# REGION C WATER PLANNING GROUP

TO: REGION C WATER PLANNING GROUP

FROM: J. KEVIN WARD, CHAIR

SUBJECT: NOVEMBER 6th, 2023 PUBLIC MEETING

DATE: OCTOBER 30, 2023

This memorandum will serve as a notice that the Region C Water Planning Group (RCWPG) is holding a public meeting at **1:00 P.M. on Monday NOVEMBER 6th, 2023,** at the **North Central Texas Council of Governments, 616 Six Flags Drive, Centerpoint Two Building, First Floor Transportation Council Room, Arlington, Texas, 76011**. An agenda (including information on how to participate in the public meeting) has been prepared for the meeting and is attached to this memorandum. The following is a brief overview of the agenda items to be discussed with relevant materials and handouts.

OPEN MEETING

I. ROLL CALL

II. APPROVAL OF MINUTES – JULY 17, 2023

***Attachment II: RCWPG Minutes from July 17, 2023***

III. PUBLIC COMMENTS (Limited to 3 minutes per speaker)

IV. PRIMARY ACTION ITEMS FOR CONSIDERATION

A. Negotiation and execution of an amendment to the TWDB contract to increase the total project cost and committed funds for the 2026 Regional Water Plan, and to amend and execute the associated Consultant's subcontract to include this additional funding.

***The RCWPG will consider authorizing TRA to negotiate and execute an amendment to the TWDB contract to increase the total project cost and committed funds for the 2026 Region C Regional Water Plan, and to amend and execute the associated Consultant's subcontract to include this additional funding.***

***Attachment IV.A: TWDB Contract Amendment***

B. Approval of revised Region C Bylaws, with additional action as necessary contingent upon the approval of the revised Bylaws, including the election of officers.

***The RCWPG will consider approval of revised Region C Bylaws. At the November 1, 2021 RCWPG meeting, a bylaws subcommittee was appointed to review the Region C Bylaws and report suggested modifications to the RCWPG. The RCWPG will take additional action as necessary contingent upon the approval of the revised Bylaws.***

***Attachment IV.B: Draft RCWPG Bylaws Amendment Package 2023***

C. TWDB project feasibility review of the proposed Marvin Nichols Reservoir, and action to authorize submission of supporting documentation on behalf of the Region C Planning Group.

***The Texas Legislature included in its budget legislation a requirement for the TWDB to conduct a feasibility review of the Marvin Nichols Reservoir. The TWDB has solicited public comments and input by December 1, 2023. The RCWPG will consider approval of a letter to TWDB containing supporting information from the 2021 Region C Regional Water Plan.***

***Attachment IV.C: Marvin Nichols Reservoir Feasibility Study Supporting Information Letter***

D. Designation of Major and Regional Water Providers.

***The RCWPG will discuss and select a list of major and regional water providers for the 2026 Region C Water Plan. For the 2021 Region C Water Plan the RWPG identified six major water providers (Dallas Water Utilities, City of Fort Worth, North Texas Municipal Water District, Tarrant Regional Water District, Trinity River Authority, and Upper Trinity Regional Water District) and two regional water providers (City of Corsicana and Greater Texoma Utility Authority). It is proposed to retain the same list of major and regional water providers for the 2026 Plan.***

E. Process to identify potentially feasible water management strategies for the 2026 Regional Water Plan.

***The RCWPG will review the process to be used to identify potentially feasible water management strategies for the 2026 Region C Plan. Freese and Nichols prepared a memorandum outlining the proposed methodology to identify potentially feasible strategies for the 2026 Region C Plan. It also considers the types of strategies identified by the TWDB for consideration and determines if that strategy type is likely feasible or not for application in Region C.***

***Attachment IV.E: Potentially Feasible Water Management Strategy Memorandum***

F. Planning group and public comments on the proposed process for identifying potentially feasible water management strategies for the 2026 Regional Water Plan.

***The RCWPG will consider approval of the process to be used to identify potentially feasible water management strategies for the 2026 Region C Plan as reviewed in the preceding Agenda Item. Planning group and public comments must be considered prior to action.***

G. Results of the analysis of infeasible water management strategies and/or projects in the 2021 Regional Water Plan.

***The Texas Legislature passed a new requirement for the 2026 planning cycle that requires the regional water planning groups to review strategies/projects that require construction or a permit for potential infeasibility. The RCWPG will review and consider approval of the results of the analysis of infeasible water management strategies and/or projects in the 2021 Regional Water Plan.***

***Attachment IV.G: Infeasible Water Management Strategy Memorandum***

V. OTHER ITEMS (MAY RESULT IN ACTIONS)

A. Update on TWDB Response to Requested Revisions.

***Attachment V.A: TWDB Response to Requested Revisions***

B. Update on Existing Supplies.

C. Presentation on Senate Bill 28.

D. Presentation on Conservation Methodology.
E. Schedule Overview.
F. Status of contracts with TWDB, TRA and Consultants.

VI. OTHER DISCUSSION

A. Updates from the Chair.
B. Report from Regional Liaisons.
C. Report from the Interregional Planning Council.
D. Report from Texas Water Development Board.
E. Report from Texas Department of Agriculture.
F. Report from Texas Parks and Wildlife Department.
G. Report from Texas State Soil & Water Conservation Board.
H. Other Reports.
I. Confirm Date and Location of Next Meeting: TBD.

VII. ADJOURNMENT

The following items are enclosed with this memorandum:

I. RCWPG Agenda – November 6th, 2023
II. Meeting Handouts
   A. Agenda Item II – RCWPG Minutes from July 17th, 2023
   B. Agenda Item IV.A – TWDB Contract Amendment
   C. Agenda Item IV.B. – Revised Region C Bylaws
   D. Agenda Item IV.C. – Marvin Nichols Reservoir Feasibility Study Supporting Information Letter
   E. Agenda Item IV.E . – Potentially Feasible Water Management Strategy Memorandum
   F. Agenda Item IV.G. – Infeasible Water Management Strategy Memorandum
   G. Agenda Item V.A. – TWDB Response to Requested Revisions

# REGION C WATER PLANNING GROUP

**NOTICE TO THE PUBLIC**
OPEN PUBLIC MEETING

MONDAY, NOVEMBER 6, 2023 AT 1:00 P.M.

THE MEETING WILL BE HELD AT
**NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS**
**616 SIX FLAGS DRIVE, CENTERPOINT TWO BUILDING**
**FIRST FLOOR TRANSPORTATION COUNCIL ROOM**
**ARLINGTON, TX 76011**

NOTICE

Notice is hereby given that, at 1:00 P.M. on November 6, 2023, the Region C Water Planning Group (Region C) will consider planning group and public comments on the process of identifying potentially feasible water management strategies for the 2026 Region C Regional Water Plan and the analysis of infeasible water management strategies or water management strategy projects in the 2021 Region C Regional Water Plan. The meeting will take place at the North Central Texas Council of Governments, 616 Six Flags Drive, Centerpoint Two Building, First Floor Transportation Council Room, Arlington, Texas 76011. If you plan to attend this meeting and you have a disability that requires special arrangements at the meeting, please contact Alyssa Knox at (817) 608-2363 or by email at aknox@nctcog at least 72 hours in advance of the meeting. Reasonable accommodations will be made to assist your needs.

The Region C Water Planning Group will accept written and oral comments at the above-described meeting. If you wish to provide written comments prior to the meeting, please utilize the online form available at https://regioncwater.org/public-comment/.

General questions or requests for additional information may also be submitted by delivery to:

J. KEVIN WARD
RCWPG Chairman/Administrator
c/o Trinity River Authority of Texas
P.O. Box 60
Arlington, Texas 76004
info@regioncwater.org
(817) 467-4343

All meeting materials will be made available on the Region C website (https://regioncwater.org/) seven days prior to and 14 days following the above-identified meeting.

AGENDA

I. ROLL CALL

II. APPROVAL OF MINUTES – JULY 17, 2023

III. PUBLIC COMMENTS (Limited to 3 minutes per speaker)

IV. PRIMARY ACTION ITEMS FOR CONSIDERATION

A. Negotiation and execution of an amendment to the TWDB contract to increase the total project cost and committed funds for the 2026 Regional Water Plan, and to amend and execute the associated Consultant's subcontract to include this additional funding.

B. Approval revised Region C Bylaws, with additional action as necessary contingent upon the approval of the revised Bylaws, including the election of officers.

C. TWDB project feasibility review of the proposed Marvin Nichols Reservoir, and action to authorize submission of supporting documentation on behalf of the Region C Planning Group.

D. Designation of Major and Regional Water Providers.

E. Process to identify potentially feasible water management strategies for the 2026 Regional Water Plan.

F. Planning group and public comments on the proposed process for identifying potentially feasible water management strategies for the 2026 Regional Water Plan.

G. Results of analysis of infeasible water management strategies and/or projects in the 2021 Regional Water Plan.

V. OTHER ITEMS (MAY RESULT IN ACTIONS)

A. Update on TWDB Response to Requested Revisions.

B. Update on Existing Supplies.

C. Presentation on Senate Bill 28.

D. Presentation on Conservation Methodology.

E. Schedule Overview.

F. Status of contracts with TWDB, TRA and Consultants.

VI. OTHER DISCUSSION

A. Updates from the Chair.
B. Report from Regional Liaisons.
C. Report from the Interregional Planning Council.
D. Report from Texas Water Development Board.
E. Report from Texas Department of Agriculture.
F. Report from Texas Parks and Wildlife Department.
G. Report from Texas State Soil & Water Conservation Board.
H. Other Reports.
I. Confirm Date and Location of Next Meeting: TBD [February]

VII. ADJOURNMENT

SUBMITTED BY: _____
J. KEVIN WARD, Administrative Officer

DATE: October 23, 2023

POSTED BY: _____

DATE: _____

TIME: _____

LOCATION: _____

# Agenda Item II – Attachment

## RCWPG Minutes from July 17, 2023

# REGION C WATER PLANNING GROUP

MINUTES OF AN OPEN PUBLIC MEETING
July 17, 2023

The Region C Water Planning Group (RCWPG) met in an open public meeting on Monday, July 17, 2023, at 1:00 P.M. The meeting was held at the North Central Texas Council of Governments located at 616 Six Flags Drive, Centerpoint Two Building, First Floor Transportation Council Room, Arlington, Texas. Notice of the meeting was legally posted.

Chairman Kevin Ward called the Region C Regional Water Planning Group meeting to order at approximately 1:00 P.M. and welcomed guests.

I. ROLL CALL

Chairman Ward conducted a roll call. The following members were in attendance:

| | |
|---|---|
| David Bailey | Nichole Murphy (Alternate for Paul Sigle) |
| Grace Darling | Denis Qualls |
| Lisa Estrada (Alternate for Steve Mundt) | Bob Riley |
| Chris Harder | Haley Salazar (Alternate for Stephen Gay) |
| Harold Latham | Rick Shaffer |
| Russell Laughlin | Doug Shaw |
| John Lingenfelder | Connie Standridge |
| R. J. Muraski (Alt. for Jenna Covington) | Kevin Ward |

Kevin Smith, TWDB, George Ostott, Region D, and Kathy Turner Jones, Region G, were present. The registration lists signed by guests in attendance are attached.

II. APPROVAL OF MINUTES – June 12, 2023

The minutes of the June 12, 2023, RCWPG meeting were approved by consensus upon a motion by Denis Qualls and a second by Bob Riley.

III. PUBLIC COMMENTS (Limited to 3 minutes per speaker)

There were no public comments.

IV. PRIMARY ACTION ITEMS FOR CONSIDERATION

A. Discuss and take action to approve population and municipal demand projection revisions to TWDB draft projections, and to authorize consultant to submit revision request to TWDB. Consider authorizing consultant to continue working with TWDB regarding the revisions, on behalf of the RWPG.

Abigail Gardner, FNI, led this discussion on the population and municipal demand projection revisions to TWDB draft projections. The TWDB provided the planning groups with draft population projections in January 2023. The review process of these projections included review by the individual planning groups, with recommended changes provided to the TWDB by August 11, 2023. The TWDB will consider the recommended changes from the planning groups, and the final projections ultimately will be adopted by the TWDB and incorporated into the 2027

State Water Plan (SWP). The consultant team (FNI) has reviewed TWDB's initial projections using TWDB guidelines and additional information.

**TWDB Draft Population Projections**

- Based on county-level projections from the TDC
- 2026 draft projections followed the trends projected by the TDC without adjustment
- 2026 draft projections and 2021 final projections differ due to changes in migration rate, use of the full migration rate, and associated updates in the TDC cohort model to reflect updated birth and mortality rates

**Criteria for Regional Population Adjustment**

One or more of the following criteria must be verified by the RWPG and the Executive Administrator for consideration of revising the regional-level population projections:

1. A possible Census undercount took place in a county located within the region and action is currently being pursued to request a U.S. Census Bureau correction
2. The most recent population growth rate (2015-2020) for the whole region is significantly different than the draft regional projections

**Supporting Data for Regional Population Adjustment**

*Criteria for Adjustment No. 1 – Possible Census Undercount*

- 2020 Census had several unique challenges to overcome
  - Pandemic
  - Expressed desire to record citizenship status
- U.S. Census Bureau reports there was an ***undercount of 1.92% in Texas***

***It is recommended that the Region C 2020 Census total be adjusted to capture the ramifications of this undercount.***

**WUG-Level Adjustments**

Requested increases to population exceeded the regional 1.92% increase. To meet the adjusted census undercount trendline in 2030 – 2060:

1. County-Other WUGs were reviewed and adjusted.
2. Revision requests formally submitted by WUGs were reduced proportionally. Projections were not reduced below TWDB Draft Projections.

**2026 Region C Regional Water Plan County-Level Population Projection Recommendations**

Increase to the Region C regional total was distributed among the 16 counties based on historical data, requested revisions, and other data/evidence.

**Demand Projection Recommendations**

**Regional Planning Municipal Demand Projections**

- Municipal water use includes residential, commercial, institutions and light industrial
- Per capita water use is expressed as gallons per capita per day (GPCD) and includes anticipated future water savings due to the transition to more water-efficient plumbing fixtures and appliances
- Municipal water demand projections are based on dry-year demand conditions
- Baseline GPCDs used in the 2026 Regional Water Plan (RWPs) are carried over from the 2021 RWPs with plumbing code savings applied

***RWPGs may make requests to use a WUG's GPCD value from a different base dry-year within the most recent five years (2015 – 2019)***

**Review Methodology**

1. Any WUGs that had a recent year (2015 – 2019) of at least 20 GPCD higher than the proposed draft baseline GPCD were identified.
2. If the max GPCD was significantly higher than all of the other annual historical data, then it was marked as an outlier.
3. If that max GPCD was consistent with the other historical data, the WUG was marked as requiring further analysis to determine if a revision to the base GPCD was needed.
4. ***If a WUG specifically requested a revision to the base GPCD***

**Recommended GPCD Changes**

- 39 WUGs were identified for baseline GPCD revisions based on 2015 – 2019 historical water use
- 13 WUGs requested revisions to baseline GPCDs based on alternative data
  - Seven WUGs requested increased GPCDs
  - Six WUGs requested decreased GPCDs

There were no public comments on this action item.

Upon a motion by R. J. Muraski, and a second by Connie Standridge, the Region C WPG voted unanimously to approve and submit population and municipal demand projection revisions to TWDB draft projections, and to authorize Consultants to continue working with TWDB regarding the revisions on behalf of the RCWPG.

B. Discuss and take action to approve letter to TWDB requesting specific hydrologic variances to water availability models.

Abigail Gardner, FNI, led the discussion on this action item to consider the RCWPG's approval of a letter to TWDB requesting hydrologic variances to the TCEQ's official WAM Run 3 model that is required in determining available surface water supplies. These hydrologic variances are the same as have been used in previous planning cycles and include items such as inclusion of system operations used in Region C and subordination agreements.

**Hydrologic Variances to the WAM**

- RWPGs must use the unmodified TCEQ WAM Run 3 (plus anticipated sedimentation) as a default to estimate reservoir firm yields and run of river firm diversions.

- If a RWPG would like to make modification to the WAM or use an alternative methodology, a written request must be submitted.

**Submittal Requirements**

1. A completed surface water hydrologic variance request checklist for each river basin

2. Documentation of the submittal request being approved by the RWPG at a regular planning meeting

The Texas Legislature authorized the RWPGs to consider droughts worse than the drought of record in its planning efforts, which can reflect expected climate uncertainties and trends in water availability. Several water providers in Region C consider such conditions in their long-term water planning.

**Region C Requested Variances**

- Region C – primarily within the Trinity and Red River Basins with small areas in the Sabine, Sulphur, and Brazos River Basins

- Variance request generally like previous round of planning

**Safe Yield or Drought Worse than the Drought of Record Modification Requests:**

- Tarrant Regional Water District
- Dallas Water Utilities
- North Texas Municipal Water District
- Trinity River WAM
  - Subordination agreements
  - System operations, were appropriate, and
  - Other corrections as noted
- Red River WAM
  - Lake Texoma and associated water rights to better assess individual yields (not double count supplies)
- Sulphur WAM
  - Lake Chapman modeled as a single pool rather than individual pools as structured in WAM
- Other WAMs
  - Neches and Sabine as modified by the Region I Planning Group
  - Brazos as modified by the Region C Planning Group

There were no public comments on this action item.

Upon a motion by Rick Shaffer, and a second by Denis Qualls, the RCWPG voted unanimously to approve letter to TWDB requesting specific hydrologic variances to TCEQ's official WAM Run 3 model required in determining available surface water supplies.

V. OTHER ITEMS (MAY RESULT IN ACTIONS)

A. Methodology for evaluating infeasible water management strategies.

Simone Kiel, FNI, made this presentation on identifying potentially infeasible water management strategies (WMS). Ms. Kiel made the following points:

1. The RCWPG must review the status of strategies and projects with an online decade of 2020. Such strategies were required to be online by January 5, 2023.
2. Additional near-term strategies and projects that have lengthy permitting or construction processes.

**TWDB Guidance**

Planning groups should review strategies and projects that require a permit and/or involve construction and that:

- Are shown to be online in 2020 or 2030;
- Are related to new major reservoirs, seawater desalination, DPR, brackish groundwater, ASR, and out of state transfers; or
- Generally require significant resources and time to implement.

Analysis is **not** required for strategies/projects that do not require a permit or involve construction (e.g., conservation, metering)

**2021 RCWP Strategies to Review**

- **Recommended Online by 2030**
  - 1 ASR, 22 Groundwater, 5 Indirect Reuse, 17 infrastructure improvements or supply interconnections
- **5 Major Reservoir Strategies**
  - Bois d'Arc and Ralph Hall (2030)
  - Tehuacana (2040)
  - DWU Indirect Reuse Implementation and Marvin Nichols (2050)

**TWDB Requirements**

- **If infeasible WMSs are identified**
  - A list of the identified infeasible WMSs must be included in the Technical Memorandum
  - Planning groups must amend 2021 plans to:
    - Remove an infeasible WMS or WMSP,
    - Revise an infeasible WMS or WMSP to make it feasible (e.g., revise the online decade), and/or
    - Add a new WMS to address the identified water need, as needed.

B. Christina Gildea, FNI, presented the following schedule timeline:

**Working Timeline – 2026 RWP Cycle**

- **August 11, 2023 –** Deadline to submit requested population and municipal demand revisions to TWDB
- **March 4, 2024 –** Technical Memorandum
- **June 5, 2024 –** 2021 RWP Amendments for Infeasible WMSs
- **March 3, 2025 –** Initially Prepared Plan
- **October 20, 2025 –** 2026 Region C Regional Water Plan

**Region C – Next Steps**

**November Meeting**

- Results of Infeasible WMS Analysis
- Methodology for Identifying Potentially Feasible Water Management Strategies
- Methodology for Evaluating Water Management Strategies
- Region-Specific Scope of Work for Task 5B

**February Meeting**

- Technical Memorandum

VI. OTHER DISCUSSION

A. Updates from the Chair – Chairman Ward advised that the RCWPG Bylaws Subcommittee was unable to meet as planned. A meeting will be scheduled prior to the next Region C WPG open meeting. Chairman Ward also asked the planning group members with alternate vacancies to make those selections in a timely manner.

B. Report from Regional Liaisons
   - Region B - None
   - Region D - George Ostott advised Region D is having difficulty getting WUGs to respond and that is it hard to track.
   - Region G – Kathy Turner Jones reported that Region G will be meeting on July 27, 2023, to consider approving municipal and water demand projections.
   - Region H - Chairman Ward advised that Region H will be meeting August 2 to consider similar items as Region C.
   - Region I – Connie Standridge advised that she was unable to attend the Region I WPG open meeting held June 21, 2021.

C. Interregional Planning Council – None

D. Report from Texas Water Development Board – Kevin Smith, TWDB, outlined the following:

**1. Reminder of Upcoming Critical Deadlines**
   - Upcoming critical deadlines and upcoming activities (prior to March 4, 2024, technical memorandum deadline):
     - Approve projections revision requests
     - Assess availability and supplies
     - Approve and submit hydrologic variance requests
     - Present process for identifying potentially feasible strategies for the 2026 plans
     - Identify infeasible strategies and projects from 2021 plan

2. **New One-Pager –** Population projections revision process summary (info on TWDB website)

3. **Legislation Affecting Texas Water Planning (Bills that Passed)**
   - HB 1565 – TWDB Sunset Bill
     - RWPGs will report on implementation of large projects
     - RWPGs may plan for conditions worse than drought of record
     - These provisions already in planning contract
   - SB 28/SJR 75 – Texas Water Fund
     - Establishes $1 billion Texas Water Fund, subject to voter approval in November 2023, which can provide additional funding for existing TWDB financial assistance programs
     - Can also fund the New Water Supply for Texas Fund for water supply projects from new sources such as ASR and desalination
     - The Texas Water Fund will take effect January 1, 2024, if SJR 75 is approved by the voters. All other provisions of SB 28 take effect September 1, 2023.
   - HB 1 – Budget Bill
     - Passed budget includes additional funding for RWPGs
     - Specific region amounts to be determined and planning contracts amended in Fall 2023.

4. **Legislation Affecting Texas Water Planning (Bills that Did Not Pass)**
   - HB 4373/SB 2108
     - TWDB Legislative priority bills for Regional Water Planning
     - Original bill text would have removed the requirement to place a printed copy of the Initially Prepared Plan (IPP) in each county courthouse and one public library in each county in the planning area.
     - Would have also allowed notice of the IPP hearing to be posted on the planning group's website, instead of published in newspapers.

E. Report from Texas Department of Agriculture - None
F. Report from Texas Parks and Wildlife Department - None
G. Other Reports – None
H. Confirm Date and Location of Next Meeting – TBD (end of October, early November); NCTCOG, 616 Six Flags Drive, Centerpoint Two Building, First Floor Transportation Council Room, Arlington, Texas 76011
I. Public Comments - None

VII. ADJOURNMENT

There being no further business, the meeting of the Region C WPG adjourned at approximately 2:20 PM.

_____
KEVIN WARD, Chairman

# Agenda Item IV.A - Attachment

## TWDB Contract Amendment

# TEXAS WATER DEVELOPMENT BOARD

## CONTRACT INITIATION FORM

1643

| TWDB Contact Information | |
|---|---|
| Contract Manager | Kevin Smith |
| Office/Division/Section | OoP/WSP/RWP |
| Phone Number | 512-475-1641 |

| Requested Action | | |
|---|---|---|
| | | New Contract |
| | X | Amendment |
| | 2 | Amendment No. (if applicable) |

**Payable/Receivable Contract Relationship**

Payable or Receivable TWDB Contract Number(s) that this Contract is related to:

**Contract Information and Funds Expiration**

| Contract No. | 2148302555 | Grant | Yes |
|---|---|---|---|
| Payable | X | Receivable | |

**Contract Dates**

| Board Approval Date (N/A if no date) | Start Date | Expiration Date |
|---|---|---|
| 07/07/22 | **02/01/21** | **08/31/26** |

| Most Recent Amendment Execution Date: | 10/17/2022 | Original Contract Expiration Date: | 8/31/2026 |
|---|---|---|---|

External Contract No.

CFDA No.

**Contractor Information**

| | |
|---|---|
| Proposal Number | 00005259 |
| Vendor ID # (aka: Tax Payer ID#) | 17414942726 |
| Vendor Name | Trinity River Authority of Texas |
| Street Address | P.O. Box 60 |
| City, State, Zip | Arlington, Texas 76004-0060 |
| Telephone Number | 817-467-4343 |
| Vendor Contract Mgr/Email Address | J. Kevin Ward/wardk@trinityra.org |
| Signer of Contract/Email Address | J. Kevin Ward/wardk@trinityra.org |

**List of Counties for Study Area (Enter names, statewide, or non specific). If statewide, community count = 254**

COLLIN, COOKE, DALLAS, DENTON, ELLIS, FANNIN, FREESTONE, GRAYSON, HENDERSON (PARTIAL), JACK, KAUFMAN, NAVARRO, PARKER, ROCKWALL, TARRANT, WISE

**Retainage for Contract**

| Retainage % | 5% |
|---|---|
| Special Instructions | Retainage held until submittal of the final regional water plan. |

**Anticipated Budget**

| | | |
|---|---|---|
| Contractor Share of Costs | $ | - |
| TWDB Share of Costs | $ | 2,451,209.00 |
| Receivable Share of Costs | $ | - |
| Total Contract Costs | $ | 2,451,209.00 |

**Detailed Description of Contract**

Development of the 2026 Regional Water Plan - Region C

**Detailed Description of Amendment**

Increases committed funds for FY24-25 and increases total project cost. Amends SOW, task and expense budget, and Exh C.

**Procurement & Contract Services**

**Vendor Checks**

| *Please Initial each Item* | | |
|---|---|---|
| MA | USAS (PYADDR/PYHOLD) | |
| MA | Franchise Tax Search | |
| MA | SAM Check | Expiration Date: |
| MA | Debarred Vendor List | |
| MA | Boycott Israel | |
| MA | Ties to Sudan/Iran/Foreign Terrorist Organizations/Designated Foreign Terrorist Org | |
| | W-9 Received (new contractor only-if applicable) | |

**Best Value Standard - Procurement Method (X method used)**

| Method | X | Announcement/Publication |
|---|---|---|
| RFQ/RFP/RFA/RFO | X | 580-21-RFA-0013 |
| Interagency/Local | | |
| Purchase | | |
| Receivable Grant | | |
| PCC CODE - For Finance Review | | |

If no PCC Code, DocType will be 9 and a legal cite is required.

Legal Cite:

## BUDGET USE ONLY

**TWDB SHARE**

| FUND (4-XXXX) | COBJ (4-XXXX) | MOF (3-XXX) | DEPT (4-XXXX) | PCA (5-XXXXX) | Work # (6-XXXXXX) | AY 2021-2022 | AY 2023 | AY 2024 | AY 2025 | Total | Funds Expire |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 4830 | 7613 | 00 | G710 | 21430 | E02011 | $ 694,875.50 | $ - | | | $ 694,875.50 | n/a |
| 4830 | 7613 | 00 | N910 | 21430 | E02011 | $ - | $ 417,029.50 | | | $ 417,029.50 | n/a |
| 4830 | 7613 | 00 | N910 | 30430 | E02011 | $ - | $ - | $669,652.00 | $669,652.00 | $ 1,339,304.00 | n/a |
| | | | | | | $ - | $ - | | $ - | $ - | |
| | | | | | | $ - | $ - | | $ - | $ - | |
| | | | | | | $ - | $ - | | $ - | $ - | |
| | | | | | | $ - | $ - | | $ - | $ - | |
| | | | | | | $ - | $ - | | $ - | $ - | |
| | | | | | TWDB Subtotal | $ 694,875.50 | $ 417,029.50 | $ 669,652.00 | $ 669,652.00 | $ 2,451,209.00 | |

**RECEIVABLE SHARE**

| FUND (4-XXXX) | COBJ (4-XXXX) | MOF (3-XXX) | DEPT (4-XXXX) | PCA (5-XXXXX) | Work # (6-XXXXXX) | AY 2021-2022 | AY 2023 | AY 2024 | AY 2025 | Total | Funds Expire |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | $ - | $ - | | $ - | $ - | |
| | | | | | | $ - | $ - | | $ - | $ - | |
| | | | | | | $ - | $ - | | $ - | $ - | |
| | | | | | | $ - | $ - | | $ - | $ - | |
| | | | | | | $ - | $ - | | $ - | $ - | |
| | | | | | | $ - | $ - | | $ - | $ - | |
| | | | | | | $ - | $ - | | $ - | $ - | |
| | | | | | | $ - | $ - | | $ - | $ - | |
| | | | | | | $ - | $ - | | $ - | $ - | |
| | | | | | | $ - | $ - | | $ - | $ - | |
| | | | | | | $ - | $ - | | $ - | $ - | |
| | | | | | | $ - | $ - | | $ - | $ - | |
| | | | | | Receivable Subtotal | $ - | $ - | | $ - | $ - | |
| | | | | | Contractor Subtotal | $ - | $ - | | $ - | $ - | |
| | | | | | **Contract Total** | **$ 694,875.50** | **$ 417,029.50** | **$ 669,652.00** | **$ 669,652.00** | **$ 2,451,209.00** | |

**APPROVAL SIGNATURES and CONFIRMATION OF COMPLIANCE WITH AGENCY POLICY & THE STATE OF TEXAS CONTRACT MANAGEMENT GUIDE**

***By signing this form, you are certifying that this contract packet and its contents meet with your approval***

| Contract Approval | Printed Name | | Signature | Date |
|---|---|---|---|---|
| Procurement & Contract Services | Cameron Turner | | | 10/17/2023 |
| Budget Director [and Budget Officer] | Perry Ball | EM EM | Perry Ball | 10/19/2023 |
| Contract Manager | Kevin Smith | | Kevin Smith | 10/18/2023 |
| Program Manager | Sarah Lee | | Sarah Lee | 10/17/2023 |
| Division Director | Temple McKinnon | | Temple McKinnon | 10/18/2023 |
| Legal Counsel | Kaye Schultz | | Kaye Schultz | 10/17/2023 |
| Accounting/Finance | Letty Molina | EE EE | Letty Molina | 10/18/2023 |
| Deputy Executive Administrator | Matt Nelson | | Matt Nelson | 10/19/2023 |
| Executive Administrator [or Designee] | Jeff Walker | AL AL | Amanda Lavin | 10/19/2023 |

**Business Unit:** 58000
**Requisition:** 0000001643
**Requisition Name:**
CONT_Amd2_2148302555_2024_RegC
**Requester:** 00010094077
**Requested By:** Ronald L Ellis
**Entered Date:** 9/20/23
**Status:** Approved
**Currency:** USD
**Requisition Total:** 669,652.00

**Header Comments:**
Contract amendment increases committed funds for FY24 and FY25. Requisition is for FY24 funds. New requisition will be routed in FY25.
Contract amendment increases committed funds for FY24 and FY25. Requisition is for FY24 funds. New requisition will be routed in FY25.

**Line:** 1 **Item Description:** Regional Water Planning Contract Amendment 2 Region C **Quantity:** 1.0000 **UOM:** EA **Price:** 669652.0000 **Line Total:** 669,652.00
**Line Status:** Approved

**Ship Line:** 1
**Attention:** Ronald L Ellis
**Ship Via:** VENDOR
**Ship To:** SFAHQ
**Due Date:**
**Freight Terms:**FOB DESTIN
**Address:**
1700 Congress Avenue
6th Floor - TWDB
Austin TX 78701
United States
**Shipping Quantity:** 1.0000
**Shipping Total:** 669,652.00

| Dist | Status | Location | Qty | PCT | Amount | GL Unit | Account |
|---|---|---|---|---|---|---|---|
| 1 | Open | SFAHQ | 1.0000 | 100.00 | 669,652.00 | 58000 | 7613 |

| Dept | Fund | Program | Class | Budget Ref |
|---|---|---|---|---|
| N910 | 4830 | 00 | 30430 | 2024 |

| Open QTY | PC BU | Project | Open Amt |
|---|---|---|---|
| 1.0000 | 58000 | E02011 | 0.0000 |

| GL Base Amount | Currency | Sequence | Capitalize |
|---|---|---|---|
| 669,652.00 | USD | 0 | N |

| Chartfield 2 |
|---|
| 7613 |

TWDB Contract No. 2148302555

STATE OF TEXAS

TRAVIS COUNTY

TEXAS WATER DEVELOPMENT BOARD

and

TRINITY RIVER AUTHORITY

AMENDMENT NO. 2

This Contract, executed on July 14, 2021 and amended on October 17, 2022, is hereby amended as follows:

1. SECTION I, ARTICLE I, Paragraph C, COMMITTED FUNDS, is increased by $1,339,304.00, bringing the total COMMITTED FUNDS to $2,451,209.00.

2. SECTION I, ARTICLE I, Paragraph U, TOTAL PROJECT COST, the not to exceed cost is increased to $2,786,035.00.

3. SECTION I, ARTICLE II, Paragraph D, is added as follows:

   D. A total of $669,652.00 identified as Committed Funds under SECTION I, ARTICLE I, Paragraph C will not become available until September 1, 2024.

4. SECTION II, ARTICLE II, Paragraph A, is replaced with the following:

   A. CONTRACTOR must develop a TECHNICAL MEMORANDUM, INITIALLY PREPARED REGIONAL WATER PLAN, and REGIONAL WATER PLAN for the REGIONAL WATER PLANNING AREA according to:

      1. Exhibit A – Second Amended Scope of Work
      2. Exhibit B – Second Amended Task and Expense Budgets
      3. Exhibit C – Second Amended General Guidelines for Development of the 2026 Regional Water Plans[1]
      4. Exhibit D – Guidelines for 2026 Regional Water Plan Data Deliverables[1]
      5. Exhibit E – Original Application (cover pages as a reference to the full, original grant application)

[1] Exhibit C, Second Amended General Guidelines for Development of the 2026 Regional Water Plans and Exhibit D, Guidelines for 2026 Regional Water Plan Data Deliverables, will be posted on the TWDB website at: https://www.twdb.texas.gov/waterplanning/rwp/planningdocu/2026/documents.asp. The RWPGs must utilize the latest version posted on the website.

5. Exhibit A, First Amended Scope of Work, is replaced with, Second Amended Scope of Work. Replacement exhibits are attached.

6. Exhibit B, First Amended Task and Expense Budgets, is replaced with, Second Amended Task and Expense Budgets. Replacement exhibits are attached.

7. Exhibit C, First Amended General Guidelines for Development of the 2026 Regional Water Plans, will be revised and placed on the TWDB website and denoted as Second Amended General Guidelines for Development of the 2026 Regional Water Plans.

All other terms and conditions of TWDB Contract No. 2148302555 remain the same in full force.

IN WITNESS WHEREOF, the parties hereto cause this Amendment to be duly executed.

| TEXAS WATER DEVELOPMENT BOARD | TRINITY RIVER AUTHORITY |
|---|---|
| By: Amanda Lavin | By: J. Kevin Ward |
| Jeff Walker<br>Executive Administrator | J. Kevin Ward<br>General Manager |
| Date: 10/19/2023 | Date: 10/19/2023 |

**Exhibit A**

# Second Amended Scope of Work

# 2026 Regional Water Plans

September 2023

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# Table of Contents[1]



[1] Requirements for each task are further explained in the *Second Amended General Guidelines for Development of the 2026 Regional Water Plans*.

## Task 1- Planning Area Description

The objective of this task is to prepare a standalone chapter (in accordance with 31 Texas Administrative Code (TAC) §357.22(b)) to be included in the 2026 Regional Water Plan (RWP) that describes the regional water planning area (RWPA).

In addition to generally meeting all applicable rules and statute requirements governing regional and state water planning under 31 TAC Chapters 357 and 358, this portion of work must include all work necessary to meet all the requirements of 31 TAC §357.30.

**This Task includes, but is not limited to, performing all work in accordance with Texas Water Development Board (TWDB) rules and guidance required to:**

1. Designate major water providers (MWP) in the RWPA for planning purposes.
2. Identify wholesale water providers (WWP) in the RWPA for planning purposes.
3. Review and summarize relevant existing planning documents in the region including those that have been developed since adoption of the previous regional water plan. Documents to be summarized include those referenced under 31 TAC §357.22.
4. Prepare a chapter that describes the RWPA including the following:
    a. social and economic aspects of a region such as information on current population, economic activity and economic sectors heavily dependent on water resources;
    b. current water use and major water demand centers;
    c. current groundwater, surface water, and reuse supplies including major springs that are important for water supply or protection of natural resources;
    d. MWPs;
    e. agricultural and natural resources;
    f. identified water quality problems;
    g. identified threats to agricultural and natural resources due to water quantity problems or water quality problems related to water supply;
    h. summary of existing local and regional water plans;
    i. the identified historic drought(s) of record within the planning area;
    j. current preparations for drought within the RWPA;
    k. information compiled by the TWDB from water loss audits performed by Retail Public Utilities pursuant to 31 TAC §358.6 (relating to Water Loss Audits); and
    l. an identification of each threat to agricultural and natural resources and a discussion of how that threat will be addressed or affected by the water management strategy (WMS) evaluated in the plan.
5. Disseminate the chapter document and related information to regional water planning group (RWPG) members for review.
6. Modify the chapter document based on RWPG, public, and/or agency comments.
7. Submit the chapter document to the TWDB for review and approval.
8. Make all efforts required to obtain final approval of the regional water plan (RWP) chapter by the TWDB.

**Deliverables:** A completed Chapter 1 describing the RWPA must be included in the Initially Prepared Plan (IPP) and final 2026 RWP.

## Task 2A - Non-Municipal Water Demand Projections

The objective of this task is to prepare a chapter (in accordance with 31 TAC §357.22(b)) to be combined with Task 2B and included in the 2026 RWP that describes the projected population and water demands in the RWPA.

In addition to generally meeting all applicable rules and statute requirements governing regional and state water planning under 31 TAC Chapters 357 and 358, this portion of work must include all work necessary to meet all the requirements of 31 TAC §357.31.

TWDB staff will develop draft non-municipal water demand projections for 2030-2080 for all water demand categories unrelated to population (mining, manufacturing, irrigation, steam-electric power, and livestock) based on the most recent TWDB historical water use estimates. The same methodologies used for the 2022 State Water Plan will be applied to the 2027 State Water Plan projections, except for mining demands. The draft mining demand projections will be prepared based on an updated methodology to be developed by the Bureau of Economic Geology through a contracted mining water use study funded by the United States Geological Survey.

TWDB staff will provide draft water demand projections for all associated non-municipal water user group (WUG) to the RWPGs for their review and input.

Each RWPG will review the draft projections and may provide input to the TWDB or request specific changes to the draft projections from TWDB along with justifications and supporting data as specified in the guidance document *Second Amended General Guidelines for Development of the 2026 Regional Water Plans.* The emphasis of this effort will be on identifying appropriate revisions based on relevant changed conditions that have occurred since the development of the projections used in the 2022 State Water Plan.

If adequate justification is provided by the RWPG to the TWDB, draft water demand projections may be adjusted by the TWDB in consultation with the Texas Department of Agriculture, Texas Commission on Environmental Quality, and Texas Parks and Wildlife Department. Once RWPG input and requested changes are considered, final water demand projections will be adopted by the TWDB's governing Board (Board). The adopted projections will then be provided to each RWPG. Planning groups must use the Board-adopted projections when preparing their RWPs.

TWDB will directly populate the state water planning database (DB27) with all WUG-level projections and make related changes to DB27 based on Board-adopted projections.

**This Task includes, but is not limited to, performing all work in accordance with TWDB rules and guidance required to:**

1. Receive and make publicly available the draft non-municipal water demand projections provided by the TWDB.
2. Evaluate draft non-municipal water demand projections provided by the TWDB.
3. Review comments received from local entities and the public for compliance with TWDB requirements.
4. Prepare detailed feedback on draft non-municipal water demand projections, as necessary, including justification and documentation supporting requested changes from the RWPG and/or local entities with a focus on relevant changed conditions that have occurred since the development of the projections used in the 2022 State Water Plan.
5. Submit numerical requests for revisions of draft non-municipal water demand projections in an electronic tabular template provided by the TWDB along with required documentation and justification of requested revisions from the RWPG, based on, for example, requests received from local entities, in accordance with the contract guidance

document *Second Amended General Guidelines for Development of the 2026 Regional Water Plans.*

6. Communicate and/or meet with TWDB staff and/or local entities requesting revisions, as necessary.
7. Assist the TWDB, as necessary, in resolving final allocations of water demands to WUGs to conform with any control totals defined by the TWDB, for example, by county and/or region.
8. Prepare non-municipal water demand projection summaries for WUGs using final, Board-adopted projections to be provided by the TWDB, as necessary, and incorporate into any Technical Memorandum, IPP, and final RWP. Any RWPG-created data tables should match the appropriate final data as reported by DB27.
9. Modify any associated non-municipal water demand projections for MWPs, as necessary based on final, Board-adopted WUG water demand projections.
10. Review the TWDB *Water Demand* report(s) from DB27 and incorporate these agency planning database report(s) (including as populated by the RWPG consultant), unmodified, into the Technical Memorandum. The IPP and final RWP must incorporate these standard TWDB DB27 reports, by reference, as part of the regional water plan by including links to TWDB Database Reports application and inform the reader that the report may be accessed via that application.
11. Update WWP contractual obligations to supply water to other entities and report this information along with projected demands, including within DB27 and within any planning memorandums or reports, as appropriate.
12. Review aggregated water demand projections for MWPs provided by the TWDB. This will include retail demand data if the MWP is a WUG, and contract demand data based on data entered by the planning group into DB27 if the MWP is a WWP.
13. Summarize and present projected water demands for MWPs by category of use for each planning decade and incorporate this table into the IPP and final RWP.
14. Disseminate the chapter document and related information to RWPG members for review.
15. Modify the chapter document based on RWPG, public, and/or agency comments.
16. Submit the chapter document to the TWDB for review and approval; and
17. Make all efforts required to obtain final approval of the RWP chapter by the TWDB.

**Deliverables:** A completed Chapter 2 (including work from both Tasks 2A and 2B) presenting the projected population and water demands must be included in the IPP and final 2026 RWP.

## Task 2B - Population and Municipal Water Demand Projections

The objective of this task is to prepare a chapter (in accordance with 31 TAC §357.22(b)) to be combined with Task 2A and included in the 2026 RWP that describes the projected population and water demands in the RWPA.

In addition to generally meeting all applicable rules and statute requirements governing regional and state water planning under 31 TAC Chapters 357 and 358, this portion of work must include all work necessary to meet all the requirements of 31 TAC §357.31.

TWDB staff will prepare a new municipal WUG entity list including collective reporting units for each RWPG based on the WUG criteria under 31 TAC §357.10(43) with associated historical population and water use estimates and Gallons Per Capita Daily (GPCD) and provide them to RWPGs for their review and input.

RWPGs will then review the draft municipal WUG list and historical population and water use and provide input to the TWDB or request specific changes to the WUG list including water systems included in collective reporting unit list and changes/corrections to historical population, water use estimates, or GPCDs.
Once the municipal WUG list is finalized TWDB staff will develop draft population and associated municipal water demand projections for 2030-2080 for all municipal WUGs using data based on the 2020 decennial Census, updated county-level population projections from the Texas Demographic Center, and historical population and water use estimates and growth.

TWDB staff will provide draft population projections and associated water demand projections for all municipal WUGs based on utility service boundaries to RWPGs for their review and input. If adequate justification is provided by the RWPGs to the TWDB, draft population and/or municipal water demand projections may be adjusted by the TWDB in consultation with Texas Department of Agriculture, Texas Commission on Environmental Quality, and Texas Parks and Wildlife Department. Once planning group input and requested changes are considered, final population and associated municipal water demand projections will be adopted by the Board. The adopted projections, based on utility service areas, will be provided to RWPGs. RWPGs must use the Board-adopted projections when preparing their RWPs.

TWDB will directly populate DB27 with all WUG-level projections and make related changes to DB27 if revisions are made.

**This Task includes, but is not limited to, performing all work in accordance with TWDB rules and guidance required to:**

1. Receive and review a draft municipal WUG entity list and detailed public water system list within each collective reporting unit provided by the TWDB and submit identified corrections to WUG-water systems relations or WUG names to the TWDB. Once finalized, the municipal WUG entity list will be populated into DB27.
2. Receive and review historical population and water use estimates and GPCDs provided by the TWDB and submit identified corrections to the TWDB.
3. Receive and make publicly available the draft population and associated municipal water demand projections provided by the TWDB that are based on utility service areas.
4. Evaluate draft population, GPCDs, Plumbing Code Savings (PC Savings) and associated municipal water demand projections provided by the TWDB.
5. Review and summarize comments received from local entities and the public for compliance with TWDB requirements.
6. Provide detailed revision requests to the TWDB for population, GPCDs, PC Savings and associated municipal water demand projections, as necessary, including justification and documentation supporting suggested changes with a focus on relevant changed conditions that have occurred since the development of the projections used in the 2022 State Water Plan.
7. Submit numerical requests for revisions of draft population, GPCDs, PC Savings and municipal water demand projections in an electronic tabular template provided by the TWDB along with required documentation and justification of requested revisions from the RWPG, based on, for example, requests received from local entities, in accordance with the contract guidance document *Second Amended General Guidelines for Development of the 2026 Regional Water Plans.*
8. Communicate and/or meet with TWDB staff and/or local entities requesting revisions, as necessary.

9. Assist the TWDB, as necessary, in resolving final allocations of population and municipal water demands to WUGs to conform with any control totals defined by the TWDB, for example, by county and/or region.
10. Prepare population and municipal water demand projection summaries for WUGs using final, Board-adopted projections to be provided by the TWDB, as necessary, and incorporate into any Technical Memorandum, IPP, and final RWP. Any RWPG-created data tables must match the appropriate final data as reported by DB27.
11. Modify any associated population and municipal water demand projections for MWPs, as necessary based on final, Board-adopted WUG population and water demand projections.
12. Review the TWDB *Population and Water Demand* reports from DB27 and incorporate these agency planning database report(s) (including as populated by the RWPG consultant), unmodified, into the Technical Memorandum. The IPP and final RWP must incorporate these standard TWDB DB27 reports, by reference, as part of the regional water plan by including links to TWDB Database Reports application and inform the reader that the report may be accessed via that application.
13. Update WWP contractual obligations to supply water to other entities and report this information along with projected demands including within DB27 and within any planning memorandums or reports, as appropriate.
14. Review aggregated water demand projections for MWPs provided by the TWDB. This will include retail demand data if the MWP is a WUG, and contract demand data based on data entered by the RWPG, into DB27 if the MWP is a WWP.
15. Summarize and present projected water demands for MWPs by category of use for each planning decade and incorporate this table into the IPP and final RWP.
16. Disseminate the chapter document and related information to RWPG members for review.
17. Modify the chapter document based on RWPG, public, and/or agency comments.
18. Submit the chapter document to the TWDB for review and approval.
19. Make all efforts required to obtain final approval of the RWP chapter by the TWDB.

**Deliverables:** A completed Chapter 2 (including work from both Tasks 2A and 2B) presenting the projected population and water demands must be included in the IPP and final 2026 RWP.

## Task 3 - Water Supply Analysis

The objective of this task is to prepare a chapter (in accordance with 31 TAC §357.22(b)) to be included in the 2026 RWP that documents the evaluation of the region's source availability and existing water supplies.

In addition to generally meeting all applicable rules and statute requirements governing regional and state water planning under 31 TAC Chapters 357 and 358, this portion of work must include all work necessary to meet all the requirements of 31 TAC §357.32.

This task involves updating or adding groundwater, surface water, reuse, and other water source availability estimates, and existing WUG and WWP water supplies that were included in the 2021 RWP, in accordance with methodology described in Section 2.3 of the *Second Amended General Guidelines for Development of the 2026 Regional Water Plans* for estimating surface water, groundwater, systems, reuse, and other supplies during drought of record conditions. All water availability and water supply estimates will be extended through 2080. This task also includes all work required to coordinate with other planning regions to develop and allocate estimates of water availability and existing water supplies.

**This Task includes, but is not limited to, performing all work in accordance with TWDB rules and guidance required to:**

## A. Estimate Surface Water Availability and Existing WUG and WWP Surface Water Supplies

1. Select hydrologic assumptions, models, and operational procedures for modeling the region's river basins and reservoirs using the most current TCEQ Water Availability Models (WAMs) in a manner appropriate for assessment of existing surface water supply and regional water planning purposes. Reservoir systems[2] and their yields must be modeled in accordance with the *Second Amended General Guidelines for Development of the 2026 Regional Water Plans.*
2. Obtain TWDB Executive Administrator approval of hydrologic assumptions or models and for any variations from modeling requirements in the *Second Amended General Guidelines for Development of the 2026 Regional Water Plans.*
3. As necessary and appropriate, modify or update associated WAMs or other models to reflect recent changes to permits, transfers, legal requirements, new water rights, and/or specified operational requirements. Note that incorporating anticipated sedimentation into firm yield analyses is a required modification that does not require a hydrologic variance approval from the Executive Administrator.
4. Assign available water supplies, as appropriate, to WUGs and WWPs including conducting supply analyses for WWPs.
5. Apply the TCEQ WAMs, as modified and approved by TWDB, and/or other appropriate models to quantify firm yield for major reservoirs, reservoir systems, and firm diversion for run-of-river water rights, as determined on at least a monthly time-step basis. Reservoir firm yield must be quantified based on the most recent measured capacity and estimated capacity in year 2080.
6. Evaluate TCEQ Water System Data Reports[3] from the Drinking Water Watch or Safe Drinking Water Information System (SDWIS) website for municipal WUGs that use surface water and identify any physical constraints limiting existing water supplies to WUGs and/or WWPs. Consider constraints that limit delivering treated water to WUGs. Other information that the RWPGs collect, for example, survey results, may be included in the evaluation of infrastructure capacity or limitations in delivering treated water to WUGs.
7. Update information on WWP contractual obligations to supply water to other entities in DB27. Unless the RWPG considers it unlikely that a specific contract will be renewed, water supplies based on contractual agreements must be assumed to renew at the contract termination date, for example, if the contract provides for renewal or extensions. Report this information within any planning memorandums or reports, as appropriate.
8. Based on the source water availability, existing infrastructure capacity, and associated physical, operational, and legal limitations, determine the existing surface water supply available from each surface water source to each WUG and WWP (including newly identified WUGs and WWPs) during a drought of record.
9. Complete and update all required data elements for DB27 through the web interface.
10. Compile firm yield and diversion information by source, WUG, WWP, county, river basin, and planning region as necessary to obtain decadal estimates of existing surface water supply throughout the planning period. This will be facilitated by *TWDB DB27 Source Availability* and associated *TWDB DB27 WUG Existing Water Supply* reports using data

[2] Reservoir systems must be approved by TWDB and identified as such in DB27.
[3] Available from TCEQ at http://dww2.tceq.texas.gov/DWW/.

provided by RWPGs and made available to all RWPGs through the TWDB Database Reports application.

11. Review the TWDB *Source Availability and WUG Existing Water Supply* reports from DB27 and incorporate these agency planning database report(s) (including as populated by the RWPG consultant), unmodified, into the Technical Memorandum. The IPP and final RWP must incorporate these standard TWDB DB27 reports, by reference, as part of the regional water plan by including links to TWDB Database Reports application and inform the reader that the report may be accessed via that application.
12. Prepare summaries of water availability by source and incorporate into any Technical Memorandum, IPP, and final RWP.
13. Prepare summaries of existing supplies for WUGs and incorporate into any Technical Memorandum, IPP, and final RWP.
14. Summarize and present existing water supplies for MWPs by category of use for each planning decade and incorporate this table into the IPP and final RWP.

**B. Estimate Groundwater Availability and Existing WUG and WWP Groundwater Supplies:**

1. Obtain and review the modeled available groundwater (MAG) volumes that are developed by TWDB based on the desired future conditions (DFCs) adopted by groundwater management areas (GMAs). Note that MAG volumes for each aquifer will be entered into DB27 directly by the TWDB, including as split into discrete geographic-aquifer units by: Aquifer; County; River Basin; and Region.
2. In RWPAs in which no Groundwater Conservation District (GCD) exists[4], develop RWPG-estimated groundwater availability for Board review and approval prior to inclusion in the IPP[5] and in accordance with the *Second Amended General Guidelines for Development of the 2026 Regional Water Plans.*
3. Develop RWPG-estimated groundwater availability for aquifers or portions of aquifers that do not have a DFC or associated MAG. Consider the impacts of the annual MAG volumes on the RWP including how it impacts existing water supplies.
4. In areas with GCDs, obtain GCD Management Plans and GCD information[6] to be considered when estimating existing supplies and water management strategies under future tasks. Attend GCD and/or GMA meetings as necessary.
5. Assign available water supplies, as appropriate, to WUGs and WWPs including conducting supply analyses for WWPs.
6. Select hydrologic and other assumptions for distribution of available groundwater for potential future use by WUGs (e.g., via a pro-rationing policy) as existing supply based on models and operational procedures appropriate for assessment of water supply and regional water planning purposes. A specific hydrologic variance request, in accordance with the *Second Amended General Guidelines for Development of the 2026 Regional Water Plans,* is required to utilize a MAG Peak Factor to accommodate temporary increases in existing annual availability for planning purposes.
7. Evaluate TCEQ Water System Data Reports[7] from the Drinking Water Watch or SDWIS website for municipal WUGs using groundwater and identify any physical constraints limiting existing water supplies to WUGs and/or WWPs. Limitations to be considered based

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[4] Related to 84(R) SB 1101 requirements. As of September 2023, these requirements only apply to the North East Texas (Region D) RWPG, as it is the only region currently in the state with no GCDs in its RWPA.
[5] 31 TAC §357.32(d)(2).
[6] https://www.twdb.texas.gov/groundwater/index.asp
[7] Available from TCEQ at http://dww2.tceq.texas.gov/DWW/

on delivering treated water to WUGs. Other information that the RWPGs collect, for example, survey results, may be included in the evaluation of infrastructure capacity or limitations in delivering treated water to WUGs.

8. Update information on WWP contractual obligations to supply water to other entities in DB27. Unless the RWPG considers it unlikely that a specific contract will be renewed, water supplies based on contractual agreements shall be assumed to renew at the contract termination date, for example, if the contract provides for renewal or extensions. Report this information within any planning memorandums or reports, as appropriate.
9. Compile and/or update information regarding acquisitions of groundwater rights, for example, for transfer to municipal use, and account for same in the assessment of both availability and existing groundwater supplies.
10. Based on the source water availability, existing infrastructure capacity, and associated physical, operational, and legal limitations, determine the existing groundwater supply available from each water source to each WUG and WWP (including newly identified WUGs and WWPs) during a drought of record.
11. Complete and update all required data elements for DB27 through the web interface in accordance with the *Guidelines for 2026 Regional Water Planning Data Deliverables*.
12. Compile groundwater availability information by source, WUG, WWP county, river basin, and planning region as necessary to obtain decadal estimates of supply throughout the planning period. This will be facilitated by *TWDB DB27 Source Availability* and associated *TWDB DB27 WUG Existing Water Supply* reports using data provided by RWPGs and made available to all RWPGs through the TWDB Database Reports application
13. Review the TWDB *Source Availability and WUG Existing Water Supply* reports from DB27 and incorporate these agency planning database report(s) (including as populated by the RWPG consultant), unmodified, into the Technical Memorandum. The IPP and final RWP must incorporate these standard TWDB DB27 reports, by reference, as part of the regional water plan by including links to TWDB Database Reports application and inform the reader that the report may be accessed via that application.
14. Prepare summaries of water availability by source and incorporate into any Technical Memorandum, IPP, and final RWP.
15. Prepare summaries of existing supplies for WUGs and incorporate into any Technical Memorandum, IPP, and final RWP.
16. Summarize and present existing water supplies for MWPs by category of use for each planning decade and incorporate this table into the IPP and final RWP.

**C. Estimate System, Reuse, and Other Types of Existing Supplies:**

1. Integrate firm water supplies for WUGs using a system of supply sources (e.g., surface water, storage, and groundwater).
2. Research and quantify existing supplies and commitments of treated effluent through direct and indirect reuse.
3. Compile system, reuse, and other availability information by source, WUG, WWP, county, river basin, and planning region as necessary to obtain decadal estimates of supply throughout the planning period.
4. Assign available water supplies, as appropriate, to WUGs and WWPs including conducting demand analyses for WWPs.
5. Identify and sub-categorize existing sources in DB27 to extract unique sources. For example, in addition to surface water, groundwater, and reuse, further clarify the source types in DB27 to subcategorize other specific water sources, such as desalinated groundwater or desalinated surface water, and seawater desalination, and any other supply types that are connected supplies.

6. Identify any physical constraints limiting delivery of treated supplies to WUGs and/or WWPs including based on TCEQ Water System Data Reports[8]. Other information that the RWPGs collect, for example, survey results, may be included in the evaluation of infrastructure capacity or limitations in delivering treated water to WUGs.
7. Update information on WWP contractual obligations to supply water to other entities in DB27. Unless the RWPG considers it unlikely that a specific contract will be renewed, water supplies based on contractual agreements shall be assumed to renew at the contract termination date, for example, if the contract provides for renewal or extensions. Report this information within any planning memorandums or reports, as appropriate.
8. Based on the source water availability, existing infrastructure capacity, and associated physical, operational, and legal limitations, determine the existing system, reuse, and other water supplies available from each water source to each WUG and WWP (including newly identified WUGs and WWPs) during a drought of record.
9. Complete and update all required data elements for DB27 through the web interface.
10. Compile these supplies by source, WUG, WWP, county, river basin, and planning region as necessary to obtain decadal estimates of existing surface water supply throughout the planning period. This will be facilitated by *TWDB DB27 Source Availability* and associated *TWDB DB27 WUG Existing Water Supply* reports using data provided by RWPGs and made available to all RWPGs through the TWDB Database Reports application.
11. Review the TWDB *Source Availability and WUG Existing Water Supply* reports from DB27 and incorporate these agency planning database report(s) (including as populated by the RWPG consultant), unmodified, into the Technical Memorandum. The IPP and final RWP must incorporate these standard TWDB DB27 reports, by reference, as part of the regional water plan by including links to TWDB Database Reports application and inform the reader that the report may be accessed via that application.
12. Prepare summaries of water availability by source and incorporate into any Technical Memorandum, IPP, and final RWP.
13. Prepare summaries of existing supplies for WUGs and incorporate into any Technical Memorandum, IPP, and final RWP.
14. Summarize and present existing water supplies for MWPs by category of use for each planning decade and incorporate this table into the IPP and final RWP.

**D. Additional Task 3 Requirements:**

1. In addition to submitting all electronic model input/output files used in determining water availability (in sufficient detail for another party to replicate the resulting availability estimates that are incorporated into the plan), the Technical Memorandum, IPP, and final RWP must include a table summarizing the details of any hydrologic models used, including the model name, version date, model input/output files used, date model run, and any relevant comments
2. Disseminate the chapter document and related information to RWPG members for review.
3. Modify the chapter document based on RWPG, public, and/or agency comments.
4. Submit the chapter document to the TWDB for review and approval.
5. Make all efforts required to obtain final approval of the RWP chapter by the TWDB.

**Deliverables:** A completed Chapter 3 presenting the region's water availability and supplies must be included in the IPP and final 2026 RWP.

[8] Available from TCEQ at http://dww2.tceq.texas.gov/DWW/

## Task 4A - Water Needs Analysis

The objective of this task is to prepare a chapter (in accordance with 31 TAC §357.22(b)) that presents the water supply needs (i.e., potential shortages) for the planning area.

In addition to generally meeting all applicable rule and statute requirements governing regional and state water planning under 31 TAC Chapters 357 and 358, this portion of work must include all work necessary to meet all the requirements of 31 TAC §357.33.

Based upon updated projections of existing water supply and projected water demands under Tasks 2 and 3, and the associated data entered into DB27, the TWDB will automatically update computations of identified water needs (potential shortages) by WUGs and WUG customers of WWPs as decadal estimates of needs by county, river basin, and planning region. The results of this computation will be made available to all RWPGs through the TWDB Database Reports application and is considered the base, identified 'water need' that must be reported in the regional (and state water plan). A secondary needs analysis will be calculated by TWDB based on DB27 for all WUGs and WWPs for which conservation or direct reuse water management strategies are recommended.

Regions may also request additional, unique water needs analysis (e.g., for a WWP) that the RWPG considers warranted. Such reports will be provided by TWDB, if feasible based on the DB27 constraints and TWDB resources.

**This Task includes, but is not limited to, performing all work in accordance with TWDB rules and guidance required to:**

1. Calculate and report the water needs for MWPs. Supporting data to assist the RWPGs analysis of identifying MWP needs may be requested from the TWDB. The RWPG will need to enter or provide any additional data into DB27 that may be necessary to develop these evaluations.
2. Review the TWDB *WUG Needs/Surplus* report from DB27 and incorporate this agency planning database report(s) (including as populated by the RWPG consultant), unmodified, into the Technical Memorandum. The IPP and final RWP must incorporate the TWDB *WUG Needs/Surplus and WUG Second-Tier Identified Water Need* reports from DB27 by reference, as part of the regional water plan by including links to TWDB Database Reports application and inform the reader that the report may be accessed via that application.
3. Prepare summaries of identified needs for WUGs and incorporate into any Technical Memorandum, IPP, and final RWP.
4. Summarize and present the RWPG-identified water needs for MWPs by category of use for each planning decade into the IPP and final RWP.
5. Summarize and present a secondary needs analysis for each MWP by decade.
6. Disseminate the chapter document and related information to RWPG members for review.
7. Modify the chapter document based on RWPG, public, and/or agency comments.
8. Submit the chapter document to the TWDB for review and approval.
9. Make all efforts required to obtain final approval of the RWP chapter by the TWDB.

**Deliverables:** A completed Chapter 4 presenting RWPG water supply needs must be included in the IPP and final 2026 RWP.

## Task 4B – Identification of Infeasible Water Management Strategies in the previously adopted 2021 Regional Water Plan

The objective of this task is to conduct a one-time, mid-cycle analysis of the *previous* RWP to identify any newly infeasible WMSs and water management strategy projects (WMSP) that were feasible and recommended at the time of the adoption of the *previous* RWP but which have since become infeasible and must be modified or amended out of the previous RWP.[9]

In addition to generally meeting all applicable rule and statute requirements governing regional and state water planning under 31 TAC Chapters 357 and 358, this portion of work must include all work necessary to meet all the requirements of 31 TAC §357.12(b)-(c) and 31 TAC §357.45.

**This Task includes, but is not limited to, performing all work in accordance with TWDB rules and guidance required to:**

1. Review WMSs and WMSPs in the previous RWP and coordinate with project sponsors to determine implementation status and determine infeasibility, when applicable.
2. Present the results of the analysis, including documentation of the region's process for determining infeasible WMSs and WMSPs, at a RWPG meeting subject to a 14-day notice in accordance with 31 TAC §357.21(g)(2). These results must be presented at the same meeting where the RWPG presents its process for identifying potentially feasible WMSs in the current plan under Task 5A.
3. Include a list of identified WMSs and WMSPs that were recommended in the previous RWP but which are no longer considered feasible in the Technical Memorandum developed and submitted under Task 4C.
4. Amend the previous RWP to modify and/or remove any WMSs or WMSPs that were determined to be infeasible in accordance with existing amendment procedures outlined in 31 TAC §357.51.
5. If applicable or required, identify and evaluate a new WMS or WMSP that would be needed to meet the identified water need that had been met by the WMS or WMSP that is going to be removed due to infeasibility.
6. The previous RWP may be amended to:
    a. remove an infeasible WMS or WMSP;
    b. revise an infeasible WMS or WMSP to make the WMS or WMSP feasible; and/or
    c. incorporate a new WMS or WMSP to address the identified water need previously met by an infeasible WMS or WMSP that was removed due to infeasibility.
7. The RWPG must submit the RWPG adopted amendments associated with this task to the TWDB no later than three (3) months following the due date of the Technical Memorandum.

## Task 4C – Technical Memorandum

The objective of this task is to prepare a Technical Memorandum.

**This Task includes, but is not limited to, performing all work in accordance with TWDB rules and guidance required to:**

1. Prepare a concise Technical Memorandum in accordance with 31 TAC §357.12(c) and including content specified in Section 2.12.1 of the *Second Amended General Guidelines for Development of the 2026 Regional Water Plans.*
2. Disseminate the Technical Memorandum to RWPG members for review.

[9] Per Senate Bill 1511 85th Texas Legislature.

3. Approve submittal of the Technical Memorandum to TWDB at a RWPG meeting subject to a 14 day notice in accordance with 31 TAC §357.21(g)(2). The Technical Memorandum must be submitted to TWDB by the deadline listed in Section I Article I of the contract.

## Task 5A – Identification of Potentially Feasible Water Management Strategies and Projects

The objective of this task is to identify potentially feasible WMS and WMSPs to meet identified needs in the planning area and to prepare a chapter (in accordance with 31 TAC §357.22(b)) to be combined with Task 5B and 5C and included in the 2026 RWP that identifies, evaluates, and recommends WMSs and management strategy projects (WMSP).

In addition to generally meeting all applicable rule and statute requirements governing regional and state water planning under 31 TAC Chapters 357 and 358, this portion of work must include all work necessary to meet all the requirements of 31 TAC §357.12 (b) and 31 TAC §357.34(a)(b)(c).

**This Task includes, but is not limited to, performing all work in accordance with TWDB rules and guidance required to:**

1. Revise and update documentation of the process used in the 2021 RWP to identify potentially feasible WMSs and WMSPs to meet a need.
2. Receive public comment at a RWPG meeting subject to a 14 day notice in accordance with 31 TAC §357.21(g)(2) on a proposed process to be used by the RWPG to identify potentially feasible WMSs for the 2026 RWP and receive planning group approval of the process.
3. Document the process of identifying potentially feasible WMSs selected by the RWPG in the Technical Memorandum, the IPP, and final RWPs.
4. Consider the TWDB Water Loss Audit Report, conservation best management practices, and drought management when considering potentially feasible WMSs as required by rules.
5. Update relevant portions of the RWP summary of existing water supply plans for local and regional entities. This task requires obtaining and considering existing water supply plans. Include the updated summary in the IPP and final RWPs.
6. Consider existing planning efforts, programs, and goals in developing WMSs including those referenced under 31 TAC §357.22(a).
7. If no potentially feasible strategy can be identified for a WUG or WWP with a need, document the reason for this in the Technical Memorandum, IPP, and final RWPs.
8. Consider recent studies and describe any significant changes in WMSs described as being in the implementation phase in the 2026 RWP as well as any new projects in the implementation phase prior to adoption of the IPP.
9. Identify potential WMSs to meet needs for all WUGs and WWPs with identified needs.
10. Present a list of the potentially feasible WMSs, in table or list format, within the Technical Memorandum, IPP, and final RWPs.
11. Identify those potentially feasible WMSs, if any, included on the list above that, in addition to providing water supply, could potentially provide non-trivial flood mitigation[10] benefits or that might be the best potential candidates for exploring ways that they might be combined with flood mitigation features to leverage planning efforts to achieve potential cost savings or other combined water supply and flood mitigation benefits. The work

[10] The implementation of actions, including both structural and non-structural solutions, to reduce flood risk to protect against the loss of life and property (31 TAC §361.10(k)).

required to identify these WMSs will be based entirely on a high-level, qualitative assessment and should not require modeling or other additional technical analyses.

12. Prepare a region-specific scope of work for potential WMS evaluations after identifying water needs and identifying potentially feasible WMS. The proposed scope of work must be developed in accordance with the guidelines and template included in Section 2.5.6 of *Second Amended General Guidelines for Development of the 2026 Regional Water Plans* and if approved by the RWPG and TWDB the region-specific scope of work will be incorporated into Task 5B.

**Deliverables:** A completed subchapter of Chapter 5 (including work from Tasks 5A-5C) must be included in the IPP and final 2026 RWP.

## Task 5B – Evaluation and Recommendation of Water Management Strategies and Projects

The objective of this task is to evaluate and recommend WMSs and their associated WMSPs, and to prepare a separate chapter (in accordance with 31 TAC §357.22(b)) to be combined with Task 5A and 5C and included in the 2026 RWP that identifies, evaluates, and recommends WMSs and WMSPs. Work includes presenting alternative WMSs and WMSPs and includes all technical evaluations.

In addition to generally meeting all applicable rules and statute requirements governing regional and state water planning under 31 TAC Chapters 357 and 358, this portion of work must include all work necessary to meet all the requirements of 31 TAC §357.22(a), §357.34, and §357.35 that is not already included under Tasks 5A or 5C.

**Performance of work associated with any 5B subtasks will be <u>contingent upon a written notice-to-proceed in the form of a contract amendment.</u> This task includes, but is not limited to, performing all work in accordance with TWDB rules and guidance required to:**

1. Perform technical evaluations of all potentially feasible WMSs including previously identified or recommended WMSs and newly identified WMSs, including drought management and conservation WMSs; WMS and WMSP documentation must include a strategy description, discussion of associated facilities, project map, and technical evaluation addressing all considerations and factors required under 31 TAC §357.34(e)-(i) and §357.35. If an identified potentially feasible WMS is, at any point, determined to be not potentially feasible by the planning group and therefore not evaluated, the plan must provide documentation of why the WMS was not evaluated.
2. Include documentation of the RWPG's process for selecting recommended WMSs and associated WMSPs including development of WMS evaluations matrices and other tools required to assist the RWPG in comparing and selecting recommended WMSs and WMSPs. Include this documentation in the IPP and final RWP.
3. Consider water conservation plans and drought contingency plans from each WUG, as necessary, to inform WMS evaluations and recommendations.
4. Ensure necessary communication, coordination, and facilitation occurs within the RWPA and with other RWPGs to develop recommendations.
5. Update descriptions and associated technical analyses and documentation of any WMSs and WMSPs that are carried forward from the previous RWP to address:
    a. Changed conditions or project configuration.
    b. Changes to sponsor of WMS and WMSP(s).

   c. Updated costs (based on use of required costing tool[11]).
   d. Other changes that must be addressed to meet requirements of 31 TAC §357.34 and §357.35.
6. Assign all recommended WMS water supplies to meet projected needs of specific WUGs.
7. Document the evaluation and selection of all recommended WMS and WMSPs, including an explanation for why certain types of strategies (e.g., aquifer storage and recovery, seawater desalination, brackish groundwater desalination) may not have been recommended.
8. Determine whether the region has 'significant' identified water needs and if so, assess the potential for aquifer storage and recovery to meet those needs. The plan must include at a minimum, the methodology used by the planning group to determine what volume constitutes a 'significant' water need in their region.
9. Provide documentation of the implementation status, in a separate chapter subsection and in table format, of the status of certain recommended WMSs. *Second Amended General Guidelines for Development of the 2026 Regional Water Plans Section 2.5.2.7* outlines the required WMS types that implementation status must be provided for and outlines the required minimum table contents depicting key milestones.
10. Coordinate with sponsoring WUGs, WWPs, rural entities, and/or other resource agencies regarding any changed conditions in terms of projected needs, strategy modifications, planned facilities, market costs of water supply, endangered or threatened species, etc.
11. If TWC §11.085 applies to the proposed inter-basin transfer (IBT), determine the "highest practicable level" of water conservation and efficiency achievable (as existing conservation or proposed within a WMS) for each WUG or WWP WUG customer recommended to rely on a WMS involving the IBT. Recommended conservation WMSs associated with this analysis shall be presented by WUG.
12. Present the water supply plans in the RWP for each WUG and WWP relying on the recommended WMSs and WMSPs.
13. Consider alternative WMSs and WMSPs for inclusion in the plan. Alternative water management strategies must be fully evaluated in accordance with 31 TAC §357.34(e)-(i). Technical evaluations of alternative WMSs must be included in the plans and the data associated with alternative WMS must be entered into DB27.
14. Review the TWDB reports (report numbers 10-19) from DB27 and incorporate these agency planning database reports (including as populated final RWP must incorporate these standard TWDB DB27 reports, in the IPP and final RWP, by reference, as part of the regional water plan by including links to TWDB Database Reports application and inform the reader that the report may be accessed via that application.
15. Submit data through DB27 to include the following work:
   a. Review of the data.
   b. Confirm that data is accurate.
16. Disseminate the chapter document and related information to RWPG members for review.
17. Modify the chapter document based on RWPG, public, and/or agency comments.
18. Submit the chapter document to the TWDB for review and approval.
19. Make all efforts required to obtain final approval of the RWP chapter and associated DB27data by the TWDB.
20. *[REGION-SPECIFIC SCOPE OF WORK TO BE APPROVED AT FUTURE DATE BY TWDB EXECUTIVE ADMINISTRATOR PRIOR TO NOTICE-TO-PROCEED]*

[11] See Section 2.5.2.12 under 'Financial Costs' in *Second Amended General Guidelines for Development of the 2026 Regional Water Plans.*

***Scope of Work to be amended based on region-specific Task 5B scope of work to be developed and negotiated with TWDB. Work under Task 5B to be performed only after approval and incorporation of Task 5B scope of work amendment and written notice-to-proceed.***

**Deliverables:** A completed Chapter 5 (including work from Tasks 5A-5C) including technical analyses of all evaluated WMSs and WMSPs must be included in the IPP and final 2026 RWP. Data must be submitted and finalized through DB27 in accordance with the *Guidelines for 2026 Regional Water Planning Data Deliverables*.

## Task 5C – Conservation Recommendations

The objective of this task is to prepare a separate subchapter[12] of Chapter 5 that consolidates conservation-related recommendations, provides the region's GPCD goals, and provides model water conservation plans to be included in the 2026 RWP.

In addition to generally meeting all applicable rules and statute requirements governing regional and state water planning under 31 TAC Chapters 357 and 358, this portion of work must include all work necessary to meet all the requirements of 31 TAC §357.34(i).

Note that the evaluation of conservation WMSs and WMSPs should be performed under Task 5B and the region must receive a written notice-to-proceed associated with conservation WMSs under Task 5B.

**Work shall include but not be limited to the following:**

1. Consider water conservation plans from each WUG, as necessary, to inform conservation WMSs and other recommendations.
2. Develop water loss mitigation WMSs distinctly separate from water use reduction WMSs.
3. If applicable, explain the RWPG's basis for not recommending a conservation WMS for WUGs that had identified water needs.
4. If applicable, present what level of water conservation (as existing conservation or proposed within a WMS) is considered by the RWPG as the "highest practicable level" of water conservation for each WUG and WWP WUG customer that are dependent upon water management strategies involving inter-basin transfers to which TWC 11.085 applies.
5. Include model water conservation plans. Model water conservation plans may be referenced in this subchapter by using internet links instead of included in hard copy .
6. Recommend GPCD goals for each municipal WUG or specified groupings of municipal WUGs for each planning decade. GPCD goals must be based on drought conditions to align with guidance principles in §358.3
7. Disseminate the subchapter content and related information to RWPG members for review.
8. Modify the subchapter document based on RWPG, public, and/or agency comments.
9. Submit the subchapter as part of Chapter 5 to the TWDB for review and approval.
10. Make all efforts required to obtain final approval of the RWP subchapter by the TWDB.

**Deliverables:** A completed subchapter of Chapter 5 (including work from Tasks 5A-5C) must be included in the IPP and final 2026 RWP.

[12] This must be a separate subchapter as required by 31 TAC §357.34(j).

## Task 6 – Impacts of the Regional Water Plan and Consistency with Protection of Resources

The objective of this task is to prepare a separate chapter (in accordance with 31 TAC §357.22(b)) to be included in the 2026 RWP that describes the potential impacts of the RWP and how the plan is consistent with long-term protection of water resources, agricultural resources, and natural resources.

In addition to generally meeting all applicable rules and statute requirements governing regional and state water planning under 31 TAC Chapters 357 and 358, this portion of work must include all work necessary to meet all the requirements of 31 TAC §357.40 and §357.41.

**This Task includes, but is not limited to, performing all work in accordance with TWDB rules and guidance required to:**

1. Include a quantitative description of the socioeconomic impacts of not meeting the identified water needs. Upon request, TWDB will perform a socioeconomic analysis of the impacts of not meeting the identified water needs and update and summarize potential social and economic effects under this Task. This report will be provided to RWPGs as part of this Task and incorporated into the final RWPs.
2. If the RWPG chooses to develop its own socioeconomic analysis, the resulting socioeconomic report, with documented methodology, must be incorporated into the IPP and final RWP by the RWPG.
3. Include an evaluation of the estimated cumulative impacts of the RWP, for example on groundwater levels, spring discharges, bay and estuary inflows, and instream flows.
4. Describe the impacts of the RWP regarding all factors in §357.40(b).
5. Describe how the RWP is consistent with the long-term protection of resources in accordance with §357.41.
6. Review the TWDB *WUG Unmet Needs* report from DB27 and incorporate this agency planning database report (including as populated by the RWPG consultant) by reference, as part of the IPP and final RWP by including links to TWDB Database Reports application and inform the reader that the report may be accessed via that application.
7. Disseminate the chapter document and related information to RWPG members for review.
8. Modify the chapter document based on RWPG, public, and/or agency comments.
9. Submit the chapter document to the TWDB for review and approval; and
10. Make all efforts required to obtain final approval of the RWP chapter by the TWDB.

**Deliverables:** A completed Chapter 6 must be included in the IPP and final 2026 RWP.

## Task 7 – Drought Response Information, Activities, and Recommendations

The objective of this task is to prepare a separate chapter (in accordance with 31 TAC §357.22(b)) to be included in the 2026 RWP that: presents information regarding historical droughts and preparations for drought in the region; identifies triggers and responses to the onset of drought conditions in the region; evaluates potential emergency responses to local drought conditions; and includes various other drought-related evaluations and recommendations considered important by the RWPG.

In addition to generally meeting all applicable rules and statute requirements governing regional and state water planning under 31 TAC Chapters 357 and 358, this portion of work must include all work necessary to meet all the requirements of 31 TAC §357.42.

**This Task includes, but is not limited to, performing all work in accordance with TWDB rules and guidance required to:**

1. Consider existing plans, including those referenced under 31 TAC §357.22(a), in developing this chapter.
2. Collect information on previous and current responses to drought in the region including reviewing drought contingency plans received from each WUG.
3. Consider drought contingency plans from each WUG, as necessary, to inform WMS evaluations and recommendations and to determine which drought response efforts are unnecessary or counterproductive.
4. Coordinate and communicate, as necessary, with entities in the region to gather information required to summarize existing triggers and actions, identify existing and potential emergency interconnects, and to identify potential emergency response to local drought conditions or loss of existing supplies.
5. Summarize potentially feasible drought management WMS, recommended drought management WMS, and or alterative drought management WMSs, if any, associated with work performed under Task 5A and 5B.
6. If applicable, explain the RWPG's basis for not recommending drought management strategies for WUGs that had identified water needs.
7. Develop region-specific model drought contingency plans consistent with TCEQ requirements. Plans for municipal users must, at a minimum, identify triggers for and responses to the most severe drought response stages commonly referred as severe and critical/emergency drought conditions.
8. Summarize any other drought management measures recommended by the RWPG.
9. Include a separate chapter subsection that provides documentation of how the planning group addressed uncertainties in the RWP (if applicable), how the planning group addressed a drought worse than the DOR in the RWP (if applicable), and potential measures and responses that would likely be available to users in the region, in the event of a drought worse than the DOR. *Second Amended General Guidelines for Development of the 2026 Regional Water Plans Section 2.7.2* outlines the specific plan contents that must be included in the IPP and final RWP to meet this requirement.
10. Prepare tabular data as applicable for inclusion in chapter.
11. Disseminate the chapter document and related information to RWPG members for review.
12. Modify the chapter document based on RWPG, public, and/or agency comments.
13. Submit the chapter document to the TWDB for review and approval.
14. Make all efforts required to obtain final approval of the RWP chapter by the TWDB.

**Deliverables:** A completed Chapter 7 summarizing drought response information, activities, and recommendations must be included in the IPP and final 2026 RWP.

## Task 8 - Recommendations Regarding Unique Stream Segments and/or Reservoir Sites and Legislative & Regional Policy Issues

The objective of this task is to prepare a chapter (in accordance with 31 TAC §357.22(b)) that presents the RWPG's unique stream segment, unique reservoir site, legislative, administrative, and regulatory recommendations.

In addition to generally meeting all applicable rule and statute requirements governing regional and state water planning under 31 TAC Chapters 357 and 358, this portion of work must include all work necessary to meet all the requirements of 31 TAC §357.43 and §358.2.

**This Task includes, but is not limited to, performing all work in accordance with TWDB rules and guidance required to:**

1. Receive and consider TWDB feedback on the implementation of the RWPG's legislative, administrative, and regulatory recommendations, as applicable to the TWDB, in the previous RWP.
2. Receive and consider recommendations from the Interregional Planning Council to the RWPGs.
3. Consider relevant plans referenced under 31 TAC §357.22 in developing this chapter.
4. Consider and discuss potential recommendations for designation of ecologically unique stream segments within the RWPA, based on the criteria in 31 TAC §358.2.
5. If applicable, prepare a recommendation package following the requirements in 31 TAC §357.43(b) recommending which stream segments in the region, if any, should be recommended for designation as ecologically unique stream segments. Evaluate and incorporate comments from the RWPG. Upon approval by the RWPG, submit the recommendation package to the Texas Parks and Wildlife Department for comments.
6. Include the recommendation package and Texas Parks and Wildlife Department's written evaluation on the unique stream segment(s) recommendation in the final RWP. An updated Texas Parks and Wildlife Department evaluation must be included in each RWP, even for those stream segments that have been recommended in previous plans but not designated by the Legislature.
7. For each recommended or previously designated unique stream segment, include a quantitative analysis of the impact of the RWP on the stream segments based upon the assessment criteria in 31 TAC §357.43(b)(2).
8. Consider and discuss potential recommendations for designation of unique reservoir sites within the RWPA.
9. For each recommended unique reservoir site, include a description of the site, reasons for the unique designation, and expected beneficiaries of water supplies developed at a given site in accordance with 31 TAC §357.43(c).
10. Consider and discuss potential regional policy issues; identify recommendations for legislative, administrative, and regulatory rule changes; including recommendations to improve the state and regional planning process.
11. Disseminate the chapter document and related information to RWPG members for review.
12. Modify the chapter document based on RWPG, public, and or agency comments.
13. Submit the chapter document to the TWDB for review and approval.
14. Make all efforts required to obtain final approval of the RWP chapter by the TWDB.

**Deliverables:** A completed Chapter 8 presenting RWPG unique stream segment, unique reservoir site, legislative, administrative, and regulatory recommendations must be included in the IPP and final 2026 RWP.

## Task 9 – Implementation and Comparison to the Previous Regional Water Plan

The objective of this task is to prepare a separate chapter (in accordance with 31 TAC §357.22(b)) to be included in the 2026 RWP that reports on the degree of implementation of WMSs from the previous RWP and summarizes how the new RWP compares to the previous RWP.

In addition to generally meeting all applicable rules and statute requirements governing regional and state water planning under 31 TAC Chapters 357 and 358, this portion of work must, include all work necessary to meet all the requirements of 31 TAC §357.45.

**This Task includes, but is not limited to, performing all work in accordance with TWDB rules and guidance required to:**

1. Implementation (31 TAC §357.45(a)):
    a. Coordinate and communicate with RWPG representatives and sponsors of WMSs, including WUGs and WWPs.
    b. Document the level of implementation of each WMS that was recommend in the previous RWP and impediments to implementation.
    c. Submit implementation results data in the format to be specified by the TWDB.
2. Comparison to the previous regional water plan (31 TAC §357.45(b)):
    a. Assess the region's progress in encouraging cooperation between WUGs for the purpose of achieving economies of scale and incentivizing WMSs that benefit the entire planning area.
    b. Compare the RWP to the previous RWP regarding water demand projections, droughts of record and modeling assumptions, availability, existing supplies, needs, and WMSs and WMSPs.
    c. Summarize differences quantitatively or qualitatively in accordance with rule.
    d. Present information in graphical, tabular, and written format as applicable.
3. Disseminate the chapter document and related information to RWPG members for review.
4. Modify the chapter document based on RWPG, public, and/or agency comments.
5. Submit the chapter document to the TWDB for review and approval.
6. Make all efforts required to obtain final approval of the RWP chapter and associated DB27 data by the TWDB.

**Deliverables:** A completed Chapter 9 must be included in the IPP and final 2026 RWP.

## Task 10 - Public Participation and Plan Adoption

The objective of this task is to prepare a chapter (in accordance with 31 TAC §357.22(b)) to address public participation, public meetings, eligible administrative and technical support activities, and other requirements and activities eligible for reimbursement, complete and submit a Technical Memorandum, IPP, and final RWP, and obtain TWDB approval of the RWP.

In addition to generally meeting all applicable statute requirements governing regional and state water planning this portion of work must, in particular, include all technical and administrative support activities necessary to meet all the requirements of 31 TAC Chapters 355, 357, and 358 that are not already addressed under the scope of work associated with other contract tasks but that are necessary and or required to complete and deliver a Technical Memorandum, IPP, and final RWP to TWDB and obtain approval of the final RWP by the TWDB.

**This Task includes, but is not limited to, performing all work in accordance with TWDB rules and guidance required to:**

**A. Plan Development Activities**

1. Organize, support, facilitate, and document all meetings and hearings associated with activities necessary and eligible to complete and submit a Technical Memorandum, IPP, and final RWP to the TWDB, including but not limited to: regular RWPG meetings, committee

meetings, or subcommittee meetings; pre-planning meeting; meetings associated with revision of draft projections; public meeting for the consideration of the process for identifying potentially feasible water management strategies and the presentation of the analysis of infeasible water management strategies; consideration of a substitution of alternative water management strategies; public hearing on the IPP; adoption of the final RWP, and consideration of RWP amendments, alternative WMS substitutions, or TWDB Board-directed revisions.

2. Include a deliberate discussion on how the planning group will conduct interregional coordination and collaboration regarding water management strategies during the preplanning meeting required under 31 TAC §357.12(a)(1).
3. Collect and evaluate information, including any information gathering surveys from water suppliers or WUGs, (e.g., on existing infrastructure; existing water supplies; potentially feasible water management strategies) and/or maintenance of contact lists for regional planning information in the region.
4. Conduct and/or enhance existing outreach specifically to rural entities in the planning area to collect and evaluate information to support plan development, including keeping track of which rural entities were contacted by the RWPG/Consultant, which entities were not responsive to RWPG contact efforts, and including a summary of the region's rural outreach efforts in Chapter 10 of the IPP and final RWP. The TWDB will provide a list including entities that meet the rural political subdivision definition per Senate Bill 469, 88(R) and public water systems that fall within each municipal county-other WUG. Particular emphasis should be placed on outreach to those rural-serving public water systems that 1) have self-reported water use restrictions to TCEQ due to water supply issues during the current planning cycle; 2) have self-reported to TCEQ having less than 180 days of water supply remaining during the current planning cycle; 3) have not previously engaged in the regional planning process; and 4) have already been identified as facing significant near-term shortages under drought conditions in previous regional water plans.
5. Conduct intraregional and interregional coordination and communication, and or facilitation required within the RWPA and with other RWPGs to develop a RWP including with water suppliers or other relevant entities such as groundwater conservation districts, WUGs, and or WWPs. This includes gathering and documenting information on potential interregional opportunities or issues.
6. Incorporate all required DB27 reports (including as populated by the RWPG consultant) into the Technical Memorandum. The IPP and final RWP must incorporate these standard TWDB DB27 reports, by reference in the Executive Summary, as part of the regional water plan by including links to TWDB Database Reports application and inform the reader that the report may be accessed via that application. Additional specifications are provided in the *Second Amended General Guidelines for Development of the 2026 Regional Water Plans.*
7. Develop and include an Executive Summary in both the IPP and final RWP, not to exceed 30 pages.
8. Make modifications to the RWP documents based on RWPG, public, and/or agency comments.
9. Prepare a RWP chapter summarizing Task 10 activities including review by the RWPG and modification of document as necessary.
10. Prepare and transmit correspondence, for example, directly related to public comments on RWP documents.
11. Develop draft and final responses for RWPG approval to public questions or comments as well as approval of the final responses to comments on RWP documents.
12. Produce, distribute, and submit all draft and final RWP-related planning documents for the RWPG, public and agency review, including in hard-copy format when required.

13. Assemble, compile, and produce the completed IPP and final RWP documents that meet all requirements of statute, 31 TAC Chapters 355, 357 and 358, regional water planning contract and associated contract guidance documents.
14. Submit the RWP documents in required formats to the TWDB for review and approval, by the deadlines listed in Section I Article I of the contract and make all efforts required to obtain final approval of the RWP by the TWDB.

**B. Technical Support and Administrative Activities**

1. Support and accommodate periodic presentations by the TWDB for the purpose of orientation, training, and retraining as determined and provided by the TWDB during regular RWPG meetings.
2. Consider recommendations in the *Administrative Guidance for RWPG Sponsors (Designated Political Subdivisions*), as prepared and updated by the TWDB.
3. Technical consultants must attend and participate in TWDB-provided DB27 trainings, including individualized trainings and review of technical and data-related contract guidance documents in the TWDB regional water planning contract.
4. Develop agendas, presentations, and handout materials for the public meetings and hearings to provide to RWPG members and the public.
5. Technical consultants must attend and participate in RWPG, committee, subcommittee, and other meetings and hearings necessary for RWP development including preparation and follow-up activities.
6. Develop technical and other presentations and handout materials for RWPG meetings and hearings to provide technical and explanatory data to the RWPG and its subcommittees, including follow-up activities.
7. Perform administrative and technical support, including coordination of and participation in RWPG activities, and documentation of any RWPG meetings, hearings, workshops, workgroups, subgroup and/or subcommittee activities.
8. Provide status reports to the TWDB for work performed under this Contract.
9. Meet all public notice requirements in accordance with the Texas Open Meetings Act, statute, 31 TAC §357.21, and any other applicable public notice requirements.

**C. Other Activities**

1. Develop and maintain a RWPG website or RWPG-dedicated webpage on the RWPG administrator's website for posting planning group meeting notices, agendas, materials, and plan information.
2. Perform maintenance of the RWPG website; reimbursement is limited to non-labor, direct costs.
3. Document meetings and hearings to include recorded minutes and or audio recordings as required by the RWPG bylaws and archiving and providing minutes to public.
4. Promote consensus decisions through conflict resolution efforts including monitoring and facilitation required to resolve issues between and among RWPG members and stakeholders in the event that issues arise during the process of developing the RWP, including mediation between RWPG members, if necessary.
5. Perform RWPG membership solicitation activities.
6. Solicit, review, and disseminate public input, as necessary.
7. Perform any additional efforts required, but not otherwise addressed in other scope of work tasks that may be required to complete a RWP in accordance with all statute and rule requirements.

**Deliverables:**

- A draft Chapter 10 summarizing public participation activities to date included in the IPP.
- A completed Chapter 10 summarizing public participation activities and appendices with public and agency comments and RWPG responses to comments in the final 2026 RWP.
- A complete IPP and final 2026 RWP.

# Exhibit B
# Second Amended Task and Expense Budgets

## TASK BUDGET

| CAS Item No. | SOW Task No. | Task Description | BUDGET | REVISED BUDGET | AMOUNT CHANGED |
|---|---|---|---|---|---|
| 1 | 1 | Planning Area Description | $20,160.00 | $22,048.00 | $1,888.00 |
| 2 | 2A | Non-Municipal Water Demand Projections | $31,415.00 | $31,415.00 | $0.00 |
| 3 | 2B | Population and Municipal Water Demand Projections | $85,945.00 | $85,945.00 | $0.00 |
| 4 | 8 | Recommendations Regarding Unique Stream Segments and/or Reservoir Sites and Legislative & Regional Policy Issues | $12,329.00 | $14,217.00 | $1,888.00 |
| 5 | 10 | Public Participation and Plan Adoption | $324,631.00 | $375,631.00 | $51,000.00 |
| 6 | 3 | Water Supply Analysis | $124,195.00 | $153,425.00 | $29,230.00 |
| 7 | 4A | Water Needs Analysis | $60,140.00 | $74,295.00 | $14,155.00 |
| 8 | 4B | Identification of Infeasible Water Management Strategies in the previously adopted 2021 Regional Water Plan | $73,241.00 | $90,479.00 | $17,238.00 |
| 9 | 4C | Technical Memorandum | $39,285.00 | $48,531.00 | $9,246.00 |
| 10 | 5A | Identification of Potentially Feasible Water Management Strategies and Projects | $115,516.00 | $147,423.00 | $31,907.00 |
| 11 | 5B | Evaluation and Recommendation of Water Management Strategies and Projects | $1,000,788.00 | $1,241,051.00 | $240,263.00 |
| 12 | 5C | Conservation Recommendations | $114,963.00 | $142,021.00 | $27,058.00 |
| 13 | 6 | Impacts of the Regional Water Plan and Consistency with Protection of Resources | $111,313.00 | $137,511.00 | $26,198.00 |
| 14 | 7 | Drought Response Information, Activities, and Recommendations | $110,210.00 | $136,149.00 | $25,939.00 |
| 15 | 9 | Implementation and Comparison to the Previous Regional Water Plan | $69,530.00 | $85,894.00 | $16,364.00 |
| | | **Total** | **$2,293,661.00** | **$2,786,035.00** | **$492,374.00** |

## CONTRACTOR EXPENSE BUDGET

| EXPENSE BUDGET CATEGORY | BUDGET | REVISED BUDGET | AMOUNT CHANGED |
|---|---|---|---|
| Contractor (Political Subdivision) Other Expenses [1] | $14,000.00 | $14,000.00 | $0.00 |
| Contractor (Political Subdivision) Salaries and Wages[2] | $0.00 | $0.00 | $0.00 |
| Subcontract Services | $2,279,461.00 | $2,771,835.00 | $492,374.00 |
| Voting Planning Member Travel [3] | $200.00 | $200.00 | $0.00 |
| Contractor (Political Subdivision) Travel [4] | $0.00 | $0.00 | $0.00 |
| **Total Project Cost** | **$2,293,661.00** | **$2,786,035.00** | **$492,374.00** |

[1]Contractor (Political Subdivision) Other Expenses as described in 31 TAC §355.92(c) include the following administrative costs that may be billed under Task 10 associated with the RWPG's Political Subdivision if the RWPG or its chairperson certifies, during a public meeting, that the expenses are eligible for reimbursement and are correct and necessary:

a. Direct costs, excluding personnel costs, for placing public notices for the legally required public meetings, maintaining a website, and of providing copies of information for the public and for members of the RWPG as needed for the efficient performance of planning work such as:
   i. expendable supplies consumed in direct support of the planning process;
   ii. direct communication charges;
   iii. direct costs/fees of maintaining RWPG website domain, website hosting, and/or website;
   iv. direct costs of storing or posting of audio-visual files (e.g., meeting recordings);
   v. reproduction of materials directly associated with notification or planning activities (the actual non-labor direct costs as documented by the Contractor (Political Subdivision);
   vi. other direct costs of public meetings, all of which must be directly related to planning (e.g., newspaper and other public notice posting costs, and facility rentals); and
   vii. direct postage (e.g., postage for mailed notification of funding applications or meetings).
b. Costs associated with providing translators and accommodations for persons with disabilities for public meetings when required by law or deemed necessary by the RWPGs and certified by the chairperson.
c. Direct non-labor costs associated with the reproduction or distribution of newsletters.
d. Proportional costs of purchasing audio/visual equipment for hybrid RWPG meetings (requested reimbursement costs must be prorated based on the amount of use of the equipment for RWPG meetings relative to all other uses of the equipment). These costs must be specifically pre-authorized by the TWDB Executive Administrator prior to equipment purchase.

[2]Contractor (Political Subdivision) Salaries and Wages as described in 31 TAC § 355.92(c)(5) include the following administrative costs if the RWPG or its chairperson certifies, during a public meeting, that the expenses are eligible for reimbursement and are correct and necessary: the RWPG Political Subdivision's personnel costs for the staff hours that are directly spent

providing, preparing for, and posting public notice for RWPG meetings and hearings, including labor, fringe, overhead, and other expenses for their support of and attendance at such RWPG meetings and hearings. This may not exceed: $5,000 per regular RWPG meeting nor a total of $60,000 over the planning cycle.

[3] Voting Planning Member Travel Expenses are limited to the maximum amounts authorized for state employees by the General Appropriations Act, Tex. Leg. Regular Session, 2021, Article IX, Part 5, as amended or superseded. These expenses are defined as:

a. eligible mileage expenses incurred by RWPG members, or their designee, to attend RWPG meetings that cannot be reimbursed by any other entity, political subdivision, etc. as certified by the voting member, or their designee, and
b. food, drink, lodging, mileage, or airfare of designated RWPG member travel to support participation in legislatively required or Board-requested meetings, as specifically authorized by the RWPG and TWDB Executive Administrator.

[4] Contractor (Political Subdivision) Travel Expenses are limited to the maximum amounts authorized for state employees by the General Appropriations Act, Tex. Leg. Regular Session, 2021, Article IX, Part 5, as amended or superseded. These expenses must be specifically authorized by the RWPG and TWDB Executive Administrator and are defined as:

a. eligible mileage expenses incurred by Political Subdivision staff for work associated with regional water plan development, and
b. Food, drink, or lodging (excluding tips and alcoholic beverages), mileage, or airfare for Political Subdivision staff designated to be the representative for the RWPG to support participation in legislatively required or Board requested meetings.

Ineligible Expenses include funding any of the activities specified in 31 TAC 355.92(a), as well as the following items as applicable to RWPG members and Political Subdivisions:

a. Compensation for the time or expenses of RWPGs members' service on or for the RWPG, or for the salary of a RWPG member who is also an employee of the Contractor (Political Subdivision);
b. Costs of administering the RWPGs, other than those eligible and authorized under Contractor (Political Subdivision) Other Expenses;
c. Costs for training;
d. Costs of administering the regional water planning grant and associated contracts;
e. Costs associated with development of an application for a regional water planning grant or reviewing materials developed due to this grant;
f. Food, drink, or lodging for RWPG members (including tips and alcoholic beverages), unless eligible and specifically authorized under Voting Planning Member Travel Expenses item b;
g. Purchase, rental, or depreciation of equipment (e.g., computers, copiers, fax machines), with the exception of audio/visual equipment for hybrid RWPG meetings as specifically authorized under Contractor (Political Subdivision) Other Expenses item d;
h. General purchases of office supplies not documented as consumed directly for the planning process as defined in Contractor (Political Subdivision) Other Expenses item a.i; and
i. Costs associated with social events or tours.

SIXTH CYCLE 2026 REGIONAL WATER PLANNING CONTRACTS – TWDB INTERNAL PRE-DOCUSIGN APPROVALS

Please enter vendor contact info and other special instructions in the EXTERNAL_ROUTING.txt for each contract in the shared drive review directory.

| REGION | PCS (Cameron Turner) | Legal (Kaye Schultz) | Contract Manager | Program Manager (Sarah Lee) | Budget Officer (Erin Moczygemba) | Budget Director (Perry Ball) | Division Director (Temple McKinnon) | DEA (Matt Nelson) | Accounts Payable (Eldrisha Eubanks) | Accounting Manager (Letty Molina) |
|---|---|---|---|---|---|---|---|---|---|---|
| **A: Panhandle Regional Plan Commission 2148302553** | | KS 10/10/2023 | MF 10/9/2023 | SL 10/17/23 | EM 10/11/2023 | pb 10/11/2023 | [DOCUSIGN] | [DOCUSIGN] | EE 10/12/23 | LM 10/13/23 |
| **B: Red River Authority 2148302554** | | KS 10/10/2023 | KS 10/6/2023 | SL 10/17/23 | EM 10/11/2023 | pb 10/11/2023 | [DOCUSIGN] | [DOCUSIGN] | EE 10/12/23 | LM 10/13/23 |
| **C: Trinity River Authority 2148302555** | 10/17/2023 | KS 10/10/2023 | KS 10/6/2023 | SL 10/17/23 | EM 10/11/2023 | pb 10/11/2023 | [DOCUSIGN] | [DOCUSIGN] | EE 10/12/23 | LM 10/13/23 |
| **D: Riverbend Water Resources District 2148302556** | | KS 10/10/2023 | RE 10/6/2023 | SL 10/17/23 | EM 10/11/2023 | pb 10/11/2023 | [DOCUSIGN] | [DOCUSIGN] | EE 10/12/23 | LM 10/13/23 |
| **E: Rio Grande Council of Governments 2148302557** | | KS 10/10/2023 | HR 10/6/2023 | SL 10/17/23 | EM 10/11/2023 | pb 10/11/2023 | [DOCUSIGN] | [DOCUSIGN] | EE 10/12/23 | LM 10/13/23 |
| **F: Colorado River Municipal Water District 2148302558** | | KS 10/10/2023 | HR 10/6/2023 | SL 10/17/23 | EM 10/11/2023 | pb 10/11/2023 | [DOCUSIGN] | [DOCUSIGN] | EE 10/12/23 | LM 10/13/23 |
| **G: Brazos River Authority 2148302559** | | KS 10/10/2023 | LB 10/6/2023 | SL 10/17/23 | EM 10/11/2023 | pb 10/11/2023 | [DOCUSIGN] | [DOCUSIGN] | EE 10/12/23 | LM 10/13/23 |
| **H: San Jacinto River Authority 2148302560** | | KS 10/10/2023 | HR 10/6/2023 | SL 10/17/23 | EM 10/11/2023 | pb 10/11/2023 | [DOCUSIGN] | [DOCUSIGN] | EE 10/12/23 | LM 10/13/23 |

SIXTH CYCLE 2026 REGIONAL WATER PLANNING CONTRACTS – TWDB INTERNAL PRE-DOCUSIGN APPROVALS

Please enter vendor contact info and other special instructions in the DocuSign External Routing.txt for each contract in the shared drive review directory.

| REGION | PCS (Cameron Turner) | Legal (Kaye Schultz) | Contract Manager | Program Manager (Sarah Lee) | Budget Officer (Erin Moczygemba) | Budget Director (Perry Ball) | Division Director (Temple McKinnon) | DEA (Matt Nelson) | Accounts Payable (Eldrisha Eubanks) | Accounting Manager (Letty Molina) |
|---|---|---|---|---|---|---|---|---|---|---|
| **I: City of Nacogdoches 2148302561** | | KS 10/10/2023 | LB 10/6/2023 | SL 10/17/23 | EM 10/11/2023 | pb 10/11/2023 | [DOCUSIGN] | [DOCUSIGN] | EE 10/12/23 | LM 10/13/23 |
| **J: Upper Guadalupe River Authority 2148302562** | | KS 10/10/2023 | LB 10/6/2023 | SL 10/17/23 | EM 10/11/2023 | pb 10/11/2023 | [DOCUSIGN] | [DOCUSIGN] | EE 10/12/23 | LM 10/13/23 |
| **K: Lower Colorado River Authority 2148302563** | | KS 10/10/2023 | LB 10/6/2023 | SL 10/17/23 | EM 10/11/2023 | pb 10/11/2023 | [DOCUSIGN] | [DOCUSIGN] | EE 10/12/23 | LM 10/13/23 |
| **L: San Antonio River Authority 2148302564** | | KS 10/10/2023 | MF 10/9/2023 | SL 10/17/23 | EM 10/11/2023 | pb 10/11/2023 | [DOCUSIGN] | [DOCUSIGN] | EE 10/12/23 | LM 10/13/23 |
| **M: Lower Rio Grande Valley Development Council 2148302565** | | KS 10/10/2023 | KS 10/6/2023 | SL 10/17/23 | EM 10/11/2023 | pb 10/11/2023 | [DOCUSIGN] | [DOCUSIGN] | EE 10/12/23 | LM 10/13/23 |
| **N: Nueces River Authority 2148302566** | | KS 10/10/2023 | MF 10/9/2023 | SL 10/17/23 | EM 10/11/2023 | pb 10/11/2023 | [DOCUSIGN] | [DOCUSIGN] | EE 10/12/23 | LM 10/13/23 |
| **O: South Plains Association of Governments 2148302567** | | KS 10/10/2023 | KS 10/6/2023 | SL 10/17/23 | EM 10/11/2023 | pb 10/11/2023 | [DOCUSIGN] | [DOCUSIGN] | EE 10/12/23 | LM 10/13/23 |
| **P: Lavaca-Navidad River Authority 2148302568** | | KS 10/10/2023 | RE 10/6/2023 | SL 10/17/23 | EM 10/11/2023 | pb 10/11/2023 | [DOCUSIGN] | [DOCUSIGN] | EE 10/12/23 | LM 10/13/23 |

# Agenda Item IV.B – Attachment

## Draft RCWPG Bylaws Amendment Package 2023

# REGION C WATER PLANNING GROUP

# BYLAWS

**ADOPTED APRIL 14, 1998**
**AMENDED DECEMBER 4, 2000**
**AMENDED JUNE 23, 2003**
**AMENDED OCTOBER 6, 2003**
**AMENDED APRIL 9, 2007**
**AMENDED OCTOBER 25, 2011**
**AMENDED OCTOBER 27, 2014**
**AMENDED JANUARY 26, 2015**
**AMENDED NOVEMBER 6, 2023**

## ARTICLE I. ORGANIZATION

The official name of this organization shall be "Region C Water Planning Group" hereafter referred to as "RCWPG." The RCWPG was certified as representative of the Region C Area by the Initial Planning Body and the Texas Water Development Board on March 31, 1998.

## ARTICLE II. PURPOSE

The purpose of the RCWPG shall be to provide comprehensive regional water planning for Region C, and to carry out the related responsibilities placed on Regional Water Planning Groups by state law, the Texas Water Code, and Texas Water Development Board (TWDB) Rules and Guidelines.

## ARTICLE III. ADMINISTRATION

*Section 1. Political Subdivision*

Title 31, Texas Administrative Code Section 357.12(a)(4) requires each regional water planning group (RWPG) to designate a "Political Subdivision" as the administrative representative and agent of the RWPG. The Political Subdivision is responsible for, and must be capable of, securing planning funding from TWDB, and contracting with consultants to produce the regional water plans.

The Political Subdivision designated to act on behalf of the RCWPG shall be named by the RCWPG by consensus or with not less than two-thirds favorable vote of the members present at a properly posted meeting with the item posted in accordance with the TWDB rules. Title 31, Texas Administrative Code Section 355.91(b) also requires RWPGs to provide a written Political Subdivision designation to the Executive Administrator of the Texas Water Development Board naming the Political Subdivision that is authorized to apply for grant funds on behalf of the RWPG.

By adoption of RCWPG Resolution No. 15-2, in a regular meeting of the RCWPG on January 26, 2015, the RCWPG designated the Trinity River Authority of Texas as the

Political Subdivision to act on its behalf (replacing the North Texas Municipal Water District) effective January 26, 2015, and designating the General Manager of the Trinity River Authority of Texas as the contract signatory for the Political Subdivision. Resolution No. 15-2 superseded the previous Resolution No. 14-3 to the extent it was inconsistent with Resolution No. 15-2.

*Section 2. Administrative Agent and Administrative Officer*

The principal Administrative Agent is defined by the RCWPG as the office of a political subdivision that conducts administrative duties on behalf of the RCWPG. The duties of the Administrative Agent include: posting of notices for meetings, performing required mail-outs, scheduling of facilities for meetings, receiving mail and required submittals (paper or electronic) on behalf of the RCWPG, providing a staff member to act as the Administrative Officer for purposes of the Texas Open Records Act, and other duties as required.

The Administrative Agent and Administrative Officer designated to act on behalf of the RCWPG shall be named by the RCWPG by consensus or with not less than two-thirds favorable vote of the members present at a properly posted meeting with the item posted in accordance with the RCWPG rules.

## ARTICLE IV. OFFICERS

*Section 1. Composition*

The RCWPG shall elect from its voting membership a Chair, Vice Chair and Secretary for five-year terms with no limit on the terms a member may serve in any position, except as their membership shall otherwise be limited herein. Elections shall take place during the first meeting of each five-year planning cycle, and officers serving at the time of the adoption of this requirement shall continue in office until the beginning of the next regional planning cycle. No two voting members representing the same interest group shall serve as officers at the same time. The officers shall be elected by two-thirds majority vote of the members present at a properly posted meeting. Upon the resignation or removal of an officer, the Nominating Committee shall make recommendations to the RCWPG at its next scheduled meeting for the officer's replacement.

*Section 2. Duties*

1. Chair. The Chair shall be the executive officer of the RCWPG. The Chair will preside at all meetings of the RCWPG and perform all duties specified in these bylaws. If the Chair is unable to carry out his/her duties, the Vice Chair shall assume the duties of the Chair.

2. Vice Chair. The Vice Chair shall assist the Chair in the discharge of their duties and, in the absence of the Chair, shall assume the Chair's full responsibilities and duties. In the event the Chair is unable to carry out their duties, the Vice Chair shall serve as Chair until the RCWPG elects a new Chair under Section 1 of this Article. The Vice Chair shall perform other duties as assigned by the Chair or these bylaws.

3. Secretary. The Secretary shall maintain the minutes of meetings and take attendance at the RCWPG Meetings. The minutes and attendance shall be kept as part of the RCWPG's official records. The Secretary, in cooperation with the Administrative Agent, shall ensure that all notices are properly posted as provided in the bylaws, as required by law, such law including but not being limited to the Texas Open Meetings Act. The Secretary shall perform other duties as assigned by the Chair or these bylaws. If the Chair and Vice Chair are unable to carry out their respective duties, the Secretary shall assume the duties of the Chair, unless the Secretary is absent in which case the Executive Committee will select a Chair from the members at large of the Executive Committee.

## ARTICLE V. EXECUTIVE COMMITTEE

An Executive Committee may be appointed by the RCWPG. The Executive Committee would be composed of the Chair, Vice Chair, Secretary and two other voting members. No two voting members representing the same interest group shall serve on the Executive Committee at the same time. The Executive Committee may perform all duties as requested in a written resolution approved by two-thirds of the voting members present at a properly posted meeting.

## ARTICLE VI. NOMINATING COMMITTEE

A Nominating Committee may be appointed by the RCWPG to serve the purposes set forth in these bylaws, and may be composed of any odd numbers of voting members of the RCWPG. The membership of the Nominating Committee shall be approved by two-thirds of the voting members present at a properly posted meeting; however, members of the Executive Committee shall not be eligible to simultaneously serve on a Nominating Committee.

## ARTICLE VII. VOTING MEMBERSHIP

*Section 1. Composition*

The RCWPG is composed of 22 members representing 12 interest classifications in accordance with TWDB's Rules and as shown below. The terms of all initial voting members expired November 1, 2001. Upon the expiration of those initial terms, all voting members drew lots for additional terms of five years or two years such that half the voting members terms shall expire in two additional years and the other half in five additional years. Thereafter, all terms are for five years. On the expiration of terms, vacancies are declared in the appropriate classifications with nominations and selection to fill the vacancies in accordance with Section 3 of this Article.

Voting members serve for five-year staggered terms and are eligible to serve two full consecutive terms beginning on the effective date of these bylaws. Current sitting members as of the date of the adoption of these Bylaws may serve an additional two full consecutive terms. After a member has served two consecutive terms, they will be deemed to have resigned as of the date of the election of their replacement. A member who has resigned after two consecutive terms is eligible for reelection to to additional non-consecutive terms. Outgoing voting members shall be given the opportunity to participate in the selection

process for their successors and shall serve until their successors take office.

| Interest Classification | Number of Members on RCWPG |
|---|---|
| Agriculture | 1 |
| Counties | 1 |
| Electric Generating Utilities | 1 |
| Environment | 2 |
| Groundwater Management Areas | 3* |
| Industry | 1 |
| Municipalities | 4 |
| Public | 2 |
| River Authority | 1 |
| Small Business | 1 |
| Water Districts | 3 |
| Water Utilities | 2 |
| **Total** | **22** |

*One member from each of the three Groundwater Management Areas (GMAs) located in Region C.

*Section 2. Conditions of Membership*

To be eligible for voting membership on the RCWPG, a person must represent the interest for which a member is sought, be willing to participate in the regional water planning process and abide by these Bylaws. A person retired from a represented interest cannot continue to serve as a voting member for said interest.

*Section 3. Selection of Members*

Upon the resignation, removal or ineligibility of a voting member to continue in service, the RCWPG shall publicly solicit nominations for a successor during an open public meeting of the RCWPG. Members of the RCWPG may also submit nominations to the Nominating Committee.

The Nominating Committee shall receive and process nominations and shall recommend a nominee to the voting membership as a whole, giving strong consideration to a consensus nominee from those individuals and entities that collectively represent that interest. The Nominating Committee shall not be bound by the nominations received and may consider any person who meets the conditions of membership as a nominee. The voting membership as a whole shall not be bound by the recommendation of the Nominating Committee and may consider any person who meets the conditions of membership as a nominee,including those offered by the public.

An affirmative vote of two-thirds of the total voting membership of the RCWPG shall be required to appoint a nominee as a new voting member. If voting fails to select a new voting member after no more than three votes regarding that nominee, the voting members shall consider other nominations until a new member can be selected by an affirmative vote of two-thirds of the total voting membership.

In addition to selecting new voting members to fill vacancies caused by removal, the voting members may add members to ensure adequate representation of the interests comprising the RCWPG by generally utilizing the selection process set forth in this section. If such a new member is added, that member shall serve for the remainder of that regional water planning cycle, and be eligible to serve two full consecutive terms thereafter.

In both the consideration of nominees and the selection of new voting members, the Nominating Committee and other voting members shall strive to achieve a representative geographic diversity of membership.

Outgoing voting members who are in good-standing with the RCWPG shall be given the opportunity to participate in the selection process for their successors and shall serve until their successors take office. A member is considered to be in good standing unless and until they are removed from office under Section 6 of this Article.

*Section 4. Attendance*

All voting members shall make a good faith effort to attend all RCWPG meetings. Three consecutive unexcused absences or absence from at least half of the sum of all the meetings held in any one calendar year shall serve as grounds for removal. The Chair shall excuse an absence if it is made known to the Chair prior to the beginning of the meeting that the absence is due to personal illness, family emergency, jury or military duty, other responsible duties that appear in the judgment of the Chair to be reasonable or if a designated alternate attends the meeting in place of the member.

*Section 5. Designated Alternates*

Each member shall designate an alternate to represent them when the member is unable to attend a meeting. Each member must notify the Chair in writing (e-mail acceptable) of the name and address of the member's designated alternate at least 48 hours prior to the first meeting or hearing at which the designated alternate will appear on behalf of the member. If the member fails to provide such notice, the Chair may bar the participation of the designated alternate for voting purposes at the meeting or hearing. The Chair shall not recognize the designation of more than one alternate per member at any given time nor recognize more than two alternate designations per member per calendar year. The designated alternate shall have the same voting privileges and duties as the member except that an alternate may not serve as an officer.

In the event a voting member either resigns or is removed from office, their last designated alternate shall serve in said members place until such time as an election may be held to fill the vacancy, said election to be held at the next regular RCWPG meeting.

*Section 6. Removal of Voting Member*

Grounds for removal of voting members shall be:

a) Engaging in excessive unexcused absenteeism as defined under Section 4 of this Article;

b) Death;

c) Failure to abide by the code of conduct provisions set forth under Article XI;

d) Change in status so that the member no longer represents the interest he or she was selected to represent and does not resign upon request of the Chair;

e) Falsifying documents;

f) Any other serious violation of these bylaws as may be determined by the voting members;

g) The voting member's designated alternate engages in any acts described in subdivisions (d), (g), or (h) of this subsection; or

h) Conduct which hinders the regional planning efforts of RCWPG.

The Chair or any three voting members may bring an allegation against another voting member for violation of these bylaws. The Chair, upon receiving the information, will request in writing the accused member to respond to the charges. The matter would then be referred to the RCWPG at a regular meeting. The removal of any member shall require two-thirds vote of the total voting membership. Any vacancies created by the removal of a voting member would be filled in accordance with the selection process in Section 3 of this Article.

Any voting member may be removed from office for any of the grounds set forth in this Section, or for repeated failure to carry out the duties of the office, by agreement of at least two-thirds of the voting membership. Removal of a voting member, including an officer, shall be set as an agenda item at the next scheduled meeting upon written request signed by five voting members to the Chair or Secretary. The Chair or Secretary receiving the request shall notify the voting member in writing that he or she shall be subject to a removal action at the next scheduled meeting. At the meeting, the voting member subject to the possible removal action may present evidence of why he or she should not be removed. If the Chair is the subject of the possible removal action, the Vice-Chair shall preside over the meeting during the agenda item concerning the Chair's removal. The voting member subject to the removal action shall not participate in any way in the vote, nor shall his or her membership count as part of the total membership for purposes of calculating two-thirds vote. The notice of the meeting shall be posted in accordance with the Texas Open Meetings Act and shall state that the issue of possible removal the voting member will be on the agenda. Any vacancy caused by the removal shall be filled as provided under Section 3 of this Article, and Article IV hereof with respect to the replacement of an officer.

## ARTICLE VIII. NON-VOTING MEMBERSHIP

*Section 1. Mandatory Non-Voting Members*

In accordance with Texas Administrative Code Section 357.11(e), RCWPG shall add the following non-voting members, who shall receive meeting notifications and information in the same manner as voting members:

a) A staff member of the TWDB to be designated by the TWDB's Executive Administrator;

b) A staff member of the Texas Parks and Wildlife Department designated by its Executive Director;

c) A member designated by each adjacent regional water planning group to serve as a liaison;

d) One or more persons to represent those entities with headquarters located in another regional water planning area and which holds surface water rights authorizing a diversion of 1,000 acre-feet a year or more in the regional water planning area, which supplies water under contract in the amount of 1,000 acre-feet a year or more to entities in the regional water planning area, or which receives water under contract in the amount of 1,000 acre-feet a year or more from the regional water planning area;

e) A staff member of the Texas Department of Agriculture designated by its commissioner; and

f) A staff member of the State Soil and Water Conservation Board designated by its executive director.

These non-voting members shall serve with an indefinite term of membership and may be removed for the same causes and with the same process as voting members.

Non-voting members may serve in the capacity as a representative to each adjacent regional water planning group.

*Section 2. Planning Groups*

The RCWPG may join with adjacent regions to form voluntary associations composed of representatives of one or more planning regions. Interregional planning committees may coordinate concerning interregional issues for the benefit of each region and may conduct joint studies of issues affecting their regions. These associations may develop written agreements, which shall be binding after approval by each regional water planning group involved.

## ARTICLE IX. MEETINGS

All meetings and hearings of the RCWPG and its subgroups shall be posted and open to the public in the manner of a governing body under the Texas Open Meetings Act. Regular meetings shall be conducted from time-to-time as need requires. All members shall receive an advance notice and agenda at least seven days prior to a meeting, with notice provided to the Secretary of State by that same time. No action may be taken on any item that does not appear as an item on the agenda. Notice is acceptable by first class U.S. mail, facsimile, or electronic media. Special meetings may be called by the Chair or a majority of the voting members of the RCWPG.

## ARTICLE X. MEETING RULES

*Section 1. Quorum*

A quorum of the RCWPG shall be a simple majority of the voting members or their designated alternates excluding vacancies. A quorum shall be necessary to conduct any business.

*Section 2. Robert's Rules of Order*

Except as otherwise provided in these bylaws, meetings of the RCWPG shall be conducted under the provisions of the most current edition of Robert's Rules of Order. However, failure to follow such rules shall not constitute grounds for an appeal of an action or a decision of the RCWPG.

*Section 3. Minutes*

Written minutes of all meetings shall be prepared and submitted to the RCWPG or any committees thereof for approval. The minutes shall include the subject of each deliberation, the action taken, the names of the members in attendance—noting the presence of a quorum, the presence of those members of the public who participate in the meeting, and should represent an accurate summary of the meeting. A tape recording of the entire meeting can be substituted for written minutes.

*Section 4. Records*

All books and records of the RCWPG shall be maintained by the Administrative Agent in accordance the requirements of Texas law, TWDB's rules and/or any requirements of a grant contract with TWDB.

*Section 5. Copying*

All information under the Open Records Act shall be available for public inspection during the normal business hours of the Administrative Agent. The procedures and fees for copying and inspection shall be the same as those used by the Administrative Agent for its own public records.

*Section 6. Availability of Reports*

All reports, planning documents and work product resulting from efforts funded by the TWDB shall be made available to the TWDB, the Texas Parks and Wildlife Department, and the Texas Commission on Environmental Quality, or their successor agencies. At least one copy of the approved Regional Water Plan shall be placed in the County Clerk's Office for each county in at least one public library of each county having land within the RCWPG area in accordance with state law, and on the RCWPG website.

## ARTICLE XI. CODE OF CONDUCT

Members and designated alternates of the RCWPG shall ethically conduct the business of the RCWPG and shall avoid any form or appearance of a conflict of interest, real or apparent, by observing the following:

1. No member or designated alternate of the RCWPG shall:

    a) Solicit or accept gratuities, favors or anything of monetary value from suppliers or potential suppliers of services, materials, or equipment, including subcontractors under recipient contracts; or,

    b) Participate in the selection, award or administration of a procurement where the member or designated alternate has a financial or other substantive interest in the organization being considered for award. Such conflict may be due to any of the following having a financial or familial relationship with the organization:

        i) the member or designated alternate;

        ii) the member's or designated alternate's family;

        iii) the member's or designated alternate's business partner(s); or

        iv) a person or organization that employs, or is about to employ, any of the persons listed in (i)-(iii) above; and,

    c) Participate in any deliberation, decision or vote that would constitute a conflict of interest under federal, state or local law.

2. Potential conflicts of interest shall be clearly stated by the voting member or designated alternate prior to any deliberation or action on an agenda item with which the voting member or designated alternate may be in conflict. Where the potential conflict is restricted to a divisible portion of an agenda item, the Chair may divide the agenda item into parts, at the Chair's discretion, for deliberation and voting purposes. An abstention from participation in deliberations, decisions or voting and the reasons therefore shall be noted in the minutes.

## ARTICLE XII. DECISION PROCESS

*Section 1. Proxies*

Proxies shall not be allowed in any decision making by the RCWPG, its committees, or its subgroups.

*Section 2. Consensus*

The RCWPG shall attempt to make decisions using a consensus decision-making process. Consensus is an agreement built by identifying and exploring all members' interests and by assembling a package agreement which satisfies these interests to the greatest extent possible. A consensus is reached when voting members agree that their major interests have been taken into consideration and addressed in a satisfactory manner so that they can

support the decision of the group. The process of building consensus involves the development of alternatives and the assessment of the impacts of those alternatives.

Consensus does not necessarily mean unanimity. Some members may strongly endorse a particular solution while others may accept it as a workable agreement. A member can participate in the consensus without embracing each element of the agreement with the same fervor as other members or necessarily having each of his or her interests satisfied to the fullest extent. In a consensus agreement, the members recognize that, given the combination of gains and trade-offs in the decision package and given the current circumstances and alternative options, the resulting agreement is the best one the voting members can make at this time.

*Section 3. Voting*

If a consensus is not reached, the Chair shall entertain a motion to put the issue to be conclusively decided by agreement of not less than two-thirds of the voting members present at a properly posted meeting, unless otherwise specified in this document.

*Section 4. Alternative Resolution*

If a favorable vote cannot be achieved in accordance with Section 3 of this Article, the Executive Committee, if one has been created, or the Chair if an Executive Committee has not been created, shall review the decision and the previous actions of the RCWPG. If it is the conclusion of the Executive Committee or the Chair, in absence of an Executive Committee, that further discussions cannot resolve the issue, then the matter would be tabled or the process initiated to provide additional information.

*Section 5. Final Adoption of the Regional Water Plan; Amendments*

The voting members of the RCWPG shall adopt regional water plans for the Region C Water Planning Area and any amendments by agreement of two-thirds of the total voting membership.

## ARTICLE XIII. COMMITTEES

The RCWPG may by motion establish committees and subgroups to assist and advise the RCWPG in the development of regional water plans. The membership and composition of the committees and subgroups shall be in accordance with the resolution adopted by at least two-thirds of the voting members present at a properly posted meeting. The RCWPG shall appoint a Chair, Vice-Chair and Secretary of each committee or subgroup established. Members to committees and subgroups may be removed for the same reasons and process as voting members.

## ARTICLE XIV. COMPENSATION

Members of the RCWPG shall not be compensated for their expenses by the State of Texas. All travel expenses will be documented by the members and submitted to the political subdivision designated by the RCWPG to apply to TWDB for funding. The political subdivision contracting with the TWDB for the RCWPG shall compile the travel

information from the members, which will be counted as an in-kind expense at the state rate that is in effect at the time the travel occurred.

## ARTICLE XV. CONTRACTUAL SERVICES

The voting members of the RCWPG shall make all decisions related to final approval of persons or entities selected to provide contractual services for the RCWPG, including all services related to preparation, development or revisions of the regional water plan for the RCWPG. However, the voting members may delegate to the Executive Committee the authority to make all administrative decisions concerning amendments to TWDB Research and Planning Fund grant contracts for services related to regional water planning.

## ARTICLE XVI. AMENDING THE BYLAWS

These bylaws shall have full force and effect upon approval and adoption by the voting members. Amendments to these bylaws must be approved by two-thirds of the total voting membership.

These bylaws approved by the Region C Water Planning Group in a posted meeting on this the 14th day of April, 1998, amended by the Region C Water Planning Group in a posted meeting on the 4th day of December, 2000, the 23rd day of June, 2003, the 6th day of October, 2003, the 9th day of April, 2007, the 25th day of October, 2011, the 27th day of October, 2014, the 26th day of January, 2015, and the 6th day of November, 2023.

_____

J. KEVIN WARD
Chair

ATTEST:

_____

JENNA COVINGTON, PE
Secretary

# Agenda Item IV.C – Attachment

## Marvin Nichols Reservoir Feasibility Study Supporting Information Letter

# REGION C WATER PLANNING GROUP

*Senate Bill One Sixth Round of Regional Water Planning - Texas Water Development Board*



November 6, 2023

Jeff Walker
Texas Water Development Board
1700 North Congress
Austin, Texas 78711-3231

RE: Region C Comment and Input on Marvin Nichols Reservoir Feasibility Review

Dear Mr. Walker:

The Texas Legislature included in its budget legislation a requirement for the Texas Water Development Board (TWDB) to conduct a feasibility review of the Marvin Nichols Reservoir.[1] Specifically, this review must analyze:

- Implementation timeline;
- Associated costs;
- Land acquisition considerations; and,
- and the economic impact of the proposed project.

The TWDB has solicited public comments and input on these specific topics by December 1, 2023. In response, the Region C Water Planning Group provides the following information.

- Chapter 5C.1.7, *Marvin Nichols Reservoir*
- Chapter 5D, *Recommended Water Management Strategies for Major Water Providers and Regional Water Providers*
- Appendix G.3.5, *Marvin Nichols Reservoir Site 1A (328' MSL)*
- Appendix H, Table H-20, *NTMWD, TRWD, UTRWD Marvin Nichols (328)*
- Appendix J, *2020 Quantitative Analysis of the Impact of the Marvin Nichols Reservoir*
- Appendix L, *Socioeconomic Impacts*

Please note that the Marvin Nichols Reservoir was analyzed by the Region C Water Planning Group for the 2021 Region C Water Plan in accordance with the requirements

[1] Excerpt from HB1: "Reservoir Project Feasibility Review. Out of funds appropriated above, the Texas Water Development Board (TWDB) shall evaluate the feasibility of the proposed Marvin Nichols Reservoir project to be located on the Sulphur River and upstream of the confluence of the White Oak Creek in Franklin, Titus, and Red River Counties. The review shall analyze the implementation timeline, associated costs, land acquisition considerations, and the economic impact of the proposed project. A report regarding the findings of the review shall be prepared and submitted by TWDB to the Legislative Budget Board and Governor no later than January 5, 2025."

in Senate Bill 1 and guidance from the TWDB. Each of the requested items listed above can be found in the 2021 Region C Water Plan in the following locations:

- **Implementation timeline**: the Marvin Nichols Reservoir is recommended to be online in 2050 (Chapter 5D and DB22) and provide water to NTMWD, TRWD and UTRWD. This timeline considers the length of permitting and construction for the recently completed Bois d'Arc Lake, which was 20 years.
- **Associated costs**: detailed costs are shown on Table H-20 in Appendix H. The costs follow the TWDB guidance and are presented in 2018 dollars. Any updates to the costs by the TWDB should not be compared to other projects unless all project costs are in the same cost year.
- **Land acquisition considerations**: land acquisition is considered as part of the project costs in accordance with the TWDB guidance. The impacts to natural resources and timber industry are included in Appendix J.
- **Economic impacts of the project**: An economic impact analysis of the project was conducted in April 2020. This can be found in Appendix J, Attachment J-4, *Economic Fiscal and Developmental Impacts of Proposed Marvin Nichols Reservoir*.

In addition to the above required components of the review, Region C recommends the TWDB also consider the economic impacts of not meeting the projected water needs in Region C. This is a critical component for the identification and selection of the Marvin Nichols Reservoir as a recommended strategy for Region C. The socio-economic impact of not meeting Region C's water needs was conducted by the TWDB and is included in Appendix L of the 2021 Region C Water Plan.

Please call me if you have any questions regarding our request.

Sincerely,

J. KEVIN WARD
Chair, Region C Water Planning Group

# Agenda Item IV.E – Attachment

## Potentially Feasible Water Management Strategy Memorandum

# MEMORANDUM

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**TO:** Region C Regional Water Planning Group

**CC:** File

**FROM:** Freese and Nichols, Inc.

**SUBJECT:** Methodology for Identifying Potentially Feasible Water Management Strategies

**DATE:** 10/30/2023

**PROJECT:** TRA21862

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The Regional Water Planning rules require each region to develop and document the process to identify potentially feasible water management strategies (PFWMS). This process is conducted prior to the process set forth by the TWDB to evaluate each PFWMS. The purpose of this memorandum is to summarize the methodology for identifying potentially feasible water management strategies (WMSs).

For Region C, the methodology for identifying PFWMS will follow the sequence below:

1. **Identify entities with needs**. PFWMS will be identified for all Water User Groups (WUGs) and Wholesale Water Providers (WWPs) with a need to the extent practicable. Per TWDB rules, conservation is required to be considered as a WMS for all water user groups (WUGs) with a need. Region C will evaluate conservation for all municipal WUGs (including those without a need) and non-municipal WUGs with a need, as appropriate.
2. **Review recommended strategies in previous Regional Water Plan (RWP).** For each WUG/WWP, we will consider all WMSs that were included in the previous plan unless that WMS has been determined to be infeasible or no longer supported by the WUG/WWP.
3. **Contact WUG/WWPs for input.** Working together with the WUGs/WWPs with needs, we will identify potential strategies to meet the identified needs. Meetings will be held with the major and regional water providers for input on the WMSs. A survey of WUGs and remaining WWPs will be conducted to confirm the PFWMS and solicit input on other potential strategies.
4. **Seek input from Region C Members.** As the planning cycle progresses, all Region C members will be given an opportunity to comment and/or provide input on the PFWMS. RWPG representatives will be contacted for input on county-wide WUGs. These comments will be verified with the related water provider.
5. **Accept input from the public.** As the planning cycle progresses, the public will be given an opportunity to comment and/or provide input on the PFWMS. These comments will be verified with the related water provider.

As required by statute and rules (TWC §16.053(e)(5), and 31 TAC §357.34(c)) the RWPGs must consider, but are not limited to considering, a specified list of strategy types. This list includes 24 WMS types that require screening as part of the process for identifying PFWMS.[1]

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[1] Second Amended General Guidelines for the Development of the 2026 Regional Water Plans, September 2023. https://www.twdb.texas.gov/waterplanning/rwp/planningdocu/2026/projectdocs/2026RWP_ExhibitC.pdf

While the TWDB list is comprehensive, each strategy type is not appropriate for every need, and some strategy types may not be appropriate for Region C water users. To determine whether a strategy is potentially feasible, the first considerations are:

- A strategy must use proven technology and must be technically feasible.
- A strategy should have an identifiable sponsor.
- A strategy must consider end use. This includes water quality, economics, geographic constraints, etc.
- A strategy must meet existing regulations.

The second consideration is whether a strategy would provide sufficient water to meet a projected need or a sizeable portion of the need. Considerations include:

- Is there available existing supply that is not already allocated to another user?
- Can new water be developed? If yes, identify the potential sources.
- Does the water quality meet the end use requirements? If not, can it be treated?
- Are there any technical considerations that would preclude the feasibility of the strategy type? For example, are there suitable geologic formations for aquifer storage and recovery (ASR)?

Strategy types that will be reviewed for consideration as potentially feasible for Region C include:

1. **Water Conservation**. Water conservation must be considered as a strategy for every identified need. If water conservation is not adopted, the reason must be documented. Region C will also consider conservation for municipal Water User Groups that do not show an identified need.
2. **Reuse.** Reuse projects will be considered on a case-by-case basis. Both direct and indirect reuse will be considered as appropriate.
3. **Management of existing water supplies.** The management of existing water supplies (including voluntary redistribution of water resources as well as voluntary subordination of water rights) will be considered on a case-by-case basis.
4. **Conjunctive use.** The conjunctive use of groundwater and surface water supplies may be considered when groundwater supplies are available to a user. Applicable groundwater conservation district rules will be considered for such conjunctive systems.
5. **Acquisition of available existing water supplies.** The acquisition and connection of available existing supplies will be considered on a case-by-case basis. In general, supplies should be owned by the water group with a need for additional supply or available to that group for purchase or permitting.
6. **Development of new water supplies.** New supply development is a critical component for Region C. This includes developing new surface water supplies and new groundwater supplies.
7. **Developing regional water supply facilities or providing regional management of water supply facilities.** With the growing regional water needs, regionalization is an important consideration for future water supplies.
8. **Developing large-scale desalination facilities for seawater or brackish groundwater production zones identified and designated under TWC §16.060(b)(5).** The RCWPG will consider desalination on a case-by-case basis.
9. **Developing large-scale desalination facilities for marine seawater that serve local or regional entities.** The RCWPG will consider desalination on a case-by-case basis.
10. **Voluntary transfer of water within the region using, but not limited to, contracts, water marketing, regional water banks, sales, leases, options, subordination agreements, and financing agreements.**
11. **Emergency transfer of water under TWC §11.139.**

12. **Interbasin transfers of surface water.** The RCWPG will recommend interbasin transfers when necessary to transport water from the source to its destination. Interbasin transfers will be evaluated in accordance with current regulations.
13. **System optimization.** Strategies will be considered for WUGs/WWPs that operate multiple water supply sources. Only system optimization that results in increased yield will be considered as potentially feasible.
14. **Reallocation of reservoir storage to new uses.** The RCWPG will consider reallocation of reservoir storage if the owner is amenable to reallocation and, in a case where reallocation in federal reservoirs is being considered (such as from flood to conservation storage), an appropriate and willing local sponsor can be found to sponsor a federal study.
15. **Enhancements of yields.** The RCWPG will consider yield enhancement projects as appropriate for the water source and identified need.
16. **Improvements to water quality.** The RCWPG will consider water quality improvement projects for municipal supplies that bring the existing water supply into compliance with state and federal regulations. General water quality projects may be considered if they improve the usability of the water source to help meet demands.
17. **New surface water supply.** The RCWPG will consider new surface water resources that can be permitted, provide a reasonable amount of supply to meet the identified need, are located within a reasonable distance of the end users, and are expected to provide water supplies at a reasonable cost.
18. **New groundwater supply.** The RCWPG will consider groundwater supplies in areas where additional groundwater is available.
19. **Aquifer storage and recovery.** The RCWPG will consider aquifer storage and recovery where the structure of the aquifer is such that this method is applicable. A preliminary ASR study must have already been performed to consider an area feasible for an ASR project.

There are several strategy types that likely are not appropriate for Region C water users. However, they may be considered if a project sponsor requests as a specific strategy.

1. **Drought management.** The RCWPG recommends that drought management WMS be implemented in response to drought conditions. These will be used to respond to drought conditions and provide a safety factor for water users. Drought management measures will not be adopted as strategies to meet long-range needs.
2. **Cancellation of water rights.** The Texas Commission on Environmental Quality has the power to cancel water rights after ten years of non-use, but this involuntary cancellation authority has seldom been used. The Water Availability Models show that very little additional supply would be gained from water right cancellation in Region C. Therefore, water right cancellation is not recommended as a potentially feasible water management strategy for Region C.
3. **Brush control.** The RCWPG will consider brush control as a general regional strategy. Specific impacts and quantity of supply will not be evaluated unless there is available data from existing studies.
4. **Precipitation enhancement.** The RCWPG will consider precipitation enhancement as a general regional strategy. Specific impacts and quantity of supply will not be evaluated unless there is available data from existing studies.
5. **Rainwater harvesting.** The RCWPG will consider rainwater harvesting as a general regional strategy. Specific impacts and quantity of supply will not be evaluated unless there is available data from existing studies.

# Agenda Item IV.G – Attachment

## Infeasible Water Management Strategy Memorandum

# MEMORANDUM

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www.freese.com

**TO:** Region C Regional Water Planning Group

**CC:** File

**FROM:** Freese and Nichols, Inc.

**SUBJECT:** Identification of Infeasible Water Management Strategies

**DATE:** 10/30/2023

**PROJECT:** TRA21862

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The purpose of this memorandum is to review the methodology used to evaluate the infeasibility of water management strategies and projects from the *2021 Region C Plan* and the results of the analysis. The Texas Legislature passed a new requirement for the 2026 planning cycle that requires the regional water planning groups (RWPGs) to conduct a one-time, mid-cycle analysis of the previous regional water plan (RWP) to identify any newly infeasible water management strategies (WMSs) and water management strategy projects (WMSP) that were feasible and recommended at the time of the adoption of the previous RWP but which have since become infeasible and must be modified or amended out of the previous RWP.

The following summarizes the methodology and criteria by which Region C identified infeasible WMS and WMSPs. This methodology was presented to the Region C Water Planning Group on July 17, 2023, and was approved at the same meeting.

The Texas Water Development Board (TWDB) conducted a preliminary screening of the *2021 Region C Plan* and provided lists of WMS and WMSPs for review . Region C then conducted an initial screening of these WMS and WMSPs based on the following criteria:

1) Does the strategy require construction or permitting?
2) Is it recommended to be online in 2020?
3) Is there an identifiable sponsor (e.g., livestock has no sponsor)?
4) Is the WMS a major project type (e.g., reservoir)?

If a WMS met all the screening criteria, then the WMS was retained for further evaluation. Initial screening eliminated all conservation strategies, strategies for self-supplied aggregated WUGs, and infrastructure projects that were recommended to be online in 2030 or later.

Each of the WMSs and WMSPs retained for further evaluation was compared to the TWDB criteria for feasibility. If a WMS or WMSP had been implemented or affirmative steps had been taken, then it was considered feasible. Affirmative steps included but were 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 in accordance with the implementation schedule in the state water plan. The TWDB also clarified that a WMS or WMSP may also be considered feasible if it was not in the correct planning decade, but the sponsor had taken affirmative steps towards implementation.

The WMS online date for these projects would be moved to the appropriate decade in the *2026 Region C Plan.*

The TWDB identified 710 strategies (WMS) and 356 projects (WMSP) for review by the Region C planning group. A WMS is a plan to meet an identified need for additional water by an entity, which can mean increasing the total water supply or maximizing an existing supply, including through reducing demands. A WMSP is a water project that has a capital cost and is developed to implement a WMS. When a WMSP is implemented, it is intended to develop, deliver, and/or treat additional water supply volumes, or conserve water for an entity(s). There may be multiple projects for a single strategy. While both strategies and projects are interrelated, they are tracked separately by the TWDB and require evaluation separately.

To assess whether these strategies and projects are feasible, FNI conducted a secondary screening process to refine the list of strategies that do not require a permit or construction or do not have an identifiable sponsor. We also assessed the time necessary to develop a strategy to determine if a future strategy could be implemented within the timeframe specified in the regional plan. Following this screening, FNI reached out to each of the sponsors of the remaining strategies through email and then follow-up phone calls. We also reviewed available public information, such as the State drilling records database. For entities that did not respond to our inquests, we assumed the strategies or projects are feasible in accordance with the guidance provided by the TWDB.

The review of these strategies and projects found all are considered feasible and are documented in **Appendix A**. A summary of this review is presented below.

- **Conservation.** Of the 710 strategies, 657 were conservation related and therefore do not require a permit or construction and were found to be feasible.
- **Unallocated Supply or Conservation Surplus Reallocation.** Seventeen strategies were pertaining to unallocated supply or conservation surplus reallocation. These WMSs were primarily developed for database purposes and represent existing supplies that were not able to be allocated to a customer due to a reported constraint (infrastructure/contract). Once the supply became available or the constraint was resolved, these additional existing supplies are able to be allocated. Since these WMSs do not require a permit or construction they were found to be feasible.
- **Strategies that were not evaluated.** Three strategies were not evaluated and are considered feasible for the purposes of this analysis. Of those, two are strategies developed for mining and there is no longer a projected need. This has been reflected in revisions made to demands in the *2026 Region C Plan*. The other strategy not evaluated is the DWU off-channel reservoir for indirect reuse, which has an online date of 2050. Permitting for new reservoirs is expected to take between 10 and 20 years, and design and construction between 6 and 8 years. Therefore, no activity is required for reservoir projects recommended after 2040 and are considered to be technically feasible.
- **Strategies that have been implemented.** Twenty-four strategies were found to have been implemented. Of those, 21 strategies were pertaining to groundwater well development and were verified against the TWDB Submitted Drillers Report Database as having been implemented in some capacity. Eight of the groundwater strategies were for county-aggregated water user groups that represent a conglomeration of entities (such as county-other or mining). In these instances, the TWDB recognizes that without a distinct identifiable sponsor, information is not available to assess the feasibility of these projects and they can be considered feasible for this analysis. The remaining three included Bois d'Arc Lake, Weatherford Indirect Reuse, and

Gainesville Direct Reuse. The sponsor and/or engineering consultant were contacted, and they confirmed that the strategies had been implemented by the deadline of January 5, 2023.

- **Other strategies that have not yet been implemented but the sponsor has taken affirmative steps.** The TWDB clarified that if a strategy is shown as online in 2020 and has not yet been implemented, but the sponsor has taken any affirmative steps, it could still be considered technically feasible, and no amendment to the *2021 Region C Plan* is needed. The online decade will be corrected as necessary in the *2026 Region C Plan*. The remaining nine strategies fall within this category. Of these strategies, three are for new major reservoirs. UTRWD's Ralph Hall Reservoir and Reuse strategy began construction June 2021 with plans to deliver water by the 2030 online date. TRWD's Tehuacana strategy has been part of TRWD's long-range planning and the TRWD has taken affirmative action towards implementation via numerous studies. The joint strategy of Marvin Nichols Reservoir was recommended in the *2021 Region C Plan* with a projected online date of 2050. As discussed previously, permitting for new reservoirs is expected to take between 10 and 20 years, and design and construction between 6 and 8 years. Therefore, the strategy is considered technically feasible for the purposes of this analysis. However, it is important to note that project sponsors have continued to finance studies on the strategy and taken affirmative actions to gather data necessary for permitting.

In addition to the WMSs, 356 projects were reviewed as part of this analysis.

- **Conservation.** Of these projects, 273 were related to conservation and were found to be feasible. For the types of conservation projects identified, capital costs are assumed to be budgeted annually and therefore, expenditures have been made.
- **Projects that were not evaluated**. 32 projects were not evaluated and were considered feasible for the purposes of this analysis. Of those, six of the projects were not able to be evaluated because the project sponsor did not respond to request for information and affirmative action was not able to be verified. Four of those projects were for groundwater wells and two of the projects were for connections to new water providers. Three of the projects were for county-aggregated water user groups and do not have a specific sponsor. In these instances, the TWDB recognizes that without a distinct identifiable sponsor, information is not available to assess the feasibility of these projects and they can be considered feasible for this analysis. Two of the projects were not evaluated because they refer to new major reservoirs with a recommended online date after 2040 (Lake Columbia and DWU Off-channel reservoir). Permitting for new reservoirs is expected to take between 10 and 20 years, and construction between 6 and 8 years. Therefore, no activity is required for reservoir projects recommended after 2040 and are considered to be technically feasible. The remaining 21 projects can be implemented in less than 10 years and do not have project related strategy supply until 2030. Therefore, the projects are considered feasible for the purposes of this analysis.
- **Projects that have been implemented.** 23 projects were found to have been implemented. Of those, 17 strategies were pertaining to groundwater well development and were verified against the TWDB Submitted Drillers Report Database as having been implemented in some capacity. The remaining six included Bois d'Arc Lake, Gainesville Direct Reuse, B H P WSC Connection to NTMWD, Hudson Oaks and Willow Park Connection to Fort Worth, and Midlothian WTP Expansion. The sponsor and/or engineering consultant were contacted, and they confirmed that the projects had been implemented.
- **Other projects that have not yet been implemented but the sponsor has taken affirmative steps.** The TWDB clarified that if a project is shown as online in 2020 and has not yet been implemented, but the sponsor has taken any affirmative steps, it could be considered still technically feasible, and no amendment to the *2021 Region C Plan* is needed. The online decade

will be corrected as necessary in the *2026 Region C Plan*. The remaining 28 strategies fall within this category. Of these projects, three are for new major reservoirs. UTRWD's Ralph Hall Reservoir and Reuse strategy began construction June 2021 with plans to deliver water by the 2030 online date. TRWD's Tehuacana strategy has been part of TRWD's long-range planning and the TRWD has taken affirmative action towards implementation via numerous studies. The joint strategy of Marvin Nichols Reservoir was recommended in the *2021 Region C Plan* with a projected online date of 2050. As discussed previously, permitting for new reservoirs is expected to take between 10 and 20 years, and design and construction between 6 and 8 years. Therefore, the project is considered technically feasible for the purposes of this analysis. However, it is important to note that project sponsors have continued to finance studies on the strategy and taken affirmative actions to gather data necessary for permitting.

**Appendix A** includes the WMS and WMSPs that the TWDB selected for the infeasibility analysis. Also included is additional information on the recommendations that were made on whether the WMS and/or WMSP was identified as feasible. Conservation WMS and WMSPs are not included in the Appendix since they do not require a permit or construction and were found to be feasible.

**No WMS or WMSPs were identified as infeasible as a result of this analysis. If affirmative steps were taken by the project sponsor but the strategy/project has not yet been implemented, this will be updated as necessary in the *2026 Region C Plan*.**

# Appendix A

TWDB Listed Water Management Strategies and Projects for Infeasibility Analysis

| WMS identified as infeasible? (Y/N) | RWPG Comments | WMS Sponsor Region | WMS Type | WMS Description | WMSId | WMS Name | WMS Group Name | WMS Sponsor and/or select WUG Beneficiary List | Source Description | Strategy Supply 2020 | Strategy Supply 2030 | Strategy Supply 2040 | Strategy Supply 2050 | Strategy Supply 2060 | Strategy Supply 2070 | Is Strategy Supply Related to a WMS Project? |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Unallocated Supply or Conservation Surplus Reallocation** | | | | | | | | | | | | | | | | |
| N | The WMS of 'Unallocated Supply Utilization' is primarily for database purposes. This represents existing supplies that were not able to be allocated to a customer due to a reported constraint (infrastructure/contract). Once the demand reduction WMS of conservation is applied, these existing supplies are able to be allocated within the constraints. | C | Groundwater wells and other | Transfer/Transaction | 5458 | Gainesville - Unallocated Groundwater Supply Utilization | | Gainesville | Trinity Aquifer \| Cooke | 484 | 83 | 77 | 72 | 84 | 56 | N |
| N | The WMS of 'Unallocated Supply Utilization' is primarily for database purposes. This represents existing supplies that were not able to be allocated to a customer due to a reported constraint (infrastructure/contract). Once the demand reduction WMS of conservation is applied, these existing supplies are able to be allocated within the constraints. | C | Indirect reuse | Transfer/Transaction | 5233 | Seagoville - Unallocated Supply Utilization | | Seagoville | Trinity Indirect Reuse | 7 | 39 | 48 | 58 | 80 | 100 | N |
| N | The WMS of 'Unallocated Supply Utilization' is primarily for database purposes. This represents existing supplies that were not able to be allocated to a customer due to a reported constraint (infrastructure/contract). Once the demand reduction WMS of conservation is applied, these existing supplies are able to be allocated within the constraints. | C | Other surface water | Transfer/Transaction | 2871 | Denton - Unallocated Supply Utilization | | Denton | Lewisville Lake/Reservoir Non-System Portion | 1,338 | 1,609 | 1,884 | 2,386 | 2,356 | 2,250 | Y |
| N | The WMS of 'Unallocated Supply Utilization' is primarily for database purposes. This represents existing supplies that were not able to be allocated to a customer due to a reported constraint (infrastructure/contract). Once the demand reduction WMS of conservation is applied, these existing supplies are able to be allocated within the constraints. | C | Other surface water | Transfer/Transaction | 2871 | Denton - Unallocated Supply Utilization | | Denton | Ray Roberts Lake/Reservoir Non-System Portion | 3,235 | 3,884 | 4,502 | 5,647 | 5,607 | 5,408 | Y |
| N | Assumed unallocated supply utilization strategy does not require a permit or involve construction, thus not evaluated. | C | Other surface water | Transfer/Transaction | 4948 | DWU - Conservation Surplus Reallocation | | Dallas; Upper Trinity Regional WD - Unassigned Water Volumes | Tawakoni Lake/Reservoir | 1,272 | 368 | 355 | 345 | 155 | 21 | N |
| N | The WMS of 'Unallocated Supply Utilization' is primarily for database purposes. This represents existing supplies that were not able to be allocated to a customer due to a reported constraint (infrastructure/contract). Once the demand reduction WMS of conservation is applied, these existing supplies are able to be allocated within the constraints. | C | Other surface water | Transfer/Transaction | 3415 | Jacksboro - Unallocated Supply Utilization | | Jacksboro | Lost Creek-Jacksboro Lake/Reservoir System | 7 | 7 | 7 | 7 | 7 | 7 | Y |
| N | The WMS of 'Unallocated Supply Utilization' is primarily for database purposes. This represents existing supplies that were not able to be allocated to a customer due to a reported constraint (infrastructure/contract). Once the demand reduction WMS of conservation is applied, these existing supplies are able to be allocated within the constraints. | C | Other surface water | Transfer/Transaction | 5239 | Midlothian - Unallocated Supply Utilization | | Grand Prairie; Midlothian | TRWD Lake/Reservoir System | 1,399 | 4,800 | 4,743 | 3,855 | 3,484 | 3,366 | Y |
| N | The WMS of 'Unallocated Supply Utilization' is primarily for database purposes. This represents existing supplies that were not able to be allocated to a customer due to a reported constraint (infrastructure/contract). Once the demand reduction WMS of conservation is applied, these existing supplies are able to be allocated within the constraints. | C | Other surface water | Transfer/Transaction | 5263 | Runaway Bay - Unallocated Supply Utilization | | Runaway Bay | TRWD Lake/Reservoir System | 652 | 567 | 442 | 516 | 542 | 1,685 | N |
| N | The WMS of 'Unallocated Supply Utilization' is primarily for database purposes. This represents existing supplies that were not able to be allocated to a customer due to a reported constraint (infrastructure/contract). Once the demand reduction WMS of conservation is applied, these existing supplies are able to be allocated within the constraints. | C | Other surface water | Transfer/Transaction | 5233 | Seagoville - Unallocated Supply Utilization | | Seagoville | Fork Lake/Reservoir | 9 | 43 | 55 | 66 | 79 | 96 | N |
| N | The WMS of 'Unallocated Supply Utilization' is primarily for database purposes. This represents existing supplies that were not able to be allocated to a customer due to a reported constraint (infrastructure/contract). Once the demand reduction WMS of conservation is applied, these existing supplies are able to be allocated within the constraints. | C | Other surface water | Transfer/Transaction | 5233 | Seagoville - Unallocated Supply Utilization | | Seagoville | Ray Hubbard Lake/Reservoir | 8 | 39 | 47 | 50 | 56 | 61 | N |
| N | The WMS of 'Unallocated Supply Utilization' is primarily for database purposes. This represents existing supplies that were not able to be allocated to a customer due to a reported constraint (infrastructure/contract). Once the demand reduction WMS of conservation is applied, these existing supplies are able to be allocated within the constraints. | C | Other surface water | Transfer/Transaction | 5233 | Seagoville - Unallocated Supply Utilization | | Seagoville | Ray Roberts-Lewisville-Grapevine Lake/Reservoir System | 21 | 80 | 90 | 94 | 99 | 102 | N |
| N | The WMS of 'Unallocated Supply Utilization' is primarily for database purposes. This represents existing supplies that were not able to be allocated to a customer due to a reported constraint (infrastructure/contract). Once the demand reduction WMS of conservation is applied, these existing supplies are able to be allocated within the constraints. | C | Other surface water | Transfer/Transaction | 5233 | Seagoville - Unallocated Supply Utilization | | Seagoville | Tawakoni Lake/Reservoir | 32 | 133 | 149 | 163 | 174 | 190 | N |
| N | The WMS of 'Unallocated Supply Utilization' is primarily for database purposes. This represents existing supplies that were not able to be allocated to a customer due to a reported constraint (infrastructure/contract). Once the demand reduction WMS of conservation is applied, these existing supplies are able to be allocated within the constraints. | C | Other surface water | Transfer/Transaction | 5236 | Sherman - Unallocated Supply Utilization | | Sherman | Texoma Lake/Reservoir Non-System Portion | 321 | 339 | 1,278 | 813 | 0 | 0 | N |
| N | The WMS of 'Unallocated Supply Utilization' is primarily for database purposes. This represents existing supplies that were not able to be allocated to a customer due to a reported constraint (infrastructure/contract). Once the demand reduction WMS of conservation is applied, these existing supplies are able to be allocated within the constraints. | C | Other surface water | New Infrastructure Only | 3628 | TRWD - Unallocated Supply Utilization | | Tarrant Regional WD | TRWD Lake/Reservoir System | 282 | 64 | 66 | 50 | 71 | 108 | N |

| WMS identified as infeasible? (Y/N) | RWPG Comments | WMS Sponsor Region | WMS Type | WMS Description | WMSId | WMS Name | WMS Group Name | WMS Sponsor and/or select WUG Beneficiary List | Source Description | Strategy Supply 2020 | Strategy Supply 2030 | Strategy Supply 2040 | Strategy Supply 2050 | Strategy Supply 2060 | Strategy Supply 2070 | Is Strategy Supply Related to a WMS Project? |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| N | The WMS of 'Unallocated Supply Utilization' is primarily for database purposes. This represents existing supplies that were not able to be allocated to a customer due to a reported constraint (infrastructure/contract). Once the demand reduction WMS of conservation is applied, these existing supplies are able to be allocated within the constraints. | C | Other surface water | Transfer/Transaction | 3628 | TRWD - Unallocated Supply Utilization | | Tarrant Regional WD; Tarrant Regional WD - Unassigned Water Volumes | TRWD Lake/Reservoir System | 7,371 | 1,621 | 557 | 550 | 926 | 1,752 | Y |
| N | The WMS of 'Unallocated Supply Utilization' is primarily for database purposes. This represents existing supplies that were not able to be allocated to a customer due to a reported constraint (infrastructure/contract). Once the demand reduction WMS of conservation is applied, these existing supplies are able to be allocated within the constraints. | C | Other surface water | Transfer/Transaction | 5257 | Walnut Creek SUD - Unallocated Supply Utilization | | Walnut Creek SUD | TRWD Lake/Reservoir System | 97 | 118 | 160 | 166 | 174 | 180 | Y |
| N | The WMS of 'Unallocated Supply Utilization' is primarily for database purposes. This represents existing supplies that were not able to be allocated to a customer due to a reported constraint (infrastructure/contract). Once the demand reduction WMS of conservation is applied, these existing supplies are able to be allocated within the constraints. | C | Other surface water | Transfer/Transaction | 5446 | Wise County WSD - Unallocated Supply Utilization | | Wise County WSD | TRWD Lake/Reservoir System | 45 | 44 | 40 | 36 | 32 | 30 | Y |
| **Strategies that were not evaluated** | | | | | | | | | | | | | | | | |
| N | Strategy not evaluated as there is no longer a projected mining need in Jacksboro. | C | Indirect reuse | Potable Reuse | 2073 | Mining, Jack - Indirect Reuse (Jacksboro) | | Jacksboro | Trinity Indirect Reuse | 330 | 342 | 348 | 351 | 356 | 359 | N |
| N | Strategy not evaluated as there is no longer a projected mining need in Gainesville. | C | Other direct reuse | Non-Potable Reuse | 3469 | Gainesville - Expand Direct Reuse for Mining | | Gainesville | Direct Reuse | 99 | 67 | 71 | 74 | 77 | 80 | Y |
| N | Reservoir project recommended online date after 2040, thus not evaluated. | C | New major reservoir | New Major Reservoir | 2419 | DWU - Indirect Reuse Implementation | | Dallas; Dallas - Unassigned Water Volumes; Upper Trinity Regional WD - Unassigned Water Volumes | Trinity Indirect Reuse | 0 | 0 | 0 | 78,447 | 89,741 | 95,829 | Y |
| **Other Strategies that have been implemented** | | | | | | | | | | | | | | | | |
| N | Bois D'Arc Lake is currently online. | C | New major reservoir | New Major Reservoir | 2236 | NTMWD - Bois D'Arc Lake | | North Texas MWD; North Texas MWD - Unassigned Water Volumes | Bois D'Arc Lake/Reservoir | 50,000 | 83,979 | 60,510 | 65,514 | 43,184 | 33,477 | Y |
| N | Project implemented by 1/5/2023. | C | Indirect reuse | Potable Reuse | 2070 | Weatherford - Indirect Reuse (Lake Weatherford/Sunshine) | | Weatherford | Trinity Indirect Reuse | 2,242 | 2,803 | 3,363 | 3,363 | 3,363 | 3,363 | Y |
| N | Sponsor has implemented the project by 1/5/2023. The sponsor is currently utilizing reuse for one of their parks and is planning to increase reuse after the installation of their UV system. | C | Other direct reuse | Non-Potable Reuse | 3015 | Gainesville - Expand Direct Reuse for Irrigation | | Gainesville | Direct Reuse | 70 | 70 | 70 | 70 | 70 | 70 | Y |
| N | Project is in the TWDB SDR Database and has been implemented by 1/5/2023. | C | Groundwater wells and other | Groundwater Well Development | 2007 | County-Other, Denton - New Well(s) in Woodbine Aquifer | | County-Other, Denton | Woodbine Aquifer \| Denton | 817 | 817 | 817 | 817 | 817 | 817 | Y |
| N | Project is in the TWDB SDR Database and has been implemented by 1/5/2023. | C | Groundwater wells and other | Groundwater Well Development | 2032 | County-Other, Parker - New Well(s) in Trinity Aquifer | | County-Other, Parker | Trinity Aquifer \| Parker | 235 | 235 | 235 | 235 | 235 | 235 | Y |
| N | Project is in the TWDB SDR Database and has been implemented by 1/5/2023. | C | Groundwater wells and other | Groundwater Well Development | 4994 | Cross Timbers WSC - New Well(s) in Trinity Aquifer | | Cross Timbers WSC | Trinity Aquifer \| Denton | 250 | 250 | 250 | 250 | 250 | 250 | Y |
| N | Project is in the TWDB SDR Database and has been implemented by 1/5/2023. | C | Groundwater wells and other | Groundwater Well Development | 2021 | Gunter - New Well(s) in Trinity Aquifer | | Gunter | Trinity Aquifer \| Grayson | 50 | 50 | 50 | 50 | 50 | 50 | Y |
| N | Project is in the TWDB SDR Database and has been implemented by 1/5/2023. | C | Groundwater wells and other | Groundwater Well Development | 4768 | Irrigation, Fannin - New Well(s) in Trinity Aquifer | | Irrigation, Fannin | Trinity Aquifer \| Fannin | 1,592 | 1,592 | 1,592 | 1,592 | 1,592 | 1,592 | Y |
| N | Project is in the TWDB SDR Database and has been implemented by 1/5/2023. | C | Groundwater wells and other | Groundwater Well Development | 2008 | Justin - New Well(s) in Trinity Aquifer | | Justin | Trinity Aquifer \| Denton | 244 | 244 | 244 | 244 | 244 | 244 | Y |
| N | Project is in the TWDB SDR Database and has been implemented by 1/5/2023. | C | Groundwater wells and other | Groundwater Well Development | 2009 | Krum - New Well(s) in Trinity Aquifer | | Krum | Trinity Aquifer \| Denton | 202 | 202 | 202 | 202 | 202 | 202 | Y |
| N | Project is in the TWDB SDR Database and has been implemented by 1/5/2023. | C | Groundwater wells and other | Groundwater Well Development | 4725 | Lakeside - New Well(s) in Trinity Aquifer | | Lakeside | Trinity Aquifer \| Tarrant | 58 | 61 | 71 | 80 | 77 | 76 | Y |
| N | Project is in the TWDB SDR Database and has been implemented by 1/5/2023. | C | Groundwater wells and other | Groundwater Well Development | 4724 | Livestock, Henderson - New Well(s) in Carrizo-Wilcox Aquifer | | Livestock, Henderson | Carrizo-Wilcox Aquifer \| Henderson | 403 | 403 | 403 | 403 | 403 | 403 | Y |
| N | Project is in the TWDB SDR Database and has been implemented by 1/5/2023. | C | Groundwater wells and other | Groundwater Well Development | 4726 | Livestock, Tarrant - New Well(s) in Trinity Aquifer | | Livestock, Tarrant | Trinity Aquifer \| Tarrant | 75 | 75 | 75 | 75 | 75 | 75 | Y |
| N | Project is in the TWDB SDR Database and has been implemented by 1/5/2023. | C | Groundwater wells and other | Groundwater Well Development | 2035 | Manufacturing, Wise - New Well(s) in Trinity Aquifer | | Manufacturing, Wise | Trinity Aquifer \| Wise | 201 | 201 | 201 | 201 | 201 | 201 | Y |
| N | Project is in the TWDB SDR Database and has been implemented by 1/5/2023. | C | Groundwater wells and other | Groundwater Well Development | 2024 | Mining, Grayson - New Well(s) in Trinity Aquifer | | Mining, Grayson | Trinity Aquifer \| Grayson | 100 | 100 | 100 | 100 | 100 | 100 | Y |
| N | Project is in the TWDB SDR Database and has been implemented by 1/5/2023. | C | Groundwater wells and other | Groundwater Well Development | 4721 | Northwest Grayson County WCID 1 - New Well(s) in Trinity Aquifer | | Northwest Grayson County WCID 1 | Trinity Aquifer \| Grayson | 29 | 29 | 34 | 55 | 130 | 247 | Y |
| N | Project is in the TWDB SDR Database and has been implemented by 1/5/2023. | C | Groundwater wells and other | Groundwater Well Development | 4996 | Pelican Bay - New Well(s) in Trinity Aquifer | | Pelican Bay | Trinity Aquifer \| Tarrant | 24 | 24 | 24 | 24 | 24 | 24 | Y |
| N | Project is in the TWDB SDR Database and has been implemented by 1/5/2023. | C | Groundwater wells and other | Groundwater Well Development | 2010 | Pilot Point - New Well(s) in Trinity Aquifer | | Pilot Point | Trinity Aquifer \| Denton | 313 | 313 | 313 | 313 | 313 | 313 | Y |
| N | Project is in the TWDB SDR Database and has been implemented by 1/5/2023. | C | Groundwater wells and other | Groundwater Well Development | 4720 | South Freestone County WSC - New Well(s) in Carrizo-Wilcox Aquifer | | South Freestone County WSC | Carrizo-Wilcox Aquifer \| Freestone | 16 | 11 | 23 | 110 | 255 | 571 | Y |
| N | Project is in the TWDB SDR Database and has been implemented by 1/5/2023. | C | Groundwater wells and other | Groundwater Well Development | 2015 | Teague - New Well(s) in Carrizo-Wilcox Aquifer | | Teague | Carrizo-Wilcox Aquifer \| Freestone | 13 | 0 | 169 | 409 | 613 | 822 | Y |
| N | Project is in the TWDB SDR Database and has been implemented by 1/5/2023. | C | Groundwater wells and other | Groundwater Well Development | 4713 | Anna - New Well(s) in Woodbine Aquifer | | Anna | Woodbine Aquifer \| Collin | 200 | 200 | 200 | 200 | 200 | 200 | Y |
| N | Project is in the TWDB SDR Database and has been implemented by 1/5/2023. | C | Groundwater wells and other | Groundwater Well Development | 4992 | Argyle WSC - New Well(s) in Trinity Aquifer | | Argyle WSC | Trinity Aquifer \| Denton | 250 | 250 | 250 | 250 | 250 | 250 | Y |
| N | Project is in the TWDB SDR Database and has been implemented by 1/5/2023. | C | Groundwater wells and other | Groundwater Well Development | 4993 | Bolivar WSC - New Well(s) in the Trinity Aquifer | | Bolivar WSC | Trinity Aquifer \| Denton | 250 | 250 | 250 | 250 | 250 | 250 | Y |
| N | Project is in the TWDB SDR Database and has been implemented by 1/5/2023. | C | Groundwater wells and other | Groundwater Well Development | 2006 | County-Other, Denton - New Well(s) in Trinity Aquifer | | County-Other, Denton | Trinity Aquifer \| Denton | 504 | 504 | 504 | 504 | 504 | 504 | Y |
| **Other Strategies that have not yet been implemented but the sponsor has taken affirmative steps** | | | | | | | | | | | | | | | | |
| N | Reservoir project recommended online date (2050) is after 2040. Project sponsors have continued to finance studies on the reservoir and take affirmative actions to gather data necessary for permitting. | C | New major reservoir | New Major Reservoir | 2429 | Marvin Nichols (328) Strategy for NTMWD, TRWD, and UTRWD | | Marvin Nichols Reservoir - Unassigned Water Volumes; North Texas MWD; North Texas MWD - Unassigned Water Volumes; Tarrant Regional WD; Tarrant Regional WD - Unassigned Water Volumes; Upper Trinity Regional WD; Upper Trinity Regional WD - Unassigned Water Volumes | Marvin Nichols Lake/Reservoir | 0 | 0 | 0 | 451,500 | 451,500 | 451,500 | Y |
| N | Sponsor has taken affirmative steps towards implementation. The TRWD ASR pilot well is currently in the final design phase and is out for construction bid. | C | Aquifer storage and recovery | Aquifer Storage & Recovery | 4936 | TRWD - Aquifer Storage and Recovery Pilot | | Tarrant Regional WD - Unassigned Water Volumes | Trinity Aquifer ASR \| Tarrant | 2,500 | 1,710 | 2,011 | 2,430 | 1,581 | 1,042 | Y |
| N | Sponsor has taken affirmative steps towards implementation. This WMS includes both the share of additional discharges to Lewisville Lake (no associated costs; implemented) and the Elm Fork Swap/Ray Hubbard Exchange with NTMWD (affirmative steps taken towards implementation). There are also no permitting or construction costs involved with this WMS. | C | Indirect reuse | Potable Reuse | 2419 | DWU - Indirect Reuse Implementation | | Dallas; Dallas - Unassigned Water Volumes; Upper Trinity Regional WD - Unassigned Water Volumes | Trinity Indirect Reuse | 29,234 | 34,336 | 27,813 | 27,722 | 25,114 | 24,204 | Y |
| N | Sponsor has taken affirmative steps towards implementation. Sponsor has secured water rights from TRA from Mountain Creek. | C | Indirect reuse | Potable Reuse | 5245 | Midlothian - Indirect Reuse | | Midlothian | Trinity Indirect Reuse | 2,107 | 9,203 | 10,100 | 10,224 | 10,324 | 10,470 | Y |

| WMS identified as infeasible? (Y/N) | RWPG Comments | WMS Sponsor Region | WMS Type | WMS Description | WMSId | WMS Name | WMS Group Name | WMS Sponsor and/or select WUG Beneficiary List | Source Description | Strategy Supply 2020 | Strategy Supply 2030 | Strategy Supply 2040 | Strategy Supply 2050 | Strategy Supply 2060 | Strategy Supply 2070 | Is Strategy Supply Related to a WMS Project? |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| N | Direct reuse has been ongoing since 2007. Sponsor has taken affirmative steps towards implementation. Additional pumping capacity has not been completed but has a proposed in-service for summer 2024. | C | Other direct reuse | Non-Potable Reuse | 2071 | Frisco - Additional Direct Reuse | | Frisco | Direct Reuse | 325 | 594 | 856 | 1,118 | 1,379 | 1,379 | Y |
| N | Sponsor has taken affirmative steps towards implementation. Sponsor has a current CMAR contract for a Lake Texoma raw water intake pump station and pipeline. | C | Other surface water | Transfer/Transaction | 2868 | Denison - Texoma with Infrastructure Improvements | | Denison | Texoma Lake/Reservoir Non-System Portion | 341 | 697 | 844 | 1,695 | 3,517 | 6,764 | Y |
| N | Sponsor has taken affirmative steps towards implementation. Sponsor has paid off Lake Muenster and is currently in the design phase for the WTP. | C | Other surface water | New Infrastructure Only | 3416 | Muenster - Develop Muenster Lake Supply | | Muenster | Muenster Lake/Reservoir | 280 | 280 | 280 | 280 | 280 | 280 | Y |
| N | Tehuacana has been part of TRWD's long-range planning and the District has taken affirmative action towards implementation via numerous studies. | C | New major reservoir | New Major Reservoir | 2182 | TRWD - Tehuacana | | Tarrant Regional WD; Tarrant Regional WD - Unassigned Water Volumes | Tehuacana Lake/Reservoir | 0 | 0 | 21,070 | 21,070 | 21,070 | 21,070 | Y |
| N | Construction of Lake Ralph Hall began in June 2021 with plans to deliver water by the 2030 online date. | C | New major reservoir | New Major Reservoir | 2469 | UTRWD - Ralph Hall Reservoir and Reuse | | Upper Trinity Regional WD; Upper Trinity Regional WD - Unassigned Water Volumes | Ralph Hall Lake/Reservoir | 0 | 39,220 | 39,142 | 39,064 | 38,986 | 38,908 | Y |

| WMS Project identified as infeasible? (Y/N) | RWPG Comments | Project Sponsor Region | Project Category | WMS Project Id | WMS Project Name | Capital Cost | Online Decade | Project Sponsors | Project Components | Project Related WMS Types | Project Related Source Subtypes | Project Related Strategy Supply 2020 AFY | Project Related Strategy Supply 2030 AFY | Project Related Strategy Supply 2040 AFY | Project Related Strategy Supply 2050 AFY | Project Related Strategy Supply 2060 AFY | Project Related Strategy Supply 2070 AFY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Projects that were not evaluated** | | | | | | | | | | | | | | | | | |
| N | Project sponsor did not respond to request for information and affirmative steps were not able to be verified. | C | Other project type | 4016 | Cross Timbers WSC - New Well(s) in Trinity Aquifer | $2,955,000 | 2020 | Cross Timbers WSC | Multiple Wells/Well Field | Groundwater wells and other | Groundwater | 250 | 250 | 250 | 250 | 250 | 250 |
| N | Project sponsor did not respond to request for information and affirmative steps were not able to be verified. | C | Other project type | 3831 | Lakeside - New Well(s) in Trinity Aquifer | $1,413,000 | 2020 | Lakeside | Multiple Wells/Well Field | Groundwater wells and other | Groundwater | 58 | 61 | 71 | 80 | 77 | 76 |
| N | Project sponsor did not respond to request for information and affirmative steps were not able to be verified. | C | Other project type | 3825 | South Freestone County WSC - New Well(s) in Carrizo-Wilcox Aquifer | $6,485,000 | 2020 | South Freestone County WSC | Multiple Wells/Well Field | Groundwater wells and other | Groundwater | 16 | 11 | 23 | 110 | 255 | 571 |
| N | Project sponsor did not respond to request for information and affirmative steps were not able to be verified. | C | Other project type | 1065 | Teague - New Wells in Carrizo-Wilcox Aquifer Q-135 | $5,230,000 | 2020 | Teague | Multiple Wells/Well Field | Groundwater wells and other | Groundwater | 13 | 0 | 169 | 409 | 613 | 822 |
| N | Project sponsor did not respond to request for information and affirmative steps were not able to be verified. | C | Other project type | 1136 | Newark - Connect to Rhome | $1,584,000 | 2020 | Newark | Conveyance/Transmission Pipeline | Aquifer storage and recovery;Groundwater wells and other;Indirect reuse;New major reservoir;Other surface water | Aquifer Storage and Recovery;Groundwater;Indirect Potable Reuse;Reservoir;Reservoir System | 13 | 39 | 88 | 188 | 349 | 546 |
| N | Project sponsor did not respond to request for information and affirmative steps were not able to be verified. | C | Other project type | 1047 | Sardis Lone Elm - Connect to TRWD | $11,696,000 | 2020 | Sardis Lone Elm WSC | Pump Station; Conveyance/Transmission Pipeline | Aquifer storage and recovery;Groundwater wells and other;Indirect reuse;New major reservoir;Other surface water | Aquifer Storage and Recovery;Groundwater;Indirect Potable Reuse;Reservoir;Reservoir System | 767 | 1,983 | 2,582 | 2,959 | 3,410 | 3,639 |
| N | Project does not have an identifiable sponsor, thus not evaluated. | C | Other project type | 1081 | County Other, Jack - Infrastructure to Connect to Jacksboro | $2,152,000 | 2020 | Municipal county-other (Jack) | Conveyance/Transmission Pipeline; Pump Station | Other surface water | Reservoir System | 7 | 7 | 7 | 7 | 7 | 7 |
| N | Project does not have an identifiable sponsor, thus not evaluated. | C | Other project type | 1082 | County Other, Jack - Infrastructure to Connect to Walnut Creek SUD | $5,002,000 | 2020 | Municipal county-other (Jack) | Conveyance/Transmission Pipeline; Pump Station | Aquifer storage and recovery;Groundwater wells and other;Indirect reuse;New major reservoir;Other surface water | Aquifer Storage and Recovery;Groundwater;Indirect Potable Reuse;Reservoir;Reservoir System | 7 | 12 | 16 | 24 | 29 | 32 |
| N | Project does not have an identifiable sponsor, thus not evaluated. | C | Other project type | 1079 | County Other, Kaufman - WTP and Connect to TRWD | $11,016,000 | 2020 | Municipal county-other (Kaufman) | Conveyance/Transmission Pipeline; New Water Treatment Plant; Pump Station | Aquifer storage and recovery;Groundwater wells and other;Indirect reuse;New major reservoir;Other surface water | Aquifer Storage and Recovery;Groundwater;Indirect Potable Reuse;Reservoir;Reservoir System | 58 | 53 | 86 | 91 | 157 | 328 |
| N | Reservoir project recommended online date (2070) is after 2040, thus not evaluated. | C | New major reservoir | 969 | DWU - Lake Columbia | $322,267,000 | 2070 | Dallas | New Contract; New Water Right/Permit Non-Exempt IBT; Conveyance/Transmission Pipeline; New Surface Water Intake; Pump Station; Reservoir Construction | New major reservoir | Reservoir | 0 | 0 | 0 | 0 | 0 | 56,000 |
| N | The DWU Main Stem Balancing Reservoir is not recommended to be online until 2050. Project related strategy supply in 2020 is associated with other indirect reuse supply such as the share of additional discharges to Lewisville Lake (implemented) and the Elm Fork Swap/Ray Hubbard Exchange with NTMWD (affirmative action has been taken). | C | New major reservoir | 834 | DWU - Main Stem Balancing Reservoir | $772,904,000 | 2050 | Dallas | Conveyance/Transmission Pipeline; Pump Station; Reservoir Construction; New Surface Water Intake | Indirect reuse;New major reservoir | Indirect Potable Reuse | 29,234 | 35,751 | 42,119 | 129,300 | 148,673 | 158,388 |
| N | This project was not evaluated for feasibility because the constraint on existing supplies for the City of Azle is based on a contractual limit with TRWD and not a WTP capacity constraint. The online date of this project should be in a later decade. This will be revised as appropriate in the 2026 Region C Plan. | C | Other project type | 859 | Azle - 4 MGD WTP Expansion | $25,410,000 | 2020 | Azle | Water Treatment Plant Expansion | Groundwater wells and other;Indirect reuse;New major reservoir;Other surface water | Groundwater;Indirect Potable Reuse;Reservoir;Reservoir System | 224 | 311 | 424 | 624 | 999 | 1,734 |
| N | Project related strategy supply does not occur until 2060. | C | Other project type | 1074 | Athens MWA - New Wells Phase 1 | $15,151,000 | 2020 | Athens Municipal Water Authority | Multiple Wells/Well Field | Groundwater wells and other | Groundwater | 0 | 0 | 0 | 0 | 590 | 1,693 |
| N | Project related strategy supply does not occur until 2060. | C | Other project type | 3861 | Athens MWA - New Wells Phase 2 | $2,573,000 | 2020 | Athens Municipal Water Authority | Single Well | Groundwater wells and other | Groundwater | 0 | 0 | 0 | 0 | 590 | 1,693 |
| N | Project related strategy supply does not occur until 2060. | C | Other project type | 1075 | Athens MWA - WTP Infrastructure Improvements | $65,000 | 2020 | Athens Municipal Water Authority | Water Treatment Plant Expansion | Indirect reuse | Indirect Potable Reuse | 0 | 0 | 0 | 0 | 538 | 1,817 |
| N | Project related strategy supply does not occur until after 2020. | C | Other project type | 4017 | Dorchester - New Well(s) in Trinity Aquifer | $1,845,000 | 2020 | Dorchester | Single Well | Groundwater wells and other | Groundwater | 0 | 90 | 90 | 90 | 90 | 90 |
| N | Project related strategy supply does not occur until after 2020. | C | Related to out of state source | 1084 | Forney - Increase Delivery Infrastructure from NTWMD | $13,054,000 | 2020 | Forney | Pump Station | Indirect reuse;New major reservoir;Other surface water | Indirect Potable Reuse;Reservoir;Reservoir System;Run-of-River | 0 | 436 | 892 | 1,558 | 2,977 | 5,187 |
| N | Project related strategy supply does not occur until after 2020. | C | Other project type | 998 | Fort Worth Direct Reuse - Alliance Corridor | $23,008,000 | 2020 | Fort Worth | Water Treatment Plant Expansion; Conveyance/Transmission Pipeline; Pump Station | Other direct reuse | Direct Non-Potable Reuse | 0 | 2,903 | 7,254 | 8,310 | 8,396 | 8,396 |
| N | Project related strategy supply does not occur until after 2020. | C | Other project type | 997 | Fort Worth Village Creek WRF Future Direct Reuse | $97,410,000 | 2020 | Fort Worth | Conveyance/Transmission Pipeline; Pump Station; Water Treatment Plant Expansion | Other direct reuse | Direct Non-Potable Reuse | 0 | 6,687 | 6,687 | 6,687 | 6,687 | 6,687 |
| N | Project related strategy supply does not occur until 2060. | C | Other project type | 1018 | Grand Prairie - Additional Delivery Infrastructure from DWU | $72,782,000 | 2020 | Grand Prairie | Conveyance/Transmission Pipeline; Pump Station | Other surface water | Run-of-River | 0 | 0 | 0 | 0 | 1,522 | 1,385 |
| N | Project related strategy supply does not occur until after 2020. | C | Other project type | 956 | NTMWD & Irving - Lake Chapman Pump Station Expansion | $43,318,000 | 2020 | Irving; North Texas MWD | Pump Station; Storage Tank | Indirect reuse | Indirect Non-Potable Reuse | 0 | 27,539 | 27,539 | 27,539 | 27,539 | 27,539 |
| N | Project related strategy supply does not occur until after 2020. | C | Related to out of state source | 1113 | Rockwall - Additional Delivery Infrastructure from NTWMD | $28,750,000 | 2020 | Rockwall | Conveyance/Transmission Pipeline; Pump Station | Indirect reuse;New major reservoir;Other surface water | Indirect Potable Reuse;Reservoir;Reservoir System;Run-of-River | 0 | 1,422 | 3,088 | 4,349 | 5,965 | 7,540 |
| N | Project related strategy supply does not occur until after 2020. | C | Related to out of state source | 1088 | Terrell - Infrastructure Improvements to Wholesale Customer | $7,945,000 | 2020 | Terrell | Conveyance/Transmission Pipeline | Indirect reuse;New major reservoir;Other surface water | Indirect Potable Reuse;Reservoir;Reservoir System;Run-of-River | 0 | 1,222 | 3,763 | 5,386 | 7,023 | 9,479 |
| N | Project related strategy supply does not occur until after 2020. | C | Other project type | 1108 | Weatherford - Expand Lake Benbrook Pump Station | $2,299,000 | 2020 | Weatherford | Pump Station | Groundwater wells and other;Indirect reuse;New major reservoir;Other surface water | Groundwater;Indirect Potable Reuse;Reservoir;Reservoir System | 0 | 18 | 16 | 1,557 | 7,478 | 13,313 |
| N | Project related strategy supply does not occur until after 2020. | C | Related to out of state source | 1109 | Blackland WSC - Direct Connection to NTWMD | $6,804,000 | 2030 | Blackland WSC | Conveyance/Transmission Pipeline; Pump Station; Storage Tank | Indirect reuse;New major reservoir;Other surface water | Indirect Potable Reuse;Reservoir;Reservoir System;Run-of-River | 0 | 91 | 163 | 238 | 346 | 435 |
| N | Project related strategy supply does not occur until after 2020. | C | Related to out of state source | 1001 | Celina - Connect to and Purchase Water from NTMWD | $17,491,000 | 2030 | Celina | Conveyance/Transmission Pipeline; Pump Station | Indirect reuse;New major reservoir;Other surface water | Indirect Potable Reuse;Reservoir;Reservoir System;Run-of-River | 0 | 1,500 | 3,000 | 4,863 | 4,709 | 4,193 |
| N | Project related strategy supply does not occur until after 2020. | C | Related to out of state source | 1111 | East Fork SUD - Additional Delivery Infrastructure from NTMWD | $5,308,000 | 2030 | East Fork SUD | Conveyance/Transmission Pipeline; Storage Tank | Indirect reuse;New major reservoir;Other surface water | Indirect Potable Reuse;Reservoir;Reservoir System;Run-of-River | 0 | 213 | 375 | 567 | 787 | 993 |
| N | Project related strategy supply does not occur until after 2020. | C | Related to out of state source | 1007 | Prosper - Additional Delivery Infrastructure from NTMWD | $4,608,000 | 2030 | Prosper | Conveyance/Transmission Pipeline; Pump Station; Storage Tank | Indirect reuse;New major reservoir;Other surface water | Indirect Potable Reuse;Reservoir;Reservoir System;Run-of-River | 0 | 1,077 | 2,881 | 4,764 | 6,636 | 6,592 |
| N | Project related strategy supply does not occur until after 2020. | C | Related to out of state source | 2757 | Rowlett - Additional Delivery Infrastructure from NTWMD | $4,105,000 | 2030 | Rowlett | Pump Station; Storage Tank | Indirect reuse;New major reservoir;Other surface water | Indirect Potable Reuse;Reservoir;Reservoir System;Run-of-River | 0 | 1,215 | 2,048 | 3,012 | 3,973 | 4,833 |
| N | Project related strategy supply does not occur until after 2020. | C | Related to out of state source | 1023 | Sunnyvale - Additional Delivery Infrastructure from NTMWD | $2,575,000 | 2030 | Sunnyvale | Conveyance/Transmission Pipeline; Pump Station | Indirect reuse;New major reservoir;Other surface water | Indirect Potable Reuse;Reservoir;Reservoir System;Run-of-River | 0 | 342 | 581 | 922 | 1,152 | 1,358 |
| N | Project related strategy supply does not occur until after 2020. | C | Related to out of state source | 1072 | Van Alstyne - Water System Improvements | $2,844,000 | 2040 | Van Alstyne | Pump Station; Storage Tank | Indirect reuse;New major reservoir;Other strategies;Other surface water | Indirect Potable Reuse;Reservoir;Reservoir System;Run-of-River | 0 | 31 | 110 | 239 | 842 | 1,310 |
| N | Project related strategy supply does not occur until after 2020. | C | Related to out of state source | 1010 | Wylie Northeast SUD - Additional Delivery Infrastructure from NTWMD | $5,731,000 | 2030 | Wylie Northeast SUD | Storage Tank; New Surface Water Intake | Indirect reuse;New major reservoir;Other surface water | Indirect Potable Reuse;Reservoir;Reservoir System;Run-of-River | 0 | 114 | 193 | 417 | 769 | 1,294 |
| **Projects that have been implemented.** | | | | | | | | | | | | | | | | | |
| N | Bois D'Arc Lake is currently online. | C | New major reservoir | 955 | NTMWD - Bois D'Arc Lake | $939,638,000 | 2020 | North Texas MWD | Conveyance/Transmission Pipeline; New Surface Water Intake; Pump Station; Reservoir Construction | New major reservoir | Reservoir | 50,000 | 120,200 | 120,200 | 119,200 | 118,400 | 117,600 |
| N | Project has been implemented. | C | Other project type | 1011 | Gainesville - Expand Direct Reuse | $2,026,000 | 2020 | Gainesville | Conveyance/Transmission Pipeline; Pump Station | Other direct reuse | Direct Non-Potable Reuse | 169 | 137 | 141 | 144 | 147 | 150 |
| N | Project has been implemented. | C | Other project type | 4096 | B H P WSC - Direct Connection to NTWMD | $3,108,000 | 2020 | B H P WSC | Conveyance/Transmission Pipeline; Pump Station; Storage Tank | Other surface water | Reservoir System | 0 | 67 | 86 | 63 | 96 | 109 |
| N | Project has been implemented. | C | Other project type | 4079 | Hudson Oaks - Direct Connection to Fort Worth | $5,500,000 | 2020 | Hudson Oaks | Conveyance/Transmission Pipeline; Pump Station; Storage Tank | Aquifer storage and recovery;Groundwater wells and other;Indirect reuse;New major reservoir;Other surface water | Aquifer Storage and Recovery;Groundwater;Indirect Potable Reuse;Reservoir;Reservoir System | 299 | 482 | 598 | 670 | 720 | 763 |
| N | Project has been implemented. | C | Other project type | 1139 | Willow Park - Connect to Fort Worth | $4,017,000 | 2020 | Willow Park | Conveyance/Transmission Pipeline; Pump Station | Aquifer storage and recovery;Indirect reuse;New major reservoir;Other surface water | Aquifer Storage and Recovery;Indirect Potable Reuse;Reservoir;Reservoir System | 155 | 448 | 557 | 924 | 1,307 | 1,545 |
| N | Project has been implemented. | C | Other project type | 924 | Midlothian - Expand Auger WTP to 16 MGD | $7,498,000 | 2020 | Midlothian | Water Treatment Plant Expansion | Aquifer storage and recovery;Groundwater wells and other;Indirect reuse;New major reservoir;Other surface water | Aquifer Storage and Recovery;Groundwater;Indirect Potable Reuse;Reservoir;Reservoir System | 1,399 | 5,147 | 5,627 | 4,741 | 4,733 | 5,131 |
| N | Project is in the TWDB SDR Database and has been implemented by 1/5/2023. | C | Other project type | 4012 | Anna - New Well(s) in Woodbine Aquifer | $2,846,000 | 2020 | Anna | Multiple Wells/Well Field | Groundwater wells and other | Groundwater | 200 | 200 | 200 | 200 | 200 | 200 |
| N | Project is in the TWDB SDR Database and has been implemented by 1/5/2023. | C | Other project type | 4013 | Argyle WSC - New Well(s) in Trinity Aquifer | $2,955,000 | 2020 | Argyle WSC | Multiple Wells/Well Field | Groundwater wells and other | Groundwater | 250 | 250 | 250 | 250 | 250 | 250 |
| N | Project is in the TWDB SDR Database and has been implemented by 1/5/2023. | C | Other project type | 4015 | Bolivar WSC - New Well(s) in Trinity Aquifer | $2,955,000 | 2020 | Bolivar WSC | Multiple Wells/Well Field | Groundwater wells and other | Groundwater | 250 | 250 | 250 | 250 | 250 | 250 |
| N | Project is in the TWDB SDR Database and has been implemented by 1/5/2023. | C | Other project type | 1103 | County Other, Parker - New Well(s) in Trinity Aquifer | $2,157,000 | 2020 | Municipal county-other (Parker) | Conveyance/Transmission Pipeline; New Water Treatment Plant; Pump Station; Multiple Wells/Well Field | Groundwater wells and other | Groundwater | 235 | 235 | 235 | 235 | 235 | 235 |
| N | Project is in the TWDB SDR Database and has been implemented by 1/5/2023. | C | Other project type | 1032 | County-Other, Denton - New Well(s) in Trinity Aquifer | $5,387,000 | 2020 | Municipal county-other (Denton) | Multiple Wells/Well Field | Groundwater wells and other | Groundwater | 504 | 504 | 504 | 504 | 504 | 504 |
| N | Project is in the TWDB SDR Database and has been implemented by 1/5/2023. | C | Other project type | 1031 | County-Other, Denton - New Well(s) in Woodbine Aquifer | $8,554,000 | 2020 | Municipal county-other (Denton) | Multiple Wells/Well Field | Groundwater wells and other | Groundwater | 817 | 817 | 817 | 817 | 817 | 817 |
| N | Project is in the TWDB SDR Database and has been implemented by 1/5/2023. | C | Other project type | 1069 | Gunter - New Well(s) in Trinity Aquifer | $1,835,000 | 2020 | Gunter | Single Well | Groundwater wells and other | Groundwater | 50 | 50 | 50 | 50 | 50 | 50 |
| N | Project is in the TWDB SDR Database and has been implemented by 1/5/2023. | C | Other project type | 3823 | Irrigation, Fannin - New Well(s) in Trinity Aquifer | $234,000 | 2020 | Irrigation (Fannin) | Multiple Wells/Well Field | Groundwater wells and other | Groundwater | 1,592 | 1,592 | 1,592 | 1,592 | 1,592 | 1,592 |
| N | Project is in the TWDB SDR Database and has been implemented by 1/5/2023. | C | Other project type | 1034 | Justin - New Well(s) in Trinity Aquifer | $2,377,000 | 2020 | Justin | Multiple Wells/Well Field | Groundwater wells and other | Groundwater | 244 | 244 | 244 | 244 | 244 | 244 |

| WMS Project identified as infeasible? (Y/N) | RWPG Comments | Project Sponsor Region | Project Category | WMS Project Id | WMS Project Name | Capital Cost | Online Decade | Project Sponsors | Project Components | Project Related WMS Types | Project Related Source Subtypes | Project Related Strategy Supply 2020 AFY | Project Related Strategy Supply 2030 AFY | Project Related Strategy Supply 2040 AFY | Project Related Strategy Supply 2050 AFY | Project Related Strategy Supply 2060 AFY | Project Related Strategy Supply 2070 AFY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| N | Project is in the TWDB SDR Database and has been implemented by 1/5/2023. | C | Other project type | 1035 | Krum - New Well(s) in Trinity Aquifer | $1,805,000 | 2020 | Krum | Multiple Wells/Well Field | Groundwater wells and other | Groundwater | 202 | 202 | 202 | 202 | 202 | 202 |
| N | Project is in the TWDB SDR Database and has been implemented by 1/5/2023. | C | Other project type | 3830 | Livestock, Henderson - New Well(s) in Carrizo-Wilcox Aquifer | $3,469,000 | 2020 | Livestock (Henderson) | Multiple Wells/Well Field | Groundwater wells and other | Groundwater | 403 | 403 | 403 | 403 | 403 | 403 |
| N | Project is in the TWDB SDR Database and has been implemented by 1/5/2023. | C | Other project type | 3832 | Livestock, Tarrant - New Well(s) in Trinity Aquifer | $584,000 | 2020 | Livestock (Tarrant) | Multiple Wells/Well Field | Groundwater wells and other | Groundwater | 75 | 75 | 75 | 75 | 75 | 75 |
| N | Project is in the TWDB SDR Database and has been implemented by 1/5/2023. | C | Other project type | 1138 | Manufacturing, Wise County - New Well(s) in Trinity Aquifer | $502,000 | 2020 | Manufacturing (Wise) | Multiple Wells/Well Field | Groundwater wells and other | Groundwater | 201 | 201 | 201 | 201 | 201 | 201 |
| N | Project is in the TWDB SDR Database and has been implemented by 1/5/2023. | C | Other project type | 1068 | Mining, Grayson County - New Well(s) in Trinity Aquifer | $806,000 | 2020 | Mining (Grayson) | Multiple Wells/Well Field | Groundwater wells and other | Groundwater | 100 | 100 | 100 | 100 | 100 | 100 |
| N | Project is in the TWDB SDR Database and has been implemented by 1/5/2023. | C | Other project type | 3826 | Northwest Grayson County WCID 1 - New Well(s) in Trinity Aquifer | $2,730,000 | 2020 | Northwest Grayson County WCID 1 | Multiple Wells/Well Field | Groundwater wells and other | Groundwater | 29 | 29 | 34 | 55 | 130 | 247 |
| N | Project is in the TWDB SDR Database and has been implemented by 1/5/2023. | C | Other project type | 4018 | Pelican Bay - New Well(s) in Trinity Aquifer | $529,000 | 2020 | Pelican Bay | Single Well | Groundwater wells and other | Groundwater | 24 | 24 | 24 | 24 | 24 | 24 |
| N | Project is in the TWDB SDR Database and has been implemented by 1/5/2023. | C | Other project type | 1036 | Pilot Point - New Well(s) in Trinity Aquifer | $4,127,000 | 2020 | Pilot Point | Multiple Wells/Well Field | Groundwater wells and other | Groundwater | 313 | 313 | 313 | 313 | 313 | 313 |
| **Projects that have not yet been implemented but the sponsor has taken affirmative steps.** | | | | | | | | | | | | | | | | | |
| N | Reservoir project recommended online date (2050) is after 2040. Project sponsors have continued to finance studies on the reservoir and take affirmative actions to gather data necessary for permitting. | C | New major reservoir | 835 | Marvin Nichols (328) - TRWD, NTMWD, UTRWD | $4,467,478,000 | 2050 | Upper Trinity Regional WD; North Texas MWD; Tarrant Regional WD | Pump Station; Storage Tank; New Water Right/Permit Amendment Non-Exempt IBT; Reservoir Construction; Conveyance/Transmission Pipeline | New major reservoir | Reservoir | 0 | 0 | 0 | 451,500 | 451,500 | 451,500 |
| N | Tehuacana has been part of TRWD's long-range planning and the District has taken affirmative action towards implementation via numerous studies. | C | New major reservoir | 980 | TRWD - Tehuacana Reservoir | $325,468,000 | 2040 | Tarrant Regional WD | Pump Station; Reservoir Construction | New major reservoir | Reservoir | 0 | 0 | 21,070 | 21,070 | 21,070 | 21,070 |
| N | Construction of Lake Ralph Hall began in June 2021 with plans to deliver water by the 2030 online date. | C | New major reservoir | 982 | UTRWD - Lake Ralph Hall and Reuse | $443,091,000 | 2030 | Upper Trinity Regional WD | Conveyance/Transmission Pipeline; New Surface Water Intake; Pump Station; Reservoir Construction | Indirect reuse;New major reservoir | Indirect Potable Reuse;Reservoir | 0 | 53,164 | 53,831 | 54,492 | 54,376 | 54,299 |
| N | Sponsor has taken affirmative steps towards implementation. The TRWD ASR pilot well is currently in the final design phase and is out for construction bid. | C | Aquifer storage and recovery | 3841 | TRWD - ASR Pilot | $14,264,000 | 2020 | Tarrant Regional WD | Multiple Wells/Well Field | Aquifer storage and recovery | Aquifer Storage and Recovery | 2,500 | 2,500 | 5,000 | 5,000 | 5,000 | 5,000 |
| N | Project sponsor has taken affirmative action and the TWDB approved a commitment to the City in 2017. In 2019 the TWDB approved a request from the City to change the scope from groundwater to surface water. In 2020 TWDB approved an amendment to the 2017 State Water Plan and the project was included in the 2022 State Water Plan. Another amendment was approved in 2022 to include improvements to the surface water treatment plant. | C | Other project type | 1105 | Springtown - Infrastructure Improvements- Surface Water Treatment Plant & Supply Project | $4,163,000 | 2020 | Springtown | New Water Treatment Plant; Pump Station | Indirect reuse;New major reservoir;Other surface water | Indirect Potable Reuse;Reservoir;Reservoir System | 448 | 544 | 450 | 492 | 490 | 493 |
| N | Project sponsor has completed a preliminary engineering study to expand treatment capacity. | C | Other project type | 943 | Wise County WSD - 9 MGD WTP Expansion | $53,339,000 | 2020 | Wise County WSD | Water Treatment Plant Expansion | Other surface water | Reservoir System | 45 | 44 | 40 | 36 | 32 | 30 |
| N | Sponsor has taken affirmative steps towards implementation. Sponsor received a loan from TWDB in 2022 and have submitted plans and drawings for the WTP expansion. | C | Other project type | 917 | Mabank - 3 MGD WTP Expansion | $19,817,000 | 2020 | Mabank | Water Treatment Plant Expansion | Aquifer storage and recovery;Groundwater wells and other;Indirect reuse;New major reservoir;Other surface water | Aquifer Storage and Recovery;Groundwater;Indirect Potable Reuse;Reservoir;Reservoir System | 596 | 734 | 797 | 1,497 | 2,576 | 4,069 |
| N | Project is currently in construction with a target completion of April 2024. | C | Other project type | 925 | Midlothian - Expand Auger WTP to 24 MGD | $24,798,000 | 2020 | Midlothian | Water Treatment Plant Expansion | Aquifer storage and recovery;Groundwater wells and other;Indirect reuse;New major reservoir;Other surface water | Aquifer Storage and Recovery;Groundwater;Indirect Potable Reuse;Reservoir;Reservoir System | 1,399 | 5,147 | 5,627 | 4,741 | 4,733 | 5,131 |
| N | Sponsor has taken affirmative action towards implementation and has completed a preliminary study to expand treatment capacity. | C | Other project type | 4025 | Midlothian - Expand Tayman WTP to 20 MGD | $46,259,000 | 2020 | Midlothian | Water Treatment Plant Expansion | Indirect reuse | Indirect Potable Reuse | 2,107 | 9,203 | 10,100 | 10,224 | 10,324 | 10,470 |
| N | Sponsor has taken affirmative steps towards implementation by submitting several funding requests. | C | Other project type | 932 | Runaway Bay - 3 MGD WTP Expansion-1 | $19,823,000 | 2020 | Runaway Bay | Water Treatment Plant Expansion | Groundwater wells and other;Indirect reuse;New major reservoir;Other surface water | Groundwater;Indirect Potable Reuse;Reservoir;Reservoir System | 6 | 77 | 130 | 231 | 315 | 447 |
| N | Sponsor has taken affirmative steps towards implementation. Sponsor is currently under design for the 10 MGD WTP expansion. | C | Surface water desalination | 933 | Sherman - 10 MGD WTP Expansion (Desal)-1 | $82,213,000 | 2020 | Sherman | Water Treatment Plant Expansion | Other strategies | Reservoir | 0 | 10,621 | 18,076 | 22,009 | 30,759 | 40,778 |
| N | Sponsor has taken affirmative steps towards implementation. Sponsor has completed a preliminary study to expand treatment capacity. | C | Other project type | 856 | Walnut Creek SUD - 6 MGD WTP Expansion | $36,582,000 | 2020 | Walnut Creek SUD | New Water Treatment Plant | Aquifer storage and recovery;Groundwater wells and other;Indirect reuse;New major reservoir;Other surface water | Aquifer Storage and Recovery;Groundwater;Indirect Potable Reuse;Reservoir;Reservoir System | 437 | 719 | 893 | 1,639 | 2,804 | 3,998 |
| N | Sponsor has taken affirmative action towards implementation. Consultants are currently scoping the contract. | C | Other project type | 938 | Weatherford - 8 MGD WTP Expansion | $47,753,000 | 2020 | Weatherford | Water Treatment Plant Expansion | Groundwater wells and other;Indirect reuse;New major reservoir;Other surface water | Groundwater;Indirect Potable Reuse;Reservoir;Reservoir System | 0 | 18 | 16 | 1,557 | 7,478 | 13,313 |
| N | Sponsor has taken affirmative steps towards implementation. Sponsor is currently scoping preliminary design of the WTP expansion. | C | Other project type | 4086 | Weatherford - Additional Indirect Reuse Phase 1 | $14,840,000 | 2020 | Weatherford | Pump Station; Water Treatment Plant Expansion; Conveyance/Transmission Pipeline | Indirect reuse | Indirect Potable Reuse | 2,242 | 2,803 | 3,363 | 3,363 | 3,363 | 3,363 |
| N | Sponsor has taken affirmative steps towards implementation. Sponsor has completed a Master Plan, coordinated with the Trinity River Authority (TRA) to install a stub out and manually operated valve (MOV) to Flower Mound, funded installation of reuse waterlines, and TRA is in preliminary design phase for plant expansion, renewal of their TPDES permit, and will be obtaining type 1 reclaimed water permit. | C | Other project type | 4100 | Flower Mound - Alliance Direct Reuse | $1,732,000 | 2020 | Flower Mound | Conveyance/Transmission Pipeline; Pump Station; Water Treatment Plant Expansion | Other direct reuse | Direct Non-Potable Reuse | 0 | 2,903 | 7,254 | 8,310 | 8,396 | 8,396 |
| N | Sponsor has taken affirmative steps towards implementation. Sponsor is currently designing the Mary's Creek WRF and it is planned to be online by 2028. This includes reuse. | C | Other project type | 4075 | Fort Worth Mary's Creek WRF Future Direct Reuse | $46,576,000 | 2020 | Fort Worth | Conveyance/Transmission Pipeline; Pump Station; Water Treatment Plant Expansion | Other direct reuse | Direct Non-Potable Reuse | 0 | 6,687 | 6,687 | 6,687 | 6,687 | 6,687 |
| N | Direct reuse has been ongoing since 2007. Sponsor has taken affirmative steps towards implementation. Additional pumping capacity has not been completed but has a proposed in-service for summer 2024. | C | Other project type | 1004 | Frisco - Direct Reuse | $77,241,000 | 2020 | Frisco | Conveyance/Transmission Pipeline; Pump Station; Storage Tank | Other direct reuse | Direct Non-Potable Reuse | 325 | 594 | 856 | 1,118 | 1,379 | 1,379 |
| N | Sponsor has taken affirmative steps towards implementation. GTUA conducted the GTUA Regional Water System Study in March 2020 to investigate the feasibility of the project and developed preliminary pipeline routes. | C | Surface water desalination | 3849 | GTUA - Regional Water System Phase 1 | $243,986,000 | 2020 | Greater Texoma Utility Authority | Water Treatment Plant Expansion; Conveyance/Transmission Pipeline; Pump Station; Storage Tank | Other strategies | Reservoir | 0 | 7,871 | 14,801 | 17,592 | 22,572 | 22,691 |
| N | Sponsor has taken affirmative steps towards implementation and plans to implement by 2030. | C | Related to out of state source | 996 | GTUA - Parallel Collin-Grayson Municipal Alliance Pipeline | $89,989,000 | 2030 | Greater Texoma Utility Authority | Storage Tank; Conveyance/Transmission Pipeline; Pump Station | Indirect reuse;New major reservoir;Other surface water | Indirect Potable Reuse;Reservoir;Reservoir System;Run-of-River | 0 | 418 | 3,386 | 5,250 | 7,519 | 10,534 |
| N | Sponsor has taken affirmative steps towards implementation. Sponsor has paid off Lake Muenster and is currently in the design phase for the WTP. | C | Other project type | 1015 | Muenster - Develop Lake Muenster Supply | $9,998,000 | 2020 | Muenster | Conveyance/Transmission Pipeline; New Surface Water Intake; New Water Treatment Plant; Pump Station | Other surface water | Reservoir | 280 | 280 | 280 | 280 | 280 | 280 |
| N | Sponsor has taken affirmative steps towards implementation. This project is a generalized version of NTMWD's Capital Improvement Plan (CIP). | C | Other project type | 1145 | NTMWD Treatment & Treated Water Distribution Improvements 2020-2030 | $1,693,455,000 | 2020 | North Texas MWD | Conveyance/Transmission Pipeline; New Water Treatment Plant; Pump Station; Water Treatment Plant Expansion | New major reservoir | Reservoir | 50,000 | 120,200 | 120,200 | 119,200 | 118,400 | 117,600 |
| N | Sponsor has taken affirmative steps towards implementation and has conducted preliminary studies. | C | Other project type | 1110 | Cash WSC - Additional Delivery Infrastructure from NTMWD | $7,888,000 | 2020 | Cash SUD | Conveyance/Transmission Pipeline; Pump Station | Other surface water | Reservoir System | 332 | 671 | 886 | 858 | 724 | 553 |
| N | Sponsor has taken affirmative steps towards implementation and this project is listed in Melissa's 2017 Water Master Plan under their 10-year water project list. | C | Related to out of state source | 1005 | Melissa - Additional Delivery Infrastructure from NTMWD | $2,754,000 | 2030 | Melissa | Conveyance/Transmission Pipeline | Indirect reuse;New major reservoir;Other surface water | Indirect Potable Reuse;Reservoir;Reservoir System;Run-of-River | 208 | 8,306 | 13,075 | 17,119 | 20,153 | 20,910 |
| N | Sponsor has taken affirmative steps towards implementation. This project is listed in Parker's 2016 Water Distribution System Master Plan Update under their CIP list. | C | Related to out of state source | 1006 | Parker - Additional Delivery Infrastructure from NTWMD | $4,309,000 | 2020 | Parker | Pump Station | Indirect reuse;New major reservoir;Other surface water | Indirect Potable Reuse;Reservoir;Reservoir System;Run-of-River | 142 | 335 | 605 | 997 | 1,373 | 1,804 |

| WMS Project identified as infeasible? (Y/N) | RWPG Comments | Project Sponsor Region | Project Category | WMS Project Id | WMS Project Name | Capital Cost | Online Decade | Project Sponsors | Project Components | Project Related WMS Types | Project Related Source Subtypes | Project Related Strategy Supply 2020 AFY | Project Related Strategy Supply 2030 AFY | Project Related Strategy Supply 2040 AFY | Project Related Strategy Supply 2050 AFY | Project Related Strategy Supply 2060 AFY | Project Related Strategy Supply 2070 AFY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| N | Sponsor has taken affirmative action towards implementation. Sponsor has submitted a contract and is waiting for it to be returned executed. | C | Related to out of state source | 1087 | Terrell - Ground Storage Tank and Pump Station at NTWMD Delivery Point | $3,527,000 | 2020 | Terrell | Pump Station; Storage Tank | Indirect reuse;New major reservoir;Other surface water | Indirect Potable Reuse;Reservoir;Reservoir System;Run-of-River | 0 | 1,222 | 3,763 | 5,386 | 7,023 | 9,479 |
| N | Sponsor has taken affirmative steps towards implementation. This project is a generalized version of UTRWD's Capital Improvement Plan (CIP). | C | Other project type | 1150 | UTRWD WTP and Treated Water Distribution System Water Management Strategies 2020-2030 | $176,357,000 | 2020 | Upper Trinity Regional WD | Conveyance/Transmission Pipeline; Pump Station; Water Treatment Plant Expansion | Indirect reuse;New major reservoir | Indirect Potable Reuse;Reservoir | 0 | 53,164 | 53,831 | 64,832 | 64,716 | 68,137 |
| N | Sponsor has taken affirmative steps towards implementation. They are currently doing a study to determine the impacts of improvements at their Wataguga pump station where they purchase water from Fort Worth. | C | Other project type | 1132 | Watauga & N Richland Hills - Increase Delivery Infrastructure from Fort Worth | $9,544,000 | 2020 | North Richland Hills | Storage Tank; Conveyance/Transmission Pipeline; Pump Station | Aquifer storage and recovery;Groundwater wells and other;Indirect reuse;New major reservoir;Other surface water | Aquifer Storage and Recovery;Groundwater;Indirect Potable Reuse;Reservoir;Reservoir System | 0 | 204 | 463 | 370 | 462 | 584 |
| N | Sponsor has taken affirmative steps towards implementation. Wilmer is in current discussions with Lancaster/DWU to increase their supply. This project is listed in both of Wilmer's and Lancaster's Capital Improvement Plan (CIP). | C | Other project type | 1025 | Wilmer - Increase Capacity of Connection with Lancaster | $5,280,000 | 2020 | Wilmer | Storage Tank; Conveyance/Transmission Pipeline | Indirect reuse;New major reservoir;Other surface water | Indirect Potable Reuse;Reservoir;Run-of-River | 0 | 32 | 112 | 283 | 510 | 1,018 |

# Agenda Item V.A – Attachment

## TWDB Response to Requested Revisions

Thank you for submitting the Regional Water Planning Group's (RWPG) request to revise the population and municipal demand projections. The TWDB relies on the RWPGs to assist us in developing credible municipal water demand projections for use in water planning by providing additional, region, county and Water User Group (WUG)-specific information. In accordance with *General Guidelines for Development of the 2026 Regional Water Plans* (Exhibit C), TWDB has reviewed the revision request and accompanying data provided by the RWPG and the Executive Administrator's (EA) response and recommendation is summarized here. Based on TWDB EA reviews, not all RWPG revision requests are being recommended by the EA for agency coordination. The attached spreadsheet includes three data tabs:

- Data Tab 1: the two TWDB draft county-level projection migration scenarios developed by the state demographer and provided to the RWPG from which they could select their scenario-preference, by county,
- Data Tab 2: the RWPG WUG-level projection revision requests along with accompanying TWDB EA recommendations for each including review comments, and
- Data Tab 3: the TWDB EA county-level recommendations for agency coordination.

It is anticipated that the attached EA recommended WUG projections will be submitted to the three agencies (Texas Commission on Environmental Quality, Texas Department of Agriculture, and Texas Parks and Wildlife Department) for their review within two weeks. Following the reviews by the three agencies, the EA will recommend a final set of population and water demand projections to the TWDB Board for adoption for use in the 2026 Regional Water Plans.

**The remaining discussion below summarizes the WUGs for which the EA is not recommending the RWPG's specific request to revise either:**

- the population projections, or
- the baseline gallons per capita per day (GPCD).

The EA provides key relevant background regarding the RWPG revision requests, including some explanation for what was considered in evaluating the request, and describes what was determined to be acceptable. In many cases, the EA recommends revised population projections or baseline GPCD, which differ from both the TWDB draft projections and the RWPG's specific revision request. The related municipal water demand projections are included in the corresponding spreadsheet (in acre-feet). At the end of each WUG summary below is a comparison of:

1. The TWDB Draft Projections,
2. The RWPG's Revision Request,
3. The EA's Recommended projections after considering the RWPG revision request.

Please see corresponding spreadsheet *RegionC_PopMun_2026RWP_TWDBReview.xlsx.*

**Summary of those WUG revision requests that were not accepted and/or were modified:**

Region C requested revisions to the population projections for 175 WUG-county splits of the 356 WUG-county splits within the region. In accordance with *General Guidelines for Development of the 2026 Regional Water Plans* (Exhibit C), TWDB thoroughly reviewed the supporting documentation provided by

the region. Additionally, TWDB reviewed historical self-reported growth rates that WUGs have submitted to the TWDB Water Use Survey (WUS) and Census Bureau data as applicable for each WUG request. After review, TWDB is recommending the revisions as requested by the RWPG for 136 of those 175 WUG-county splits. For 31 WUG-county split requests, TWDB is recommending further revisions, meaning that while the supporting documentation provided by Region C does not support the revisions requested, TWDB determined that the data supported population projections other than the draft projections. Through the review process, TWDB determined that 8 WUG-county split revision requests were not supported by the provided documentation and for these projections, the draft population projections are recommended. The revised and not recommended projections are discussed below. All corresponding municipal water demand projections are in the accompanying spreadsheet.

Region C requested revisions to the baseline GPCDs for 89 WUG-county splits. All were recommended by TWDB, except one WUG (split across two counties), which is discussed below.

The following summary is grouped by county based on the primary county for the WUGs discussed. Freestone County had one WUG-specific GPCD request, which was recommended, and is noted in the accompanying spreadsheet, but Region C did not request any revisions to the population projections within Freestone County. Revision requests for WUGs in Cooke, Fannin, Jack, and Navarro counties were all recommended as submitted by the RWPG.

The following sections summarize the region's county-level revisions. In the *2023_08_23 Region C Population Revision Memo* submitted by the region, each county is reviewed in section 1.2 and includes recent growth rates. In many counties, Region C notes that the last 5-year or 10-year historical growth rate is higher than the growth rates in the draft projections provided by the TWDB. It should be noted that the draft projections utilized county-level projections from the Texas Demographic Center, who develops population projections using a cohort component model and birth rates, mortality rates, and migration rates. A product of their model is annualized growth rates, however, the TDC does not use annual growth rates to project future population. Similarly, birth rates have been declining and are projected to continue to decline and the population of Texas is aging. These two factors indicate future growth may be slower than historical growth.

### *1. Collin County Revisions*

The Region C population memo noted on page 5 that Collin County is one of the most densely populated counties within the region and that while the county is still increasing, the historical growth rate has stayed consistently around 3%. The region is requesting to increase the county total in each decade 2030-2060 and decrease the county total 2070-2080 compared to the draft projections due to WUG buildout. The region requested to revise the population projections for 33 of the 41 WUGs in the county. Of these WUGs, TWDB recommends further revisions to 5 WUGs and is not recommending the requests for 1 WUG, which are summarized below. The Dallas WUG splits across three counties, including Collin, and is discussed in section 1.8 (under Dallas County). One GPCD request is also not recommended and is discussed below. The region's revisions to County-Other, Collin are recommended because the region noted Collin County will likely build-out throughout the planning horizon, so even though the requested revisions to this WUG are higher than the draft in some planning decades, the overall county totals are lower in later decades.

Collin County Population Projections:

| Comparison | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|
| TWDB Draft Projections (1.0 migration scenario) | 1,341,877 | 1,676,287 | 2,056,270 | 2,438,008 | 2,858,391 | 3,321,332 |
| RWPG Revision Request | 1,468,213 | 1,837,437 | 2,238,263 | 2,549,561 | 2,745,531 | 2,819,635 |
| TWDB EA Recommended | 1,418,872 | 1,764,402 | 2,126,310 | 2,351,305 | 2,505,630 | 2,612,777 |

### 1.1 Blue Ridge

For the Blue Ridge WUG, Region C requested increases to the population projections in all decades compared to the TWDB draft projections. The region submitted a 2012 Economic Development Strategic Plan, which does not account for more recent growth trends. The draft projections are closer to the historical growth rates submitted by the WUG via the TWDB WUS, thus the draft projections are recommended.

Blue Ridge self-reported historical connections and calculated growth rate:

| Blue Ridge | 2010 | 2020 | 2021 |
|---|---|---|---|
| WUS Residential Connections | 395 | 423 | 455 |
| WUS Population Estimates | 1,185 | 1,200 | 1,100 |
| WUS connections annual growth rate 2010-2021 | | | 1.3% |
| Population annual growth rate 2010-2021 | | | -0.7% |

Comparison of the Blue Ridge draft growth rates per decade and the region's requested growth rates per decade:

| Comparison | Blue Ridge | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|
| TWDB Draft | Population | 1,653 | 2,162 | 2,740 | 3,320 | 3,959 | 4,664 |
| | Compounded annual growth rate per decade | | 3% | 2% | 2% | 2% | 2% |
| RWPG Requested | Population | 2,585 | 7,240 | 12,808 | 26,469 | 35,000 | 43,000 |
| | Compounded annual growth rate per decade | | 11% | 6% | 8% | 3% | 2% |

Comparison of the Blue Ridge draft projections, RWPG requested, and TWDB EA recommended population projections:

| Comparison | County | Entity | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|---|
| TWDB Draft Projections | COLLIN | Blue Ridge | 1,653 | 2,162 | 2,740 | 3,320 | 3,959 | 4,664 |
| RWPG Revision Request | COLLIN | Blue Ridge | 2,585 | 7,240 | 12,808 | 26,469 | 35,000 | 43,000 |
| TWDB EA Recommended | COLLIN | Blue Ridge | 1,653 | 2,162 | 2,740 | 3,320 | 3,959 | 4,664 |

### 1.2 Celina

Region C requested an increase to the Celina WUG population projections compared to the TWDB draft projections. The WUG has reported significant growth via the TWDB WUS recently, which is also supported by the Census Bureau population estimates for the city, thus the near-term projection revision requests are recommended. Due to the lack of supporting documentation for the projections methodology as to how the significant growth will continue and why the landlocked WUG will grow by 425% over the planning horizon, it is recommended to apply the TWDB-drafted growth rates after 2040, which align with neighboring WUGs and slowly decline over time, aligning more closely with county trends. The recommended projections distribute the population between Collin and Denton counties per the region's revised proportions.

TWDB draft population projections and annual growth rates between decades for Celina:

| County | Entity | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|
| COLLIN | Celina | 34,004 | 50,342 | 68,973 | 87,599 | 108,147 | 130,801 |
| DENTON | Celina | 354 | 544 | 743 | 946 | 1,169 | 1,415 |
| **Whole WUG - Celina** | | **34,358** | **50,886** | **69,716** | **88,545** | **109,316** | **132,216** |
| **Compounded annual growth rate per decade- whole WUG - Celina** | | | **4.0%** | **3.2%** | **2.4%** | **2.1%** | **1.9%** |

RWPG revision request and annual growth rates between decades for Celina:

| County | Entity | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|
| COLLIN | Celina | 65,403 | 114,328 | 190,491 | 258,182 | 323,400 | 343,000 |
| DENTON | Celina | 1,265 | 2,170 | 3,739 | 5,158 | 6,600 | 7,000 |
| **Whole WUG - Celina** | | **66,668** | **116,498** | **194,231** | **263,340** | **330,000** | **350,000** |
| **Compounded annual growth rate per decade- whole WUG - Celina** | | | **5.7%** | **5.2%** | **3.1%** | **2.3%** | **0.6%** |

Historical data from TWDB WUS, TWDB population estimates, U.S. Census Bureau population estimates for Celina:

| Celina | 2010 | 2020 |
|---|---|---|
| Total WUS Connections | 2,270 | 8,519 |
| *Connections annual growth rate* | | *14%* |
| TWDB Population Estimates | 6,564 | 20,384 |
| *Population estimates annual growth rate* | | *12%* |
| U.S. Census Bureau Population Estimates | 6,028 | 16,780 |
| *Population estimates annual growth rate* | | *11%* |

TWDB EA recommended population projections for Celina:

| County | Entity | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| COLLIN | Celina | 65,403 | 114,328 | 190,491 | 198,744 | 245,262 | 296,640 |
| DENTON | Celina | 1,265 | 2,170 | 3,739 | 3,970 | 5,005 | 6,054 |
| **Whole WUG - Celina** | | **66,668** | **116,498** | **159,607** | **202,714** | **250,267** | **302,694** |
| **Compounded annual growth rate per decade- whole WUG - Celina** | | | **5.7%** | **3.2%** | **2.4%** | **2.1%** | **1.9%** |

Region C requested to revise the baseline GPCD for Celina to 211 from the draft 187 and the WUG-specific supporting documentation noted additional employees within the Celina WUG. However, the increased GPCD does not align with the historical data reported by the WUG in terms of commercial usage or overall net use. Therefore, the originally drafted GPCD is recommended.

Celina historical GPCD data:

| GPCD 2010 | GPCD 2011 | GPCD 2012 | GPCD 2013 | GPCD 2014 | GPCD 2015 | GPCD 2016 | GPCD 2017 | GPCD 2018 | GPCD 2019 | GPCD 2020 |
|---|---|---|---|---|---|---|---|---|---|---|
| 144.62 | 125.23 | 121.24 | 110.94 | 103.04 | 127.78 | 113.60 | 122.66 | 133.35 | 130.13 | 139.69 |

Comparison of the Celina draft baseline GPCD, region requested baseline GPCD, and the EA recommended baseline GPCD:

| Celina | Baseline GPCD |
|---|---|
| TWDB Draft | 187 |
| Region Revision Request | 211 |
| EA Recommended | 187 |

### 1.3 Copeville SUD

Copeville SUD supporting documentation points to "internal planning" of projected population and connections, which use a 3.0 persons per connection and variable annual growth rates. The Collin County persons per household (PPHH) per the Census Bureau Quick Facts is 2.8 and the WUG has reported to the WUS a growth in connections of 4.2% over the last ten years. Due to lack of supporting documentation regarding how the requested revised projections were developed, it is recommended to revise the 2030 drafted projected population using historical growth in connections and a 2.8 persons per household multiplier, and then apply the region's requested growth rates. The region's requested revisions projected buildout by 2070, which was not included in the WUG's supporting documentation, so the recommended 2080 population projection uses a 1% annual growth rate.

Copeville SUD self-reported historical connections and calculated growth rate:

| Copeville SUD | 2010 | 2020 |
|---|---|---|
| Total WUS Connections | 1,216 | 1,829 |
| Population Estimate (using 2.8 PPHH) | 3,405 | 5,121 |
| Annual growth rate | | 4.2% |

RWPG requested revisions to Copeville SUD:

| Copeville SUD | 2020 Revised Population Estimate | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|
| Population | 5,121 | 14,741 | 23,307 | 34,259 | 37,592 | 41,989 | 41,989 |
| Compounded annual growth rate per decade | | 11% | 5% | 4% | 1% | 1% | 0% |

TWDB EA recommended population projections for Copeville SUD:

| Copeville SUD | 2020 Revised Population Estimate | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|
| Population | 5,121 | 7,703 | 12,179 | 17,902 | 19,644 | 21,942 | 24,238 |
| Compounded annual growth rate per decade | | 4% | 5% | 4% | 1% | 1% | 1% |

Comparison of the Copeville SUD draft projections, RWPG requested, and TWDB EA recommended population projections:

| Comparison | County | Entity | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|---|
| TWDB Draft Projections | COLLIN | Copeville SUD | 4,697 | 5,939 | 7,350 | 8,766 | 10,327 | 12,046 |
| RWPG Revision Request | COLLIN | Copeville SUD | 14,741 | 23,307 | 34,259 | 37,592 | 41,989 | 41,989 |
| TWDB EA Recommended | COLLIN | Copeville SUD | 7,703 | 12,179 | 17,902 | 19,644 | 21,942 | 24,238 |

### 1.4 Culleoka WSC

The Region C request is based on the on-going North Texas Municipal Water District study currently under development. The region requested to increase the population projections in all decades until buildout in 2070. Culleoka WSC reported 3,177 residential connections in 2021 to the TWDB WUS, which shows 3.9% annual growth from 2010-2021. The WUG-specific requested revisions are not supported by the region's documentation; however, it is recommended to revise the 2030 projection based on the 2021 population and historical growth, then apply the region's requested growth rates. Because the region's request included buildout in 2070, but the WUG's specific buildout was not noted in the supporting documentation, it is recommended to use a 3.9% growth rate from 2030 to 2040, the region's requested growth rate from 2040 to 2070, and a 1% growth rate from 2070 to 2080.

Culleoka WSC self-reported historical connections and calculated growth rate:

| Culleoka WSC | 2010 | 2020 | 2021 |
|---|---|---|---|
| Total WUS Connections | 2,084 | 2,550 | 3,177 |
| TWDB Population Estimate (2.8 PPHH) | 5,845 | 7,140 | 8,896 |
| WUS connections 2010-2021 annual growth: | | | 3.9% |

RWPG requested revisions for Culleoka WSC:

| Culleoka WSC | 2021 Population Estimate | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|
| Population | 8,896 | 45,646 | 52,348 | 63,130 | 71,557 | 80,531 | 80,531 |
| Compounded annual growth rate per decade | | 19.9% | 1.4% | 1.9% | 1.3% | 1.2% | 0% |

TWDB EA recommended population projections for Culleoka WSC:

| Culleoka WSC | 2021 Population Estimate | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|
| Population | 8,896 | 12,542 | 14,383 | 17,346 | 19,661 | 22,127 | 24,442 |
| Compounded annual growth rate per decade | | 3.9% | 1.4% | 1.9% | 1.3% | 1.2% | 1.0% |

Comparison of the Culleoka WSC draft projections, RWPG requested, and TWDB EA recommended population projections:

| Comparison | County | Entity | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|---|
| TWDB Draft Projections | COLLIN | Culleoka WSC | 6,985 | 8,735 | 10,723 | 12,719 | 14,919 | 17,341 |
| RWPG Revision Request | COLLIN | Culleoka WSC | 45,646 | 52,348 | 63,130 | 71,557 | 80,531 | 80,531 |
| TWDB EA Recommended | COLLIN | Culleoka WSC | 12,542 | 14,383 | 17,346 | 19,661 | 22,127 | 24,442 |

### 1.5 Farmersville

The Region C revision request for Farmersville is based on the on-going North Texas Municipal Water District study currently under development. The region requested to increase the population projections in all decades. The WUG reported 1,224 residential connections in 2021 to the TWDB WUS, which was the same as reported in 2020, resulting in 0% growth between 2020 and 2021 according to the system. Based on this data, the growth rate used in the region's requested revisions to the 2030 population projection (12%) is not supported by historical data or the supporting documentation provided. Due to the on-going study however, it is recommended to use the 2030 originally drafted population projection, which is supported by historical growth, and then apply the region's requested growth rates to project the population through 2070. Because the region's request included buildout in 2070, but the WUG's specific buildout was not noted in the supporting documentation, it is recommended to use a 1% growth rate from 2070 to 2080.

Farmersville self-reported historical connections and calculated growth rate:

| Farmersville | 2010 | 2020 |
|---|---|---|

| | | |
|---|---|---|
| Total WUS Connections | 1,369 | 1,460 |
| Population Estimates | 3,906 | 4,526 |
| WUS connections annual growth rate 2010-2021 | | 0.6% |
| Population annual growth rate | | 1.5% |

RWPG requested revisions for Farmersville:

| **Farmersville** | **2020 Population Estimate** | **2030** | **2040** | **2050** | **2060** | **2070** | **2080** |
|---|---|---|---|---|---|---|---|
| Population | 4,526 | 13,965 | 34,480 | 68,317 | 77,722 | 88,000 | 88,000 |
| Compounded annual growth rate per decade | | 12% | 9.5% | 7.1% | 1.3% | 1.2% | 0% |

TWDB EA recommended population projections, starting with the TWDB 2020 population estimate for Farmersville and applying the region's requested growth rates:

| **Farmersville** | **2020 Population Estimate** | **2030** | **2040** | **2050** | **2060** | **2070** | **2080** |
|---|---|---|---|---|---|---|---|
| Population | 4,526 | 5,700 | 14,074 | 27,886 | 31,725 | 35,920 | 39,678 |
| Compounded annual growth rate per decade | | 2.3% | 9.5% | 7.1% | 1.3% | 1.2% | 1.0% |

Comparison of the Farmersville draft projections, RWPG requested, and TWDB EA recommended population projections:

| **Comparison** | **County** | **Entity** | **2030** | **2040** | **2050** | **2060** | **2070** | **2080** |
|---|---|---|---|---|---|---|---|---|
| TWDB Draft Projections | COLLIN | Farmersville | 5,700 | 7,115 | 8,723 | 10,338 | 12,118 | 14,077 |
| RWPG Revision Request | COLLIN | Farmersville | 13,965 | 34,480 | 68,317 | 77,722 | 88,000 | 88,000 |
| TWDB EA Recommended | COLLIN | Farmersville | 5,700 | 14,074 | 27,886 | 31,725 | 35,920 | 39,678 |

### *2. Dallas County Revisions*

The Region C population memo noted on page 5 that Dallas County is currently the most populous county in Region C and that due to the dense population, WUGs are projected to be at or near buildout. The region requests to revise the county-level population by decreasing the county total in the near-term and increasing it 2050-2080. The five-year historical annual growth rate is comparable to the highest annual growth rate noted in the draft projections. The region requested revisions to 18 of the 33 WUGs that split across Dallas County. The TWDB is recommending the revision requests for 13 of the splits in Dallas County, and not recommending or revising 5 of the split WUG population projections. The recommendations for WUGs with the majority of their population in Dallas County are discussed in this section. The region's revisions to County-Other, Dallas are recommended because the region noted

Dallas is a built-out county and the revision request decreases the population projections for County-Other, Dallas as compared to the draft projections for the WUG.

Dallas County population projections:

| Comparison | County | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|
| TWDB Draft Projections (1.0 migration scenario) | DALLAS | 2,811,320 | 2,954,449 | 3,029,940 | 3,072,924 | 3,120,260 | 3,172,388 |
| RWPG Revision Request | DALLAS | 2,758,465 | 2,912,542 | 3,093,288 | 3,237,423 | 3,397,786 | 3,511,855 |
| TWDB EA Recommended | DALLAS | 2,744,243 | 2,899,298 | 3,045,184 | 3,162,467 | 3,277,308 | 3,372,187 |

### 2.1 Cedar Hill

Region C requested an increase to the Cedar Hill WUG population projections compared to the TWDB draft projections. Per page 6 of the Dallas Water Utility (DWU) memo, the water system that serves the city, the TWDB recommends the population projections for this WUG be revised to reflect the city's 2020 Census count population. TWDB also recommends the projected population be revised to reflect more recent historical growth per the Census Bureau, by applying the historical CAGR and declining the growth rate over time, which aligns with the DWU method on page 3 of "non-linearity of population growth over time."

| Comparison | County | Entity | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|---|
| TWDB Draft | DALLAS | Cedar Hill | 44,678 | 46,970 | 48,179 | 48,868 | 49,627 | 50,462 |
| | Compounded annual growth rate per decade | | | 0.5% | 0.3% | 0.1% | 0.2% | 0.2% |
| RWPG Requested | DALLAS | Cedar Hill | 65,229 | 78,887 | 101,875 | 127,940 | 162,800 | 185,500 |
| | Compounded annual growth rate per decade | | | 1.9% | 2.6% | 2.3% | 2.4% | 1.3% |

Historical population and compounded annual growth rates for Cedar Hill from the U.S. Census Bureau:

| Census NAME | Population 2000 | Population 2010 | Population 2020 | 2000-2010 CAGR | 2010-2020 CAGR |
|---|---|---|---|---|---|
| Cedar Hill city | 32,084 | 45,028 | 49,148 | 3.4% | 0.9% |

TWDB EA recommended population projections and growth rate for Cedar Hill:

| Cedar Hill | 2020 Census | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|
| Population | 49,148 | 53,645 | 58,553 | 63,911 | 69,070 | 74,646 | 80,672 |
| Compounded annual growth rate per decade | | 0.9% | 0.9% | 0.9% | 0.8% | 0.8% | 0.8% |

Comparison of the Cedar Hill draft projections, RWPG requested, and TWDB EA recommended population projections:

| Comparison | County | Entity | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|---|
| TWDB Draft Projections | DALLAS | Cedar Hill | 44,678 | 46,970 | 48,179 | 48,868 | 49,627 | 50,462 |
| RWPG Revision Request | DALLAS | Cedar Hill | 65,229 | 78,887 | 101,875 | 127,940 | 162,800 | 185,500 |
| TWDB EA Recommended | DALLAS | Cedar Hill | 53,645 | 58,553 | 63,911 | 69,070 | 74,646 | 80,672 |

### 2.2 Cockrell Hill

The region requested to increase the population projections in all decades for Cockrell Hill. However, page 6 of the Dallas Water Utility memo states that the 2014 Long-Range Water Supply Plan (LRWSP) is more accurate than the drafted projections and the Region doesn't "foresee getting to the very high" projections from the TWDB for Cockrell Hill. The 2000-2020 Census counts show declines in the city and the WUG has been reporting declining population and declining metered connections to the TWDB WUS. Therefore, the region requested population projection revisions are not recommended.

Historical population estimate data from the U.S. Census Bureau:

| Cockrell Hill | 2000 | 2010 | 2020 |
|---|---|---|---|
| Census Bureau Population Estimate | 4,454 | 4,193 | 3,815 |
| Annual growth rate | | -0.6% | -0.9% |

Cockrell Hill self-reported historical data from WUS:

| Cockrell Hill | 2010 | 2020 |
|---|---|---|
| Total WUS Connections | 1,250 | 989 |
| WUS connections annual growth rate | | -2.3% |

Comparison of the Cockrell Hill draft projections, RWPG requested, and TWDB EA recommended population projections:

| Comparison | County | Entity | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|---|
| TWDB Draft Projections | DALLAS | Cockrell Hill | 3,610 | 3,380 | 3,255 | 3,176 | 3,089 | 2,993 |
| RWPG Revision Request | DALLAS | Cockrell Hill | 4,812 | 4,948 | 5,678 | 6,494 | 14,000 | 15,000 |
| TWDB EA Recommended | DALLAS | Cockrell Hill | 3,610 | 3,380 | 3,255 | 3,176 | 3,089 | 2,993 |

### 2.3 Dallas

Region C requested lower near-term population projections and higher long-term projections compared to the TWDB draft projections. For the Dallas WUG, Region C requested to revise the population projections, based on Dallas Water Utility's long range plan. The revisions requested show the population growth rate to be lower 2030-2040 and then higher 2040-2050, then lower or steady 2060

through 2080. In their projections methodology, DWU used a variable growth parameter (page 3 of the DWU memo). The supporting documentation notes on page 5 that Collin and Dallas counties are densely populated but does not describe in detail why the WUG will grow more slowly in the near-term than twenty years from now. Since Dallas County and the Dallas WUG are so densely populated, TWDB recommends revising the population projections to apply a linear growth rate, beginning and ending with the Region's revised 2030 and 2080 populations. This growth rate aligns with historical growth for the WUG. Please note that Region C's requested revisions for the Denton County-portion of the Dallas WUG are recommended.

TWDB draft population projections for Dallas:

| **County** | **Entity** | **2030** | **2040** | **2050** | **2060** | **2070** | **2080** |
|---|---|---|---|---|---|---|---|
| COLLIN | Dallas | 54,350 | 59,931 | 66,206 | 72,603 | 79,611 | 87,300 |
| DALLAS | Dallas | 1,283,058 | 1,342,775 | 1,374,226 | 1,393,866 | 1,420,134 | 1,449,059 |
| DENTON | Dallas | 35,326 | 44,347 | 53,845 | 63,500 | 74,134 | 85,843 |
| **Dallas - Total** | | **1,372,734** | **1,447,053** | **1,494,277** | **1,529,969** | **1,573,879** | **1,622,202** |
| Compounded annual growth rate per decade **– Collin County** | | | 1.0% | 1.0% | 0.9% | 0.9% | 0.9% |
| Compounded annual growth rate per decade **– Dallas County** | | | 0.5% | 0.2% | 0.1% | 0.2% | 0.2% |
| Compounded annual growth rate per decade **– Denton County** | | | 2.3% | 2.0% | 1.7% | 1.6% | 1.5% |
| **Compounded annual growth rate per decade – whole WUG** | | | **0.5%** | **0.3%** | **0.2%** | **0.3%** | **0.3%** |

RWPG requested revisions to the population projections for Dallas:

| **County** | **Entity** | **2030** | **2040** | **2050** | **2060** | **2070** | **2080** |
|---|---|---|---|---|---|---|---|
| COLLIN | Dallas | 53,145 | 57,647 | 65,234 | 73,249 | 81,962 | 91,072 |
| DALLAS | Dallas | 1,254,601 | 1,291,602 | 1,354,048 | 1,406,263 | 1,462,078 | 1,511,677 |
| DENTON | Dallas | 34,543 | 42,657 | 53,054 | 64,065 | 76,324 | 89,553 |
| **Dallas – Total** | | **1,342,289** | **1,391,906** | **1,472,336** | **1,543,577** | **1,620,364** | **1,692,302** |
| Compounded annual growth rate per decade **– Collin County** | | | 0.8% | 1.2% | 1.2% | 1.1% | 1.1% |
| Compounded annual growth rate per decade **– Dallas County** | | | 0.3% | 0.5% | 0.4% | 0.4% | 0.3% |
| Compounded annual growth rate per decade **– Denton County** | | | 2.1% | 2.2% | 1.9% | 1.8% | 1.6% |
| **Compounded annual growth rate per decade – whole WUG** | | | **0.4%** | **0.6%** | **0.5%** | **0.5%** | **0.4%** |

TWDB EA recommended population projections for Dallas:

| **County** | **Entity** | **2030** | **2040** | **2050** | **2060** | **2070** | **2080** |
|---|---|---|---|---|---|---|---|
| COLLIN | Dallas | 53,145 | 59,190 | 65,922 | 73,420 | 81,771 | 91,072 |
| DALLAS | Dallas | 1,254,601 | 1,302,256 | 1,351,721 | 1,403,065 | 1,456,359 | 1,511,677 |
| DENTON | Dallas | 34,543 | 42,657 | 53,054 | 64,065 | 76,324 | 89,553 |
| **Dallas - Total** | | **1,342,289** | **1,404,103** | **1,470,697** | **1,540,550** | **1,614,454** | **1,692,302** |

| | | | | | |
|---|---|---|---|---|---|
| Compounded annual growth rate per decade **– Collin County** | 1.1% | 1.1% | 1.1% | 1.1% | 1.1% |
| Compounded annual growth rate per decade **– Dallas County** | 0.4% | 0.4% | 0.4% | 0.4% | 0.4% |
| Compounded annual growth rate per decade **– Denton County** | 2.1% | 2.2% | 1.9% | 1.8% | 1.6% |
| **Compounded annual growth rate per decade – whole WUG** | **0.5%** | **0.5%** | **0.5%** | **0.5%** | **0.5%** |

### *3. Denton County Revisions*

The Region C population memo noted on page 6 that the Denton County revision request is to increase 2030-2060 population projections and decrease the county total 2070-2080 compared to the draft projections for the county. This request is based on historical 5-year and 10-year average growth rates that are higher than the highest annual growth rate noted in the draft projections. Region C requested revisions to 28 of the 43 WUGs that split across Denton County. The TWDB recommends 23 of the region's requests, is recommending further revisions to 4 of the WUG-county splits, and not recommending 1 WUG revision request. These are summarized below for WUGs with the majority of the population in Denton County. The region's revision requests to County-Other, Denton are recommended because the region noted Denton County is approaching buildout and the revision request decreases population projections compared to the draft projections for the WUG.

| Comparison | County | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|
| TWDB Draft Projections (1.0 migration scenario) | DENTON | 1,156,452 | 1,449,394 | 1,757,793 | 2,071,337 | 2,416,623 | 2,796,864 |
| RWPG Revision Request | DENTON | 1,281,602 | 1,549,219 | 1,843,067 | 2,088,668 | 2,352,849 | 2,574,400 |
| TWDB EA Recommended | DENTON | 1,229,659 | 1,498,214 | 1,772,935 | 1,998,120 | 2,244,614 | 2,456,768 |

### 3.1 Carrollton

Region C requested an increase to the Carrollton WUG population projections. Page 6 of the Dallas Water Utility memo states, "2020 population is 133,434, and projected 2036 population is 146,187… Values are interpolated." However, the Region C requested revisions are higher than the city's request included in the supporting documentation. Therefore, the population projections are revised based on the 0.57% annual growth rate stated by the city (on page 6 of the memo) and split across the counties per the region's revised proportions. The 2080 projection was developed by declining the growth rate as requested by the region in their population projection revisions.

Compounded annual growth rate for Carrolton population data provided on page 6 of DWU memo:

| Carrolton | 2020 | 2036 |
|---|---|---|
| Population from DWU memo (p.6) | 133,434 | 146,187 |
| Compounded annual growth rate | | 0.57% |

Interpolated population projections for Carrolton from Region's revision request:

| Carrolton | 2020 DWU population data | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|
| RWPG population revision request | 133,434 | 141,268 | 149,561 | 158,341 | 167,636 | 177,477 | 178,153 |
| Compounded annual growth rate | | 0.57% | 0.57% | 0.57% | 0.57% | 0.57% | 0.04% |

Comparison of the Carrollton draft projections, RWPG requested, and TWDB EA recommended population projections:

| Comparison | County | Entity | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|---|
| TWDB draft projections | DALLAS | Carrollton | 51,488 | 51,488 | 51,488 | 51,488 | 51,488 | 51,488 |
| | DENTON | Carrollton | 81,650 | 81,650 | 81,650 | 81,650 | 81,650 | 81,650 |
| | **Carrollton - Whole WUG** | | **133,138** | **133,138** | **133,138** | **133,138** | **133,138** | **133,138** |
| RWPG Revision Request | DALLAS | Carrollton | 56,442 | 60,183 | 67,054 | 74,897 | 85,410 | 92,313 |
| | DENTON | Carrollton | 88,511 | 94,510 | 105,129 | 117,295 | 133,590 | 144,387 |
| | **Carrollton - Whole WUG** | | **144,953** | **154,693** | **172,183** | **192,193** | **219,000** | **236,700** |
| TWDB EA Recommended | DALLAS | Carrollton | 55,007 | 58,186 | 61,664 | 65,328 | 69,216 | 69,480 |
| | DENTON | Carrollton | 86,261 | 91,375 | 96,677 | 102,308 | 108,261 | 108,673 |
| | **Carrollton - Whole WUG** | | **141,268** | **149,561** | **158,341** | **167,636** | **177,477** | **178,153** |

### 3.2 Denton

Region C requested an increase to the Denton WUG population projections in each decade compared to the TWDB draft projections. Region C provided the Denton Comprehensive Plan developed by the Denton WUG in March 2022. The RWPG-revised projections did not align with the comprehensive plan through 2040. It appears that the WUG serves the City of Denton, per page 214 of the plan states, "Denton treats raw water to state and federal drinking water standards and maintains an infrastructure network to distribute the treated water across the City." Thus, the projections within the Comprehensive Plan should be utilized for the WUG. Based upon the recent completion of the City's comprehensive plan, it is recommended to revise the WUG's projections based on Denton's Comprehensive Plan to the projections provided on page 21 through 2040 and then apply the Region's requested growth rates through 2080.

Screenshot of page 21 of Denton's Comprehensive Plan:

The following tables (Tables 1.2-1.5) Illustrate the population growth and housing demand forecasted through 2040 and the forecasted land consumption which could be expected under the different growth scenarios.

**Table 1.2 Population and Housing Growth**

| Population | Housing Growth |
|---|---|
| 2020 Population (1) | 139,869 |
| 2020 Household Size (2) | 2.41 |
| 2020 Total Housing Units (3) | 58,085 |
| 2040 Population Projection (4) | 229,192 |
| 2020 – 2040 Population Change (5) | 89,323 |
| 2040 Housing Demand (6) | 37,094 |
| Total Projected 2040 Housing Units (7) | 95,179 |

*Source: (1) 2020 US Census, (2) 2020 Population/2020 Total Housing Units, (3) 2020 US Census – Total Housing Units, (4) 2021 City of Denton estimate, (5) 2040 Population Projection – 2020 Population, (6) 2020 – 2040 Population Change/Household Size, (7) 2040 Housing Demand + 2019 Housing Units.*

Region C's requested revisions to population projections and compounded annual growth rate per decade for Denton:

| Denton | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|
| Population | 227,455 | 275,540 | 341,191 | 405,432 | 485,078 | 562,953 |
| Compounded annual growth rate per decade | | 1.9% | 2.2% | 1.7% | 1.8% | 1.5% |

TWDB EA recommended projections for Denton that align with page 21 of Denton's Comprehensive Plan in 2020 and 2040, interpolate for 2030, and use the region's requested growth rates 2050 - 2080:

| Denton | 2020 Denton Plan Population | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|
| Population | 139,869 | 179,044 | 229,192 | 283,800 | 337,235 | 403,484 | 468,260 |
| Compounded annual growth rate per decade | | 2.5% | 2.5% | 2.2% | 1.7% | 1.8% | 1.5% |

Comparison of the Denton draft projections, RWPG requested, and TWDB EA recommended population projections:

| Comparison | County | Entity | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|---|
| TWDB Draft Projections | DENTON | Denton | 183,086 | 227,946 | 275,173 | 323,187 | 379,613 | 460,476 |
| RWPG Revision Request | DENTON | Denton | 227,455 | 275,540 | 341,191 | 405,432 | 485,078 | 562,953 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| TWDB EA Recommended | DENTON | Denton | 179,044 | 229,192 | 283,800 | 337,235 | 403,484 | 468,260 |

### 3.3 Hackberry

The region requested to lower the population projections in all decades for the Hackberry WUG. The request is based on the on-going North Texas Municipal Water District study currently under development. However, the TWDB does not recommend the region's revision request, as Hackberry reported 2,933 single-family connections to the 2021 WUS which is higher than the region's entire requested 2030 population of 2,309. Without further supporting documentation, the draft population projections are recommended.

Comparison of the Hackberry draft projections, RWPG requested, and TWDB EA recommended population projections:

| Comparison | County | Entity | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|---|
| TWDB Draft Projections | DENTON | Hackberry | 5,999 | 8,480 | 11,092 | 13,748 | 16,673 | 19,894 |
| RWPG Revision Request | DENTON | Hackberry | 2,309 | 2,840 | 3,682 | 4,642 | 5,612 | 6,173 |
| TWDB EA Recommended | DENTON | Hackberry | 5,999 | 8,480 | 11,092 | 13,748 | 16,673 | 19,894 |

### 3.4 Justin

The Justin WUG population projections were based on the ongoing Upper Trinity Regional Water District study. The region requested to increase the population projections for Justin in all decades. The submitted supporting information for the revision request does not include supporting data for the requested revision to the 2030 population. The WUG reported 2,031 residential connections to the 2021 WUS and has reported 4.1% annual growth from 2010-2021. Using the Census Bureau's persons per household of 2.39 for the City of Justin, the 2021 estimated population is 4,854. The region's requested growth rates in all decades, except 2020-2030, align with the WUG's historical reported growth rate. Therefore, it is recommended to revise the projections to apply the historical growth rate in the WUS connections to project 2030 and apply a linear growth rate until buildout is reached in 2080, as Region C requested.

Justin's self-reported historical connections and calculated growth rate:

| Justin | 2010 | 2020 | 2021 |
|---|---|---|---|
| Total WUS Connections | 1,310 | 1,991 | 2,031 |
| Population Estimates (using 2.39 PPHH) | 3,131 | 4,758 | 4,854 |
| Annual growth rate 2010-2011 | | | 4.1% |

RWPG requested population projections and annual growth rates:

| Justin | 2021 Population Estimate | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Population | 4,854 | 11,924 | 16,903 | 25,351 | 34,423 | 37,608 | 37,608 |
| Compounded annual growth rate per decade | | 10.5% | 3.6% | 4.1% | 3.1% | 0.9% | 0% |

Recommended population projections, starting with Justin's 2020 population ending with the buildout population requested by the RWPG:

| **Justin** | **2021 Population Estimate** | **2030** | **2040** | **2050** | **2060** | **2070** | **2080** |
|---|---|---|---|---|---|---|---|
| Population | 4,854 | 6,949 | 9,741 | 13,654 | 19,140 | 26,830 | 37,608 |
| Compounded annual growth rate per decade | | 4.1% | 3.4% | 3.4% | 3.4% | 3.4% | 3.4% |

Comparison of the Justin draft projections, RWPG requested, and TWDB EA recommended population projections:

| **Comparison** | **County** | **Entity** | **2030** | **2040** | **2050** | **2060** | **2070** | **2080** |
|---|---|---|---|---|---|---|---|---|
| TWDB Draft Projections | DENTON | Justin | 5,812 | 7,705 | 10,214 | 13,540 | 17,950 | 23,796 |
| RWPG Revision Request | DENTON | Justin | 11,924 | 16,903 | 25,351 | 34,423 | 37,608 | 37,608 |
| TWDB EA Recommended | DENTON | Justin | 6,949 | 9,741 | 13,654 | 19,140 | 26,830 | 37,608 |

### *4. Ellis County Revisions*

The Region C population memo noted on page 6 that the request is to revise the Ellis County total to increase in all decades, based on higher historical 5-year and 10-year growth rates, compared to the draft projections. Region C requested revisions to the population projections for 3 of the 22 WUGs in the county and the TWDB recommends further revisions to one of these WUGs, as discussed below.

Ellis County Population Projections:

| **Comparison** | **County** | **2030** | **2040** | **2050** | **2060** | **2070** | **2080** |
|---|---|---|---|---|---|---|---|
| TWDB Draft Projections (1.0 migration scenario) | ELLIS | 234,017 | 280,510 | 331,033 | 381,817 | 437,742 | 499,329 |
| RWPG Revision Request | ELLIS | 241,748 | 290,487 | 346,553 | 399,928 | 459,484 | 521,412 |
| TWDB EA Recommended | ELLIS | 241,747 | 290,486 | 346,554 | 397,716 | 455,844 | 513,797 |

#### 4.1 Rockett SUD

Region C requested an increase to the Rockett SUD WUG population projections. The supporting documentation provided by Region C does not clearly explain the projection methodology for the request, especially in the long-term. The near-term growth is supported by historical growth reported to the TWDB WUS. Since the long-term growth rate is not supported by the region-provided documentation, it is recommended to revise the Ellis County-split projected growth rate for Rockett SUD

after 2050 to decline at a rate commensurate with other WUGs in Ellis County. Additionally, there appears to be a typo in the Dallas County-split of the requested revisions, which is thus recommended to be revised from 466 to 966 based on the projected 2060 population being revised to 938 and the 2080 population being revised to 976.

Region C's requested revisions to Rocket SUD population projections:

| **Comparison** | **2030** | **2040** | **2050** | **2060** | **2070** | **2080** |
|---|---|---|---|---|---|---|
| Rockett SUD – Dallas County Split Population | 755 | 836 | 912 | 938 | 466 | 976 |
| Rockett SUD – Ellis County Split Population | 37,615 | 44,938 | 53,859 | 64,221 | 78,415 | 92,757 |
| **Whole WUG Population – Rockett SUD** | **38,371** | **45,774** | **54,771** | **65,159** | **78,881** | **93,733** |
| Dallas County compounded annual growth rate per decade | | 1.02% | 0.88% | 0.28% | -6.76% | 7.67% |
| Ellis County compounded annual growth rate per decade | | 1.79% | 1.83% | 1.78% | 2.02% | 1.69% |
| **Whole WUG compounded annual growth rate per decade** | | **1.78%** | **1.81%** | **1.75%** | **1.93%** | **1.74%** |

TWDB EA recommended population projections for Rockett SUD:

| **Comparison** | **2030** | **2040** | **2050** | **2060** | **2070** | **2080** |
|---|---|---|---|---|---|---|
| Rockett SUD – Dallas County Split Population | 755 | 836 | 912 | 938 | 966 | 976 |
| Rockett SUD – Ellis County Split Population | 37,615 | 44,938 | 53,859 | 62,009 | 74,775 | 85,142 |
| **Whole WUG Population – Rockett SUD** | **38,370** | **45,774** | **54,771** | **62,947** | **75,741** | **86,118** |
| Dallas County compounded annual growth rate per decade | | 1.0% | 0.9% | 0.3% | 0.3% | 0.1% |
| Ellis County compounded annual growth rate per decade | | 1.8% | 1.8% | 1.4% | 1.9% | 1.3% |
| **Whole WUG compounded annual growth rate per decade** | | **1.8%** | **1.8%** | **1.4%** | **1.9%** | **1.3%** |

Comparison of the Rocket SUD draft projections, RWPG requested, and TWDB EA recommended population projections:

| **Comparison** | **County** | **Entity** | **2030** | **2040** | **2050** | **2060** | **2070** | **2080** |
|---|---|---|---|---|---|---|---|---|
| TWDB Draft Projections | DALLAS | Rockett SUD | 753 | 791 | 812 | 823 | 836 | 851 |
| | ELLIS | Rockett SUD | 37,508 | 42,508 | 47,936 | 56,312 | 68,000 | 80,836 |
| RWPG Revision Request | DALLAS | Rockett SUD | 755 | 836 | 912 | 938 | 466 | 976 |
| | ELLIS | Rockett SUD | 37,615 | 44,938 | 53,859 | 64,221 | 78,415 | 92,757 |
| TWDB EA Recommended | DALLAS | Rockett SUD | 755 | 836 | 912 | 938 | 966 | 976 |
| | ELLIS | Rockett SUD | 37,615 | 44,938 | 53,859 | 62,009 | 74,775 | 85,142 |

### *5. Grayson County Revisions*

The Region C population memo noted on page 6 that the request is to revise the Grayson County total to increase population in all decades, based on higher historical 5-year and 10-year growth rates, compared to the draft projections. Region C requested revisions to 6 of the 30 WUGs that split across Grayson County. Of these, TWDB recommends 5 of the 6 revision requests and further revisions to the one WUG discussed below.

Grayson County Population Projections:

| Comparison | County | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|
| TWDB Draft Projections (1.0 migration scenario) | GRAYSON | 149,694 | 163,010 | 174,122 | 183,924 | 194,718 | 206,605 |
| RWPG Revision Request | GRAYSON | 173,423 | 207,085 | 242,522 | 271,463 | 310,612 | 338,984 |
| TWDB EA Recommended | GRAYSON | 169,780 | 200,021 | 231,274 | 257,654 | 292,518 | 317,713 |

#### 5.1 Van Alstyne

Region C requested to increase the population projections in all decades for Van Alstyne, based on supporting data from the WUG, which noted assessed land use and potential growth due to the right-of-way owned by the city. The region's requested 2030 population is much higher than historical growth and the submitted supporting documentation does not explain how this projected value was developed. Therefore, it is recommended to revise the 2030 projections based on the 2021 WUS-reported connections (2,043) times the Census Bureau's household multiplier of 2.89 for the City of Van Alstyne to establish a baseline population and then apply the WUS-historical growth rate from 2010-2021 (4.0%) to project a 2030 population. For the planning horizon it is recommended to apply the region's projected growth rate, due to land development referenced in the Van Alstyne supporting documentation, which is also reflective of the new facilities noted in Region C's revised manufacturing projections.

Van Alstyne's self-reported historical connections and calculated growth rate:

| Van Alstyne | 2010 | 2020 | 2021 |
|---|---|---|---|
| WUS Connections | 1,328 | 1,804 | 2,043 |
| Population Estimate (2.89 PPHH) | 3,838 | 5,412 | 5,904 |
| 2010-2021 annual growth: | | | 4.0% |

RWPG requested revisions to Van Alstyne population projections:

| Van Alstyne | 2021 WUS-reported Population Estimate | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|
| Population | 5,986 | 12,042 | 23,349 | 37,173 | 45,638 | 59,800 | 70,300 |
| Compounded annual growth rate per decade | | 7% | 7% | 5% | 2% | 3% | 2% |

Recommended population projections for Van Alstyne based upon growth rate applied to 2021 estimated population:

| Van Alstyne | 2021 Population Estimate | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|
| Population | 5,904 | 8,398 | 16,284 | 25,925 | 31,829 | 41,706 | 49,029 |
| Compounded annual growth rate per decade | | 4% | 7% | 5% | 2% | 3% | 2% |

Comparison of the Van Alstyne draft projections, RWPG requested, and TWDB EA recommended population projections:

| Comparison | County | Entity | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|---|
| TWDB Draft Projections | GRAYSON | Van Alstyne | 5,999 | 7,189 | 8,186 | 9,175 | 10,250 | 11,420 |
| RWPG Revision Request | GRAYSON | Van Alstyne | 12,042 | 23,349 | 37,173 | 45,638 | 59,800 | 70,300 |
| TWDB EA Recommended | GRAYSON | Van Alstyne | 8,398 | 16,284 | 25,925 | 31,829 | 41,706 | 49,029 |

### *6. Henderson County Revisions*

The Region C population memo noted on page 6 that the region is requesting to revise the county total to increase in all decades, based on a higher five-year growth rate compared to the draft projections. Region C requested revisions to 5 of the 15 WUGs that split across Henderson County. Based on the supporting data submitted, the TWDB recommends further revisions to 4 of the WUGs.

Henderson County Population Projections:

| Comparison | County | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|
| TWDB Draft Projections (1.0 migration scenario) | HENDERSON | 62,219 | 64,490 | 65,745 | 67,173 | 68,746 | 70,478 |
| RWPG Revision Request | HENDERSON | 69,434 | 76,356 | 91,680 | 103,715 | 120,956 | 132,472 |
| TWDB EA Recommended | HENDERSON | 65,669 | 71,460 | 78,514 | 84,827 | 92,129 | 97,538 |

### 6.1 Athens

Region C requested higher population projections for Athens than the TWDB draft projections and provided a land use analysis. Page 9 of the Athens supporting documentation shows the 2020 population, which aligns with what Athens has reported to the TWDB WUS. The WUS-reported growth rate does not support the region's revised 2030 projected population. Therefore, the TWDB EA recommends using the historical growth rate to project 2030, then applying the region's requested

growth rates in the near-term and buildout population in 2080 based on the region-provided Land Use Analysis.

Athens' self-reported historical connections and annual growth rate:

| Athens | 2010 | 2020 |
|---|---|---|
| Total WUS Connections | 5,853 | 5,917 |
| Population Estimate | 12,043 | 12,369 |
| Compounded annual growth rate | | 0.11% |

Recommended population projections, starting with Athens' 2020 population listed in the Land Use Analysis (page 9) of the Athens memo and ending with the buildout population requested by the RWPG:

| Athens | 2020 Athens population data | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|
| Population | 12,857 | 12,998 | 15,700 | 20,673 | 24,945 | 30,100 | 33,252 |
| Compounded annual growth rate per decade | | 0.1% | 1.9% | 2.8% | 1.9% | 1.9% | 1.0% |

Comparison of the Athens draft projections, RWPG requested, and TWDB EA recommended population projections:

| Comparison | County | Entity | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|---|
| TWDB Draft Projections | HENDERSON | Athens | 12,739 | 13,109 | 13,434 | 13,707 | 14,007 | 14,336 |
| RWPG Revision Request | HENDERSON | Athens | 18,127 | 21,895 | 28,829 | 30,665 | 33,252 | 33,252 |
| TWDB EA Recommended | HENDERSON | Athens | 12,998 | 15,700 | 20,673 | 24,945 | 30,100 | 33,252 |

### 6.2 Crescent Heights WSC

Region C requested higher population projections in each decade compared to the TWDB draft projections for Crescent Heights WSC. The supporting documentation submitted did not include a methodology for how the revised projections were developed. Therefore, it is recommended to use the historical 2010-2021 WUS growth rate (2021 WUS was submitted by the RWPG as supporting data) to project 2030, use the region's growth rate to project through 2050, and then apply draft growth rates after 2060-2080, which better align with long-term historical county trends, for long-term projections.

Crescent Heights WSC self-reported historical connections and calculated growth rate:

| Crescent Heights WSC | 2010 | 2020 | 2021 |
|---|---|---|---|
| Total WUS Connections | 638 | 696 | 661 |
| WUS Population Estimate | 1,916 | 2,088 | 1,750 |
| WUS connection 2010-2021 annual growth rate: | | | 0.32% |
| WUS population estimate 2010-2021 annual growth rate: | | | -0.8% |

RWPG requested revisions to Crescent Heights WSC population projections:

| Crescent Heights WSC | 2021 WUS Population Estimate | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|
| Population | 1,750 | 1,932 | 1,992 | 2,214 | 2,804 | 3,770 | 4,000 |
| Compounded annual growth rate per decade | | 1.1% | 0.31% | 1.06% | 2.39% | 3.00% | 0.59% |

Recommended population projections for Crescent Heights WSC:

| Crescent Heights WSC | 2021 WUS Population Estimate | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|
| Population | 1,750 | 1,801 | 1,857 | 2,064 | 2,099 | 2,137 | 2,178 |
| Compounded annual growth rate per decade | | 0.3% | 0.3% | 1.1% | 0.2% | 0.2% | 0.2% |

Comparison of the Crescent Heights WSC draft projections, RWPG requested, and TWDB EA recommended population projections:

| Comparison | County | Entity | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|---|
| TWDB Draft Projections | HENDERSON | Crescent Heights WSC | 1,622 | 1,640 | 1,702 | 1,731 | 1,762 | 1,796 |
| RWPG Revision Request | HENDERSON | Crescent Heights WSC | 1,932 | 1,992 | 2,214 | 2,804 | 3,770 | 4,000 |
| TWDB EA Recommended | HENDERSON | Crescent Heights WSC | 1,801 | 1,857 | 2,064 | 2,099 | 2,137 | 2,178 |

### 6.3 East Cedar Creek FWSD

The region requested to increase the population projections for East Cedar Creek FWSD in all decades and noted an ongoing water and sewer master plan as justification for the request. The supporting documentation submitted did not include the projections methodology for how the revised projections were developed. Therefore, it is recommended to use the historical 2010-2021 WUS growth rate (the 2021 WUS was the documentation submitted by the RWPG as supporting data) to project near-term population and then apply the originally drafted growth rates, which better align with long-term historical county trends, for long-term projections.

East Cedar Creek FWSD self-reported historical connections and calculated growth rate:

| East Cedar Creek FWSD | 2010 | 2020 | 2021 |
|---|---|---|---|
| Total WUS Connections | 5,594 | 6,673 | 7,073 |
| WUS connection 10-year annual growth rate | | 1.8% | |
| WUS connection 11-year annual growth rate | | | 2.2% |

TWDB EA recommended population projections for East Cedar Creek FWSD using the WUS-reported 2021 population of 19,599 as the base:

| East Cedar Creek FWSD | 2021 WUS Population Estimate | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|
| Population | 19,599 | 23,746 | 25,120 | 25,323 | 25,882 | 26,501 | 27,183 |
| Compounded annual growth rate per decade | | 2.2% | 0.6% | 0.1% | 0.2% | 0.2% | 0.3% |

Comparison of the East Cedar Creek FWSD draft projections, RWPG requested, and TWDB EA recommended population projections:

| Comparison | County | Entity | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|---|
| TWDB Draft Projections | HENDERSON | East Cedar Creek FWSD | 11,866 | 12,479 | 12,591 | 12,900 | 13,243 | 13,622 |
| RWPG Revision Request | HENDERSON | East Cedar Creek FWSD | 21,917 | 23,331 | 29,504 | 37,351 | 49,109 | 58,704 |
| TWDB EA Recommended | HENDERSON | East Cedar Creek FWSD | 23,746 | 25,120 | 25,323 | 25,882 | 26,501 | 27,183 |

### 6.4 Malakoff

Region C requested to increase the population projections for Malakoff in each decade compared to the draft projections, based on the 2021 WUS for the WUG. The submitted supporting documentation did not explain how the projection revisions were developed. The self-reported populations in the WUS decline from 2010-2020, with only a slight increase in 2021. Therefore, it is recommended to revise the base population using WUS data, as requested by the region, and apply the originally drafted growth rates after 2040, which better align with slower growth in the WUG and long-term historical county trends.

Malakoff self-reported historical populations and calculated growth rate:

| Malakoff | 2010 | 2020 | 2021 |
|---|---|---|---|
| Total WUS Population Estimate | 2,257 | 2,129 | 2,343 |
| WUS population 10-year annual growth rate | | -0.58% | |
| WUS population 11-year annual growth rate | | | 0.34% |

RWPG requested revisions to Malakoff population:

| Malakoff | 2021 WUS Population Estimate | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|
| Population | 2,343 | 2,750 | 2,917 | 3,368 | 3,721 | 4,200 | 4,400 |
| Compounded annual growth rate per decade | | 1.8% | 0.6% | 1.4% | 1.0% | 1.2% | 0.5% |

TWDB EA recommended population projections for Malakoff using the WUS-reported 2021 population of 2,343 as the base:

| Malakoff | 2021 WUS Population Estimate | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|
| Population | 2,343 | 2,416 | 2,562 | 2,689 | 2,727 | 2,766 | 2,809 |
| Compounded annual growth rate per decade | | 0.3% | 0.6% | 0.5% | 0.1% | 0.1% | 0.2% |

Comparison of the Malakoff draft projections, RWPG requested, and TWDB EA recommended population projections:

| Comparison | County | Entity | P2030 | P2040 | P2050 | P2060 | P2070 | P2080 |
|---|---|---|---|---|---|---|---|---|
| TWDB Draft Projections | HENDERSON | Malakoff | 1,782 | 1,775 | 1,863 | 1,889 | 1,916 | 1,946 |
| RWPG Revision Request | HENDERSON | Malakoff | 2,750 | 2,917 | 3,368 | 3,721 | 4,200 | 4,400 |
| TWDB EA Recommended | HENDERSON | Malakoff | 2,416 | 2,562 | 2,689 | 2,727 | 2,766 | 2,809 |

### *7. Kaufman County Revisions*

The Region C population memo noted on page 6 that Kaufman County experienced the largest growth rate of any county in the region in recent years. Therefore, the region requests to revise the county total population based on a higher 5-year and 10-year growth rate compared to the draft projections. Region C requested revisions to 19 of the 26 WUGs that split across the county. Of these, TWDB recommends further revisions to 5 of the WUGs and does not recommend the revision request for one WUG, all of which are summarized below. Additionally, the population projections for County-Other, Kaufman were revised to maintain the county total that the region requested. Please see the attached spreadsheet for more information.

Kaufman County Population Projections:

| Comparison | County | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|
| TWDB Draft Projections (1.0 migration scenario) | KAUFMAN | 193,144 | 253,897 | 331,393 | 419,515 | 516,558 | 623,425 |
| RWPG Revision Request | KAUFMAN | 209,309 | 257,499 | 335,063 | 431,671 | 542,246 | 627,644 |
| TWDB EA Recommended | KAUFMAN | 209,309 | 257,499 | 335,063 | 431,671 | 542,246 | 627,644 |

#### 7.1 Ables Springs SUD

Region C requested revisions to the population projections for Ables Springs SUD, relying on the 2021 WUS as supporting documentation. The revisions show slower growth in the first projected decade, compared to the draft projections, and growth comparable to the draft in the remaining decades of the planning horizon. However, the self-reported data to the survey shows a growth rate of 2.9% in the last 10 years and the region-requested 2030 population shows growth of 6.4% by 2030. No supporting documentation was provided to justify this increase. Therefore, it is recommended to revise the 2030

population using historical growth to project the 2030 population. This recommended revision is based on the 2021 Water Use Survey reported population and self-reported historical growth rate, and then applying the region's requested growth rates 2040-2080, which is reasonable in the context of the county's growth.

Ables Springs SUD self-reported historical population and growth rates:

| **Ables Springs SUD** | **2010** | **2020** | **2021** |
|---|---|---|---|
| WUS population Estimate | 3,300 | 4,411 | 4,578 |
| Compounded annual growth rate 2010-2020 | | 2.9% | |
| Compounded annual growth rate 2010-2021 | | | 3.0% |

RWPG requested population projections and compounded annual growth rate for Ables Springs SUD:

| **Ables Springs SUD** | **2021 WUS Population Estimate** | **2030** | **2040** | **2050** | **2060** | **2070** | **2080** |
|---|---|---|---|---|---|---|---|
| Population | 4,578 | 8,016 | 8,338 | 9,734 | 10,965 | 12,417 | 13,039 |
| Compounded annual growth rate per decade | | 6.4% | 0.4% | 1.6% | 1.2% | 1.3% | 0.5% |

Recommended population projections based on 2021 population estimate and growth rates for Ables Springs SUD:

| **Ables Springs SUD** | **2021 WUS Population Estimate** | **2030** | **2040** | **2050** | **2060** | **2070** | **2080** |
|---|---|---|---|---|---|---|---|
| Population | 4,578 | 5,944 | 6,183 | 7,218 | 8,131 | 9,208 | 9,669 |
| Compounded annual growth rate per decade | | 3.0% | 0.4% | 1.6% | 1.2% | 1.3% | 0.5% |

Comparison of the Ables Springs SUD draft projections, RWPG requested, and TWDB EA recommended population projections:

| **Comparison** | **County** | **Entity** | **2030** | **2040** | **2050** | **2060** | **2070** | **2080** |
|---|---|---|---|---|---|---|---|---|
| TWDB Draft Projections | KAUFMAN | Ables Springs SUD | 3,029 | 3,631 | 4,396 | 5,254 | 6,203 | 7,252 |
| RWPG Revision Request | KAUFMAN | Ables Springs SUD | 8,016 | 8,338 | 9,734 | 10,965 | 12,417 | 13,039 |
| TWDB EA Recommended | KAUFMAN | Ables Springs SUD | 5,944 | 6,183 | 7,218 | 8,131 | 9,208 | 9,669 |

### 7.2 Becker Jiba WSC

The region requested revisions to the near-term projections for Becker Jiba WSC which are supported by the WUG's growth and the region's request to revise the near-term growth trends in the county. However, for this WUG, the requested growth rate dipped between 2050-2060 and increased again in

2070 before decreasing in 2080. The variable growth rate is not described in the supporting documentation submitted and the region's revised 2030 projection is reasonable compared to historical growth. Therefore, it is recommended to use the region's projections in the near-term and apply the originally drafted growth rates after 2050, which slowly decline over time.

TWDB draft projections and compounded annual growth rates per decade for Becker Jiba WSC:

| Becker Jiba WSC | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|
| Population | 3,608 | 4,259 | 5,085 | 6,007 | 7,030 | 8,160 |
| Compounded annual growth rate per decade | | 1.7% | 1.8% | 1.7% | 1.6% | 1.5% |

RWPG requested projections and compounded annual growth rates per decade for Becker Jiba WSC:

| Becker Jiba WSC | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|
| Population | 4,425 | 6,986 | 9,459 | 10,420 | 14,800 | 17,113 |
| Compounded annual growth rate per decade | | 4.7% | 3.1% | 1.0% | 3.6% | 1.5% |

TWDB EA recommended population projections and compounded annual growth rates per decade for Becker Jiba WSC:

| Becker Jiba WSC | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|
| Population | 4,425 | 6,986 | 9,459 | 11,174 | 13,077 | 15,179 |
| Compounded annual growth rate per decade | | 4.7% | 3.1% | 1.7% | 1.6% | 1.5% |

### 7.3 Crandall

Region C requested higher population projections for Crandall WUG compared to the TWDB draft population projections. The supporting documentation submitted is a 2010 Comprehensive Master Plan, which does not incorporate more recent population trends. It is recommended to revise the population projections using the WUS-reported 2021 connections times the U.S. Census Bureau's PPHH (3.01) to establish a 2021 base population of 4,283. It is then recommended to apply the WUS connections reported 2010-2021 annual growth rate (1.5%) to project 2030 and use the region's growth rates from 2040-2080 to reflect Region C's requested growth trends in the county.

Crandall self-reported historical connections and calculated growth rate:

| Crandall | 2010 | 2020 | 2021 |
|---|---|---|---|
| Total WUS Connections | 1,336 | 1,522 | 1,590 |
| Population estimate (using 3.01 PPHH) | 4,021 | 4,581 | 4,786 |
| Compounded annual 10-year growth rate | | 1.3% | |
| Compounded annual 11-year growth rate | | | 1.5% |

RWPG requested projections and compounded annual growth rate per decade for Crandall:

| Crandall | 2021 Population Estimate | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|
| Population | 4,786 | 10,785 | 23,128 | 38,693 | 56,201 | 79,364 | 95,162 |
| Compounded annual growth rate per decade | | 9.4% | 7.9% | 5.3% | 3.8% | 3.5% | 1.8% |

2021 base population and the TWDB EA recommended population projections with annual growth rates per decade for Crandall:

| Crandall | 2021 Population Estimate | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|
| Population | 4,786 | 5,598 | 12,005 | 20,084 | 29,172 | 41,195 | 49,395 |
| Compounded annual growth rate per decade | | 1.5% | 7.9% | 5.3% | 3.8% | 3.5% | 1.8% |

Comparison of the Crandall draft projections, RWPG requested, and TWDB EA recommended population projections:

| Comparison | County | Entity | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|---|
| TWDB Draft Projections | KAUFMAN | Crandall | 4,813 | 5,816 | 7,106 | 7,920 | 7,920 | 7,920 |
| RWPG Revision Request | KAUFMAN | Crandall | 10,785 | 23,128 | 38,693 | 56,201 | 79,364 | 95,162 |
| TWDB EA Recommended | KAUFMAN | Crandall | 5,598 | 12,005 | 20,084 | 29,172 | 41,195 | 49,395 |

### 7.4 Forney

Region C requested for Forney a higher 2030 population projection and lower long-term population projections compared to the draft population projections, due to WUG buildout. Based on the supporting data provided, it is unclear how the region's requested revision to the 2030 population projection was developed. The TWDB EA recommends the near-term population projection using WUS-reported 2020 connections times U.S. Census Bureau's persons per household (PPHH) of 3.01 for Kaufman County to establish the 2020 base population of 21,097. The use of year 2020 to establish a baseline population is recommended because on page 5 of the Region C Forney memo request, 2020 is referenced for the requested population projections. However, it appears that Forney used a PPHH of 3.35, which is much higher than the Census Bureau's PPHH metric. Therefore, it is recommended to revise the 2020 baseline population to 21,097 and then use the WUS connections reported 2010-2020 annual growth rate (3.4%) to project 2030 and apply the region's requested growth rate for the remaining decades, which is reasonable in the context of the county's growth, until buildout in 2070.

Forney self-reported historical connections and growth rate:

| Forney | 2010 | 2020 |
|---|---|---|
| Total WUS Connections | 4,996 | 7,009 |
| Population Estimates (using 3.01 PPHH) | 15,038 | 21,097 |
| Compounded annual growth rate | | 3.4% |

RWPG requested projections and compounded annual growth rate per decade for Forney:

| Forney | 2020 Revised Population Estimate | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|
| Population | 21,097 | 32,901 | 42,290 | 52,366 | 61,829 | 61,829 | 61,829 |
| Compounded annual growth rate per decade | | 4.5% | 2.5% | 2.2% | 1.7% | 0.0% | 0.0% |

2020 base population and the TWDB EA recommended population projections with annual growth rates per decade:

| Forney | 2020 Revised Population Estimate | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|
| Population | 21,097 | 29,597 | 38,044 | 47,108 | 55,621 | 61,829 | 61,829 |
| Compounded annual growth rate per decade | | 3.4% | 2.5% | 2.2% | 1.7% | 1.1% | 0.0% |

Comparison of the Forney draft projections, RWPG requested, and TWDB EA recommended population projections:

| Comparison | County | Entity | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|---|
| TWDB Draft Projections | KAUFMAN | Forney | 27,431 | 36,654 | 48,424 | 61,829 | 76,582 | 92,825 |
| RWPG Revision Request | KAUFMAN | Forney | 32,901 | 42,290 | 52,366 | 61,829 | 61,829 | 61,829 |
| TWDB EA Recommended | KAUFMAN | Forney | 29,597 | 38,044 | 47,108 | 55,621 | 61,829 | 61,829 |

### 7.5 Gastonia Scurry SUD

Region C requested higher population projections for Gastonia Scurry SUD compared to the TWDB draft population projections. The near-term projection is recommended because the population aligns with historical growth, however, the long-term projected growth, especially 2050-2070 is high relative to other WUGs within the county. No supporting documentation was submitted to support the later year revision request so it is recommended to revise the projections to decline the 2060-2070 growth rate commensurate with similar sized WUGs within the region.

RWPG requested revisions to the population projections and annual growth rate per decade for Gastonia Scurry SUD:

| Gastonia Scurry SUD | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|
| Population | 12,512 | 14,583 | 19,563 | 32,939 | 52,565 | 65,808 |
| Compounded annual growth rate per decade | | 1.5% | 3.0% | 5.3% | 4.8% | 2.3% |

TWDB EA recommended population projections and annual growth rate per decade for Gastonia Scurry SUD:

| Gastonia Scurry SUD | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|
| Population | 12,512 | 14,583 | 19,563 | 32,939 | 48,748 | 59,846 |
| Compounded annual growth rate per decade | | 1.5% | 3.0% | 5.3% | 4.0% | 2.1% |

Comparison of the Gastonia Scurry SUD draft projections, RWPG requested, and TWDB EA recommended population projections:

| Comparison | County | Entity | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|---|
| TWDB Draft Projections | KAUFMAN | Gastonia Scurry SUD | 12,814 | 16,869 | 22,040 | 27,922 | 34,398 | 41,530 |
| RWPG Revision Request | KAUFMAN | Gastonia Scurry SUD | 12,512 | 14,583 | 19,563 | 32,939 | 52,565 | 65,808 |
| TWDB EA Recommended | KAUFMAN | Gastonia Scurry SUD | 12,512 | 14,583 | 19,563 | 32,939 | 48,748 | 59,846 |

### 7.6 High Point WSC

Region C requested to increase the population projections for High Point WSC in each decade compared to the draft projections, based on the 2021 Water Use Survey for the WUG. The request is based on the on-going North Texas Municipal Water District study currently under development. However, the TWDB does not recommend the region's revision request, as High Point WSC reported 4,647 residential connections to the 2021 WUS that, when multiplied by the 3.01 persons per household per the U.S. Census Bureau, results in a 2021 population estimate of 13,987, which is more than the region's revised 2030 population projection. Therefore, the originally drafted population projections are recommended.

Comparison of the High Point WSC draft projections, RWPG requested, and TWDB EA recommended population projections:

| Comparison | County | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|
| TWDB Draft Projections | KAUFMAN | 19,458 | 30,077 | 43,664 | 59,266 | 76,390 | 95,209 |
| | ROCKWALL | 1,853 | 2,687 | 3,698 | 4,768 | 5,943 | 7,235 |
| RWPG Revision Request | KAUFMAN | 5,294 | 6,239 | 8,158 | 12,734 | 16,530 | 18,857 |
| | ROCKWALL | 504 | 557 | 691 | 1,025 | 1,286 | 1,433 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| TWDB EA Recommended | KAUFMAN | 19,458 | 30,077 | 43,664 | 59,266 | 76,390 | 95,209 |
| | ROCKWALL | 1,853 | 2,687 | 3,698 | 4,768 | 5,943 | 7,235 |

### *8. Parker County Revisions*

The Region C population memo noted on page 7 that Parker County has experienced consistently high growth recently and thus the region requested to revise to increase the population projections in all decades compared to the draft projections. The memo also notes that the majority of the increase is attributed to the County-Other, Parker WUG as the county continues to urbanize. Most of the revisions are based on the Upper Trinity Groundwater Conservation District (UTGCD) study, in addition to some WUG-specific requests. The region requested revisions to 11 of the 18 WUGs in the county. The TWDB recommends revising one of the WUGs and recommends the draft projections for another WUG, as summarized below. The TWDB EA recommends the region's requested revisions to the population projections and subsequent municipal demand projections for 9 of the WUG revisions because the projected growth rates are based on the UTGCD study, which developed three scenarios for growth that were applied to public water systems within Parker and Wise counties (the study area) based on stakeholder feedback (page 2-4 of the UTGCD study). Likewise, the region's revision requests to County-Other, Parker are recommended because of the UTGCD study.

Parker County Population Projections:

| Comparison | County | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|
| TWDB Draft Projections (1.0 migration scenario) | PARKER | 181,391 | 217,135 | 257,508 | 299,924 | 346,634 | 398,073 |
| RWPG Revision Request | PARKER | 193,243 | 256,164 | 342,606 | 444,891 | 569,928 | 679,642 |
| TWDB EA Recommended | PARKER | 190,921 | 254,388 | 340,869 | 442,691 | 566,315 | 675,719 |

### 8.1 Springtown

The region requested to increase the Springtown population projections in all decades, based on a WUG-specific request, which notes new developments in the near-term. The region then applied a constant growth rate through 2070 with a slight decline in 2080. It is recommended to revise the population projections to utilize the region's requested population projections in the near-term, based on new developments noted in the supporting documentation, and then revise the growth rate after 2050 to slowly decline, in line with county trends.

Region's requested revision to the population projections and compounded annual growth rate per decade for Springtown:

| Springtown | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|
| Population | 5,436 | 7,245 | 10,032 | 12,960 | 16,850 | 19,600 |
| Compounded annual growth rate per decade | | 3% | 3% | 3% | 3% | 2% |

TWDB EA recommended population projections and compounded annual growth rate per decade for Springtown:

| Springtown | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|
| Population | 5,436 | 7,245 | 10,032 | 12,229 | 14,192 | 15,677 |
| Compounded annual growth rate per decade | | 3% | 3% | 2% | 1% | 1% |

Comparison of the Springtown draft projections, RWPG requested, and TWDB EA recommended population projections:

| Comparison | County | Entity | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|---|
| TWDB Draft Projections | PARKER | Springtown | 3,832 | 4,590 | 5,445 | 5,484 | 5,484 | 5,484 |
| RWPG Revision Request | PARKER | Springtown | 5,436 | 7,245 | 10,032 | 12,960 | 16,850 | 19,600 |
| TWDB EA Recommended | PARKER | Springtown | 5,436 | 7,245 | 10,032 | 12,229 | 14,192 | 15,677 |

### 8.2 Willow Park

The region requested a higher population projection for Willow Park in 2030, based on the Fort Worth Impact Fee data (page 98 of the Fort Worth_Revision Request memo). The region requested projections are higher in the near-term and lower in the long-term than what is noted in the impact fee data. Nothing in the submitted supporting documentation appears to support this requested revision. The TWDB is not recommending this request because the draft projections growth rate better aligns with historical growth. The 2020 estimated population using the self-reported WUS connections times the county's persons per household (per the U.S. Census Bureau) was 5,778, and the system reported 1.5% annual growth to the TWDB WUS. The use of year 2020 to establish a baseline population is recommended because on page 98 of the Region C request memo, 2020 is referenced for the requested population projections. The TWDB's 2030 projection of 8,080 is a more reasonable projection based on the self-reported growth rate and the region's requested 2080 population is the same as the original TWDB draft.

Willow Park self-reported historical connections and growth rate:

| Willow Park | 2010 | 2020 |
|---|---|---|
| Total WUS Connections | 1,774 | 2,049 |
| Population estimate (using 2.82 PPHH) | 5,003 | 5,778 |
| Compounded annual growth rate | | 1.5% |

Comparison of TWDB drafted and Region's requested revision to the population projections and compounded annual growth rate for Willow Park:

| Comparison | Willow Park | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|
| TWDB Draft | Population | 8,080 | 9,714 | 11,560 | 13,501 | 15,638 | 17,991 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Compounded annual growth rate per decade | | 1.9% | 1.8% | 1.6% | 1.5% | 1.4% |
| RWPG Requested | Population | 10,401 | 11,491 | 13,297 | 14,971 | 16,593 | 17,991 |
| | Compounded annual growth rate per decade | | 1.0% | 1.5% | 1.2% | 1.0% | 0.8% |

Comparison of the Willow Park draft projections, RWPG requested, and TWDB EA recommended population projections:

| Comparison | County | Entity | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|---|
| TWDB Draft Projections | PARKER | Willow Park | 8,080 | 9,714 | 11,560 | 13,501 | 15,638 | 17,991 |
| RWPG Revision Request | PARKER | Willow Park | 10,401 | 11,491 | 13,297 | 14,971 | 16,593 | 17,991 |
| TWDB EA Recommended | PARKER | Willow Park | 8,080 | 9,714 | 11,560 | 13,501 | 15,638 | 17,991 |

### *9. Rockwall County Revisions*

Region C requested to increase the population projections for Rockwall County in all decades compared to the draft projections for Rockwall County, as noted on page 7 of the population memo, based on a higher five-year annual growth rate compared to the draft projections. Region C requested revisions to the population projections for 13 of the 14 WUG-county splits, of which TWDB recommends the projections, as submitted by the RWPG, for 10 of the WUG-county splits. The TWDB recommends revisions to one WUG and does not recommend the requests for two WUGs as discussed below (and High Point WSC is discussed in the Kaufman County section). Additionally, the population projections for County-Other, Rockwall were revised in 2030 and 2040 to not exceed the county total that the region requested. Please see the attached spreadsheet for more information.

Rockwall County Population Projections

| Comparison | County | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|
| TWDB Draft Projections (1.0 migration scenario) | ROCKWALL | 137,756 | 173,604 | 216,829 | 262,120 | 311,996 | 366,921 |
| RWPG Revision Request | ROCKWALL | 155,987 | 214,364 | 282,069 | 346,714 | 392,548 | 422,765 |
| TWDB EA Recommended | ROCKWALL | 155,987 | 214,364 | 280,320 | 340,099 | 378,980 | 403,891 |

### 9.1 Cash SUD

Regions C and D planning groups coordinated the revision requests for Cash Special Utility District (SUD). The supporting data provided by Region D, the primary region for the WUG, includes population and connections from 1994 to 2022 that are confirmed by the TWDB WUS, but do not support Region C's revised, long-term growth rate for the requested revised population projections. Based on long-term historical growth in the WUG as shown in the supporting data provided by the region, TWDB

recommends revising the population projections to use the Region's 2030 population and the originally drafted projections growth rate, which reflects the WUG's self-reported historical growth rate.

Comparison of TWDB drafted and Region's requested revision to the population projections and compounded annual growth rate for Cash SUD:

| Comparison | Cash SUD | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|
| TWDB Draft | Population | 1,994 | 2,646 | 3,435 | 4,265 | 5,178 | 6,182 |
| | Compounded annual growth rate per decade | | 2.9% | 2.6% | 2.2% | 2.0% | 1.8% |
| RWPG Requested | Population | 2,977 | 3,986 | 8,098 | 13,866 | 21,786 | 29,825 |
| | Compounded annual growth rate per decade | | 3.0% | 7.3% | 5.5% | 4.6% | 3.2% |

Region D supporting documentation for Cash SUD revision requests:

| Cash SUD – whole WUG | 1994 | 2000 | 2010 | 2015 | 2020 | 2022 |
|---|---|---|---|---|---|---|
| Population | 9,988 | 13,216 | 16,150 | 17,262 | 19,723 | 22,736 |
| Connections | 3,576 | 4,720 | 5,768 | 6,165 | 7,044 | 8,300 |
| Persons per connection | 2.79 | 2.80 | 2.80 | 2.80 | 2.80 | 2.74 |
| 10-year annual growth rate | | | **2.0%** | | **2.0%** | |
| Annual growth rate 1994-2022 | | | | | | **3.0%** |

TWDB EA recommended population projections and compounded annual growth rate for Cash SUD:

| Cash SUD | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|
| Population | 2,977 | 3,950 | 5,128 | 6,367 | 7,730 | 9,229 |
| Compounded Annual Growth Rate | | 2.9% | 2.6% | 2.2% | 2.0% | 1.8% |

Comparison of the Cash SUD draft projections, RWPG requested, and TWDB EA recommended population projections:

| Comparison | County | Entity | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|---|
| TWDB Draft Projections | ROCKWALL | Cash SUD | 1,994 | 2,646 | 3,435 | 4,265 | 5,178 | 6,182 |
| RWPG Revision Request | ROCKWALL | Cash SUD | 2,977 | 3,986 | 8,098 | 13,866 | 21,786 | 29,825 |
| TWDB EA Recommended | ROCKWALL | Cash SUD | 2,977 | 3,950 | 5,128 | 6,367 | 7,730 | 9,229 |

### 9.2 Mount Zion WSC

The Region C revision request for Mount Zion WSC is based on the on-going North Texas Municipal Water District study currently under development. The region requested to increase the population projections in all decades. The request is not recommended due to the WUG reporting declining

connections and population in the last ten years to the WUS. Therefore, the draft projected growth rates, while increasing, better align with historical WUG data and projected county trends.

Mount Zion WSC self-reported historical data from the WUS:

| Mount Zion WSC | 2010 | 2020 |
|---|---|---|
| Total WUS Connections | 718 | 689 |
| WUS connection annual growth rate | | -0.41% |
| Population Estimates | 2,367 | 2,049 |
| WUS population annual growth rate | | -1.43% |

Comparison of the Mount Zion WSC draft projections, RWPG requested, and TWDB EA recommended population projections:

| Comparison | County | Entity | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|---|
| TWDB Draft Projections | ROCKWALL | Mount Zion WSC | 2,079 | 2,148 | 2,226 | 2,294 | 2,373 | 2,462 |
| RWPG Revision Request | ROCKWALL | Mount Zion WSC | 2,836 | 3,099 | 4,011 | 5,154 | 6,542 | 6,542 |
| TWDB EA Recommended | ROCKWALL | Mount Zion WSC | 2,079 | 2,148 | 2,226 | 2,294 | 2,373 | 2,462 |

### *10. Tarrant County Revisions*

Region C noted on page 7 of the population memo that Tarrant is the second largest county in the region. The region requested to revise the population projections, based on a higher five-year annual growth rate compared to the draft projections, to increase the county total in all decades. Region C requested revisions for 20 of the 44 WUGs that split the county. The TWDB is recommending the requests for all except one WUG, which is discussed below. The region's revision requests to County-Other, Tarrant are recommended because the revision request decreases population projections compared to the draft projections for the WUG.

Tarrant County Population Projections

| Comparison | County | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|
| TWDB Draft Projections (1.0 migration scenario) | TARRANT | 2,356,541 | 2,604,655 | 2,809,558 | 2,969,443 | 3,145,514 | 3,339,410 |
| RWPG Revision Request | TARRANT | 2,446,040 | 2,749,017 | 2,878,997 | 3,093,387 | 3,287,331 | 3,449,671 |
| TWDB EA Recommended | TARRANT | 2,446,041 | 2,749,019 | 2,878,997 | 3,093,389 | 3,272,494 | 3,438,106 |

**EA recommended populations vary slightly for years 2030, 2040, and 2060 due to rounding.*

#### 10.1 Mansfield

Region C requested revisions to the Tarrant County portion of the Mansfield WUG and did not request revisions to the Ellis County portion of the WUG. In Region C's supporting documentation page 6 section 2.39 states that the "Comprehensive Report shows Mansfield hitting buildout in 2040, which seemed high compared to the 2026 draft projections and 2021 Region C plan… compromised to show Mansfield

hitting their buildout in 2060." However, Region C's revision request projections do not show Mansfield hitting buildout at all. Page 47 of the Mansfield Comprehensive Plan shows a high and low scenario for population capacity and Region C's request is in the middle. The TWDB recommends revising the projections, using 2030-2060 requested revisions per Region C's request and a buildout population recommended 2070 through 2080 for the WUG. The 2020 WUS population aligns with the U.S. Census Bureau both in terms of number of people and people per household multiplier if applied to WUS-reported connections. Therefore, the region-revised growth rates are recommended in the near-term and the long-term population projections are recommended by the TWDB EA to be the 2060 buildout population.

RWPG requested population projection revisions and the whole WUG's compounded annual growth rates for Mansfield:

| **Mansfield** | **2030** | **2040** | **2050** | **2060** | **2070** | **2080** |
|---|---|---|---|---|---|---|
| Mansfield – Ellis County Population | 581 | 698 | 824 | 951 | 1,091 | 1,245 |
| Mansfield – Tarrant County Population | 102,621 | 108,197 | 131,234 | 185,294 | 199,991 | 196,565 |
| **Whole WUG – Mansfield Population** | **103,202** | **108,895** | **132,058** | **186,245** | **201,082** | **197,810** |
| **Whole WUG – Mansfield Compounded Annual Growth Rate** | | **0.5%** | **1.9%** | **3.5%** | **0.8%** | **-0.2%** |

TWDB EA recommended population projections for Mansfield:

| **Mansfield** | **2030** | **2040** | **2050** | **2060** | **2070** | **2080** |
|---|---|---|---|---|---|---|
| Mansfield – Ellis County Population - | 581 | 698 | 824 | 951 | 1,091 | 1,245 |
| Mansfield – Tarrant County Population | 102,621 | 108,197 | 131,234 | 185,294 | 185,154 | 185,000 |
| **Whole WUG – Mansfield population** | **103,202** | **108,895** | **132,058** | **186,245** | **186,245** | **186,245** |
| **Whole WUG – Mansfield Compounded Annual Growth Rate** | | **0.5%** | **1.9%** | **3.5%** | **0%** | **0%** |

Comparison of the Mansfield draft projections, RWPG requested, and TWDB EA recommended population projections:

| **Comparison** | **County** | **Entity** | **2030** | **2040** | **2050** | **2060** | **2070** | **2080** |
|---|---|---|---|---|---|---|---|---|
| TWDB Draft Projections | ELLIS | Mansfield | 581 | 698 | 824 | 951 | 1,091 | 1,245 |
| | TARRANT | Mansfield | 54,629 | 60,388 | 65,144 | 68,856 | 72,943 | 77,443 |
| RWPG Revision Request | ELLIS | Mansfield | 581 | 698 | 824 | 951 | 1,091 | 1,245 |
| | TARRANT | Mansfield | 102,621 | 108,197 | 131,234 | 185,294 | 199,991 | 196,565 |
| TWDB EA Recommended | ELLIS | Mansfield | 581 | 698 | 824 | 951 | 1,091 | 1,245 |
| | TARRANT | Mansfield | 102,621 | 108,197 | 131,234 | 185,294 | 185,154 | 185,000 |

### *11. Wise County Revisions*

The Region C population memo noted on page 7 that it requests to revise the Wise County population projections to increase in all decades compared to the draft projections. The memo also notes that the majority of the increase is attributed to the County-Other, Wise WUG as the county continues to urbanize. The planning group submitted revisions for 8 of the 13 WUGs in Wise County. Most of the revisions are based on the UTGCD study. The TWDB recommends revising two of the WUGs and recommends the draft projections for one WUG, as summarized below. The region's revision requests to County-Other, Parker are recommended because of the UTGCD study.

Wise County Population Projections

| Comparison | County | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|
| TWDB Draft Projections (1.0 migration scenario) | WISE | 76,694 | 84,031 | 90,629 | 95,619 | 101,114 | 107,165 |
| RWPG Revision Request | WISE | 94,175 | 128,991 | 181,789 | 242,706 | 323,907 | 385,209 |
| TWDB EA Recommended | WISE | 92,085 | 125,921 | 176,629 | 234,863 | 311,934 | 369,816 |

### 11.1 Chico

The region requested to increase the population projections for Chico in all decades. Growth rates used in the region's revisions ranged from 1.8% to 3.3% annually. However, the WUG has been reporting declines in both residential connections and population to the WUS. Additionally, the U.S. Census Bureau reported declines in the city's population. Therefore, the EA recommends the originally drafted projections which show 0% growth annually.

Cisco's self-reported historical data from WUS and Census Bureau population estimates:

| Chico | 2010 | 2020 |
|---|---|---|
| Total WUS Connections | 629 | 524 |
| WUS connection annual growth rate | | -1.8% |
| Census Bureau Population Estimates | 1,011 | 954 |
| Census population annual growth rate | | -0.6% |

Comparison of the Chico draft projections, RWPG requested, and TWDB EA recommended population projections:

| Comparison | County | Entity | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|---|
| TWDB Draft Projections | WISE | Chico | 2,054 | 2,054 | 2,054 | 2,054 | 2,054 | 2,054 |
| RWPG Revision Request | WISE | Chico | 2,647 | 3,210 | 4,420 | 5,825 | 8,000 | 9,600 |
| TWDB EA Recommended | WISE | Chico | 2,054 | 2,054 | 2,054 | 2,054 | 2,054 | 2,054 |

### 11.2 Newark

The region requested to increase the population projections for Newark in all decades. The region's requested 2030 population for the WUG shows 5.8% annual growth from the 2020 population, followed by a slower growth rate 2030-2040, which increases again after 2040. The system reported slow growth to the TWDB WUS from 2010 to 2020 and a slight decline from 2020 to 2021. It is recommended to revise the WUG's projections to use a 2020 baseline established by the use of the self-reported connections times the Census Bureau persons per household of 2.86 for the county. Then, apply the historical growth in connections to project 2030 and the region's requested growth rate 2040-2080, which is the low-mid scenario growth rate from the UTGCD study. In the region's requested growth rate, growth continues to increase at a slower rate from 2040-2070 and begins to decline after 2070. Based on the study's growth scenarios, it appears that the Newark WUG will growth faster in later decades (2050-2070) than it is growing now, therefore, the 2030 projection should reflect current growth rates and long-term growth is based on the UTGCD study.

Newark's self-reported historical data from the WUS:

| **Newark** | **2010** | **2020** | **2021** |
|---|---|---|---|
| Total WUS Connections | 394 | 413 | 401 |
| Population estimate (using 2.86 PPHH) | 1,127 | 1,181 | 1,147 |
| Compounded annual growth rate 2010-2020: | | 0.5% | |
| Compounded annual growth rate 2010-2021: | | | 0.2% |

RWPG requested projections and compounded annual growth rate for Newark:

| **Newark** | **2020 Revised Population Estimate** | **2030** | **2040** | **2050** | **2060** | **2070** | **2080** |
|---|---|---|---|---|---|---|---|
| Population | 1,181 | 2,080 | 2,640 | 3,820 | 5,582 | 8,300 | 10,600 |
| Compounded annual growth rate per decade | | 5.8% | 2.4% | 3.8% | 3.9% | 4.0% | 2.5% |

Revised 2020 base population and the TWDB EA recommended population projections with annual growth rates per decade for Newark:

| **Newark** | **2020 Revised Population Estimate** | **2030** | **2040** | **2050** | **2060** | **2070** | **2080** |
|---|---|---|---|---|---|---|---|
| Population | 1,181 | 1,238 | 1,571 | 2,274 | 3,323 | 4,941 | 6,310 |
| Compounded annual growth rate per decade | | 0.5% | 2.4% | 3.8% | 3.9% | 4.0% | 2.5% |

Comparison of the Newark draft projections, RWPG requested, and TWDB EA recommended population projections:

| **Comparison** | **County** | **Entity** | **2020** | **2030** | **2040** | **2050** | **2060** | **2070** |
|---|---|---|---|---|---|---|---|---|
| TWDB Draft Projections | WISE | Newark | 1,227 | 1,346 | 1,453 | 1,533 | 1,622 | 1,721 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| RWPG Revision Request | WISE | Newark | 2,080 | 2,640 | 3,820 | 5,582 | 8,300 | 10,600 |
| TWDB EA Recommended | WISE | Newark | 1,238 | 1,571 | 2,274 | 3,323 | 4,941 | 6,310 |

### 11.3 Rhome

The region requested to increase the population projections for Rhome in all decades. The region's 2030 population for the WUG shows very high growth, at 5.7% annually from 2020 to 2030, followed by a slower growth rate 2030-2040, which increases again after 2040. The WUG reported moderate growth from 2010 – 2021 via the TWDB WUS. It is recommended to revise the WUG's 2030 population projection, using the WUS self-reported connections and historical growth in connections to project 2030, and then apply the region's mid-to-high scenario growth rates over the planning horizon. Based on the study's growth scenarios, it appears that the Rhome WUG will growth faster in later decades (2050-2070) than it is growing now, therefore, the 2030 projection should reflect current growth rates and long-term growth is based on the UTGCD study.

Rhome's self-reported historical data from the WUS:

| **Rhome** | **2010** | **2020** | **2021** |
|---|---|---|---|
| Total WUS Connections | 557 | 592 | 680 |
| Population estimate (2.86 pphh) | 1,593 | 1,693 | 1,945 |
| Annual growth rate 2010-2020: | | 0.6% | |
| Annual growth rate 2010-2021: | | | 1.8% |

RWPG requested projection revisions and compounded annual growth rate for Rhome:

| **Rhome** | **2021 Population Estimate** | **2030** | **2040** | **2050** | **2060** | **2070** | **2080** |
|---|---|---|---|---|---|---|---|
| Population | 1,945 | 2,945 | 3,804 | 5,616 | 8,151 | 12,000 | 16,000 |
| Compounded annual growth rate per decade | | 4.7% | 2.6% | 4.0% | 3.8% | 3.9% | 2.9% |

Revised 2021 base population and the TWDB EA recommended population projections with annual growth rates for Rhome:

| **Rhome** | **2021 Population Estimate** | **2030** | **2040** | **2050** | **2060** | **2070** | **2080** |
|---|---|---|---|---|---|---|---|
| Population | 1,945 | 2,290 | 2,958 | 4,367 | 6,339 | 9,332 | 12,443 |
| Compounded annual growth rate per decade | | 1.8% | 2.6% | 4.0% | 3.8% | 3.9% | 2.9% |

Comparison of the Rhome draft projections, RWPG requested, and TWDB EA recommended population projections:

| **Comparison** | **County** | **Entity** | **2030** | **2040** | **2050** | **2060** | **2070** | **2080** |
|---|---|---|---|---|---|---|---|---|

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| TWDB Draft Projections | WISE | Rhome | 1,567 | 1,852 | 2,189 | 2,587 | 3,057 | 3,613 |
| RWPG Revision Request | WISE | Rhome | 2,945 | 3,804 | 5,616 | 8,151 | 12,000 | 16,000 |
| TWDB EA Recommended | WISE | Rhome | 2,290 | 2,958 | 4,367 | 6,339 | 9,332 | 12,443 |

**Summary of population projections for Region C:**

| Comparison | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|
| TWDB Draft Projections (1.0 migration scenario) | 8,866,884 | 10,093,722 | 11,297,108 | 12,440,777 | 13,700,226 | 15,087,176 |
| RWPG Revision Request | 9,260,443 | 10,658,132 | 12,067,552 | 13,415,742 | 14,727,134 | 15,704,329 |
| TWDB EA Recommended | 9,133,116 | 10,504,043 | 11,804,305 | 13,000,417 | 14,163,968 | 15,126,596 |