91	91	91	91	91
Mining	M	Gulf Coast Aquifer System Starr County	57	57	57	57	57	57
Livestock	M	Gulf Coast Aquifer System Starr County	687	687	687	687	687	687
Livestock	M	Local Surface Water Supply	75	75	75	75	75	75
Irrigation	M	Amistad-Falcon Lake/Reservoir System	3,974	3,973	3,972	3,971	3,970	3,969
Irrigation	M	Gulf Coast Aquifer System Starr County	120	120	120	120	120	120
Webb County WUG Total			79,659	79,680	79,701	79,715	79,734	79,731
Webb County / Nueces Basin WUG Total			3,063	3,074	3,084	3,093	3,105	3,076
Webb County	M	Amistad-Falcon Lake/Reservoir System	265	265	265	266	265	265
County-Other	M	Gulf Coast Aquifer System Webb County	6	6	6	6	6	6
County-Other	M	Yegua-Jackson Aquifer Webb County	6	6	6	6	6	6
Manufacturing	M	Amistad-Falcon Lake/Reservoir System	30	30	30	30	30	30
Manufacturing	M	Carrizo-Wilcox Aquifer Webb County	44	44	44	44	44	44
Mining	M	Amistad-Falcon Lake/Reservoir System	2,165	2,165	2,163	2,163	2,163	2,136
Mining	M	Carrizo-Wilcox Aquifer Webb County	29	29	29	29	29	29
Mining	M	Gulf Coast Aquifer System Webb County	103	114	126	134	147	145
Livestock	M	Gulf Coast Aquifer System Webb County	2	2	2	2	2	2
Livestock	M	Local Surface Water Supply	413	413	413	413	413	413
Webb County / Nueces-Rio Grande Basin WUG Total			224	224	224	224	223	223
County-Other	M	Gulf Coast Aquifer System Webb County	121	121	121	121	120	120
Livestock	M	Gulf Coast Aquifer System Webb County	31	31	31	31	31	31

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DRAFT Region M Water User Group (WUG) Existing Water Supply

WUG Name	Source		Existing Supply (acre-feet per year)					
	Region	Source Description	2030	2040	2050	2060	2070	2080
Livestock	M	Local Surface Water Supply	72	72	72	72	72	72
Webb County / Rio Grande Basin WUG Total			76,372	76,382	76,393	76,398	76,406	76,432
Laredo	M	Amistad-Falcon Lake/Reservoir System	59,201	59,201	59,201	59,201	59,201	59,201
Laredo	M	Direct Reuse	773	773	773	773	773	773
Mirando City WSC	M	Gulf Coast Aquifer System Webb County	70	70	70	70	70	70
Webb County	M	Amistad-Falcon Lake/Reservoir System	2,046	2,046	2,046	2,045	2,046	2,046
County-Other	M	Carrizo-Wilcox Aquifer Webb County	20	20	20	20	20	20
County-Other	M	Gulf Coast Aquifer System Webb County	19	19	19	19	15	15
County-Other	M	Yegua-Jackson Aquifer Webb County	107	107	107	107	107	107
Manufacturing	M	Amistad-Falcon Lake/Reservoir System	128	128	128	128	128	128
Mining	M	Amistad-Falcon Lake/Reservoir System	2,636	2,635	2,635	2,634	2,633	2,659
Mining	M	Carrizo-Wilcox Aquifer Webb County	63	63	63	63	63	63
Mining	M	Gulf Coast Aquifer System Webb County	122	136	149	160	174	176
Steam Electric Power	M	Amistad-Falcon Lake/Reservoir System	131	131	131	131	131	131
Livestock	M	Amistad-Falcon Lake/Reservoir System	50	50	50	50	50	50
Livestock	M	Gulf Coast Aquifer System Webb County	2	2	2	2	2	2
Livestock	M	Local Surface Water Supply	434	434	434	434	434	434
Irrigation	M	Amistad-Falcon Lake/Reservoir System	10,570	10,567	10,565	10,561	10,559	10,557
Willacy County WUG Total			27,191	27,123	26,969	26,929	26,896	26,869
Willacy County / Nueces-Rio Grande Basin WUG Total			27,191	27,123	26,969	26,929	26,896	26,869
Lyford	M	Amistad-Falcon Lake/Reservoir System	588	588	588	588	588	588

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DRAFT Region M Water User Group (WUG) Existing Water Supply

WUG Name	Source	Source Description	Existing Supply (acre-feet per year)					
	Region		2030	2040	2050	2060	2070	2080
North Alamo WSC	M	Amistad-Falcon Lake/Reservoir System	460	422	392	374	358	346
North Alamo WSC	M	Gulf Coast Aquifer System Cameron County	3	2	2	2	2	2
North Alamo WSC	M	Gulf Coast Aquifer System Hidalgo County	320	292	272	259	249	241
North Alamo WSC	M	Gulf Coast Aquifer System Willacy County	42	45	42	40	39	37
Port Mansfield PUD	M	Amistad-Falcon Lake/Reservoir System	98	98	98	98	98	98
Raymondville	M	Amistad-Falcon Lake/Reservoir System	3,402	3,402	3,402	3,402	3,402	3,402
Raymondville	M	Gulf Coast Aquifer System Willacy County	4	5	5	5	5	5
Sebastian MUD	M	Amistad-Falcon Lake/Reservoir System	204	204	204	204	204	204
County-Other	M	Amistad-Falcon Lake/Reservoir System	486	486	486	485	485	485
County-Other	M	Gulf Coast Aquifer System Willacy County	561	561	561	561	561	561
Mining	M	Gulf Coast Aquifer System Willacy County	2	2	2	2	2	2
Livestock	M	Amistad-Falcon Lake/Reservoir System	235	235	140	140	140	140
Livestock	M	Gulf Coast Aquifer System Willacy County	74	74	74	74	74	74
Irrigation	M	Amistad-Falcon Lake/Reservoir System	20,631	20,626	20,620	20,614	20,608	20,603
Irrigation	M	Gulf Coast Aquifer System Willacy County	81	81	81	81	81	81
Zapata County WUG Total			6,169	6,169	6,168	6,168	6,167	6,167
Zapata County / Rio Grande Basin WUG Total			6,169	6,169	6,168	6,168	6,167	6,167
Falcon Rural WSC	M	Amistad-Falcon Lake/Reservoir System	309	309	309	309	309	309
Siesta Shores WCID	M	Amistad-Falcon Lake/Reservoir System	369	369	369	369	369	369
Zapata County	M	Amistad-Falcon Lake/Reservoir System	2,084	2,084	2,084	2,084	2,084	2,084
Zapata County San Ygnacio & Ramireño	M	Amistad-Falcon Lake/Reservoir System	284	284	284	284	284	284

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DRAFT Region M Water User Group (WUG) Existing Water Supply

WUG Name	Source	Source Description	Existing Supply (acre-feet per year)					
	Region		2030	2040	2050	2060	2070	2080
Zapata County WCID-Hwy 16 East	M	Amistad-Falcon Lake/Reservoir System	502	502	502	502	502	502
County-Other	M	Amistad-Falcon Lake/Reservoir System	63	63	63	63	63	63
County-Other	M	Yegua-Jackson Aquifer Zapata County	117	117	117	117	117	117
Mining	M	Amistad-Falcon Lake/Reservoir System	6	6	6	6	6	6
Mining	M	Yegua-Jackson Aquifer Zapata County	2	2	2	2	2	2
Livestock	M	Local Surface Water Supply	145	145	145	145	145	145
Livestock	M	Yegua-Jackson Aquifer Zapata County	214	214	214	214	214	214
Irrigation	M	Amistad-Falcon Lake/Reservoir System	1,994	1,994	1,993	1,993	1,992	1,992
Irrigation	M	Yegua-Jackson Aquifer Zapata County	80	80	80	80	80	80
Region M WUG Existing Water Supply Total			899,282	900,617	898,221	898,378	899,336	899,720

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DRAFT Region M Water User Group (WUG) Needs or Surplus

WUG supplies and projected demands are entered for each of a WUG’s region-county-basin divisions. The needs shown in the WUG Needs/Surplus report are calculated by first deducting the WUG split’s projected demand from its total existing water supply volume. If the WUG split has a greater existing supply volume than projected demand in any given decade, this amount is considered a surplus volume. Surplus volumes are shown as positive values, and needs are shown as negative values in parentheses.

			Water Supply Needs or Surplus (acre-feet per year)					
WUG Name	County	Basin	2030	2040	2050	2060	2070	2080
Brownsville	Cameron	Nueces-Rio Grande	11,281	10,593	10,298	10,397	10,495	10,596
Combes	Cameron	Nueces-Rio Grande	402	397	395	396	397	398
East Rio Hondo WSC	Cameron	Nueces-Rio Grande	1,264	640	(16)	(506)	(755)	(1,050)
El Jardin WSC	Cameron	Nueces-Rio Grande	102	76	63	66	71	75
Harlingen	Cameron	Nueces-Rio Grande	6,128	5,808	5,669	5,712	5,752	5,793
La Feria	Cameron	Nueces-Rio Grande	513	598	690	893	1,196	1,400
Laguna Madre Water District	Cameron	Nueces-Rio Grande	2,875	2,768	2,726	2,742	2,759	2,777
Los Fresnos	Cameron	Nueces-Rio Grande	479	466	461	463	465	467
Military Highway WSC	Cameron	Nueces-Rio Grande	(49)	(135)	(173)	(158)	(142)	(125)
North Alamo WSC	Cameron	Nueces-Rio Grande	(98)	(106)	(109)	(105)	(103)	(99)
Olmito WSC	Cameron	Nueces-Rio Grande	(75)	(107)	(126)	(138)	(151)	(166)
Palm Valley	Cameron	Nueces-Rio Grande	30	25	23	24	25	26
Primera	Cameron	Nueces-Rio Grande	(25)	(185)	(295)	(339)	(361)	(339)
Rio Hondo	Cameron	Nueces-Rio Grande	594	592	591	591	592	592
San Benito	Cameron	Nueces-Rio Grande	597	1,030	1,980	2,090	2,300	2,311
Santa Rosa	Cameron	Nueces-Rio Grande	365	360	358	359	360	361
Valley MUD 2	Cameron	Nueces-Rio Grande	259	270	279	301	323	327
County-Other	Cameron	Nueces-Rio Grande	(2,491)	(1,618)	(695)	94	615	1,074
Manufacturing	Cameron	Nueces-Rio Grande	509	492	474	456	437	417

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DRAFT Region M Water User Group (WUG) Needs or Surplus

			Water Supply Needs or Surplus (acre-feet per year)					
WUG Name	County	Basin	2030	2040	2050	2060	2070	2080
Livestock	Cameron	Nueces-Rio Grande	130	130	130	130	130	130
Irrigation	Cameron	Nueces-Rio Grande	(317,987)	(301,805)	(285,625)	(269,447)	(253,265)	(237,088)
Brownsville	Cameron	Rio Grande	(59)	(67)	(68)	(69)	(67)	(66)
El Jardin WSC	Cameron	Rio Grande	33	33	33	34	33	33
Military Highway WSC	Cameron	Rio Grande	(6)	(7)	(7)	(7)	(7)	(7)
Valley MUD 2	Cameron	Rio Grande	37	37	39	40	42	42
Steam Electric Power	Cameron	Rio Grande	(40)	(40)	(40)	(40)	(40)	(40)
Livestock	Cameron	Rio Grande	19	19	19	19	19	19
Irrigation	Cameron	Rio Grande	(20,534)	(19,502)	(18,470)	(17,435)	(16,403)	(15,370)
Agua SUD	Hidalgo	Nueces-Rio Grande	375	(82)	(401)	(548)	(694)	(842)
Alamo	Hidalgo	Nueces-Rio Grande	(422)	(472)	(523)	(617)	(713)	(811)
Donna	Hidalgo	Nueces-Rio Grande	934	817	734	676	618	560
Edcouch	Hidalgo	Nueces-Rio Grande	43	62	70	56	41	26
Edinburg	Hidalgo	Nueces-Rio Grande	(5,070)	(5,975)	(8,505)	(8,703)	(8,902)	(9,101)
Elsa	Hidalgo	Nueces-Rio Grande	60	109	133	97	60	23
Hidalgo	Hidalgo	Nueces-Rio Grande	226	317	261	220	180	138
Hidalgo County MUD 1	Hidalgo	Nueces-Rio Grande	89	75	61	45	28	11
La Joya	Hidalgo	Nueces-Rio Grande	(195)	(225)	(245)	(256)	(268)	(280)
La Villa	Hidalgo	Nueces-Rio Grande	11	(30)	(56)	(53)	(50)	(47)
McAllen	Hidalgo	Nueces-Rio Grande	(1,361)	(5,494)	(11,326)	(12,558)	(13,809)	(15,080)
Mercedes	Hidalgo	Nueces-Rio Grande	1,300	1,288	1,266	1,205	1,142	1,078
Military Highway WSC	Hidalgo	Nueces-Rio Grande	1,016	1,073	1,085	972	857	738
Mission	Hidalgo	Nueces-Rio Grande	(6,515)	(7,480)	(8,166)	(8,640)	(9,122)	(9,609)

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DRAFT Region M Water User Group (WUG) Needs or Surplus

			Water Supply Needs or Surplus (acre-feet per year)					
WUG Name	County	Basin	2030	2040	2050	2060	2070	2080
North Alamo WSC	Hidalgo	Nueces-Rio Grande	(12,914)	(16,160)	(18,374)	(18,737)	(19,098)	(19,459)
Pharr	Hidalgo	Nueces-Rio Grande	1,233	871	673	681	695	701
San Juan	Hidalgo	Nueces-Rio Grande	1,624	1,560	1,497	1,378	1,257	1,133
Sharyland WSC	Hidalgo	Nueces-Rio Grande	(2,346)	(3,753)	(4,672)	(4,913)	(5,154)	(5,394)
Weslaco	Hidalgo	Nueces-Rio Grande	678	755	723	530	333	133
County-Other	Hidalgo	Nueces-Rio Grande	1	200	418	406	392	379
Manufacturing	Hidalgo	Nueces-Rio Grande	789	646	497	343	183	17
Mining	Hidalgo	Nueces-Rio Grande	1,437	1,412	1,385	1,359	1,334	1,310
Steam Electric Power	Hidalgo	Nueces-Rio Grande	(390)	(390)	(290)	(290)	(290)	(290)
Livestock	Hidalgo	Nueces-Rio Grande	57	73	73	73	73	73
Irrigation	Hidalgo	Nueces-Rio Grande	(372,899)	(351,737)	(330,579)	(309,751)	(288,260)	(267,108)
Agua SUD	Hidalgo	Rio Grande	1,030	1,008	993	987	980	972
Hidalgo	Hidalgo	Rio Grande	(6)	(6)	(7)	(7)	(8)	(9)
La Joya	Hidalgo	Rio Grande	(37)	(44)	(49)	(52)	(55)	(57)
Military Highway WSC	Hidalgo	Rio Grande	51	51	52	51	50	49
County-Other	Hidalgo	Rio Grande	(965)	103	1,279	1,210	1,139	1,066
Manufacturing	Hidalgo	Rio Grande	18	16	14	12	10	8
Mining	Hidalgo	Rio Grande	97	96	96	96	96	95
Livestock	Hidalgo	Rio Grande	71	55	55	55	55	55
Irrigation	Hidalgo	Rio Grande	(15,372)	(14,497)	(13,621)	(12,760)	(11,870)	(10,993)
Jim Hogg County WCID 2	Jim Hogg	Nueces-Rio Grande	938	946	958	970	983	995
County-Other	Jim Hogg	Nueces-Rio Grande	7	9	13	14	18	21
Manufacturing	Jim Hogg	Nueces-Rio Grande	10	8	6	4	2	0
Mining	Jim Hogg	Nueces-Rio Grande	0	0	0	0	0	0
Livestock	Jim Hogg	Nueces-Rio Grande	3	3	3	3	3	3

*A single asterisk next to a WUG's name denotes that the WUG is split by two or more planning regions.

DRAFT Region M Water User Group (WUG) Needs or Surplus

			Water Supply Needs or Surplus (acre-feet per year)					
WUG Name	County	Basin	2030	2040	2050	2060	2070	2080
Irrigation	Jim Hogg	Nueces-Rio Grande	0	9	19	28	38	47
County-Other	Jim Hogg	Rio Grande	7	7	7	8	8	8
Livestock	Jim Hogg	Rio Grande	16	16	16	16	16	16
Irrigation	Jim Hogg	Rio Grande	0	2	4	6	8	11
County-Other	Maverick	Nueces	3	4	5	5	5	6
Mining	Maverick	Nueces	233	233	233	233	169	277
Livestock	Maverick	Nueces	40	40	40	40	0	0
Eagle Pass	Maverick	Rio Grande	2,214	1,601	1,080	613	149	(314)
Maverick County	Maverick	Rio Grande	383	268	188	186	185	185
County-Other	Maverick	Rio Grande	9	66	102	125	141	151
Manufacturing	Maverick	Rio Grande	(21)	(25)	(29)	(33)	(61)	(41)
Mining	Maverick	Rio Grande	(3,683)	(3,683)	(3,684)	(3,684)	(3,684)	1,103
Livestock	Maverick	Rio Grande	0	0	0	0	0	0
Irrigation	Maverick	Rio Grande	(16,133)	(14,164)	(12,194)	(10,225)	(8,256)	(6,287)
County-Other	Starr	Nueces-Rio Grande	(8)	(10)	(14)	(25)	(37)	(48)
Mining	Starr	Nueces-Rio Grande	14	11	8	4	2	0
Livestock	Starr	Nueces-Rio Grande	57	57	57	57	57	57
Agua SUD	Starr	Rio Grande	14	14	13	14	13	14
El Sauz WSC	Starr	Rio Grande	(62)	(76)	(87)	(91)	(95)	(99)
El Tanque WSC	Starr	Rio Grande	(24)	3	25	41	56	69
La Grulla	Starr	Rio Grande	(860)	(954)	(1,028)	(1,075)	(1,123)	(1,171)
Rio Grande City	Starr	Rio Grande	(1,082)	(1,350)	(1,558)	(1,696)	(1,836)	(1,978)
Rio WSC	Starr	Rio Grande	(193)	(337)	(433)	(433)	(431)	(429)
Roma	Starr	Rio Grande	902	774	666	578	489	398
Union WSC	Starr	Rio Grande	(691)	(749)	(799)	(845)	(892)	(939)
County-Other	Starr	Rio Grande	(207)	(207)	(217)	(257)	(300)	(344)
Manufacturing	Starr	Rio Grande	15	12	9	6	3	0
Mining	Starr	Rio Grande	52	48	44	42	39	36
Livestock	Starr	Rio Grande	0	0	0	0	0	0
Irrigation	Starr	Rio Grande	(19,015)	(18,249)	(17,484)	(16,718)	(15,953)	(15,188)
Webb County	Webb	Nueces	76	2	(67)	(63)	(61)	(57)
County-Other	Webb	Nueces	(22)	(10)	2	2	2	2
Manufacturing	Webb	Nueces	40	38	37	36	34	33
Mining	Webb	Nueces	403	413	422	429	441	2,296
Livestock	Webb	Nueces	31	31	31	31	31	31

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DRAFT Region M Water User Group (WUG) Needs or Surplus

			Water Supply Needs or Surplus (acre-feet per year)					
WUG Name	County	Basin	2030	2040	2050	2060	2070	2080
County-Other	Webb	Nueces-Rio Grande	(198)	(90)	22	22	21	21
Livestock	Webb	Nueces-Rio Grande	0	0	0	0	0	0
Laredo	Webb	Rio Grande	18,143	16,682	16,180	16,625	17,075	17,530
Mirando City WSC	Webb	Rio Grande	41	40	40	40	40	41
Webb County	Webb	Rio Grande	752	241	(235)	(213)	(189)	(166)
County-Other	Webb	Rio Grande	(897)	(543)	(178)	(178)	(183)	(184)
Manufacturing	Webb	Rio Grande	84	83	81	79	78	76
Mining	Webb	Rio Grande	573	585	596	605	617	2,881
Steam Electric Power	Webb	Rio Grande	0	0	0	0	0	0
Livestock	Webb	Rio Grande	87	87	87	87	87	87
Irrigation	Webb	Rio Grande	480	811	1,144	1,475	1,807	2,140
Lyford	Willacy	Nueces-Rio Grande	402	411	418	424	428	431
North Alamo WSC	Willacy	Nueces-Rio Grande	106	43	(14)	(55)	(97)	(141)
Port Mansfield PUD	Willacy	Nueces-Rio Grande	(40)	(67)	(102)	(156)	(219)	(292)
Raymondville	Willacy	Nueces-Rio Grande	2,610	2,634	2,650	2,661	2,667	2,664
Sebastian MUD	Willacy	Nueces-Rio Grande	109	118	125	130	134	137
County-Other	Willacy	Nueces-Rio Grande	487	489	532	611	710	830
Mining	Willacy	Nueces-Rio Grande	0	0	0	0	0	0
Livestock	Willacy	Nueces-Rio Grande	112	112	17	17	17	17
Irrigation	Willacy	Nueces-Rio Grande	(75,700)	(72,508)	(69,316)	(66,124)	(62,932)	(59,740)
Falcon Rural WSC	Zapata	Rio Grande	239	253	264	271	277	282
Siesta Shores WCID	Zapata	Rio Grande	162	160	160	163	165	167
Zapata County	Zapata	Rio Grande	255	234	233	252	272	292
Zapata County San Ygnacio & Ramireño	Zapata	Rio Grande	221	231	239	245	249	253
Zapata County WCID-Hwy 16 East	Zapata	Rio Grande	341	339	339	341	342	344
County-Other	Zapata	Rio Grande	23	3	(11)	(20)	(26)	(32)

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DRAFT Region M Water User Group (WUG) Needs or Surplus

			Water Supply Needs or Surplus (acre-feet per year)					
WUG Name	County	Basin	2030	2040	2050	2060	2070	2080
Mining	Zapata	Rio Grande	2	2	2	2	2	2
Livestock	Zapata	Rio Grande	0	0	0	0	0	0
Irrigation	Zapata	Rio Grande	(2,862)	(2,699)	(2,536)	(2,372)	(2,209)	(2,045)

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DRAFT Region M 2026 Regional Water Plan (RWP) Water User Group (WUG) Data Comparison to 2021 RWP Water Volumes Shown in Acre-Feet per year

	2030 Planning Decade*			2070 Planning Decade*		
	2021 RWP	2026 RWP	Difference (%)	2021 RWP	2026 RWP	Difference (%)
Cameron County Municipal WUG Type						
Existing WUG supply total	96,937	96,230	-0.7%	99,361	99,052	-0.3%
Projected demand total	93,300	74,074	-20.6%	148,708	75,213	-49.4%
Water supply needs total**	4,149	2,803	-32.4%	50,286	1,586	-96.8%
Cameron County Manufacturing WUG Type						
Existing WUG supply total	1,029	969	-5.8%	1,029	969	-5.8%
Projected demand total	1,846	460	-75.1%	1,846	532	-71.2%
Water supply needs total**	817	0	-100.0%	817	0	-100.0%
Cameron County Mining WUG Type						
Existing WUG supply total	661	0	-100.0%	661	0	-100.0%
Projected demand total	277	0	-100.0%	28	0	-100.0%
Water supply needs total**	0	0	0.0%	0	0	0.0%
Cameron County Steam Electric Power WUG Type						
Existing WUG supply total	125	125	0.0%	125	125	0.0%
Projected demand total	3,550	165	-95.4%	3,550	165	-95.4%
Water supply needs total**	3,425	40	-98.8%	3,425	40	-98.8%
Cameron County Livestock WUG Type						
Existing WUG supply total	436	436	0.0%	436	436	0.0%
Projected demand total	436	287	-34.2%	436	287	-34.2%
Water supply needs total**	0	0	0.0%	0	0	0.0%
Cameron County Irrigation WUG Type						
Existing WUG supply total	177,972	181,451	2.0%	177,840	181,319	2.0%
Projected demand total	519,972	519,972	0.0%	450,987	450,987	0.0%
Water supply needs total**	342,000	338,521	-1.0%	273,147	269,668	-1.3%
Hidalgo County Municipal WUG Type						
Existing WUG supply total	137,316	136,468	-0.6%	134,676	134,414	-0.2%

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DRAFT Region M 2026 Regional Water Plan (RWP) Water User Group (WUG) Data Comparison to 2021 RWP Water Volumes Shown in Acre-Feet per year

	2030 Planning Decade*			2070 Planning Decade*		
	2021 RWP	2026 RWP	Difference (%)	2021 RWP	2026 RWP	Difference (%)
Projected demand total	195,306	157,628	-19.3%	340,317	184,515	-45.8%
Water supply needs total**	58,236	29,831	-48.8%	205,641	57,873	-71.9%
Hidalgo County Manufacturing WUG Type						
Existing WUG supply total	2,915	4,733	62.4%	2,915	4,733	62.4%
Projected demand total	2,721	3,926	44.3%	2,721	4,540	66.9%
Water supply needs total**	0	0	0.0%	0	0	0.0%
Hidalgo County Mining WUG Type						
Existing WUG supply total	1,933	1,768	-8.5%	1,931	1,767	-8.5%
Projected demand total	3,620	234	-93.5%	6,434	337	-94.8%
Water supply needs total**	1,687	0	-100.0%	4,503	0	-100.0%
Hidalgo County Steam Electric Power WUG Type						
Existing WUG supply total	9,935	9,935	0.0%	10,035	10,035	0.0%
Projected demand total	11,538	10,325	-10.5%	11,538	10,325	-10.5%
Water supply needs total**	1,603	390	-75.7%	1,503	290	-80.7%
Hidalgo County Livestock WUG Type						
Existing WUG supply total	777	777	0.0%	777	777	0.0%
Projected demand total	777	649	-16.5%	777	649	-16.5%
Water supply needs total**	0	0	0.0%	0	0	0.0%
Hidalgo County Irrigation WUG Type						
Existing WUG supply total	278,217	278,289	0.0%	277,923	277,997	0.0%
Projected demand total	666,560	666,560	0.0%	578,127	578,127	0.0%
Water supply needs total**	388,343	388,271	0.0%	300,204	300,130	0.0%
Jim Hogg County Municipal WUG Type						
Existing WUG supply total	1,698	1,565	-7.8%	1,698	1,565	-7.8%
Projected demand total	834	613	-26.5%	1,015	556	-45.2%
Water supply needs total**	0	0	0.0%	0	0	0.0%

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DRAFT Region M 2026 Regional Water Plan (RWP) Water User Group (WUG) Data Comparison to 2021 RWP Water Volumes Shown in Acre-Feet per year

	2030 Planning Decade*			2070 Planning Decade*		
	2021 RWP	2026 RWP	Difference (%)	2021 RWP	2026 RWP	Difference (%)
Jim Hogg County Manufacturing WUG Type						
Existing WUG supply total	2	52	2500.0%	2	52	2500.0%
Projected demand total	2	42	2000.0%	2	50	2400.0%
Water supply needs total**	0	0	0.0%	0	0	0.0%
Jim Hogg County Mining WUG Type						
Existing WUG supply total	97	9	-90.7%	22	9	-59.1%
Projected demand total	97	9	-90.7%	22	9	-59.1%
Water supply needs total**	0	0	0.0%	0	0	0.0%
Jim Hogg County Livestock WUG Type						
Existing WUG supply total	436	439	0.7%	436	439	0.7%
Projected demand total	376	420	11.7%	376	420	11.7%
Water supply needs total**	0	0	0.0%	0	0	0.0%
Jim Hogg County Irrigation WUG Type						
Existing WUG supply total	360	348	-3.3%	360	348	-3.3%
Projected demand total	348	348	0.0%	302	302	0.0%
Water supply needs total**	0	0	0.0%	0	0	0.0%
Maverick County Municipal WUG Type						
Existing WUG supply total	11,512	12,692	10.3%	11,511	12,691	10.3%
Projected demand total	11,621	10,083	-13.2%	16,840	12,211	-27.5%
Water supply needs total**	562	0	-100.0%	5,666	0	-100.0%
Maverick County Manufacturing WUG Type						
Existing WUG supply total	65	77	18.5%	65	53	-18.5%
Projected demand total	65	98	50.8%	65	114	75.4%
Water supply needs total**	0	21	100.0%	0	61	100.0%
Maverick County Mining WUG Type						
Existing WUG supply total	1,394	1,448	3.9%	1,392	1,383	-0.6%

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DRAFT Region M 2026 Regional Water Plan (RWP) Water User Group (WUG) Data Comparison to 2021 RWP Water Volumes Shown in Acre-Feet per year

	2030 Planning Decade*			2070 Planning Decade*		
	2021 RWP	2026 RWP	Difference (%)	2021 RWP	2026 RWP	Difference (%)
Projected demand total	2,737	4,898	79.0%	1,217	4,898	302.5%
Water supply needs total**	1,343	3,683	174.2%	0	3,684	100.0%
Maverick County Livestock WUG Type						
Existing WUG supply total	388	513	32.2%	388	473	21.9%
Projected demand total	371	473	27.5%	371	473	27.5%
Water supply needs total**	0	0	0.0%	0	0	0.0%
Maverick County Irrigation WUG Type						
Existing WUG supply total	44,000	43,592	-0.9%	43,953	43,545	-0.9%
Projected demand total	59,725	59,725	0.0%	51,801	51,801	0.0%
Water supply needs total**	15,725	16,133	2.6%	7,848	8,256	5.2%
Starr County Municipal WUG Type						
Existing WUG supply total	8,709	8,896	2.1%	8,709	8,910	2.3%
Projected demand total	12,877	11,107	-13.7%	17,445	13,066	-25.1%
Water supply needs total**	4,864	3,127	-35.7%	8,736	4,714	-46.0%
Starr County Manufacturing WUG Type						
Existing WUG supply total	86	96	11.6%	86	96	11.6%
Projected demand total	116	81	-30.2%	116	93	-19.8%
Water supply needs total**	30	0	-100.0%	30	0	-100.0%
Starr County Mining WUG Type						
Existing WUG supply total	276	259	-6.2%	276	259	-6.2%
Projected demand total	697	193	-72.3%	1,091	218	-80.0%
Water supply needs total**	421	0	-100.0%	815	0	-100.0%
Starr County Livestock WUG Type						
Existing WUG supply total	1,192	1,002	-15.9%	1,192	1,002	-15.9%
Projected demand total	1,192	945	-20.7%	1,192	945	-20.7%
Water supply needs total**	0	0	0.0%	0	0	0.0%

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DRAFT Region M 2026 Regional Water Plan (RWP) Water User Group (WUG) Data Comparison to 2021 RWP

Water Volumes Shown in Acre-Feet per year

	2030 Planning Decade*			2070 Planning Decade*		
	2021 RWP	2026 RWP	Difference (%)	2021 RWP	2026 RWP	Difference (%)
Starr County Irrigation WUG Type						
Existing WUG supply total	4,293	4,094	-4.6%	4,289	4,090	-4.6%
Projected demand total	23,109	23,109	0.0%	20,043	20,043	0.0%
Water supply needs total**	18,816	19,015	1.1%	15,754	15,953	1.3%
Webb County Municipal WUG Type						
Existing WUG supply total	62,617	62,634	0.0%	62,627	62,629	0.0%
Projected demand total	52,898	44,739	-15.4%	84,883	45,924	-45.9%
Water supply needs total**	153	1,117	630.1%	22,256	433	-98.1%
Webb County Manufacturing WUG Type						
Existing WUG supply total	391	202	-48.3%	391	202	-48.3%
Projected demand total	296	78	-73.6%	296	90	-69.6%
Water supply needs total**	0	0	0.0%	0	0	0.0%
Webb County Mining WUG Type						
Existing WUG supply total	5,542	5,118	-7.7%	5,608	5,209	-7.1%
Projected demand total	8,047	4,142	-48.5%	1,343	4,151	209.1%
Water supply needs total**	2,505	0	-100.0%	0	0	0.0%
Webb County Steam Electric Power WUG Type						
Existing WUG supply total	695	131	-81.2%	695	131	-81.2%
Projected demand total	152	131	-13.8%	152	131	-13.8%
Water supply needs total**	0	0	0.0%	0	0	0.0%
Webb County Livestock WUG Type						
Existing WUG supply total	1,079	1,004	-7.0%	1,079	1,004	-7.0%
Projected demand total	963	886	-8.0%	963	886	-8.0%
Water supply needs total**	0	0	0.0%	0	0	0.0%
Webb County Irrigation WUG Type						
Existing WUG supply total	10,607	10,570	-0.3%	10,597	10,559	-0.4%

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DRAFT Region M 2026 Regional Water Plan (RWP) Water User Group (WUG) Data Comparison to 2021 RWP

Water Volumes Shown in Acre-Feet per year

	2030 Planning Decade*			2070 Planning Decade*		
	2021 RWP	2026 RWP	Difference (%)	2021 RWP	2026 RWP	Difference (%)
Projected demand total	10,090	10,090	0.0%	8,752	8,752	0.0%
Water supply needs total**	0	0	0.0%	0	0	0.0%
Willacy County Municipal WUG Type						
Existing WUG supply total	5,551	6,168	11.1%	5,432	5,991	10.3%
Projected demand total	3,571	2,494	-30.2%	5,001	2,368	-52.6%
Water supply needs total**	548	40	-92.7%	1,313	316	-75.9%
Willacy County Mining WUG Type						
Existing WUG supply total	0	2	100.0%	20	2	-90.0%
Projected demand total	51	2	-96.1%	12	2	-83.3%
Water supply needs total**	51	0	-100.0%	0	0	0.0%
Willacy County Livestock WUG Type						
Existing WUG supply total	235	309	31.5%	235	214	-8.9%
Projected demand total	235	197	-16.2%	235	197	-16.2%
Water supply needs total**	0	0	0.0%	0	0	0.0%
Willacy County Irrigation WUG Type						
Existing WUG supply total	20,626	20,712	0.4%	20,723	20,689	-0.2%
Projected demand total	96,412	96,412	0.0%	83,621	83,621	0.0%
Water supply needs total**	75,786	75,700	-0.1%	62,898	62,932	0.1%
Zapata County Municipal WUG Type						
Existing WUG supply total	3,614	3,728	3.2%	3,614	3,728	3.2%
Projected demand total	3,489	2,487	-28.7%	5,831	2,449	-58.0%
Water supply needs total**	568	0	-100.0%	2,574	26	-99.0%
Zapata County Manufacturing WUG Type						
Existing WUG supply total	5	0	-100.0%	5	0	-100.0%
Projected demand total	9	0	-100.0%	9	0	-100.0%
Water supply needs total**	4	0	-100.0%	4	0	-100.0%

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DRAFT Region M 2026 Regional Water Plan (RWP) Water User Group (WUG) Data Comparison to 2021 RWP Water Volumes Shown in Acre-Feet per year

	2030 Planning Decade*			2070 Planning Decade*		
	2021 RWP	2026 RWP	Difference (%)	2021 RWP	2026 RWP	Difference (%)
Zapata County Mining WUG Type						
Existing WUG supply total	1,332	8	-99.4%	1,332	8	-99.4%
Projected demand total	954	6	-99.4%	214	6	-97.2%
Water supply needs total**	0	0	0.0%	0	0	0.0%
Zapata County Livestock WUG Type						
Existing WUG supply total	479	359	-25.1%	479	359	-25.1%
Projected demand total	398	359	-9.8%	398	359	-9.8%
Water supply needs total**	0	0	0.0%	0	0	0.0%
Zapata County Irrigation WUG Type						
Existing WUG supply total	2,074	2,074	0.0%	2,072	2,072	0.0%
Projected demand total	4,936	4,936	0.0%	4,281	4,281	0.0%
Water supply needs total**	2,862	2,862	0.0%	2,209	2,209	0.0%
Region M Total						
Existing WUG supply total	897,608	899,282	0.2%	896,997	899,336	0.3%
Projected demand total	1,796,571	1,713,383	-4.6%	1,853,358	1,564,093	-15.6%
Water supply needs total**	924,498	881,554	-4.6%	969,629	728,171	-24.9%

*The 2030 and 2070 planning decades are used in this comparison because they represent the earliest and latest planning decades in both the 2021 and 2026 RWPs

**WUG supplies and projected demands are entered for each of a WUG's region-county-basin divisions. The needs shown in the WUG Data Comparison to 2021 RWP report are calculated by first deducting the WUG split's projected demand from its total existing water supply volume. If the WUG split has a greater existing supply volume than projected demand in any given decade, this amount is considered a surplus volume. Before aggregating the difference between supplies and demands to the WUG county and category level, calculated surpluses are updated to zero so that only the WUGs with needs in the decade are included with the water supply needs totals.

DRAFT Region M 2026 Regional Water Plan (RWP) Source Availability Comparison to 2021 RWP Water Volumes Shown in Acre-Feet per year

	2030 Planning Decade*			2070 Planning Decade*		
	2021 RWP	2026 RWP	Difference (%)	2021 RWP	2026 RWP	Difference (%)
Cameron County						
Groundwater availability total	51,166	51,166	0.0%	65,756	65,756	0.0%
Reuse availability total	13,849	9,176	-33.7%	16,894	16,894	0.0%
Surface Water availability total	350	3,115	790.0%	350	3,115	790.0%
Hidalgo County						
Groundwater availability total	93,851	93,462	-0.4%	111,044	110,431	-0.6%
Reuse availability total	38,413	34,743	-9.6%	49,179	49,179	0.0%
Surface Water availability total	7,522	37,100	393.2%	7,522	37,100	393.2%
Jim Hogg County						
Groundwater availability total	6,174	6,167	-0.1%	6,174	7,084	14.7%
Surface Water availability total	271	274	1.1%	271	274	1.1%
Maverick County						
Groundwater availability total	2,042	545	-73.3%	1,531	276	-82.0%
Reuse availability total	650	650	0.0%	650	650	0.0%
Surface Water availability total	439	2,461	460.6%	439	2,461	460.6%
Reservoir** County						
Surface Water availability total	1,079,175	1,002,376	-7.1%	1,078,349	998,383	-7.4%
Starr County						
Groundwater availability total	12,714	4,830	-62.0%	15,652	7,843	-49.9%
Surface Water availability total	65	75	15.4%	65	75	15.4%
Webb County						
Groundwater availability total	21,705	21,699	0.0%	22,215	22,209	0.0%
Reuse availability total	6,498	773	-88.1%	12,533	9,733	-22.3%
Surface Water availability total	919	919	0.0%	919	919	0.0%
Willacy County						
Groundwater availability total	2,866	2,557	-10.8%	4,258	3,756	-11.8%
Surface Water availability total	350	68	-80.6%	350	68	-80.6%
Zapata County						
Groundwater availability total	7,987	7,987	0.0%	7,987	7,987	0.0%
Surface Water availability total	249	249	0.0%	249	249	0.0%

*The 2030 and 2070 planning decades are used in this comparison because they represent the earliest and latest planning decades in both the 2021 and 2026 RWPs.

**Since reservoir sources can exist across multiple counties, the county field value, 'reservoir' is applied to all reservoir sources.

DRAFT Region M 2026 Regional Water Plan (RWP) Source Availability Comparison to 2021 RWP Water Volumes Shown in Acre-Feet per year

Region M Total						
Groundwater availability total	198,505	188,413	-5.1%	234,617	225,342	-4.0%
Reuse availability total	59,410	45,342	-23.7%	79,256	76,456	-3.5%
Surface Water availability total	1,089,340	1,046,637	-3.9%	1,088,514	1,042,644	-4.2%

*The 2030 and 2070 planning decades are used in this comparison because they represent the earliest and latest planning decades in both the 2021 and 2026 RWPs.

**Since reservoir sources can exist across multiple counties, the county field value, 'reservoir' is applied to all reservoir sources.

**Appendix B Correspondence with TWDB
Regarding Hydrologic Variance Requests**

DRAFT

APPENDIX B.1

TWDB Hydrologic Variance Request Approval Letter

November 9, 2023

Mr. James Darling
Chair
Region M Regional Water Planning Group
c/o Rio Grande Regional Water Authority
322 S. Missouri Ave
Weslaco, TX 78596

Dear Chairman Darling:

I have reviewed your request dated August 31, 2023, for approval of alternative water supply assumptions to be used in determining existing and future surface water availability. This letter confirms that the TWDB approves the following assumptions:

1. Incorporate updated water rights as of July 2023 in the Rio Grande WAM in the assessment of existing and future supply.
2. Use modified irrigation patterns above Fort Quitman in the Rio Grande WAM so that diversions only occur from March through October in the assessment of existing and future supply.
3. Model the San Solomon Springs as cut off from the rest of the basin in the Rio Grande WAM in the assessment of existing and future supply.
4. Estimate source water available for a reuse water management strategy based on the estimated amount of water returned to a utility's wastewater treatment plant for each decade, less the amount of reuse water already being utilized as existing supply. The amount of water returned to a utility's wastewater treatment plant will be estimated at 50% of the utility's projected water demands, adjusted for water conservation and drought management strategies, unless site-specific information is available. This method will be applied in the Rio Grande WAM and the Nueces-Rio Grande Coastal Basin WAM in the assessment of future reuse supply.
5. Incorporate updated water rights as of July 2023 in the Nueces-Rio Grande Coastal Basin WAM in the assessment of existing and future supply.

James Darling
November 9, 2023
Page 2

6. Modify the priority dates for the three reservoirs included in the Delta Region Water Management Strategy when assessing strategy supply using the Nueces-Rio Grande Coastal Basin WAM.

While the use of these modified conditions may be reasonable for planning purposes, WAM RUN3 would be utilized by the Texas Commission on Environmental Quality for analyzing permit applications. It is acceptable to use the modified conditions for WMS supply evaluations only if the yield produced is more conservative (less) for surface water appropriations than WAM RUN3.

While the TWDB authorizes these modification to evaluate existing and future water supplies for development of the 2026 Region M RWP, it is the responsibility of the RWPG to ensure that the resulting estimates of water availability are reasonable for drought planning purposes and will reflect conditions expected in the event of actual drought conditions; and in all other regards will be evaluated in accordance with the most recent version of regional water planning contract Exhibit C, *General Guidelines for Development of the 2026 Regional Water Plans*.

If you have any questions, please do not hesitate to contact Kevin Smith of our Regional Water Planning staff at 512-771-8797 or kevin.smith@twdb.texas.gov if you have any questions.

Sincerely,

Jeff Walker Digitally signed by Jeff Walker
Date: 2023.11.16 09:21:01
-06'00

Jeff Walker
Executive Administrator

- c: Manuel Cruz, Lower Rio Grande Valley Development Council
Jaime Burke, P.E., Black & Veatch, Corp.
Jennifer Jackson, WSP (Region E)
Kevin Smith, Water Supply Planning
Nelun Fernando, Ph.D., Surface Water

APPENDIX B.2

Region M Hydrologic Variance Request Submittal



*Jim Darling, *Chairman*
Rio Grande Regional Water Authority

August 31, 2023

*Sonny Hinojosa, *Vice-Chairman*
HCID #2, San Juan,

*Donald K. McGhee, *Secretary*
Hydro Systems, Inc., Harlingen

*Frank Schuster
Val Verde Vegetable Co., McAllen

*Nick Benavides
Nick Benavides, Company, Laredo

Glenn Jarvis
Attorney, McAllen

Marilyn D. Gilbert, MBA
Brownsville PUB

Tomas Rodriguez
Public, Laredo

Carlos Garza, P.E.
AEC Engineering, LLC., Edinburg

Joe Rathmell
Zapata County Judge

Jaime Flores
Arroyo Colorado Partnership, Weslaco

Dale Murden
Texas Citrus Mutual, Mission

Neal Wilkins, Ph.D.
East Foundation

Jorge Flores
Eagle Pass Water Works

David L. Fuentes
Hidalgo County Commissioner

Tom McLemore
Harlingen Irrigation District

Debbie Farmer
Wintergarden GCD, GMA 13

Robert Latham
Magic Valley Generating Station

Steven Sanchez
North Alamo Water Supply Corp

Louie Pena
Brush Country GCD, Falfurrias

*Executive Committee

Mr. Jeff Walker
Executive Administrator
Texas Water Development Board
P.O. Box 13231
1700 North Congress Avenue
Austin, Texas 78711-3231

Subject: Submittal of hydrologic variance checklists by the Rio Grande Regional Water Planning Group (Region M)

Dear Mr. Walker:

The Rio Grande Regional Water Planning Group (RGRWPG) approved hydrologic assumptions and needed hydrologic variances for submittal to the TWDB at the August 2, 2023, RGRWPG meeting. The RGRWPG's hydrologic variance checklists for the Rio Grande Basin and the Nueces-Rio Grande Basin are attached for your consideration.

We appreciate your consideration of this request. Should you have any questions regarding this submittal, please contact our Consultant, Jaime Burke, via phone at (512) 271-4472 or via email at burkej@bv.com. If further evaluation is necessary, the RGRWPG would welcome the TWDB's support in this effort.

Very Truly Yours,


James Darling, Chairman
Rio Grande Regional Water Planning Group

Enclosures: Hydrologic Variance Checklists for Rio Grande and Nueces-Rio Grande (PDF)

C: Mr. Kevin Smith, TWDB (electronically)
Mr. Manuel Cruz, LRGVDC (electronically)

Stewards of water resources from Amistad to the Gulf

Surface Water Hydrologic Variance Request Checklist

Texas Water Development Board (TWDB) rules¹ require that regional water planning groups (RWPG) use most current Water Availability Models (WAM) from the Texas Commission on Environmental Quality (TCEQ) and assume full utilization of existing water rights and no return flows for surface water supply analysis. Additionally, evaluation of existing stored surface water available during Drought of Record conditions must be based on Firm Yield using anticipated sedimentation rates. However, the TWDB rules also allow, and **we encourage**, RWPGs to use more representative, water availability modeling assumptions; better site-specific information; or justified operational procedures other than Firm Yield with written approval (via a Hydrologic Variance) from the Executive Administrator in order to better represent and therefore prepare for expected drought conditions.

RWPGs must use this checklist, which is intended to save time and reduce effort, to request a Hydrologic Variance for estimating the availability of surface water sources. For Questions 4 – 10, please indicate whether the requested variance is for determining Existing Supply, Strategy Supply, or both. Please complete a separate checklist for each river basin in which variances are being requested.

Water Planning Region: M

1. Which major river basin does the request apply to? Please specify if the request only applies part of the basin or only to certain reservoirs.

Rio-Grande Basin

2. Please give a brief, bulleted, description of the requested hydrologic variances including how the alternative availability assumptions vary from rule requirements, how the modifications will affect the associated annual availability volume(s) in the regional water plan, and why the variance is necessary or provides a better basis for planning. You must provide more-detailed descriptions in the subsequent checklist questions. Attach any available documentation supporting the request.
 - Updated water rights data as of July 2023 will be incorporated into the WAM, as available.
 - a. This variance provides more up-to-date data for the model.
 - The Rio Grande WAM will be run to be consistent with Region E with respect to the following:
 - a. Irrigation demand patterns above Fort Quitman will be modified so that diversions only occur March through October, which is consistent with the operations of the Rio Grande Project. This demand pattern change does not have a discernible impact on the firm yield of the Amistad-Falcon system in Region M.
 - b. Modeling the San Solomon Springs (within Region E) to be cut off from the rest of the basin (impact to Region F). This should not have a discernible impact on the firm yield of the Amistad-Falcon system in Region M.

¹ 31 Texas Administrative Code (TAC) §§ 357.10(14) and 357.32(c)

- Source water available for a reuse water management strategy will be determined based on the estimated amount of water returned to a utility's WWTPs for each decade, less the amount of reuse water already being utilized as existing supply.
 - a. The amount of water returned to a utility's WWTP will be estimated at 50% of the utility's projected water demands, adjusted for water conservation and drought management strategies, unless site-specific information is available.

- i. Direct Reuse does not require WAM modeling, since there are no return flows
 - ii. Indirect Reuse would be entered as a return flow to assess downstream availability

3. Was this request submitted in a previous planning cycle? If yes, please indicate which cycle and note how it is different, if at all, from the previous request?

Yes

These variances were requested last cycle, with the exception of the San Solomon Springs cut off variance. Region E let us know about that variance this cycle, and we thought we should include it as well for consistency.

4. Are you requesting to extend the period of record beyond the current applicable WAM hydrologic period? If yes, please describe the proposed methodology. Indicate whether you believe there is a new drought of record in the basin.

No

Choose an item.

[Click or tap here to enter text.](#)

5. Are you requesting to use a reservoir safe yield? If yes, please describe in detail how the safe yield would be calculated and defined, which reservoir(s) it would apply to, and why the modification is needed or preferable for drought planning purposes.

No

Choose an item.

[Click or tap here to enter text.](#)

6. Are you requesting to use a reservoir yield other than firm yield or safe yield? If yes, please describe, in a bulleted list, each modification requested including how the alternative yield was calculated, which reservoir(s) it applies to, and why the modification is needed or preferable for drought planning purposes. Examples of alternative reservoir yield analyses may include using an alternative reservoir level, conditional reliability, or other special reservoir operations.

No

Choose an item.

Click or tap here to enter text.

7. Are you requesting to use a different model (such as a RiverWare or Excel-based models) than RUN 3 of the applicable TCEQ WAM? If yes, please describe the model being considered including how it incorporates water rights and prior appropriation and how it is more conservative than RUN 3 of the applicable TCEQ WAM.

No

Choose an item.

Click or tap here to enter text.

8. Are you requesting to use a modified TCEQ WAM? If yes, please describe in a bulleted list all modifications in detail including all specific changes to the WAM and whether the modified WAM is more conservative than the TCEQ WAM RUN 3. Examples of WAM modifications may include adding subordination agreements, contracts, updated water rights, modified spring flows, updated lake evaporation, updated sedimentation², system or reservoir operations, or special operational procedures into the WAM.

Yes

Existing and Strategy Supply

- Sedimentation will be incorporated for major reservoirs for 2030 and 2080, based on IBWC data, and the decades in between will be interpolated.
- Updated water rights data as of July 2023 will be incorporated into the Rio Grande WAM, as available.
- The Rio Grande WAM will be run to be consistent with Region E with respect to the following:
 - a. Irrigation demand patterns above Fort Quitman will be modified so that diversions only occur March through October, which is consistent with the operations of the Rio Grande Project. This demand pattern change does not have a discernible impact on the firm yield of the Amistad-Falcon system in Region M.
 - b. Modeling the San Solomon Springs (within Region E) to be cut off from the rest of the basin (impact to Region F). This should not have a discernible impact on the firm yield of the Amistad-Falcon system in Region M.
- Source water available for a reuse water management strategy will be determined based on the estimated amount of water returned to a utility's WWTPs for each decade, less the amount of reuse water already being utilized as existing supply.

² Updating anticipated sedimentation rates does not require a hydrologic variance under 31 TAC § 357.10(14). The Technical Memorandum will require providing details regarding the sedimentation methodology utilized. Please consider providing that information with this request.

- a. The amount of water returned to a utility's WWTP will be estimated at 50% of the utility's projected water demands, adjusted for water conservation and drought management strategies, unless site-specific information is available.

- i. Direct Reuse does not require WAM modeling, since there are no return flows
- ii. Indirect Reuse would be entered as a return flow to assess downstream availability

9. Are you requesting to include return flows in the modeling? If yes, are you doing so to model an indirect reuse water management strategy (WMS)? Please provide complete details regarding the proposed methodology for determining reuse WMS availability.

Yes

Strategy Supply

- a. The amount of water returned to a utility's WWTP will be estimated at 50% of the utility's projected water demands, adjusted for water conservation and drought management strategies, unless site-specific information is available.

- i. Direct Reuse does not require WAM modeling, since there are no return flows
- ii. Indirect Reuse would be entered as a return flow to assess downstream availability

10. Are any of the requested Hydrologic Variances also planned to be used by another region for the same basin? If yes, please indicate the other Region. Please indicate if unknown.

Yes

Region E, as described above.

11. Please describe any other variance requests not captured on this checklist or add any other information regarding the variance requests on this checklist.

[Click or tap here to enter text.](#)

Surface Water Hydrologic Variance Request Checklist

Texas Water Development Board (TWDB) rules¹ require that regional water planning groups (RWPG) use most current Water Availability Models (WAM) from the Texas Commission on Environmental Quality (TCEQ) and assume full utilization of existing water rights and no return flows for surface water supply analysis. Additionally, evaluation of existing stored surface water available during Drought of Record conditions must be based on Firm Yield using anticipated sedimentation rates. However, the TWDB rules also allow, and **we encourage**, RWPGs to use more representative, water availability modeling assumptions; better site-specific information; or justified operational procedures other than Firm Yield with written approval (via a Hydrologic Variance) from the Executive Administrator in order to better represent and therefore prepare for expected drought conditions.

RWPGs must use this checklist, which is intended to save time and reduce effort, to request a Hydrologic Variance for estimating the availability of surface water sources. For Questions 4 – 10, please indicate whether the requested variance is for determining Existing Supply, Strategy Supply, or both. Please complete a separate checklist for each river basin in which variances are being requested.

Water Planning Region: M

1. Which major river basin does the request apply to? Please specify if the request only applies part of the basin or only to certain reservoirs.

Nueces-Rio Grande Coastal Basin

2. Please give a brief, bulleted, description of the requested hydrologic variances including how the alternative availability assumptions vary from rule requirements, how the modifications will affect the associated annual availability volume(s) in the regional water plan, and why the variance is necessary or provides a better basis for planning. You must provide more-detailed descriptions in the subsequent checklist questions. Attach any available documentation supporting the request.
 - Updated water rights data as of July 2023 will be incorporated into the WAM, as available.
 - a. This variance provides more up-to-date data for the model.
 - When modeling the Delta Region Water Management Strategy using the Nueces-Rio Grande Coastal Basin WAM, the priority dates for the three reservoirs will be modified to reflect one or more reservoirs as senior, and the others as more junior, with respect to one another.
 - a. This variance allowed for better analysis of how the reservoirs could be operated to obtain the most storage.
 - Source water available for a reuse water management strategy will be determined based on the estimated amount of water returned to a utility's WWTPs for each decade, less the amount of reuse water already being utilized as existing supply.

¹ 31 Texas Administrative Code (TAC) §§ 357.10(14) and 357.32(c)

- a. The amount of water returned to a utility's WWTP will be estimated at 50% of the utility's projected water demands, adjusted for water conservation and drought management strategies, unless site-specific information is available.
 - i. Direct Reuse does not require WAM modeling, since there are no return flows
 - ii. Indirect Reuse would be entered as a return flow to assess downstream availability
3. Was this request submitted in a previous planning cycle? If yes, please indicate which cycle and note how it is different, if at all, from the previous request?

Yes

This was included as part of an Amendment to the 2021 Region M Plan submitted in 2022.

4. Are you requesting to extend the period of record beyond the current applicable WAM hydrologic period? If yes, please describe the proposed methodology. Indicate whether you believe there is a new drought of record in the basin.

No

Choose an item.

Click or tap here to enter text.

5. Are you requesting to use a reservoir safe yield? If yes, please describe in detail how the safe yield would be calculated and defined, which reservoir(s) it would apply to, and why the modification is needed or preferable for drought planning purposes.

No

Choose an item.

Click or tap here to enter text.

6. Are you requesting to use a reservoir yield other than firm yield or safe yield? If yes, please describe, in a bulleted list, each modification requested including how the alternative yield was calculated, which reservoir(s) it applies to, and why the modification is needed or preferable for drought planning purposes. Examples of alternative reservoir yield analyses may include using an alternative reservoir level, conditional reliability, or other special reservoir operations.

No

Choose an item.

Click or tap here to enter text.

7. Are you requesting to use a different model (such as a RiverWare or Excel-based models) than RUN 3 of the applicable TCEQ WAM? If yes, please describe the model being considered including how it incorporates water rights and prior appropriation and how it is more conservative than RUN 3 of the applicable TCEQ WAM.

No

Choose an item.

Click or tap here to enter text.

8. Are you requesting to use a modified TCEQ WAM? If yes, please describe in a bulleted list all modifications in detail including all specific changes to the WAM and whether the modified WAM is more conservative than the TCEQ WAM RUN 3. Examples of WAM modifications may include adding subordination agreements, contracts, updated water rights, modified spring flows, updated lake evaporation, updated sedimentation², system or reservoir operations, or special operational procedures into the WAM.

Yes

Existing and Strategy Supply

- Updated water rights data as of July 2023 will be incorporated into the WAM, as available.
 - a. This variance provides more up-to-date data for the model.
- When modeling the Delta Region Water Management Strategy using the Nueces-Rio Grande Coastal Basin WAM, the priority dates for the three reservoirs will be modified to reflect one or more reservoirs as senior, and the others as more junior, with respect to one another. (Strategy only)
 - a. This variance allowed for better analysis of how the reservoirs could be operated to obtain the most storage.
- Source water available for a reuse water management strategy will be determined based on the estimated amount of water returned to a utility's WWTPs for each decade, less the amount of reuse water already being utilized as existing supply. (Strategy only)
 - a. The amount of water returned to a utility's WWTP will be estimated at 50% of the utility's projected water demands, adjusted for water conservation and drought management strategies, unless site-specific information is available.
 - i. Direct Reuse does not require WAM modeling, since there are no return flows
 - ii. Indirect Reuse would be entered as a return flow to assess downstream availability
- Because there are no major reservoirs in this basin, no sedimentation will be incorporated.

² Updating anticipated sedimentation rates does not require a hydrologic variance under 31 TAC § 357.10(14). The Technical Memorandum will require providing details regarding the sedimentation methodology utilized. Please consider providing that information with this request.

9. Are you requesting to include return flows in the modeling? If yes, are you doing so to model an indirect reuse water management strategy (WMS)? Please provide complete details regarding the proposed methodology for determining reuse WMS availability.

Yes

Strategy Supply

- Source water available for a reuse water management strategy will be determined based on the estimated amount of water returned to a utility's WWTPs for each decade, less the amount of reuse water already being utilized as existing supply.
 - a. The amount of water returned to a utility's WWTP will be estimated at 50% of the utility's projected water demands, adjusted for water conservation and drought management strategies, unless site-specific information is available.
 - i. Direct Reuse does not require WAM modeling, since there are no return flows
 - ii. Indirect Reuse would be entered as a return flow to assess downstream availability

10. Are any of the requested Hydrologic Variances also planned to be used by another region for the same basin? If yes, please indicate the other Region. Please indicate if unknown.

No

Click or tap here to enter text.

11. Please describe any other variance requests not captured on this checklist or add any other information regarding the variance requests on this checklist.

Click or tap here to enter text.

Appendix C Model Input/Output Files (Electronic)

DRAFT

**Appendix D Potentially Feasible
Water Management Strategies Identified to Meet Needs**

DRAFT

Appendix D: Potentially Feasible Water Management Strategies Identified to Meet Needs

Every WUG Entity with an Identified Need			WMSs to be considered by statute ¹													Additional WMSs to be considered by rule									
No.	WUG Name	Maximum need 2030-2080 (af/yr)	conservation - water use reduction	conservation - water loss mitigation	drought management	reuse	management of existing supplies	development of large-scale marine seawater or brackish groundwater	conjunctive use	acquisition of available existing supplies	development of new supplies	development of regional water supply or regional management of water supply facilities	voluntary transfer of water (including regional water banks, sales, leases, options, subordination agreements, and financing agreements)	emergency transfer of water under Section 11.1.139	system optimization, reallocation of reservoir storage to new uses, contracts, water marketing, enhancement of yield, improvement of water quality	new surface water supply	new groundwater supply	brush management; precipitation enhancement	interbasin transfers of surface water	aquifer storage and recovery	cancellation of water rights	rainwater harvesting	other (biological control of Arundo Donax)		
1	Alamo	-811	PF	PF	PF	nPF	nPF	PF	nPF	nPF	PF	nPF	PF	nPF	nPF	nPF	PF	nPF	nPF	nPF	nPF	nPF	nPF		
2	Eagle Pass	-314	PF	PF	PF	nPF	nPF	PF	nPF	nPF	PF	nPF	PF	nPF	nPF	nPF	PF	nPF	nPF	PF	nPF	nPF	nPF		
3	East Rio Hondo WSC	-1,050	PF	PF	PF	nPF	PF	PF	nPF	PF	PF	nPF	PF	nPF	nPF	nPF	PF	nPF	nPF	nPF	nPF	nPF	nPF		
4	Edinburg	-9,101	PF	PF	PF	PF	nPF	nPF	nPF	nPF	nPF	nPF	PF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF		
5	El Sauz WSC	-99	PF	PF	PF	nPF	PF	nPF	nPF	PF	nPF	nPF	PF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF		
6	El Tanque WSC	-24	PF	PF	PF	nPF	PF	nPF	nPF	PF	nPF	nPF	PF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF		
7	La Grulla	-1,171	PF	PF	PF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	PF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF		
8	La Joya	-337	PF	PF	PF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	PF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF		
9	La Villa	-56	PF	PF	PF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	PF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF		
10	McAllen	-15,080	PF	PF	PF	PF	PF	PF	nPF	PF	PF	nPF	PF	nPF	nPF	nPF	PF	nPF	nPF	nPF	nPF	nPF	nPF		
11	Mission	-9,609	PF	PF	PF	PF	nPF	PF	nPF	nPF	PF	nPF	PF	nPF	nPF	nPF	PF	nPF	nPF	nPF	nPF	nPF	nPF		
12	North Alamo WSC	-19,699	PF	PF	PF	nPF	PF	PF	nPF	PF	PF	nPF	PF	nPF	nPF	nPF	PF	nPF	nPF	nPF	nPF	nPF	nPF		
13	Olmito WSC	-166	PF	PF	PF	nPF	PF	nPF	nPF	PF	nPF	nPF	PF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF		
14	Port Mansfield PUD	-292	PF	PF	PF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	PF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF		
15	Primera	-361	PF	PF	PF	nPF	nPF	PF	nPF	nPF	PF	nPF	PF	nPF	nPF	nPF	PF	nPF	nPF	nPF	nPF	nPF	nPF		
16	Rio Grande City	-1,978	PF	PF	PF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	PF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF		
17	Rio WSC	-433	PF	PF	PF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	PF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF		
18	Sharyland WSC	-5,394	PF	PF	PF	nPF	PF	PF	nPF	PF	PF	nPF	PF	nPF	nPF	nPF	PF	nPF	nPF	nPF	nPF	nPF	nPF		
19	Union WSC	-939	PF	PF	PF	nPF	PF	nPF	nPF	PF	nPF	nPF	PF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF		
20	Webb County	-302	PF	PF	PF	nPF	nPF	nPF	nPF	nPF	PF	nPF	PF	nPF	nPF	nPF	PF	nPF	nPF	nPF	nPF	nPF	nPF		
21	County-Other, Cameron	-2,491	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	PF	nPF	PF	nPF	nPF	nPF	PF	nPF	nPF	nPF	nPF	nPF	nPF		
22	Irrigation, Cameron	-338,521	PF	PF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	PF		
23	Steam Electric Power, Cameron	-40	PF	PF	nPF	PF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF		
24	County-Other, Hidalgo	-964	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	PF	nPF	PF	nPF	nPF	nPF	PF	nPF	nPF	nPF	nPF	nPF	nPF		
25	Steam Electric Power, Hidalgo	-390	PF	PF	nPF	PF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF		
26	Irrigation, Hidalgo	-388,271	PF	PF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	PF		
27	Mining, Maverick	-3,515	PF	PF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF		
28	Manufacturing, Maverick	-61	PF	PF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF		

Every WUG Entity with an Identified Need			WMSs to be considered by statute ¹												Additional WMSs to be considered by rule										
No.	WUG Name	Maximum need 2030-2080 (af/yr)	conservation - water use reduction	conservation - water loss mitigation	drought management	reuse	management of existing supplies	development of large-scale marine seawater or brackish groundwater	conjunctive use	acquisition of available existing supplies	development of new supplies	development of regional water supply or regional management of water supply facilities	voluntary transfer of water (including regional water banks, sales, leases, options, subordination agreements, and financing agreements)	emergency transfer of water under Section 11.139	system optimization, reallocation of reservoir storage to new uses, contracts, water marketing, enhancement of yield, improvement of water quality	new surface water supply	new groundwater supply	brush management; precipitation enhancement	interbasin transfers of surface water	aquifer storage and recovery	cancellation of water rights	rainwater harvesting	other (biological control of Arundo Donax)		
29	Irrigation, Maverick	-16,133	PF	PF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	PF	
30	County-Other, Starr	-392	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	PF	nPF	PF	nPF	nPF	nPF	PF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF
31	Irrigation, Starr	-19,015	PF	PF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	PF
32	County-Other, Webb	-1,117	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	PF	nPF	nPF	nPF	nPF	nPF	PF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF
33	Irrigation, Willacy	-75,700	PF	PF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	PF
34	County-Other, Zapata	-32	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF
35	Irrigation, Zapata	-2,862	PF	PF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	PF

¹ Texas Water Code §16.053(e)(5)

nPF = considered but determined 'not potentially feasible' (may include WMSs that were initially identified as potentially feasible)

PF = considered 'potentially feasible' and therefore evaluated

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HANDOUT B

Strategy Type(s)													Region	Overall TWDB Task Number	SubTask WMS evaluation number	SubTask WMS	SubTask Scope of Work Write-up	Deliverable	SubTask Budget (\$)	WUG(s) &/OR WWP Entities Potentially Served by WMS(s)	Addressing a changed condition from previous cycle? If yes, describe the changed condition.	When was this WMS identified by RWPG as potentially feasible?	Was the WMS evaluated in any previous Regional Water Planning Cycles?	Is evaluation a limited update to previous technical evaluation information? If no, indicate specific update in subtask sow column N
ASR	Conservation/Drought Management	Groundwater Desal	Groundwater Dvlp	Reuse	New Major Reservoir	Other Surface Water	Seawater Desal	Conjunctive Use	Other WMS (Subordination, etc)															
	X												M	5B	1	Update to Advanced Municipal Conservation	Evaluate existing or historical conservation efforts and any readily available data regarding the effectiveness of past programming. Identify planned or recommended future initiatives, and estimation of water conserved. This includes utility loss prevention programs.	Updated WMS documentation will include discussion of strategy, firm DOR demand reduction yields, environmental factors, engineering & costing considerations, and implementation issues. Corresponding data will be submitted through the DB27 interface. WSMP locations will be approximated using GIS.	\$ 24,804	All municipal WUGs will be considered	Yes, updated demands and GPCD numbers. Potential requests from project sponsors for new water loss reduction WMS	February 21, 2024 RWPG Meeting	Yes	No, each WUG will need to be revisited to determine appropriate conservation strategies
	X												M	5B	2	Update to Irrigation District Conservation	Evaluate the condition of existing facilities, gather any plans for improvements, estimate the loss reduction associated with a range of typical improvements.	Updated WMS documentation will include discussion of strategy, firm DOR demand reduction yields, environmental factors, engineering & costing considerations, and implementation issues. Corresponding data will be submitted through the DB27 interface. WSMP locations will be approximated using GIS.	\$ 37,206	Irrigation Districts	Yes, updated Rio Grande WAM may impact levels of irrigation district water loss	February 21, 2024 RWPG Meeting	Yes	Yes
	X												M	5B	3	Update to Agricultural Conservation	Discuss BMPs for agricultural water use for common crops, update with current estimates of agricultural water use. Strategies will focus on on-farm conservation measures.	Updated WMS documentation will include discussion of strategy, firm DOR demand reduction yields, environmental factors, engineering & costing considerations, and implementation issues. Corresponding data will be submitted through the DB27 interface. WSMP locations will be approximated using GIS.	\$ 16,536	Irrigation WUGs	Yes, updated WAM may reduce available firm water to irrigation	February 21, 2024 RWPG Meeting	Yes	Yes
	X												M	5B	4	Update to Industrial Conservation	Discuss BMPs for industrial water users. Estimate water conserved by application of BMPs for existing and future industrial water users	Updated WMS documentation will include discussion of strategy, firm DOR demand reduction yields, environmental factors, engineering & costing considerations, and implementation issues. Corresponding data will be submitted through the DB27 interface.	\$ 8,268	Manufacturing, Mining, and Steam-Electric WUGs	No	February 21, 2024 RWPG Meeting	Yes	Yes
									X				M	5B	5	Update to Conversion of Water Right Classification	Water rights that have been separated from irrigated land can be converted into municipal water rights with a reduction in maximum authorized diversion.	Estimated rate of conversion of water rights on a county and basin level, approximate increase in municipal water rights and associated decrease in agricultural water rights. Identify WUGs that plan to purchase water rights. Updated WMS documentation will include discussion of strategy, firm DOR water supply yields, environmental factors, engineering & costing considerations, and implementation issues. Corresponding data will be submitted through the DB27 interface.	\$ 33,072	Municipal WUGs relying on surface water	Yes, change in municipal demands from last cycle may impact the need for conversion	February 21, 2024 RWPG Meeting	Yes	Yes
										X			M	5B	6	Update to New or Expanded Surface Water Treatment	Identify WUGs/WWPs that are or will be limited by their treatment capacity for surface water and evaluate the potential for new or expanded treatment capacity.	Updated WMS documentation will include discussion of strategy, firm DOR water supply yields, environmental factors, engineering & costing considerations, and implementation issues. Corresponding data will be submitted through the DB27 interface. WSMP locations will be approximated using GIS.	\$ 28,938	WUGs or WWP Entities that are limited by their treatment capacity	Yes, change in municipal demands from last cycle may impact the need for additional treatment capacity	February 21, 2024 RWPG Meeting	Yes	Maybe, there could be requests from WUGs/WWPs that were not included last cycle. Unknown as of yet.

Strategy Type(s)													ASR	Conservation/Drought Management	Groundwater Desal	Groundwater Dvlp	Reuse	New Major Reservoir	Other Surface Water	Seawater Desal	Conjunctive Use	Other WMS (Subordination, etc)	Region	Overall TWDB Task Number	SubTask WMS evaluation number	SubTask WMS	SubTask Scope of Work Write-up	Deliverable	SubTask Budget (\$)	WUG(s) &/OR WWP Entities Potentially Served by WMS(s)	Addressing a changed condition from previous cycle? If yes, describe the changed condition.	When was this WMS identified by RWPG as potentially feasible?	Was the WMS evaluated in any previous Regional Water Planning Cycles?	Is evaluation a limited update to previous technical evaluation information? If no, indicate specific update in subtask sow column N
										X	M	5B	7	Update to New or Expanded Distribution and Transmission Facilities Resulting in Increased Supplies	Identify WUGs/WWPs with limitations associated with distribution and transmission infrastructure and evaluate the potential for more capacity.	Updated WMS documentation will include discussion of strategy, firm DOR water supply yields, environmental factors, engineering & costing considerations, and implementation issues. Corresponding data will be submitted through the DB27 interface. WSMP locations will be approximated using GIS.	\$ 28,938	WUGs or WWP Entities that are limited by their distribution and transmission infrastructure	Yes, change in municipal demands from last cycle may impact the need for supply	February 21, 2024 RWPG Meeting	Yes	Maybe, there could be requests from WUGs/WWPs that were not included last cycle. Unknown as of yet.												
					X	X					M	5B	8	Update to Off-Channel Storage	Identify WUGs or WWPs with supply limitations associated with storage capabilities where off-channel reservoirs may increase supply.	Updated WMS documentation will include discussion of strategy, firm DOR water supply yields, environmental factors, engineering & costing considerations, and implementation issues. Corresponding data will be submitted through the DB27 interface. WSMP locations will be approximated using GIS.	\$ 16,536	Brownsville PUB, Donna, and potential others	Yes, change in municipal demands from last cycle may impact the need for supply	February 21, 2024 RWPG Meeting	Yes	Yes												
			X								M	5B	9	Update to New or Expanded Fresh Groundwater Supply	Identify areas where fresh groundwater may be available to expand existing or develop new groundwater supplies.	Updated WMS documentation will include discussion of strategy, firm DOR water supply yields within the MAG, environmental factors, engineering & costing considerations, and implementation issues. Corresponding data will be submitted through the DB27 interface. WSMP locations will be approximated using GIS.	\$ 28,938	WUGs where fresh groundwater is available	Yes, change in municipal demands from last cycle may impact the need for supply	February 21, 2024 RWPG Meeting	Yes	No, this may be looked at as an option for WUGs where it wasn't last cycle												
		X									M	5B	10	Update to New or Expanded Brackish Groundwater Desalination	Identify areas where brackish groundwater may be available to expand existing or develop new groundwater supplies using desalination facilities.	Updated WMS documentation will include discussion of strategy, firm DOR water supply yields within the MAG, environmental factors, engineering & costing considerations, and implementation issues. Corresponding data will be submitted through the DB27 interface. WSMP locations will be approximated using GIS.	\$ 24,804	WUGs where brackish groundwater is available.	Yes, change in municipal demands from last cycle may impact the need for supply	February 21, 2024 RWPG Meeting	Yes	No, new requests for this WMS have been received this cycle												
							X				M	5B	11	Update to Seawater Desalination	Evaluate coastal areas for feasibility of seawater desalination	Updated WMS documentation will include discussion of strategy, firm DOR water supply yields, environmental factors, engineering & costing considerations, and implementation issues. Corresponding data will be submitted through the DB27 interface. WSMP locations will be approximated using GIS.	\$ 16,536	Laguna Madre Water District, Brownsville PUB, WUGs in Cameron and Willacy Counties, and potential others	Yes, change in municipal demands from last cycle may impact the need for supply; Potential new requests from other WUGs/WWPs	February 21, 2024 RWPG Meeting	Yes	Maybe, there may be a new request included this cycle												
				X							M	5B	12	Update to Reuse	Evaluate direct reuse opportunities, both potable and non-potable	Updated WMS documentation will include discussion of strategy, firm DOR water supply yields, environmental factors, engineering & costing considerations, and implementation issues. Corresponding data will be submitted through the DB27 interface. WSMP locations will be approximated using GIS.	\$ 24,804	WUGs with needs or planned projects	Yes, change in municipal demands from last cycle may impact the need for supply; Potential new requests from other WUGs/WWPs	February 21, 2024 RWPG Meeting	Yes	Maybe, there could be requests from WUGs/WWPs that were not included last cycle. Unknown as of yet.												
						X					M	5B	13	Update to Biological Control of <i>Arundo Donax</i>	<i>Arundo Donax</i> control or eradication has been tested and implemented across the valley, with potential for expanded use.	Updated WMS documentation will include discussion of strategy, firm DOR water supply yields, environmental factors, engineering & costing considerations, and implementation issues. Corresponding data will be submitted through the DB27 interface.	\$ 12,402	Irrigation WUGs	No	February 21, 2024 RWPG Meeting	Yes	Yes												

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MINOR AMENDMENT 2021 RIO GRANDE REGIONAL WATER PLAN (REGION M)

Remove Infeasible Water Management
Strategies – Edinburg and McAllen

B&V PROJECT NO. 411250

PREPARED FOR

Rio Grande Regional Water Planning Group

13 FEBRUARY 2024



List of Abbreviations

acft	Acre-Feet
acft/yr	Acre-Feet per Year
mgd	Million Gallons per Day
RGRWPG	Rio Grande Regional Water Planning Group
RWP	Regional Water Plan
RWPA	Regional Water Planning Area
RWPG	Regional Water Planning Group
SWP	State Water Plan
TWDB	Texas Water Development Board
WUG	Water User Group

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ATTACHMENTS

- A. Agency and Public Comments with Responses (To Be Included After the Comment Period)

INTRODUCTION

At the November 1, 2023, Region M meeting, the Rio Grande Regional Water Planning Group (RGRWPG) reviewed information presented to them regarding potentially infeasible water management strategies in the 2021 Rio Grande Regional Water Plan (RWP) and agreed that two water management strategies should be identified as infeasible for the 2020 and 2030 decade, respectively. The process to identify potentially infeasible water management strategies is included as Task 4B of the 2026 Planning Cycle Scope of Work. Per the Texas Water Development Board (TWDB), *in accordance with contract guidance for the 2021 RWPs, recommended strategies and projects with an online decade of 2020 were required to be online and delivering water by January 5, 2023. For example, if any such strategies and projects are not currently implemented by this date and the project sponsor has not taken any affirmative steps towards implementation, the 2021 RWP must be amended to remove or revise the strategy or project to make them feasible. RWPGs are also encouraged to review additional near-term strategies or projects with lengthy permitting or construction processes.*

As a result, this amendment revises the online decades for two water management strategies. One is the Non-Potable Reuse water management strategy for Edinburg, which moves the online decade back to 2030. This revision does result in Unmet Needs in 2020 for Edinburg. The other is the North WWTP Potable Reuse Phase 1 water management strategy for McAllen, which moves the online decade back to 2040. This revision does not result in Unmet Needs for McAllen.

MODIFICATIONS AND ADDITIONS TO THE 2021 RIO GRANDE REGIONAL WATER PLAN

The following are changes proposed to the various chapters of the 2021 Rio Grande Regional Water Plan (RGRWP) in order to revise the Non-Potable Reuse water management strategy for Edinburg and the North WWTP Potable Reuse Phase 1 water management strategy for McAllen. **Insertions** are shown as underlined, **deletions** in ~~strikethrough~~.

CHAPTER 5

A.5.1 MODIFICATION TO TABLE 5.3-96, PAGE 5.3-74

Table 5.1-1 Steam-Electric Power, Cameron WMS Supplies (acft/yr)

STEAM-ELECTRIC POWER, CAMERON	2020	2030	2040	2050	2060	2070
Recommended WMS						
Brownsville Non-Potable Water Reuse Pipeline	0	6,720	6,720	6,720	6,720	6,720
Edinburg Non-Potable Water Reuse for Cooling Tower	<u>0</u> 677	0	0	0	0	0
Implementation of Industrial BMPs	355	355	355	355	355	355
New Supplies from WMS	<u>355</u> 1,032	7,075	7,075	7,075	7,075	7,075
WUG Balance After WMS	<u>(3,070)</u> (2,393)	3,650	3,650	3,650	3,650	3,650
Alternative WMS*						
Brownsville - Seawater Desalination Demonstration and Implementation	0	33	33	33	332	332
*Alternative WMS evaluated in Section 5.4						

A.5.2 MODIFICATION TO TABLE 5.3-157, PAGE 5.3-108

Table 5.2-1 Edinburg WMS Supplies (acft/yr)

EDINBURG	2020	2030	2040	2050	2060	2070
Advanced Municipal Water Conservation	0	0	329	1,290	2,549	4,035
Conversion of Water Rights	3,236	5,072	10,758	12,411	13,824	14,969
ID Improvements - HCID No. 1	259	350	216	261	305	350

EDINBURG	2020	2030	2040	2050	2060	2070
ID Improvements - HCID No. 2	11	79	146	214	281	349
Municipal Drought Management	488	606	724	843	961	1,076
Non-Potable Reuse	0 3,243	3,920	3,920	3,920	3,920	3,920
New Supplies from WMS	3,994 7,237	10,027	16,093	18,938	21,840	24,700
WUG Balance After WMS	(2,841) 402	436	1,742	1,676	1,603	1,548

A.5.3 MODIFICATION TO TABLE 5.3-171, PAGE 5.3-117, AND TO LAST PARAGRAPH ON PAGE 5.3-121

Table 5.3-1 McAllen Water WMS Supplies (acft/yr)

MCALLEN	2020	2030	2040	2050	2060	2070
Recommended WMS						
Advanced Municipal Water Conservation	0	3,558	8,804	15,340	22,992	28,889
AMI Project	1,140	1,140	1,140	1,140	1,140	1,140
Brackish Groundwater Desalination Plant	0	2,688	2,688	2,688	2,688	2,688
Conversion of Water Rights	0	0	2,968	3,622	5,223	8,370
ID Improvements - HCID No. 1	196	264	333	402	471	540
ID Improvements - HCID No. 2	29	204	378	552	727	901
ID Improvements - HCWID No. 3	1,672	1,672	1,672	1,672	1,672	1,672
ID Improvements - United ID	1,227	1,227	1,227	1,227	1,227	1,227
Raw Waterline Project	800	800	800	800	800	800
Municipal Drought Management	1,071	1,330	1,589	1,850	2,110	2,363
North WWTP Potable Reuse	0	0 3,880	3,880	6,060	6,060	6,060
New Supplies from WMS	6,135	12,882 16,762	25,479	35,353	45,110	54,650
WUG Balance After WMS	3,263	1,287 5,167	3,191	3,976	4,460	4,945
Alternative WMS*						
Expand Existing Groundwater Supply	0	500	500	500	1,500	1,500
*Alternative WMS are evaluated in Section 5.4.						

Available Supply

Based on recorded WWTP flows, the current annual average flow for McAllen North WWTP is 11.25 mgd. It is assumed that half of the effluent flow will be produced for potable reuse. Approximately 3,880 acft/yr of potable reuse will be produced in ~~2040~~ 2030 and expanding to 6,060 acft/yr of potable wastewater effluent in 2050.

A.5.4 MODIFICATION TO TABLE 5.3-329, PAGE 5.3-216

Table 5.4-1 MWP Management Supply Factors

ENTITY	2020	2030	2040	2050	2060	2070
Agua SUD	1.3	1.2	1.5	1.4	1.4	1.4
Alamo	1.1	1.3	1.2	1.2	1.2	1.2
Bayview ID	0.8	0.8	0.8	0.8	0.8	0.8
BPUB	1.2	1.3	1.2	1.2	1.1	1.1
Brownsville ID	0.8	0.8	0.8	0.8	0.9	0.9
CCID #10	0.5	0.5	0.5	0.5	0.5	0.5
CCID #2	0.4	0.4	0.4	0.4	0.4	0.4
CCID #6	0.6	0.6	0.6	0.6	0.6	0.6
Delta Lake ID	0.7	0.7	0.8	0.8	0.8	0.8
Donna ID	0.7	0.7	0.8	0.8	0.8	0.8
Eagle Pass	1.2	1.2	1.1	1.1	1.1	1.1
ERHWSC	1.4	1.5	1.5	1.4	1.4	1.3
Edinburg	0.8 1.0	1.0	1.1	1.1	1.1	1.1
Harlingen Water Works System	1.4	1.3	1.3	1.2	1.2	1.2
Harlingen ID	0.9	0.9	0.9	1	1	1
HCID #1	0.9	0.9	0.9	0.9	0.9	0.9
HCID #16	0.8	0.8	0.8	0.8	0.8	0.8
HCID #2	0.8	0.8	0.8	0.8	0.8	0.9
HCID #6	0.8	0.8	0.8	0.8	0.8	0.8
HCWID #3	1.0	1.0	1.0	1.0	1.0	1.0
H&CCID #9	0.7	0.8	0.8	0.8	0.8	0.8
La Feria ID	0.8	0.8	0.8	0.8	0.8	0.9
Laguna Madre Water District	1.3	1.3	1.3	1.4	1.3	1.3
Laredo	1.4	1.2	1.1	1.0	1.0	1.0

ENTITY	2020	2030	2040	2050	2060	2070
McAllen	1.1	<u>1.0</u> 1.1	1.1	1.1	1.1	1.1
Military Highway WSC	1.2	1.1	1.1	1.1	1	1
Mission	1	1	1.1	1.1	1.1	1.1
NAWSC	1	1.1	1.3	1.4	1.4	1.3
Pharr	1.7	1.5	1.3	1.2	1.1	1.1
Rio Grande City	0.9	0.9	0.9	0.9	0.9	0.9
San Benito	1.2	1.4	1.5	1.4	1.3	1.3
San Juan	1	1.3	1.5	1.4	1.4	1.3
Sharyland WSC	1.1	1.2	1.1	1.1	1.1	1.1
SRWA	1	1	1	1	1	1
United ID	1	1	1	1	1	1
Weslaco	1.1	1.1	1.1	1	1	1

CHAPTER 6

A.6.1 MODIFICATION TO FIRST PARAGRAPH OF SECTION 6.3 UNMET NEEDS, PAGE 6-3

There are ~~no~~ municipal unmet needs in 2020 in Region M, as a result of the identification of an infeasible water management strategy during the 2026 planning cycle and as detailed in Section 6.3.5. However In addition, there are unmet needs in non-municipal water user groups (WUGs) as detailed below.

A.6.2 ADDITION OF SECTION 6.3.5 MUNICIPAL, INCLUDING TABLE 6-6, PAGE 6-8

6.3.5 Municipal

Municipal shows an unmet need in 2020 in Hidalgo County (Table 0-6). During the 2026 planning cycle, it was identified that the Non-Potable Reuse water management strategy for Edinburg had been put on hold and the project sponsor had not taken action to move it forward. As a result, the strategy was identified as infeasible for the 2020 decade and removed as a strategy for that decade only.

Table 0-6 Municipal Supply Balance for WUGs with Unmet Needs (acft/yr)

MUNICIPAL	2020	2030	2040	2050	2060	2070
Hidalgo County – City of Edinburg						
<u>Supplies</u>	<u>6,139</u>	<u>6,139</u>	<u>4,222</u>	<u>4,222</u>	<u>4,222</u>	<u>4,222</u>
<u>Demand</u>	<u>12,974</u>	<u>15,730</u>	<u>18,573</u>	<u>21,484</u>	<u>24,459</u>	<u>27,374</u>
<u>Need(-)/Surplus(+)</u>	<u>(6,835)</u>	<u>(9,591)</u>	<u>(14,351)</u>	<u>(17,262)</u>	<u>(20,237)</u>	<u>(23,152)</u>
<u>Balance After WMS</u>	<u>(2,841)</u>	<u>436</u>	<u>1,742</u>	<u>1,677</u>	<u>1,603</u>	<u>1,547</u>
<u>Total Unmet Need</u>	<u>(2,841)</u>	<u>(0)</u>	<u>(0)</u>	<u>(0)</u>	<u>(0)</u>	<u>(0)</u>
<i>* Summation of unmet needs only; does not include surplus</i>						

CHAPTER 10

A.10.1 ADDITION OF PARAGRAPH TO SECTION 10.1.3, PAGE 10-5

10.1.3 Amendment to the 2021 Region M Plan

An Amendment to the 2021 RGRWP was requested by the Hidalgo County Drainage District 1 in order to add the Delta Region Water Management Supply Strategy to the 2021 RGRWP. A public hearing was held on August 23, 2022, with the public notice of the hearing being emailed to the RWPG members and posted on the Secretary of State and Region M websites on July 22, 2022. Following the public hearing, 30 days were allowed to receive public comments. After the 30-day public comment period, comments were incorporated into the amendment materials. A public meeting was held on September 29, 2022, where the Rio Grande RWPG adopted the Amendment to the 2021 RGRWP. The amendment was then submitted to the TWDB on September 30, 2022, for adoption into the 2022 State Water Plan.

A second amendment to the 2021 RGRWP was done as a result of work performed for Task 4B during the 2026 planning cycle. This work identified two water management strategies in the 2021 RGRWP that were considered infeasible for their initial online decade because the projects had been put on hold. The analysis was presented at a public meeting with a 14-day notice and public comments were requested. There were no public comments received. As a result of the analysis, this second amendment revises the online decades for two water management strategies. One is the Non-Potable Reuse water management strategy for Edinburg, which moves the online decade from 2020 back to 2030. This revision does result in Unmet Needs in 2020 for Edinburg. The other is the North WWTP Potable Reuse Phase 1 water management strategy for McAllen, which moves the online decade from 2030 back to 2040. This revision does not result in Unmet Needs for McAllen. The draft amendment was approved by the RGRWPG for submittal to TWDB for review at their February 2024 meeting, and then adopted at their May 2024 meeting, after taking public comments during the 14-day period leading up to the meeting.

APPENDIX B

A.APP_B.1 MODIFICATION TO APPENDIX B.5, MWP SECOND TIER WATER NEEDS, PAGES 1 AND 2 OF 3

Entity	MWP Type	Use Type	Second Tier Water Need Projections (acft/yr) ¹					
			2020	2030	2040	2050	2060	2070
Agua SUD	WUG 2nd Tier Needs	Utility	-	-	-	-	-	-
Agua SUD	Contract 2nd Tier Needs	Steam Electric Power	(145)	(145)	(145)	(145)	(145)	(145)
Agua SUD Total			(145)	(145)	(145)	(145)	(145)	(145)
Alamo	WUG 2nd Tier Needs	Utility	(896)	(1,546)	(2,170)	(2,629)	(3,029)	(3,358)
Alamo Total			(1,014)	(1,692)	(2,391)	(3,110)	(3,848)	(4,570)
Bayview Irrigation District #11	Contract 2nd Tier Needs	Irrigation	(1,813)	(1,706)	(1,599)	(1,491)	(1,385)	(1,277)
Bayview Irrigation District #11	Contract 2nd Tier Needs	Municipal	(45)	(42)	(40)	(37)	(34)	(32)
Bayview Irrigation District #11 Total			(1,858)	(1,748)	(1,639)	(1,528)	(1,419)	(1,309)
Brownsville	WUG 2nd Tier Needs	Utility	-	-	-	-	(1,597)	(3,116)
Brownsville	Contract 2nd Tier Needs	Irrigation	-	-	-	-	-	-
Brownsville	Contract 2nd Tier Needs	Manufacturing	-	-	-	-	-	-
Brownsville	Contract 2nd Tier Needs	Municipal	-	-	-	-	-	-
Brownsville	Contract 2nd Tier Needs	Steam Electric Power	-	-	-	-	-	-
Brownsville Total			-	-	-	-	(1,597)	(3,116)
Brownsville Irrigation District	Contract 2nd Tier Needs	Irrigation	(3,989)	(3,701)	(3,414)	(3,127)	(2,840)	(2,553)
Brownsville Irrigation District	Contract 2nd Tier Needs	Municipal	-	-	-	-	-	-
Brownsville Irrigation District	Contract 2nd Tier Needs	WWP	-	-	-	-	-	-
Brownsville Irrigation District Total			(3,989)	(3,701)	(3,414)	(3,127)	(2,840)	(2,553)
Cameron County Irrigation District #10	Contract 2nd Tier Needs	Irrigation	(1,075)	(979)	(884)	(789)	(693)	(598)
Cameron County Irrigation District #10	Contract 2nd Tier Needs	Mining	(4)	(4)	(4)	(4)	(4)	(4)
Cameron County Irrigation District #10	Contract 2nd Tier Needs	WWP	(9,474)	(9,474)	(9,474)	(9,474)	(9,474)	(9,474)
Cameron County Irrigation District #10 Total			(10,553)	(10,457)	(10,362)	(10,267)	(10,171)	(10,076)
Cameron County Irrigation District #2	Contract 2nd Tier Needs	Irrigation	(92,327)	(92,378)	(92,430)	(92,481)	(92,532)	(92,583)
Cameron County Irrigation District #2	Contract 2nd Tier Needs	Manufacturing	(22)	(22)	(22)	(22)	(22)	(23)
Cameron County Irrigation District #2	Contract 2nd Tier Needs	Municipal	(1,602)	(1,612)	(1,622)	(1,632)	(1,642)	(1,652)
Cameron County Irrigation District #2 Total			(93,951)	(94,012)	(94,074)	(94,135)	(94,196)	(94,258)
Cameron County Irrigation District #6	Contract 2nd Tier Needs	Irrigation	(5,343)	(5,020)	(4,697)	(4,374)	(4,051)	(3,728)
Cameron County Irrigation District #6	Contract 2nd Tier Needs	Manufacturing	(5)	(4)	(4)	(4)	(3)	(3)
Cameron County Irrigation District #6	Contract 2nd Tier Needs	Municipal	(766)	(721)	(674)	(628)	(581)	(536)
Cameron County Irrigation District #6	Contract 2nd Tier Needs	WWP	(13,911)	(13,911)	(13,911)	(13,911)	(13,911)	(13,911)
Cameron County Irrigation District #6 Total			(20,025)	(19,656)	(19,286)	(18,917)	(18,546)	(18,178)
Delta Lake Irrigation District	Contract 2nd Tier Needs	Irrigation	(24,585)	(22,569)	(20,553)	(18,540)	(16,527)	(14,516)
Delta Lake Irrigation District	Contract 2nd Tier Needs	Livestock	-	-	-	-	-	-
Delta Lake Irrigation District	Contract 2nd Tier Needs	Municipal	(5,221)	(5,039)	(4,858)	(4,677)	(4,494)	(4,315)
Delta Lake Irrigation District	Contract 2nd Tier Needs	WWP	-	-	-	-	-	-
Delta Lake Irrigation District Total			(29,806)	(27,608)	(25,411)	(23,217)	(21,021)	(18,831)
Donna Irrigation District-Hidalgo County #1	Contract 2nd Tier Needs	Irrigation	(11,457)	(10,453)	(9,449)	(8,445)	(7,442)	(6,440)
Donna Irrigation District-Hidalgo County #1	Contract 2nd Tier Needs	Municipal	(1,953)	(1,783)	(1,613)	(1,442)	(1,271)	(1,100)
Donna Irrigation District-Hidalgo County #1 Total			(13,410)	(12,236)	(11,062)	(9,887)	(8,713)	(7,540)
Eagle Pass	WUG 2nd Tier Needs	Utility	-	-	(209)	(912)	(1,464)	(1,890)
Eagle Pass Total			-	(226)	(1,461)	(2,816)	(4,182)	(5,509)
East Rio Hondo WSC	WUG 2nd Tier Needs	Utility	-	-	-	-	-	-
East Rio Hondo WSC	Contract 2nd Tier Needs	Municipal	-	-	-	-	-	-
East Rio Hondo WSC Total			-	-	-	-	-	-
Edinburg	WUG 2nd Tier Needs	Utility	(6,347)	(4,104)	(5,065)	(9,378)	(11,209)	(14,121)
Edinburg Total			(6,347)	(4,104)	(5,065)	(9,378)	(11,209)	(14,121)
Harlingen	WUG 2nd Tier Needs	Utility	-	-	-	-	-	(104)
Harlingen	Contract 2nd Tier Needs	Manufacturing	-	-	-	-	-	-
Harlingen	Contract 2nd Tier Needs	Municipal	-	-	-	-	-	-
Harlingen Total			-	-	-	-	-	(104)
Harlingen Irrigation District-Cameron County #1	Contract 2nd Tier Needs	Irrigation	(5,005)	(3,623)	(2,242)	(861)	(858)	(856)

Rio Grande Regional Water Planning Group | MINOR AMENDMENT
 2021 RIO GRANDE REGIONAL WATER PLAN (REGION M)

Entity	MWP Type	Use Type	Second Tier Water Need Projections (acft/yr) ¹					
			2020	2030	2040	2050	2060	2070
Harlingen Irrigation District-Cameron County #1	Contract 2nd Tier Needs	Municipal	(4,247)	(3,540)	(2,830)	(2,122)	(2,122)	(2,123)
Harlingen Irrigation District-Cameron County #1 Total			(9,252)	(7,163)	(5,072)	(2,983)	(2,980)	(2,979)
Hidalgo County Irrigation District #1	Contract 2nd Tier Needs	Irrigation	(7,895)	(7,329)	(6,764)	(6,199)	(5,635)	(5,071)
Hidalgo County Irrigation District #1	Contract 2nd Tier Needs	Municipal	(5,164)	(4,798)	(3,870)	(3,547)	(3,225)	(2,902)
Hidalgo County Irrigation District #1	Contract 2nd Tier Needs	WWP	-	-	-	-	-	-
Hidalgo County Irrigation District #1 Total			(13,059)	(12,127)	(10,634)	(9,746)	(8,860)	(7,973)
Hidalgo County Irrigation District #16	Contract 2nd Tier Needs	Irrigation	(2,853)	(2,685)	(2,517)	(2,348)	(2,180)	(2,012)
Hidalgo County Irrigation District #16	Contract 2nd Tier Needs	Livestock	(29)	(29)	(29)	(29)	(29)	(29)
Hidalgo County Irrigation District #16	Contract 2nd Tier Needs	Mining	(25)	(25)	(25)	(25)	(25)	(25)
Hidalgo County Irrigation District #16	Contract 2nd Tier Needs	Municipal	(1,047)	(997)	(948)	(898)	(849)	(799)
Hidalgo County Irrigation District #16 Total			(3,954)	(3,736)	(3,519)	(3,300)	(3,083)	(2,865)
Hidalgo County Irrigation District #2	Contract 2nd Tier Needs	Irrigation	(14,208)	(12,949)	(11,692)	(10,433)	(9,176)	(7,921)
Hidalgo County Irrigation District #2	Contract 2nd Tier Needs	Municipal	(7,458)	(6,797)	(6,138)	(5,477)	(4,818)	(4,156)
Hidalgo County Irrigation District #2	Contract 2nd Tier Needs	WWP	(61)	(61)	(61)	(61)	(61)	(61)
Hidalgo County Irrigation District #2 Total			(21,727)	(19,807)	(17,891)	(15,971)	(14,055)	(12,138)
Hidalgo County Irrigation District #6	Contract 2nd Tier Needs	Irrigation	(2,960)	(2,819)	(2,677)	(2,536)	(2,394)	(2,253)
Hidalgo County Irrigation District #6	Contract 2nd Tier Needs	Municipal	(1,695)	(1,615)	(1,534)	(1,454)	(1,374)	(1,293)
Hidalgo County Irrigation District #6 Total			(4,655)	(4,434)	(4,211)	(3,990)	(3,768)	(3,546)
Hidalgo County WID #3	Contract 2nd Tier Needs	Irrigation	(48)	(48)	(47)	(47)	(47)	(47)
Hidalgo County WID #3	Contract 2nd Tier Needs	Mining	(4)	(4)	(4)	(4)	(4)	(4)
Hidalgo County WID #3	Contract 2nd Tier Needs	Municipal	(49)	(49)	(49)	(49)	(49)	(49)
Hidalgo County WID #3 Total			(101)	(101)	(100)	(100)	(100)	(100)
Hidalgo-Cameron County Irrigation District #9	Contract 2nd Tier Needs	Irrigation	(20,589)	(18,902)	(17,215)	(15,530)	(13,845)	(12,162)
Hidalgo-Cameron County Irrigation District #9	Contract 2nd Tier Needs	Municipal	(5,119)	(4,702)	(4,286)	(3,873)	(3,457)	(3,042)
Hidalgo-Cameron County Irrigation District #9 Total			(25,708)	(23,604)	(21,501)	(19,403)	(17,302)	(15,204)
La Feria Irrigation District-Cameron County #3	Contract 2nd Tier Needs	Irrigation	(5,570)	(5,567)	(5,564)	(5,560)	(5,557)	(5,554)
La Feria Irrigation District-Cameron County #3	Contract 2nd Tier Needs	Municipal	(1,710)	(1,610)	(1,510)	(1,310)	(1,010)	(810)
La Feria Irrigation District-Cameron County #3 Total			(7,280)	(7,177)	(7,074)	(6,870)	(6,567)	(6,364)
Laguna Madre Water District	WUG 2nd Tier Needs	Utility	(158)	-	-	(185)	(307)	(342)
Laguna Madre Water District Total			(417)	(1,666)	(2,948)	(4,352)	(5,817)	(7,322)
Laredo	WUG 2nd Tier Needs	Utility	-	-	-	-	-	(537)
Laredo	Contract 2nd Tier Needs	Irrigation	-	-	-	-	-	-
Laredo	Contract 2nd Tier Needs	Manufacturing	-	-	-	-	-	-
Laredo	Contract 2nd Tier Needs	Mining	-	-	-	-	-	-
Laredo Total			-	-	-	-	-	(537)
McAllen	WUG 2nd Tier Needs	Utility	(661)	(5,967)	(4,687)	(6,875)	(6,987)	(8,348)
McAllen	Contract 2nd Tier Needs	Manufacturing	-	-	-	-	-	-
McAllen	Contract 2nd Tier Needs	Municipal	-	-	-	-	-	-
McAllen Total			(661)	(5,967)	(4,687)	(6,875)	(6,987)	(8,348)
Military Highway WSC	WUG 2nd Tier Needs	Utility	-	-	(403)	(821)	(1,194)	(1,512)
Military Highway WSC	Contract 2nd Tier Needs	Municipal	-	-	-	-	-	-
Military Highway WSC Total			-	-	(403)	(821)	(1,194)	(1,512)
Mission	WUG 2nd Tier Needs	Utility	(3,648)	(5,959)	(7,563)	(5,238)	(7,215)	(8,828)
Mission Total			(8,514)	(12,976)	(17,530)	(22,161)	(26,858)	(31,446)
North Alamo WSC	WUG 2nd Tier Needs	Utility	(133)	(243)	(352)	(449)	(534)	(603)
North Alamo WSC	Contract 2nd Tier Needs	Municipal	(52)	(52)	(52)	(52)	(52)	(52)
North Alamo WSC Total			(185)	(295)	(404)	(501)	(586)	(655)
Pharr	WUG 2nd Tier Needs	Utility	-	-	-	-	-	-
Pharr Total			-	(1,360)	(3,238)	(5,184)	(7,193)	(9,165)
Rio Grande City	WUG 2nd Tier Needs	Utility	(1,362)	(1,486)	(1,482)	(1,428)	(1,297)	(1,282)
Rio Grande City	Contract 2nd Tier Needs	Municipal	(687)	(687)	(687)	(687)	(687)	(687)

ITEM 5B.

FINANCIAL REPORT

PROPOSED

Region M 2024 Budget

Budget Item	Budget Amount	Revenues to date	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total to Date	Available Balance
Salaries: (to include Salary & Fringe)	\$13,157.00							\$13,157.00
Website Maintenance	\$1,100.00							\$1,100.00
Travel	\$500.00							\$500.00
Consumable Supplies	\$200.00							\$200.00
Printing	\$500.00							\$500.00
Communications Phone /Internet	\$500.00							\$500.00
Postage	\$100.00							\$100.00
Sponsorships/other	\$2,650.00							\$2,650.00
Indirect Costs	\$3,943.00							\$3,943.00
Local Match								
Interest Income								
Budget Total	\$ 22,650.00		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$22,650.00
Actual Cash Available		\$0.00						\$0.00



Period from 1/1/2023 to 12/31/2023

Region M 2023 Budget & Expenditure Report

Budget Item	Budget Amount	Revenues to date	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total to Date	Available Balance
Salaries: (to include Salary & Fringe)	\$13,157.00		\$2,585.43	\$1,365.81	\$1,062.71	\$1,743.24	\$6,757.19	\$6,399.81
Website Maintenance	\$1,100.00		\$150.00	\$225.00	\$475.00	\$225.00	\$1,075.00	\$25.00
Travel	\$500.00						\$0.00	\$500.00
Consumable Supplies	\$200.00				\$62.36		\$62.36	\$137.64
Printing	\$500.00		\$37.89	\$12.73	\$42.31		\$92.93	\$407.07
Communications Phone /Internet	\$500.00						\$0.00	\$500.00
Postage	\$100.00						\$0.00	\$100.00
Sponsorships/other	\$2,650.00						\$0.00	\$2,650.00
Indirect Costs	\$3,943.00		\$640.67	\$338.45	\$263.34	\$431.97	\$1,674.43	\$2,268.57
Local Match		\$88,714.19						
Interest Income		\$3,446.80						
Budget Total	\$ 22,650.00		\$3,413.99	\$1,941.99	\$1,905.72	\$2,400.21	\$9,661.91	\$12,988.09
Actual Cash Available		\$92,160.99						\$82,499.08

ITEM 6A.

REPORTS FROM FEDERAL & STATE AGENCIES - TWDB

Region M TWDB Update February 21, 2024

Upcoming Items of Note

- **Technical Memorandum**– Due to TWDB **March 4, 2024**
 - Electronic Submittal Folders will be provided by TWDB in **February**
 - TWDB to Accept or Reject **within 30 Days**
- **Prop 6/Texas Water Fund** -TWDB is seeking public input during Board Meetings and Stakeholder Workshops **through April**. Details and FAQs on TWDB Website.
- Water Use Survey is open until **March 1, 2024**
- **Texas Water Service Boundary Viewer** open for editing until **July 1, 2024**
- **Agricultural Water Conservation Grant** application period open through April 3. Informational webinars on February 7, March 6, March 27

RWPG Chairs Call Held January 16, 2024

- Review of Upcoming Materials for RWPGs
- Review RWP Amendment Guidance and Infeasible Amendment Timeline
- Discuss Notice to Proceed Process
- Review Socioeconomic Impact Analysis Process & Timeline (**August 2025**)
- Update on the Interregional Planning Council
- Next Chairs Call will be scheduled for date TBD **April 2024**

Region M TWDB Update February 21, 2024

Interregional Planning Council

- Next meeting: **February 8** in Austin with virtual option to attend
- Review of Final Draft of IPC Report (due to TWDB **March 4, 2024**)

Upcoming Materials for RWPGs

- County-Specific Water Supply Planning Info & Resource Documents
 - Includes Rural Entities and At-Risk Suppliers (<7,500, SS, 180 Day)
- Conservation Resources
- Drought/Drought Preparedness Resources
 - List of Entities Required to Submit Drought Contingency Plans to TCEQ
 - Drought Preparedness Council Recommendations to RWPGs
 - Updated Drought Management Costing Information
- Updated Uniform Costing Model

Region M TWDB Update February 21, 2024

Financial Assistance Workshop

- When: Wednesday, February 21st, 10:00 am
- Where: City of Weslaco, 255 South Kansas Ave.
- Discuss specific projects and answer questions about following financial assistance programs:
 - Economically Distressed Areas Program (EDAP)
 - Infrastructure Investment and Jobs Act (IIJA)
 - Drinking Water State Revolving Fund (DWSRF)
 - Clean Water State Revolving Fund (CWSRF)
 - State Water Implementation Fund for Texas (SWIFT)
 - Texas Water Development Fund (DFund)
 - Flood Infrastructure Fund (FIF)
 - Proposition 6