

NOTICE OF OPEN MEETING

BRAZOS G REGIONAL WATER PLANNING GROUP

10:00 a.m.

March 20, 2019

Brazos River Authority Central Office
4600 Cobbs Drive, Waco, Texas 76710

AGENDA

- 1. CALL MEETING TO ORDER**
- 2. INVOCATION**
- 3. NOTICE OF MEETING**
- 4. ATTENDANCE AND ANNOUNCEMENTS**
- 5. PUBLIC INPUT - Public questions and comments on agenda items or water planning issues (*limited to 5 minutes each; public must fill out a 'Request to Speak' form prior to the discussion of the agenda item*)**
- 6. PROGRAM**
 - 6.1. Discussion and possible action on Nominating Committee report regarding nominees for the Brazos G Regional Water Planning Group Chair, Vice Chair and Two At-Large Executive Committee Positions.**
 - 6.2. Discussion and possible action on Executive Committee recommendation regarding nominees for the two (2) open County Interest positions.**
 - 6.3. Report from Texas Parks and Wildlife Department staff and possible discussion regarding department activities.**
 - 6.4. Report from Texas Department of Agriculture staff and possible discussion regarding department activities.**
 - 6.5. Report and possible discussion from Texas State Soil and Water Conservation Board (TSSWCB).**
 - 6.6. Report and possible discussion on Brazos River Basin and Bay Stakeholder Committee (BBASC) activities.**
 - 6.7. Report and possible discussion on Groundwater Management Area (GMA) activities.**
 - 6.8. Report and possible discussion on updates from other regional water planning groups (Regions B, C, F, H, K, L & O).**
 - 6.9. Report and possible discussion on report from Texas Water Development Board (TWDB) staff.**
 - 6.10. Report, discussion and possible action from the Brazos G Bylaws Committee.**

6.11. Discussion and possible action on HDR planning tasks.

- 6.11.1. Presentation on updated water management strategy evaluations.**
- 6.11.2. Discussion and possible action to replace evaluation of City of Georgetown San Gabriel Diversion water management strategy with Aquifer Storage and Recovery.**
- 6.11.3. Discussion and possible action to request the TWDB provide an analysis of the Economic Impacts of Not Meeting Needs.**
- 6.11.4. Discussion and possible action to discuss methodology for developing water conservation recommendations.**
- 6.11.5. Discussion and possible action regarding development of Chapter 7 Drought Response Information, Activities, and Recommendations.**
- 6.11.6. Discussion and possible action regarding water needs in Williamson County.**
- 6.11.7. Presentation of the timeline to develop the 2021 Brazos G Regional Water Plan.**
- 6.11.8. Discussion and possible action on other HDR planning tasks.**

6.12. Discussion and possible action on report by Brazos G Administrator.

6.13. Report and possible discussion from Brazos G Chair.

7. DISCUSSION AND POSSIBLE ACTION ON NEW BUSINESS TO BE CONSIDERED AT NEXT MEETING

8. CONFIRMATION OF NEXT MEETING DATE

9. ADJOURN

Agenda items may be considered, deliberated and/or acted upon in a different order than set forth above.

Meeting agendas and materials are available online at www.brazosqwater.org

For additional information, please contact

STEVE HAMLIN @ 254-761-3172, Brazos River Authority, Administrative Agent

Region G TWDB Update 20 March 2019

1. Uniform Stakeholder Committee meeting

- The uniform standards stakeholder committee met 11/28 to review the uniform standards for prioritizing projects in regional water plans.
- The meeting was facilitated by an external contractor with support from TWDB staff.
- The committee agreed by consensus to adopt changes to uniform standards 1A, 1B, 2A, and 2D. The points were not changed.
- Changes included:
 - Standards 1A and 1B were updated to reflect current planning horizon decades (i.e 2020-2070)
 - Standard 2A language that relates to the allocation of 5 points was revised as: *“Field tests, ~~and~~ measurements, or project specific studies confirm sufficient quantities of water.”*
 - Standard 2D was revised to remove the reference to the 2016 Plan.
- A TWDB Guidance Document will be made available for optional use pending approval by the Board.

Region G TWDB Update 20 March 2019

2. Socioeconomic analysis “as of date” and planning group action

- Socioeconomic impact assessments of not meeting identified water needs are required by rule (31 TAC 357.33(c) and 357.40(a)).
- This cycle, TWDB will conduct the socioeconomic impact analysis of not meeting identified water needs for inclusion in the 2021 Initially Prepared Regional Water Plans. It is optional to utilize the TWDB analysis, however an analysis must be performed and included in the regional water plans.
- RWPGs may request that the TWDB perform the socioeconomic impact analysis. If they choose to do so, the ***RWPG must take action on the request*** and submit the request to the PM.
- Requests should be submitted to the TWDB by **July 2019** in order for staff to plan for report preparation.
- An “as of” date (**May 31, 2019**) for needs in the state water planning database (DB22) to be utilized for the analysis is necessary for TWDB staff to complete the analysis and reports by the end of 2019.

Region G TWDB Update 20 March 2019

3. WMS evaluation tools available to assist in water management strategy evaluations

- **Uniform Costing Tool:** In lieu of more detailed and accurate project specific costs, this tool is required to be used in accordance with [Exhibit C, Section 5.5.1](#). You may download the tool and user guide from the 5th cycle working documents page under Task 5A:
http://www.twdb.texas.gov/waterplanning/rwp/planningdocu/2021/current_docs.asp
- **Conservation Planning Tool:** The Municipal Water Conservation Planning Tool is now online. The [Tool](#) and the [User Guide](#) links are on our [Water Conservation Plan page](#). A video of the FNI training workshop is now online at the agency's [Training Video Resources page](#). One intended use of this tool is to assist in calculating the potential volumes from municipal water conservation strategies.
- **Drought Management Impact Estimating Tool:** This tool is intended to provide water user group specific values of water per acre-feet and assist in estimating the economic impact of the water volumes reduced by implementation of drought management strategies. This is anticipated to be available in the Fall of 2019 and will be optional for planning groups.

Region G TWDB Update 20 March 2019

4. Technical Memorandums

TWDB received the Technical Memorandums due September 10, 2018; these documents are posted on a TWDB webpage:

<http://www.twdb.texas.gov/waterplanning/rwp/planningdocu/2021/technicalmemos.asp>

- In addition to reviewing the Technical Memorandum report for administrative completeness, TWDB staff have reviewed the draft groundwater and surface water data and methodologies presented in the planning group's Technical Memorandum.
- Comments from this review will be provided for the region's consideration during the remainder of their regional water plan development. Unlike TWDB comments on the initially prepared plans (IPP), these are informal comments that do not require responses from the planning group.
- This review was done to allow for a more thorough review of source data and methodologies, and a longer timeline for planning group consideration, prior to the IPP comment and response period

Region G TWDB Update 20 March 2019

5. Public Water System Viewer

- TWDB developed the Public Water System Viewer to facilitate the collection of digital maps for all community PWS retail water service areas in the state of Texas.
- This mapping tool allows authorized PWS contacts to update and verify their service area boundaries partnering with the Water User Survey program each year.
- This application's primary purposes are:
 1. To collect accurate retail water service boundaries to better estimate and project utility population for the regional water planning process.
 2. To develop a GIS database and reporting tool to improve the delivery of water data and PWS information collected by the State to the public.
- Web link to the public view:
<https://www2.twdb.texas.gov/apps/WaterServiceBoundaries>
- Web link to the service boundary editor for PWS contacts:
<http://www.twdb.texas.gov/waterplanning/waterusesurvey/serviceboundaryeditor.asp>
- Contact info: WSBviewer@twdb.texas.gov
- RWPGs are encouraged to share the Map Viewer with Stakeholders and utilities to verify boundaries.

Region G TWDB Update 20 March 2019

6. Legislative Update from Texas' 86th Session

- Inter-Regional council
- Flood Planning
- Additional

DRAFT

Designating Unique Stream Segments and Unique Reservoir Sites

What do these designations mean?

Designation of a **unique river or stream segment** of unique ecological value means that a state agency or political subdivision of the state may not finance the actual construction of a reservoir in that specific river or stream segment.

Designation of a **unique reservoir site** means that a state agency or political subdivision of the state may not obtain a fee title or an easement that would significantly prevent the construction of a reservoir. Without such designations, actions by state or local government entities could compromise the viability of these sites for future reservoir development.

What are the criteria for recommending the designation of a unique stream segment or a unique reservoir site?

A river or stream segment may be considered being of unique ecological value based upon the following criteria:¹

- Biological function
- Hydrological function
- Riparian conservation areas
- High water quality
- Exceptional aquatic life
- High aesthetic value
- Threatened or endangered species/unique communities

A site may be considered as a unique site for reservoir construction based upon the following criteria:

- Site-specific reservoir development is recommended as a specific water management strategy or as a unique site in an adopted regional water plan (RWP).
- Or, the location or hydrologic, geologic, topographic, water availability, water

quality, environmental, cultural, and current development characteristics or other pertinent factors make the site uniquely suited for a) reservoir development to provide water supply for the current planning period or b) meeting needs beyond the 50-year planning horizon

How are unique stream segments or unique reservoir sites designated?

Either type of site may be first identified as unique by the Texas Water Development Board (TWDB) or recommended in an approved RWP, based on the aforementioned criteria. Designations are ultimately made by the Texas Legislature.

If a regional water planning group (RWPG) includes a recommendation for a unique river or stream segment in its RWP, it must first coordinate with the Texas Parks and Wildlife Department (TPWD). The RWPG must develop a recommendation package in accordance with [31 TAC § 357.43\(b\)](#) and forward the recommendation package to the TPWD. The TPWD will provide a written evaluation to the RWPG.

Recommendation packages must include physical descriptions of the river or stream segments, maps, and supporting literature and data to justify the recommendation. If the RWPG is recommending a river or stream segment that was recommended in a previous plan but not designated by the legislature, a recommendation package must be submitted to the TPWD for an updated written evaluation.

The TWDB will consider the RWPG's recommendations of unique river or stream segments and unique reservoir sites during development of the state water plan.

¹ Detailed criteria is described in [31 Texas Administrative Code \(TAC\) § 358.2\(6\)](#)

JANUARY 2019

The state water plan will include the TWDB's and/or the RWPG's recommendations of unique river or stream segments and unique reservoir sites to the Texas Legislature for potential designation.

If an RWPG recommends designation of a unique stream segment, or if the legislature has designated a stream segment as unique, what associated content must be included in the regional water plan?

For recommendations regarding unique river or stream segments, the RWP must be specific as to a) which unique river or stream segments have been previously designated by the legislature and b) which are being recommended for designation by the RWPG.

The adopted RWPs must include the TPWD's written evaluation of each river or stream segment and a copy of the recommendation packet.

If a river or stream segment has been recommended in a previous plan, the RWPG may incorporate references of supporting materials developed for the previous plan into the current plan. References must be precise and include a summary of the information presented in the previous plan.

If the Texas Legislature designates a river or stream segment as unique, or if an RWPG recommends that a river or stream segment be designated as unique, the RWPG must quantitatively assess the impact of recommended water management strategies on the flows deemed important (by the RWPG) to the river or stream segment in question. The assessment shall also describe the impact of the RWP on the unique features cited by the RWPG.

If an RWPG recommends designation of a unique reservoir site, what associated content must be included in the regional water plan?

For recommendations regarding unique reservoir sites, the RWP must be specific as to a) which unique reservoir sites have been previously designated by the legislature; b) which are being

recommended for designation by the RWPG; and c) whether the RWPG is recommending that the legislature re-designate a previously designated unique reservoir site.

The adopted RWPs must include a description of the site, reasons for the unique designation, and expected beneficiaries of water supplies developed at a given site.

Where can I find a map of designated and recommended sites?

Chapter 2 of the 2017 State Water Plan includes maps of previously designated and recommended unique stream segments and unique reservoir sites.

Additional Resources

2017 State Water Plan, Chapter 2:

<http://www.twdb.texas.gov/waterplanning/swp/2017/doc/SWP17-Water-for-Texas.pdf>

Regional and State Water Planning Rules (31 TAC) and Texas Statute Reference Pamphlet:

http://www.twdb.texas.gov/waterplanning/rwp/planningdocu/2021/doc/current_docs/admin_docs/RWPrulespamphlet.pdf

Regional water planning contract document Second Amended General Guidelines for Fifth Cycle of Regional Water Plan Development, Section 8:

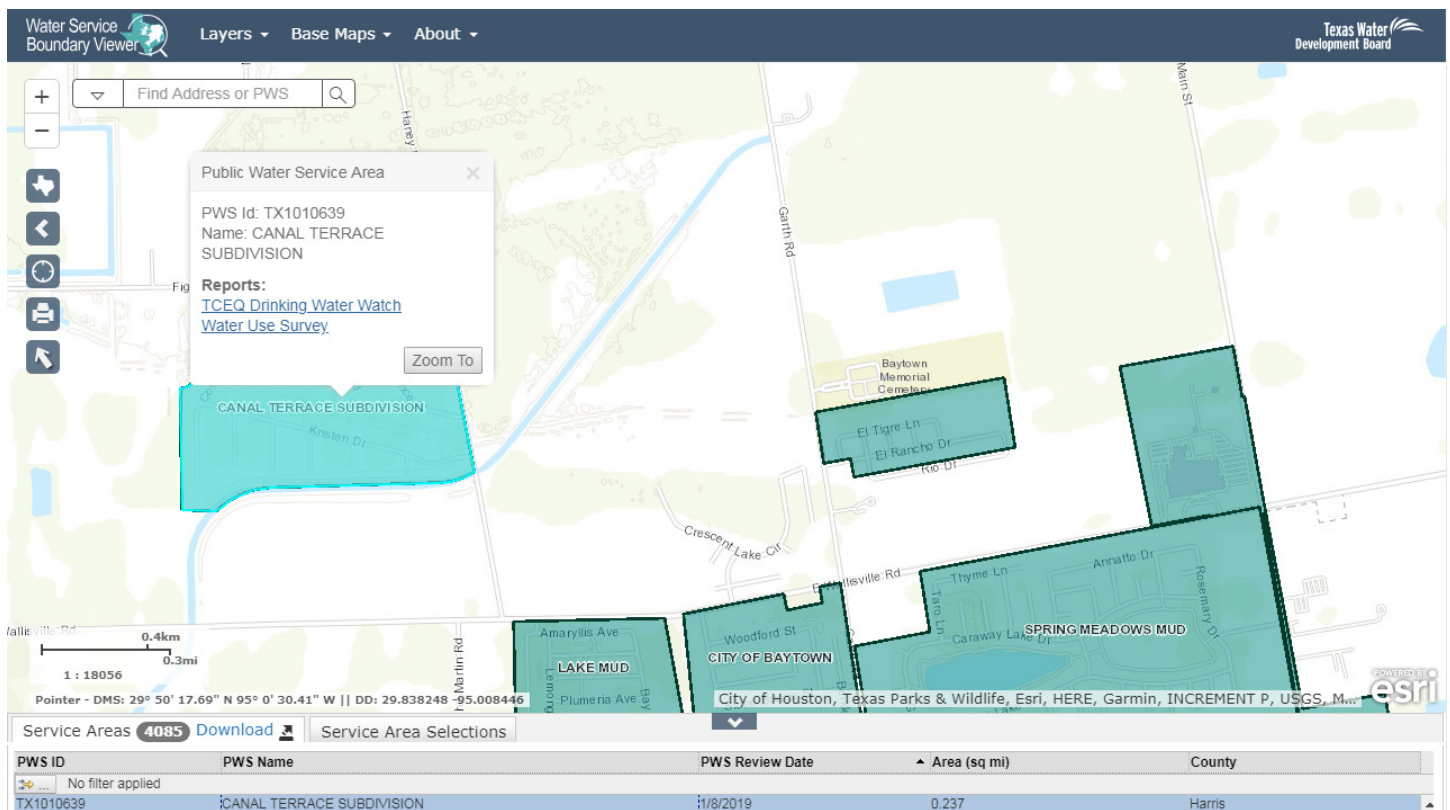
www.twdb.texas.gov/waterplanning/rwp/planningdocu/2021/doc/current_docs/contract_docs/2ndAmendedExhibitC.pdf

For additional information on the regional water planning process and current activities, please call 512-936-2387 or visit

www.twdb.texas.gov/waterplanning/rwp/index.asp.

Texas Water Service Boundary Viewer

The Texas Water Development Board (TWDB) developed a statewide public water system service area mapping application called the Texas Water Service Boundary Viewer (Viewer) through a grant from the U.S. Geologic Survey (USGS) Water Availability and Use Science Program. This application is used to collect accurate retail water service boundaries to better estimate and project utility population for the Regional Water Plans and the State Water Plan. The Viewer also helps in estimating rural population not served by a system. While several water system mapping applications exist in the state, they do not necessarily represent the actual retail service area or include all the systems within the state, rather just a subset. This application strives to provide the most up-to-date and best data available on the service areas for all community Public Water Systems (PWS) within Texas.



In partnership with the annual TWDB Water User Survey, water systems are encouraged to use the application to verify that their service area boundaries on file are accurate and update them if changes have occurred. Information for editors (utilities) is available at: <http://bit.ly/ServiceBoundaryEditor>. The application is available to the public so that they can view the water system areas on file at <https://www2.twdb.texas.gov/apps/WaterServiceBoundaries>. The Viewer also provides links to supplemental information about the PWS, allowing the user to view system specific data from the Drinking Water Watch (maintained by the Texas Commission on Environmental Quality) as well as water use survey information.

For additional information on the Texas Water Service Boundary Viewer, please call 512-463-6867 or email WSBViewer@twdb.texas.gov.

BRAZOS G

WATER PLANNING GROUP

BYLAWS

Revised

February 1, 2001

June 25, 2003

June 9, 2004

January 25, 2006

February 1, 2007

January 26, 2012

April 17, 2013

November 5, 2014

March 20, 2019

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ARTICLE I. ORGANIZATION

Article I. Section 1. Organization Name

The official name of this organization shall be the "Brazos G Regional Water Planning Group" (hereinafter "RWPG").

Article I. Section 2. Regional Water Planning Area Name

The official name of the regional water planning area designated as "Region G Texas Water Development Board" by the Texas Water Development Board (hereinafter "TWDB") in accordance with 31 Texas Administrative Code (hereinafter "TAC") Chapter 357 on February 19, 1998, shall be the "Brazos G Regional Water Planning Area" (hereinafter "RWPA").

Article I. Section 3. Establishment and Purpose

The RWPG was established by appointment of an initial coordinating body by the TWDB on February 19, 1998, and any subsequent additional appointments by the initial coordinating body. The purpose of the RWPG shall be to provide comprehensive regional water planning and to carry out the related responsibilities placed on regional water planning groups by state law, including Texas Water Code Chapter 16 and TWDB rules, including 31 TAC Chapters 355, 357, and 358, in and for the RWPA.

Article I. Section 4. Principal Administrative Office

The principal administrative office of the RWPG shall be the principal business offices of the Brazos River Authority ("BRA"). The administrative officer of the RWPG for purposes of the Texas Open Records Act shall be the General Manager of the Brazos River Authority. The Chair of the RWPG shall insure that the mailing address and physical address of the principal office and administrative officer are provided to all members of the RWPG and the Executive Administrator of the TWDB.

Article I. Section 5. Responsibilities

The RWPG shall have the responsibility for performing the functions defined in Texas Water Code, Chapter 16 and in 31 TAC Chapters 355, 357 and 358 related to regional water planning groups for the RWPA. Foremost among those responsibilities shall be the development of a regional water plan for the RWPA that identifies both short and long-term water supply needs and recommends water management strategies for addressing them.

ARTICLE II. VOTING MEMBERSHIP

Article II. Section 1. Initial Composition

The initial voting members of the RWPG shall include the initial coordinating body appointed by the TWDB on February 19, 1998, plus the additional voting members appointed by the initial coordinating body to ensure adequate representation of the interests comprising the RWPA stated in Texas Water Code §16.053(c), if present, and other interests determined by the RWPG.

Article II. Section 2. Current Composition

The current voting membership of the RWPG shall include adequate representation of the interests comprising the RWPA stated in Texas Water Code §16.053(c), if present in the RWPA, and other interests determined by the RWPG. The voting membership of the RWPG may also include persons added or removed as provided under this Article and any 31 TAC §357.11(d) member selected for voting membership under Article IV. The voting membership of the RWPG shall not exceed 23 members.

Article II. Section 3. Terms of Office

Voting Members shall have no set term of office, but shall continue to serve until removed or replaced in accordance with the procedures set forth in these Bylaws.

Article II. Section 4. Conditions of Membership

In order to be eligible for voting membership on the RWPG, a person at the time of taking office must represent the interest for which a member is sought, be willing to participate in the regional water planning process, abide by these Bylaws, and shall not have a change in status during their term. A change in status shall include, but not be limited to, a change in job title, job position, employment, occupation, or residency, to the extent such change relates to the interest category the member represents. Upon a change in status, the voting member shall within sixty (60) days of the change in status notify the Brazos G Chairperson in writing describing the change in status, and shall be subject to the process contemplated in Article II, Section 8(a)(3). The office of a voting member of the RWPG is specific to the individual selected or appointed as a member of the RWPG and may not be transferred by that individual.

Article II. Section 5. Selection of Voting Members

New voting members shall be selected pursuant to the process set out in Article III.

Article II. Section 6. Attendance

All voting members shall make a good faith effort to attend all RWPG meetings and hearings. Records of attendance shall be kept by the Secretary at all RWPG meetings

and hearings and presented as part of the minutes. Voting members of the RWPG who have excessive absences shall be subject to removal from membership under Section 8(c) of this Article. A voting member shall be considered to have excessive absences if the member is absent from more than twenty five percent (25%) of the RWPG meetings and hearings in a calendar year. Representation by a designated alternate pursuant to Article V does excuse a member's absence.

Article II. Section 7. Code of Conduct

- (a) Voting members and designated alternates of the RWPG shall ethically conduct the business of the RWPG and shall avoid any form or appearance of a conflict of interest, real or apparent.
- (b) 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.
- (c) To the full extent permitted by law, the following shall apply:

Notwithstanding any other provisions of these Bylaws, the fact that a member of the Group is also an employee or public official of an entity which has some relationship, direct or indirect, with the RWPG (for example: a County Judge, Mayor, City Manager, Water District or River Authority member or employee), shall not disqualify such person from voting membership and full participation or be considered as giving rise to a conflict of interest on matters coming before the RWPG in which such public entity is also involved. These Bylaws recognize that such circumstances will probably arise in the very nature of the work and the legal structure of the RWPG and that it is appropriate to expressly recognize such facts.

Article II. Section 8. Removal of Voting Members

- (a) Grounds for Removal of Voting Members. The following shall constitute grounds for removal of a voting member:
 - (1) excessive absenteeism as defined under Section 6 of this Article determined by the RWPG;
 - (2) inability to serve due to poor health;
 - (3) change in status so that the member no longer represents the interest he or she was selected to represent unless waived by the RWPG by a two-thirds vote of the voting membership present;

- (4) failure to abide by the code of conduct provisions set forth under Section 7 of this Article;
 - (5) falsifying documents; any other serious violation of these Bylaws as may be determined by the voting members; or
 - (6) the voting member's designated alternate engages in any acts described in this subsection.
- (b) The following shall automatically end the term of a voting member:
- (1) appointment of a successor by the voting members upon resignation of the voting member; or
 - (2) death.
- (c) Process for Removing Voting Members. Voting members may be removed at any time for any of the grounds for removal of voting members set forth in subsection (a) of this section: Any member with knowledge that events have occurred constituting a ground for removal under subsection (a) of this section shall report such information to the Chair. The Chair, upon discovering or receiving such information, shall contact that member to verify the events that have occurred or the acts that have been alleged. The member shall respond to the Chair within fifteen calendar days from the date of receipt of the Chair's request. The Chair may require any information or response to be in writing. If the Chair believes that a ground for removal may exist, then the Chair shall confer with the Executive Committee regarding the matter, and the Executive Committee may vote to place an item on the next subsequent agenda addressing the possible removal of the member. If the Chair does not believe that a ground for removal exists and indicates that he or she will not place an item on the next agenda addressing the possible removal, then if five voting members request its inclusion on the agenda in writing, the Chair shall place an item on the next subsequent meeting agenda addressing the possible removal of the member.

At the meeting, all discussion and debate with regard to the possible removal shall take place in an executive session, but the final vote on removal shall take place in an open meeting. During the executive session, the Chair shall lay out all of the correspondence and information that has been received related to the possible removal, and the member subject to the possible removal may present evidence refuting or verifying the information presented. The voting members may remove the member by a two-thirds vote of the voting membership present. The member subject to the removal action shall not participate in the removal vote, nor shall his or her membership count as part of the total voting membership for purposes of calculating a two-thirds vote. Removal of a voting member pursuant to this subsection shall become effective immediately, and such member shall no longer participate in the RWPG as a voting member.

- (d) Voting members appointed by ground water management areas as provided in Texas Water Code Section 16.053(c) shall not be subject to the voting member removal procedure set forth in Subsection (c); however, if the voting members decide by a two-thirds vote of the voting membership present, that a particular appointed voting member is hindering the regional water planning efforts of the RWPG, the Chair shall make a written request within ten calendar days to the applicable ground water management area requesting the appointment of another person to serve as the ground water management area's appointee.

Article II. Section 9. Open Meetings Training

RWPG voting members, non-voting members, and designated alternates shall complete the Texas Attorney General's Open Meetings Act training and furnish the RWPG administrative agent with a completion certificate, which shall be kept on file with the RWPG. Voting members and non-voting members must complete the training and furnish a completion certificate within 90 days of assuming responsibilities as a RWPG member. Designated alternates shall complete the training and furnish a completion certificate prior to participating in any RWPG meeting.

ARTICLE III. SELECTION OF NEW VOTING MEMBERS

Article III. Section 1. Timing

New voting member nominations will be solicited from the public within forty-five calendar days of an opening on the RWPG arising.

Article III. Section 2. Solicitation Requirements

Such solicitations shall identify the particular interest for which nominations are sought, state the conditions of membership, delineate the method for submitting nominations, and establish a deadline for submission of nominations.

Article III. Section 3. Submission of Nominations

Members of the RWPG may also submit nominations in the manner prescribed in the public solicitation.

Article III. Section 4. Executive Committee Responsibilities

The Executive Committee shall receive and process the nominations and, no sooner than ten calendar days after the deadline for submitting nominations, shall recommend a nominee to the voting membership as a whole, giving strong consideration to an agreed upon nominee from those individuals and entities that collectively represent that interest.

The Executive 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 Executive Committee and may consider any person who meets the conditions of membership as a nominee.

Outgoing voting members who have not otherwise been removed shall be given the opportunity to fully participate in the selection process for their successors. No voting member shall participate in a vote in which he or she is a nominee.

Article III. Section 5. Vote Required

The voting members shall make a decision for a successor by a two-thirds vote of the voting membership present. If no decision can be reached, the voting members shall consider other nominations until a new member can be selected by a two-thirds vote of the voting membership present. The selection of a new member is effective immediately after the vote confirming his or her selection. Outgoing voting members who have not otherwise been removed shall be given the opportunity to fully participate in the selection process for their successors. No voting member shall participate in a vote in which he or she is a nominee. If any member is unable to participate in a vote under this section, an

alternate for that member shall not participate in that vote. An alternate for a member shall not participate in any vote in which that alternate is a nominee.

Article III. Section 6. Additional Members

In addition to selecting new voting members to fill vacancies caused by removal or the expiration of a term, the voting members may add members to ensure adequate representation of the interests comprising the RWPG by generally utilizing the selection process set forth in this Article. If such a new member is added, the existing voting members shall determine by a two-thirds vote of the voting membership present, the exact applicability of the membership term provisions and restrictions to the new member at the time of the new member's selection.

Article III. Section 7. Membership Criteria

In both the consideration of nominees and the selection of new voting members, the Executive Committee and other voting members shall strive to achieve geographic, ethnic, and gender diversity.

Article III. Section 8. Principal Administrative Officer

This Article shall not apply to the voting member of the RWPG representing River Authorities, who shall be the General Manager of the Brazos River Authority.

Article III. Section 9. Appointed Voting Members

This Article shall not apply to the selection of voting members appointed by ground water management areas as provided in Texas Water Code Section 16.053(c). Such voting members shall be appointed by the ground water management area they represent in accordance with the statute.

ARTICLE IV. NON-VOTING MEMBERSHIP

Article IV. Section 1. Mandatory Members

- (a) The voting members of the RWPG shall add the non-voting members set forth in 31 TAC §357.11(e)(1)- (e)(5) and accept the designees appointed by the entities set forth therein. Such designees shall have no terms of office and shall serve until replaced by the designating entity. However, if the voting members decide by a two-thirds vote of the voting membership present, that a particular designee is hindering the regional water planning efforts of the RWPG, the Chair shall make a written request within ten calendar days to the entity requesting the designation of another person to serve as the entity's designee.
- (b) The voting members of the RWPG shall add at least one non-voting member as set forth in 31 TAC §357.11(e)(1)- (e)(5), in a manner to be determined by the voting members of the RWPG.

Once selected, a 31 TAC §357.11(e)(1)- (e)(5) non-voting member shall have no term of office and shall serve until removed by the voting members by a two-thirds vote of the voting membership present. The selection or acceptance of a new non- voting member is effective immediately after the vote confirming his or her selection or acceptance.

- (c) The voting members may at any time, including the time of initial selection of a 31 TAC §357.11(e)(1) - (e)(5) member, convert the membership of a 31 TAC §357.11(e)(1)- (e)(5) non-voting member into a voting membership by a two-thirds vote of the voting membership present. If selected to be a voting member, a 31 TAC §357.11(e)(1)- (e)(5) member shall have the rights, duties, terms, conditions, and other privileges and obligations of regular voting members. The members, excluding the 31 TAC §357.11(e)(1) - (e)(5) member subject to the possible membership conversion, shall determine the exact applicability of the membership term provisions and restrictions to the 31 TAC §357.11(e)(1)- (e)(5) member at the time of such conversion by a two-thirds vote of the voting membership present.
- (d) The voting members, excluding the 31 TAC §357.11(e)(1)- (e)(5) member subject to the possible membership conversion, may at any time convert the membership of a 31 TAC §357.11(e)(1)- (e)(5) voting member into a non-voting membership by a two-thirds vote of the voting membership present, not including the voting membership of the 31 TAC §357.11(e)(1) - (e)(5) member subject to the possible membership conversion.

Article IV. Section 2. Discretionary Members

The voting members of the RWPG may add or remove as a non-voting member an entity set forth in 31 TAC §357.11(g) by a two-thirds vote of the voting membership present. If an entity is added, the Chair shall make a written request within ten calendar days to the

entity requesting the designation of a person to serve as the entity's designee. Such designees shall have no terms of office and shall serve until replaced by the designating entity or until the entity is removed as a non-voting member.

However, if the voting members determine by a two-thirds vote of the voting membership present that a particular designee is hindering the regional water planning efforts of the RWPG and that the entity should remain as a non-voting member, the Chair shall make a written request within ten calendar days to the entity requesting the designation of another person to serve as the entity's designee.

Article IV. Section 3. Code of Conduct

All non-voting members shall comply with the code of conduct provisions under Article 2, Section 7 of these Bylaws.

ARTICLE V. DESIGNATED ALTERNATES

~~In the event a voting or non-voting member is unable to attend a RWPG regular/special meeting, or hearing, the member shall designate an alternate who is in the same interest group as the member to represent the member at the meeting/hearing and, at least forty-eight hours prior to the meeting/hearing, notify the Chair in writing of the designated alternate's name and address. If the member fails to provide such notice, the Chair may forbid the participation of the designated alternate at the meeting or hearing. Each voting and non-voting member shall designate an alternate to represent him/her when he/she is unable to attend a RWPG meeting or hearing. A designated alternate is an individual in the same interest group as the member. A designated alternate may not represent more than one member per calendar year and a member cannot be represented by an alternate at more than two consecutive RWPG regular or special meetings or hearings. Each member must notify the Chair in writing of the name and address of the member's designated alternate at least forty-eight 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 forbid the participation of the designated alternate at the meeting or hearing.~~

~~If a voting or non-voting member is unable to attend a committee meeting, the member may, but is not required, to designate an alternate to represent the member at the committee meeting. If a member designates an alternate, the alternate shall be in the same interest group as the member and the member shall provide at least forty-eight hours written notice, including the alternate's name and address, to the Chair of the committee prior to the committee meeting or the Chair may forbid the participation of the designated alternate at the meeting. A designated alternate for a committee meeting does not count toward the two consecutive RWPG regular or special meetings limitation set forth herein.~~

The designated alternate shall enjoy the same voting privileges, or lack thereof, and shall be bound by the same duties, terms and conditions as the member they represent, except as otherwise provided in these Bylaws. However, a designated alternate for a voting member who serves as an officer shall not be allowed to serve in the capacity as an officer in the member's absence. Designated alternates shall complete the Texas Attorney General's Open Meetings Act training and furnish the RWPG administrative agent with a completion certificate prior to participating in a meeting or hearing.

Commented [RW1]: In the committee meeting, they asked to include a provision in Article XII. Section 2. Membership, that made clear that alternates could vote, but after looking at that section, I do not think we should add the language there as that section is about members, and alternates are not members. I think this section under Designated Alternates resolves the issue adequately. It is clear here that designated alternates may vote in meetings and committee meetings.

Commented [SH2]: Riley, The group is taking your advice on this suggestion.

ARTICLE VI. INDEMNIFICATION OF OFFICERS AND MEMBERS

No member or officer is liable to the RWPG or any third party for monetary damages for any act or omission in such member's or officer's capacity as such except to the extent otherwise provided by law of the State of Texas. To the fullest extent possible by applicable law, the RWPG shall indemnify and hold harmless any such member or officer who was, is or is threatened to be made a defendant or respondent in litigation or other proceedings because the person is or was a member, officer, or other person related to the RWPG.

Without limiting the foregoing, the RWPG shall indemnify any member, officer, or employee, or former member, officer, or employee of the RWPG, or any person who may have served at its request, against expenses actually and necessarily incurred by him or her, and any amount paid in satisfaction of judgments in connection with any action, suit or proceeding, whether civil or criminal in nature, in which he or she is made a party by reason of being or having been such a member, officer, or employee (whether or not a member, officer or employee at the time such costs or expenses are incurred by or imposed upon him or her) except in relation to matters as to which he or she shall be adjudged in such action, suit or proceeding to be liable for gross negligence or willful misconduct in the performance of duty. The RWPG may also reimburse any member, officer or employee the reasonable costs of settlement of any such action, suit or proceeding, if it shall be found by a majority of the members not involved in the matter in controversy, whether or not a quorum, that it was to the interests of the RWPG that such settlement be made and that such member, officer or employee was not guilty of gross negligence or willful misconduct. Such rights of indemnification and reimbursement shall not be deemed exclusive of any other rights to which such member, officer or employee may be entitled by law or under any Bylaw, RWPG resolution, agreement, or otherwise. Also without limiting the foregoing, to the extent applicable the RWPG, its members and officers, shall have immunities identical to those provided by Chapter 84 of the Civil Practice and Remedies Code. In addition, the RWPG is authorized to obtain such insurance to cover liability of members, officers and others related to the RWPG as the RWPG may find to be available and practicable from time to time.

ARTICLE VII. OFFICERS

Article VII. Section 1. Officers, Restrictions, and Terms of Office

Voting members of the RWPG shall select from the voting membership a Chair, Vice Chair, and Secretary/Treasurer to serve as officers. Each officer shall serve a term of two calendar years. Except as provided under Section 4 of this Article, an officer shall serve until his or her successor takes office. No two voting members representing the same interest shall serve as officers at the same time. Elections shall be held every other calendar year, with no restrictions on the number of consecutive terms an individual may serve as an officer.

Article VII. Section 2. Selection

Officers shall be selected at the first meeting of every other calendar year as of January 2003. Written notice of the meeting to select officers shall be mailed to all members of the RWPG by the current Secretary thirty calendar days prior to the meeting. Nominations shall be made from the floor by voting members. The voting members shall select officers from among the nominees by a two-thirds vote of the voting membership present. An officer selected at this meeting shall take office immediately after the vote confirming his or her selection.

Article VII. Section 3. Removal of Officers

Any officer may be removed from office for any of the grounds for removal of voting members set forth under Article II of these Bylaws, or for repeated failure to carry out the duties of the office, by a two-thirds vote of the voting membership present. Removal of 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/ Treasurer. Such request shall include a copy of any documents or written information that the requesting members intend to present at the removal meeting. The Chair or Secretary/Treasurer receiving the request shall notify the officer in writing that he or she shall be subject to a removal action at the next scheduled meeting and shall include a copy of any documents or written information submitted by the requestors. At the meeting, all discussion and debate with regard to the possible removal shall take place in an executive session, but the final vote on removal shall take place in an open meeting. During the executive session, the presiding officer shall lay out all of the correspondence and information that has been received related to the possible removal, and the officer subject to the possible removal may present evidence refuting or verifying the information presented. 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 officer subject to the removal action shall not participate in any way in the removal decision, nor shall his or her membership count as part of the total membership for purposes of calculating a two-thirds vote. The notice of the meeting shall be posted in accordance with the Open Meetings Act and shall state that the issue of possibly removing the officer will be on the agenda.

Any vacancy caused by the removal shall be filled as provided under Section 4 of this Article.

Article VII. Section 4. Vacancies of Officers

Whenever an officer vacancy exists, the RWPG shall solicit nominations for a successor at the next RWPG meeting, in the manner consistent with the posting requirements of the Texas Open Meetings Act. Nominations shall be made from the floor by voting members. The voting members shall select a replacement officer from among the nominees by a two-thirds vote of the voting membership present. The next highest ranking officer shall serve in the vacant position until a successor takes office, unless the office of the Secretary/Treasurer becomes vacant, in which case the Chair shall appoint a willing voting member to serve as Secretary/Treasurer until the successor to the Secretary/Treasurer takes office. The person selected to fill a vacancy for an officer shall serve for the unexpired term of his or her predecessor in office.

Article VII. Section 5. Duties of Each Officer

- (a) Chair. The Chair shall be the executive officer of the RWPG and the Executive Committee. The Chair will preside at all meetings of the RWPG and the Executive Committee and perform all duties provided by these Bylaws. If the Chair is unable to carry out his/her duties, the Vice Chair shall assume the duties of the Chair.
- (b) Vice Chair. The Vice Chair shall assist the Chair in the discharge of his/her 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 his/her duties, the Vice Chair shall serve as Chair until the RWPG elects a new Chair under Section 4 of this Article. The Vice Chair shall perform other duties as assigned by the Chair, or these Bylaws. The Vice Chair is a member of the Executive Committee pursuant to Section 6 of this Article.
- (c) Secretary/Treasurer. The Secretary/Treasurer of the RWPG shall be the General Manager of the Brazos River Authority. The Secretary/Treasurer shall maintain the minutes and take attendance of the RWPG meetings. The minutes and attendance shall be kept as part of the RWPG official records. The Secretary/Treasurer shall insure that all notices are properly posted as provided in the Bylaws, as required by law, and as required by the Texas Open Meetings Act. The Secretary-Treasurer shall also keep or cause to be kept accurate books and records of funds of the RWPG. The Secretary/Treasurer shall perform other duties as assigned by the Chair or these Bylaws. If both the Chair and Vice Chair are unable to carry out the duties of the Chair, the Secretary/Treasurer shall assume the duties of the Chair. The Secretary/Treasurer is a member of the Executive Committee pursuant to Section 6 of this Article.

Article VII. Section 6. Executive Committee

- (a) Composition. The Executive Committee shall be composed of five RWPG members, including the Chair, Vice Chair, Secretary/Treasurer, and two members- at-large. No two voting members representing the same interest shall serve as members of the Executive Committee at the same time.

The two members-at-large shall be selected initially, and thereafter every other calendar year, in the same manner and with the same terms as set forth for the selection of officers under this Article. Members-at-large shall be removed and their vacancies filled in the manner prescribed for officers under this Article.

Representation on the Executive Committee shall, to the maximum extent possible, achieve geographic balance.

- (b) Duties. The Executive Committee shall be responsible for carrying out the duties imposed on it in these Bylaws. The voting members of the RWPG may delegate any administrative decisions to the Executive Committee unless provided otherwise in these Bylaws.

Article VII. Section 7. Designated Alternates

A designated alternate of a member serving as an officer shall not serve in the member's capacity as an officer in lieu of the member. When an officer is absent or otherwise unable to serve, the next highest ranking officer shall serve for the officer. If no lower ranking officer exists or can serve, then a member designated by the Chair or acting Chair shall serve for the officer.

ARTICLE VIII. MEETINGS

Article VIII. Section 1. Open Meetings and Notices

All meetings of the RWPG shall be posted and open to the public in the manner of a governmental body under the Texas Open Meetings Act and as set forth in TWDB rules. All actions of the RWPG shall be deliberated and undertaken in open meeting, unless otherwise authorized by the Texas Open Meetings Act. The time and place of meetings shall be set to facilitate, to the greatest extent possible, the participation of the public in the regional water planning process. Copies of all materials presented or discussed shall be made available for public inspection prior to and following any meeting of the RWPG.

Article VIII. Section 2. Regular Meetings

At least one regular meeting of the RWPG shall be held each calendar year, and other meetings may be held as deemed necessary. The Secretary/Treasurer shall insure that an advance notice and an agenda for regular meetings will be provided to the full membership of the RWPG at least ten calendar days in advance of the meeting by first class U.S. Mail, facsimile, or electronic mail. Supporting information and member-requested materials shall be distributed to the full membership with the notice and agenda or at the meeting, as deemed appropriate by the Chair.

Article VIII. Section 3. Called (Special) Meetings

The Chair or a simple majority of the total voting membership of the RWPG, excluding vacancies, may call special meetings of the RWPG. The Secretary/Treasurer shall insure that advance notice and an agenda for the called meeting is provided to the full membership of the RWPG at least five calendar days in advance by first class U.S. Mail, facsimile, or electronic mail. Supporting information and member-requested materials shall be distributed to the full membership with the notice and agenda or at the meeting, as deemed appropriate by the Chair.

Article VIII. Section 4. Agenda

The Secretary/Treasurer of the RWPG shall insure that an agenda is prepared and distributed for all meetings, in accordance with Sections 2 and 3 of this Article. Items shall be placed on the agenda by the request of the Chair or by the request of at least three voting members of the RWPG. Consideration for approval of the previous meeting's minutes, as applicable, shall always be among the first items on the agenda. Copies of the agenda and all supporting information shall be made available for public inspection prior to and following any meeting of the RWPG.

Article VIII. Section 5. Quorum

A quorum of the RWPG shall be a simple majority of the voting membership or their designated alternates excluding vacancies. At least a quorum shall be necessary to

conduct any business of the RWPG, except to adjourn. In the absence of a quorum, a majority of the voting members present at any meeting, regular or special, may adjourn until the date fixed for the next regular or special meeting.

Article VIII. Section 6. Public Hearings/Meetings Required by Law

The RWPG shall post notice and conduct public hearings and public meetings that are specifically required by statute and/or TWDB rule, including those set forth for preplanning, draft regional water plan presentation, adoption of amendments to the regional water plan, and final regional water plan adoption, in accordance with the requirements of the relevant state law and/or TWDB rules. Notification requirements may be different than those specifically delineated in Texas Water Code §16.053 and/or 31 TAG §357.12.

Article VIII. Section 7. Tape Recordings and Minutes

- (a) Written minutes or a tape recording shall be kept of all open meetings of the RWPG and any committees of the RWPG.
- (b) The Secretary/Treasurer shall insure that tape recordings or minutes of all meetings of the RWPG are prepared. If the minutes are prepared, they shall:
 - (1) state the subject of each deliberation;
 - (2) indicate each vote, order, decision, or other action taken;
 - (3) indicate those members in attendance, noting the presence of a quorum, and noting the presence of those members of the public who participate in the course of the meeting;
 - (4) represent an accurate summary of the meeting's record; and state any other information required by these Bylaws to be included in the minutes.
- (c) The Secretary/Treasurer shall insure that true copies of the tape recordings or minutes are provided to the full membership as soon as possible following the meeting, but no later than ten calendar days prior to the next regular meeting of the RWPG.

Article VIII. Section 8. Robert's Rules of Order

Except as otherwise provided in these Bylaws, meetings of the RWPG 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 appeal of an action or a decision of the RWPG.

ARTICLE IX. MAKING DECISIONS

Article IX. Section 1. Applicability - No Written Proxies

- (a) Unless the method for making a particular decision is set forth in these Bylaws, the RWPG and its sub regional water planning groups shall make all decisions utilizing the process set forth in Section 2 of this Article.
- (b) Written proxies shall not be allowed in any decision making by the RWPG, its committees, or its sub regional water planning groups. However, designated alternates shall be allowed to participate in decision making as set forth in these Bylaws. Because it is important in achieving agreement for all members to participate actively, keep up-to-date on the progress of the RWPG, and develop a common base of information, members shall in good faith attempt to minimize the number of times they are absent from meetings or are represented by their designated alternates.

Article IX. Section 2. Decision-Making Process

- (a) The RWPG shall make decisions and take action by a vote of a simple majority of the voting membership present, unless otherwise specified in these Bylaws.
- (b) Failure to Reach Agreement. If after good faith negotiations it appears likely to the Chair that the voting members will be unable to reach full agreement, the Chair shall institute a dispute resolution process.
- (c) Except as provided in Subsection (d), votes may be taken by roll call or voice votes. However, in the event a voice vote is utilized, the Chair shall audibly indicate whether the vote was unanimous and the names of any voting members abstaining or not present for the vote. In the event a voice vote is not unanimous, the Chair shall conduct a roll call vote.
- (d) Any decision or action of the RWPG that requires a two-thirds vote shall be taken by a roll call vote.

Article IX. Section 3. Final Adoption of Regional Water Plan Amendments

The voting members of the RWPG shall finally adopt the regional water plan for the RWPA and any amendments thereto by a two-thirds vote of the voting membership present.

ARTICLE X. BOOKS AND RECORDS

Article X. Section 1. Required Documents and Retainment

Records of the RWPG shall be kept at the principal administrative office of the RWPG for a period of time equal to the retention period required of a local government entity subject to the Local Government Records Act.

Article X. Section 2. Inspection and Copying

Records of the RWPG shall be available for inspection and copying at the principal place of business of the representative political subdivision during normal business hours. Procedures and fees for copying and inspection shall be the same as those used by the political subdivision housing the principal office of the RWPG for inspection and copying of its own public records.

Article X. Section 3. Availability of Reports

All reports, planning documents, and work products resulting from projects 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 and in at least one public library of each county having land within the RWPA, in accordance with state law.

Article X. Section 4. Public Information Coordinator

The RWPG administrative agent shall serve as the RWPG Public Information Coordinator.

ARTICLE XI. SUB-REGIONAL WATER PLANNING GROUPS

Article XI. Section 1. Establishment

The RWPG may by motion establish Sub regional Water Planning Groups (hereinafter "SWPG") to assist and advise the RWPG in the development of the regional water management plan. The SWPG may be formed to address specific issues assigned by the RWPG and may have a specified term of membership.

Article XI. Section 2. Membership

Membership in the SWPG shall generally follow the requirements and procedures of Article II of these Bylaws; membership of the SWPG should be inclusive, rather than exclusive in nature; the interests identified in the initial coordinating body will be invited and/or appointed as well as other interests that have been identified. Appointment to SWPGs shall be made by a two-thirds vote of the voting membership present. The terms of office for all members of SWPG shall be either upon the expiration of the term, if any, specified by the RWPG in the establishing motion for the SWPG or upon the expiration of the person's membership in the RWPG.

Article XI. Section 3. Officers

The Chair, Vice Chair, and Secretary of an SWPG shall be selected from the duly-elected members of the respective SWPG, and shall be elected to their respective offices by a simple majority vote of membership present of the SWPG. Additional SWPG officers with associated responsibilities may be created as necessary by a simple majority vote of the membership present of the SWPG.

Article XI. Section 4. Meetings

Requirements and procedures for SWPG meetings shall follow those established in Article VIII of these Bylaws, including requirements for notice. SWPGs may adopt their own rules of procedure, if authorized by the RWPG and the rules are not in conflict with State law, TWDB rules, or these Bylaws.

Article XI. Section 5. Books and Records

Requirements and procedures for SWPG books and records shall follow those established for the RWPG in Article X of these Bylaws.

Article XI. Section 6. Code of Conduct

Members of an SWPG are subject to the requirements of Article II, Section 7 of these Bylaws.

ARTICLE XII. COMMITTEES

Article XII. Section 1. Establishment

The RWPG may establish committees to address issues deemed appropriate. Committees may be formed to address specific issues assigned by the RWPG and may have the specified term of membership.

Article XII. Section 2. Membership

Membership in committees shall be determined by the Chair of the RWPG. Committees may include both voting and non-voting members. The terms of committee membership for all members of committees shall expire either upon the expiration of the term of the committee, if any, specified by the Chair of the RWPG; upon the expiration of a person's membership of the RWPG; or, on a dissolution of the committee by the Chair of the RWPG.

Article XII. Section 3. Chairs

A Chair for each committee shall be chosen from its membership by the Chair of the RWPG. Committee Chairs shall be appointed at the first meeting of every other calendar year at the same time RWPG officers are elected pursuant to Article VII.

Article XII. Section 4. Meetings

Requirements and procedures for committees meetings shall follow those established in Article VIII, Sections 1, 3, 5, 7 and 8 of these Bylaws, including requirements for notice.

Article XII. Section 5. Decision Making Process

Committees of the RWPG shall make decisions and take action by a vote of a simple majority of committee voting members present unless otherwise specified in these Bylaws. Committees shall follow the process set forth in Article IX Section 2(c) regarding voice votes.

ARTICLE XIII. COMPENSATION

Members of the RWPG are not to be compensated for their services by the State of Texas. Travel expenses for voting members and the administrative agent may be reimbursed in accordance with rules adopted by the TWDB.

ARTICLE XIV. COST ALLOCATION

The voting members of the RWPG shall develop and approve an equitable method or formula for the allocation of costs associated with the local match for state funding.

ARTICLE XV. CONTRACTUAL SERVICES

The voting members of the RWPG shall make all decisions related to final approval of persons or entities selected by an eligible applicant to provide contractual services for the RWPG, including all services related to preparation, development, or revisions of the regional water plan for the RWPA. 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, except those decisions concerning amendments related to scopes of work and budgets.

ARTICLE XVI. FISCAL YEAR

The fiscal year of the RWPG shall be September 1 through August 31.

ARTICLE XVII. ADOPTING AND AMENDING THE BYLAWS

These Bylaws shall have full force and effect upon approval and adoption by the voting members of the RWPG, acting on behalf of the interests comprising the RWPA, and upon submission to the TWDB in compliance with 31 TAC §357.11. The voting members shall adopt these Bylaws and any amendments thereto by a two-thirds vote of the voting membership present.

References to Texas statutes or Texas Administrative Code provisions in these Bylaws are references to such statutes and provisions as amended, modified, re-codified, substituted or supplemented from time to time.

ARTICLE XVIII. RESOLUTION ADOPTING BYLAWS

REVISED and amended by action of the RWPG at a properly noticed meeting on ~~November~~ March 20, 2019, ~~2014~~, and effective for all purposes on that date.

Commented [SH3]: March 20 2019

The resolution adopted by the RWPG shall be placed in the minute book, and a full and true copy of the bylaws, certified by the Secretary/Treasurer, shall be kept at the principal office of the RWPG for inspection by members or the public at all reasonable times during business hours.

David Collinworth
Secretary/Treasurer

Date

Memorandum

Date: March 8, 2019

Project: 2021 Brazos G Regional Water Plan

To: Brazos G Regional Water Planning Group Members

From: Kristi Shaw, PE
David D. Dunn, PE

Subject: **Suggested Approach for Water Conservation Recommendations**

In accordance with TWDB guidance, the Brazos G 2021 Plan will include a separate subchapter of Chapter 5 that consolidates conservation-related recommendations and presents model water conservation plans. The Brazos G RWPG is required to consider water conservation best management practices (BMPs), including potentially applicable BMPs for each identified water need as well as entities that are to obtain water from proposed interbasin transfers.

Resources Available

The TWDB has provided the following information on its website to provide guidance to water user groups.

- [Water Conservation Best Management Practice Guides](#)
 - [Agricultural Water Users](#)
 - [Industrial Water Users](#)
 - [Municipal Water Providers](#)
 - [Wholesale Water Providers](#)
- Water Conservation Plan Guidance for Utilities
 - [Water Conservation Plan Checklist](#)
 - [How to Develop a Water Conservation Plan](#)
 - [Identifying Water Conservation Targets and Goals](#)

The TWDB has provided the following tools for RWPGs to consider during development of municipal water conservation recommendations. Brazos G related information is presented in sub-bullets.

- [Utility-Provided Best Management Practices Implemented as of the 2017 reporting year](#)
- [Annual Water Conservation Report Data \(Years 2015 and 2016\)](#)
 - 61 Brazos G municipal entities submitted annual reports on implementation of their water conservation plan (entities range in population size from 135 to 139,072)
 - 57 reported that leaks were repaired (11,316 leaks repaired in Brazos G)
 - 45 reported that they tested meters (5,454 meters tested in Brazos G)
 - 21 reported specific conservation savings (gallons)
 - 29 reported specific reuse savings (gallons)
 - Total gallons conserved or reused in Brazos G = 6.06 Billion Gallons (18,600 acre-feet)
- [Municipal Water Conservation Planning Tool](#)

The Municipal Water Conservation Planning Tool was developed by the TWDB to assist individual water utilities with planning conservation programs. The tool allows the user to include a mix of BMPs, and produces the expected annual conservation savings and associated capital and annual costs. The tool comes with population and water demand projections (and other data such as number of connections) for many municipal water user groups. The tool includes user-based functionality to load baseline demand projections, select conservation measures (plan or single-year savings) based on implementation activity, manage scenarios (to evaluate various BMP combinations) and use this information to calculate water savings and costs.

- 75 of the 246 Brazos G municipal water user groups (non-county other) are included in the Baseline Demand Projection, which includes population, connections, water demands, baseline per capita (gpcd), and water loss. The water demands reflect passive water conservation savings from plumbing codes and appliance standards attributable to state and federal plumbing codes.

Suggested Water Conservation Approach for the 2021 Plan:

Municipal Water Conservation

2016 Plan: Recommended additional water conservation beyond conservation associated with mandated State and Federal Plumbing Code for all municipal water user groups with per capita above 140 gpcd regardless of needs. The conservation goal in the plan was to reduce gpcd by 1% annually until the target is met, and then hold 140 gpcd constant through the remaining of the planning period. The 2016 Brazos G Plan presented a list of 21 BMPs, from which each entity could select those strategies that fit their individual situation best, rather than the plan to select specific BMPs for individual WUGs.

Conservation savings and annual costs were developed from a short list of BMPs for which such data were available. These savings and costs were applied to each WUG in order to estimate the potential conservation savings and annual costs. This approach was applied under the assumption that the conservation savings and costs developed would be representative of any logical mix of BMPs that a utility would consider implementing, if chosen from the list of 21 BMPs., and that the utility would be capable of meeting the reduction in gpcd through that approach.

For Williamson County municipal users only, an additional advanced conservation goal of 120 gpcd was considered, with the reduction rates set based on the rate needed to achieve 120 gpcd by Year 2070. Using this method, the annual reduction rate ranged from 0.355% to 1.104% annually for Williamson County entities.

Water loss reduction was considered for municipal water user groups that prorated real losses greater than 15% of water system input volume. For these entities, an annual pipeline replacement program of 5% of a utility's existing water main lines was evaluated and the resulting water savings and costs calculated. The total annual cost of pipeline replacement varied from \$18,480 to \$128 million, with annual unit costs ranging from \$12,710 to \$1.8 million per acft of water saved. Pipeline replacement was included as a BMP in the 2016 Plan, but due to cost was not recommended as a water management strategy unless specifically requested by a water user group.

New 2021 Plan: The target and goals that were included in the 2016 Brazos G Plan are recommended for use in the 2021 Brazos G Plan (i.e. Brazos G should recommend additional water conservation beyond plumbing act for all municipal water user groups with per capita above 140 gpcd regardless of needs).

Goal: Reduce gpcd by 1% annually until target is met, and then hold 140 gpcd constant through the remaining of the planning period. Coordinate with Williamson County entities to confirm that the additional advanced water conservation goal of 120 gpcd is still preferred.

The 2021 Brazos G Plan will consider TWDB-provided information for Brazos G entities reported in the 2015 and 2016 Water Conservation Annual Reports and Utility-Provided Best Management Practices Implemented as of the 2017 reporting year, described earlier. Based on this information, a list of common water conservation BMPs for Brazos G municipal users will be compiled. This Brazos G-based BMP list may be further delineated by population for small (<10,000), mid-sized (10,001-50,000), and large (>50,000) entities (and rural County-Other) to select relevant BMPs based on system size with the assumption that the current BMPs included in Water Conservation Plans would be practical for a similar-sized utility. The Brazos G-based BMP list(s) will be uploaded into the TWDB's [Municipal Water Conservation Planning Tool](#), which will be used to calculate water savings and cost, as appropriate. The water savings and costs will then be applied to water user groups for which conservation is a recommended water management strategy.

For Brazos G-based BMPs not listed as a pre-defined BMP measure in the Planning Tool, water savings provided in [Annual Water Conservation Report Data \(Years 2015 and 2016\)](#) for Brazos G entities will be used and uploaded as a user defined measure. For remaining BMPs for which water savings and cost is not readily available, the TWDB's "Best Management Practices for Municipal Water Providers, November 2013" information on municipal BMPs, applicability, description, implementation, water savings, and cost-effectiveness considerations will be considered.

The above approach for identifying BMPs and applying them in a generalized water conservation strategy will further focus water conservation recommendations to those BMPs that are actually being employed by utilities in the Brazos G Area and their specific water savings and costs, instead of the previous approach that utilized the entire list of available BMPs. Use of the TWDB Planning Tool to calculate savings and costs will provide greater confidence in the water conservation recommendations offered by Brazos G.

A brief discussion will be added to the 2021 Brazos G Plan to describe BMP efforts for Wholesale Water Providers by summarizing information from TWDB "Best management Practices for Wholesale Water Providers, October 2017."

The 2021 Brazos G Plan will consider water loss audits for calculating meter and pipeline replacement costs, for entities reporting at least 15% water losses.

Irrigation Water Conservation

2016 Plan: For irrigation entities with reported needs, a voluntary target reduction of 3% by 2020, 5% by 2030, and 7% from 2040-2070 was recommended. Brazos G used an average cost of implementing furrow practices, low-pressure sprinklers (LESA), and low-energy precision application systems (LEPA) to estimate the cost for implementing irrigation best management practices to achieve the desired savings. The Brazos G Plan presented 20 common irrigation best management


practices for each entity to select those strategies that fit their individual situation best, rather than recommending specific BMPS.

New 2021 Plan: For irrigation entities with reported needs, a voluntary target reduction of 3% by 2020, 5% by 2030, and 7% from 2040-2070 is recommended. The Brazos G Plan will summarize the TWDB's "Best Management Practices for Agricultural Water Users, November 2013" information on irrigation BMPs, including applicability, description, implementation, water savings, and cost-effectiveness considerations. This document will be used to prepare a list of common irrigation BMPs for the 2021 Brazos G Plan, and for each entity to select those strategies that fit their individual situation best, rather than recommend specific BMPS. Costs to implement irrigation BMPs will be estimated based on costs provided in the TWDB document.

Industrial (Mining, Manufacturing, Steam-Electric) Water Conservation



2016 Plan: For mining and manufacturing entities with reported needs, a voluntary target reduction of 3% by 2020, 5% by 2030, and 7% from 2040-2070 was recommended. The Brazos G Plan presented 14 common industrial BMPs for each entity to select those strategies that fit their individual situation best, rather than recommend specific BMPS. Costs to implement industrial BMPs vary from site to site and therefore it was deemed impractical to evaluate the costs of implementing industrial water conservation strategies.

New 2021 Plan: For mining, manufacturing and steam-electric WUGs with reported needs, a voluntary target reduction of 3% by 2020, 5% by 2030, and 7% from 2040-2070 is recommended. The Brazos G Plan will summarize the TWDB's "Best Management Practices for Industrial Water Users, February 2013" information on industrial BMPs, applicability, description, implementation, water savings, and cost-effectiveness considerations. This document will be used to prepare a list of common industrial best management practices for the Brazos G Plan for each entity to select those strategies that fit their individual situation best. Costs to implement industrial BMPs vary from site to site and therefore it may be impractical to evaluate the costs of implementing industrial water conservation strategies.



Update on Water Management Strategy Evaluations
Agenda Item 6.11.1

March 20, 2019

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Background

- Task 5A involves the evaluation of Water Management Strategies to meet the projected needs of Region G Water User Groups (WUGs)
- Updates have commenced on the following tasks
 1. 11 Individual Reuse Strategies
 2. Augmentation of Existing Reservoir Supplies (South San Gabriel)

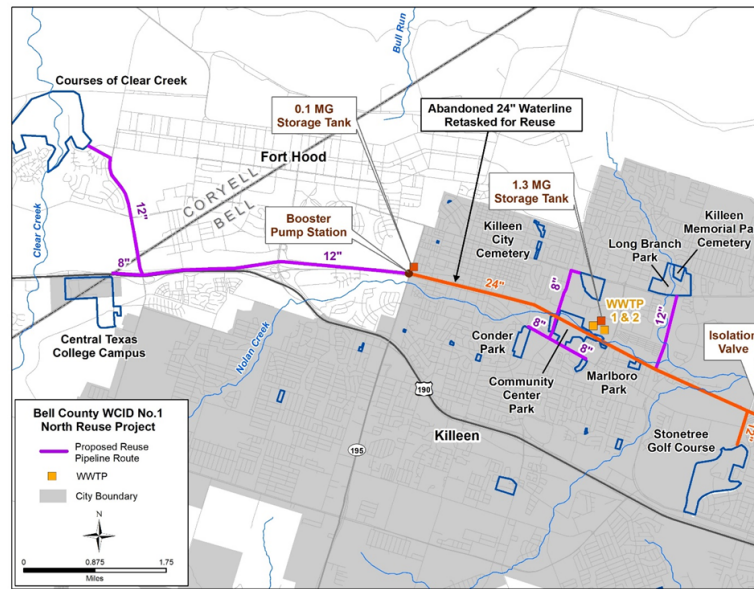


Reuse Strategies

Strategy Name
Bell County WCID No.1
City of Bryan: Lake Bryan Reuse
City of Bryan: Miramont Reuse
Waco WMARSS: Waco East Reuse
Waco WMARSS: Bellmead/Lacy Lakeview Reuse
Waco WMARSS: Bullhide Creek Reuse
Waco WMARSS: Flat Creek Reuse
Waco WMARSS: North Reuse
City of Cleburne
City of College Station: Indirect Reuse
City of College Station: Direct Potable Reuse

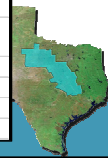


Bell County WCID No. 1

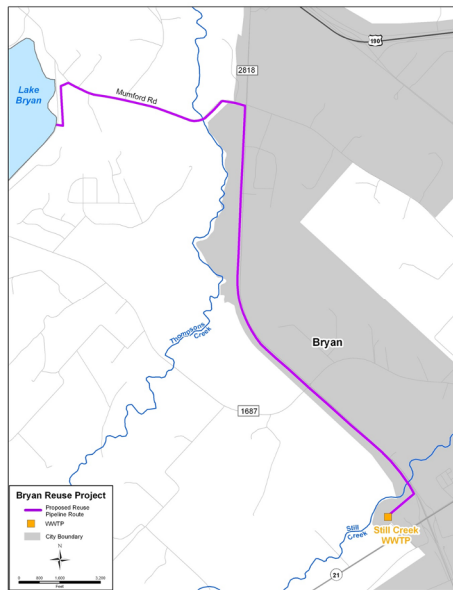


Bell County WCID No. 1

<i>Cost Estimate Summary Water Supply Project Option September 2018 Prices Bell County WCID#1 - North Reuse</i>	
<i>Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 202.4 for September 2018</i>	
<i>Item</i>	<i>Estimated Costs for Facilities</i>
CAPITAL COST	
Dam and Reservoir (Conservation Pool acft, acres)	\$0
Off-Channel Storage/Ring Dike (Conservation Pool acft, acres)	\$0
Terminal Storage (Conservation Pool acft, acres)	\$0
Primary Pump Station (0 MGD)	\$0
Transmission Pipeline (0 in dia., miles)	\$5,133,000
Transmission Pump Station(s) & Storage Tank(s)	\$4,255,000
Well Fields (Wells, Pumps, and Piping)	\$0
Storage Tanks (Other Than at Booster Pump Stations)	\$901,000
Water Treatment Plant (9 MGD)	\$514,000
Advanced Water Treatment Facility (MGD)	\$0
Conservation (Leaking Pipe/Meter Replacement)	\$0
Integration, Relocations, & Other	\$0
TOTAL COST OF FACILITIES	\$10,803,000
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	\$3,525,000
Environmental & Archaeology Studies and Mitigation	\$324,000
Land Acquisition and Surveying (17 acres)	\$127,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	\$407,000
TOTAL COST OF PROJECT	\$15,186,000

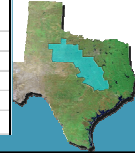


City of Bryan: Lake Bryan Reuse



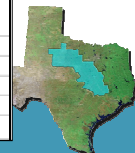
City of Bryan: Lake Bryan Reuse

Cost Estimate Summary Water Supply Project Option September 2018 Prices City of Bryan - Indirect Potable Reuse- Option 1 Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 202.4 for September 2018	
Item	Estimated Costs for Facilities
CAPITAL COST	
Dam and Reservoir (Conservation Pool acft, acres)	\$0
Off-Channel Storage/Ring Dike (Conservation Pool acft, acres)	\$0
Terminal Storage (Conservation Pool acft, acres)	\$0
Primary Pump Station (2.3 MGD)	\$4,689,000
Transmission Pipeline (12 in dia., miles)	\$2,784,000
Transmission Pump Station(s) & Storage Tank(s)	\$0
Well Fields (Wells, Pumps, and Piping)	\$0
Storage Tanks (Other Than at Booster Pump Stations)	\$0
Two Water Treatment Plants (2.2 MGD and 2.2 MGD)	\$12,014,000
Advanced Water Treatment Facility (MGD)	\$0
Conservation (Leaking Pipe/Meter Replacement)	\$0
Integration, Relocations, & Other	\$0
TOTAL COST OF FACILITIES	\$19,487,000
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	\$6,681,000
Environmental & Archaeology Studies and Mitigation	\$233,000
Land Acquisition and Surveying (41 acres)	\$1,454,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	\$767,000
TOTAL COST OF PROJECT	\$28,622,000



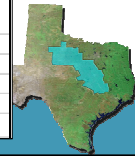
City of Bryan: Lake Bryan Reuse

Cost Estimate Summary Water Supply Project Option September 2018 Prices City of Bryan - Direct Potable Reuse Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 202.4 for September 2018	
Item	Estimated Costs for Facilities
CAPITAL COST	
Dam and Reservoir (Conservation Pool acft, acres)	\$0
Off-Channel Storage/Ring Dike (Conservation Pool acft, acres)	\$0
Terminal Storage (Conservation Pool acft, acres)	\$0
Primary Pump Station (2.2 MGD)	\$1,249,000
Transmission Pipeline (12 in dia., miles)	\$2,610,000
Transmission Pump Station(s) & Storage Tank(s)	\$0
Well Fields (Wells, Pumps, and Piping)	\$0
Storage Tanks (Other Than at Booster Pump Stations)	\$0
Two Water Treatment Plants (2.2 MGD and 2.2 MGD)	\$2,977,000
Advanced Water Treatment Facility (MGD)	\$0
Conservation (Leaking Pipe/Meter Replacement)	\$0
Integration, Relocations, & Other	\$0
TOTAL COST OF FACILITIES	\$6,836,000
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	\$2,262,000
Environmental & Archaeology Studies and Mitigation	\$188,000
Land Acquisition and Surveying (34 acres)	\$831,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	\$279,000
TOTAL COST OF PROJECT	\$10,396,000

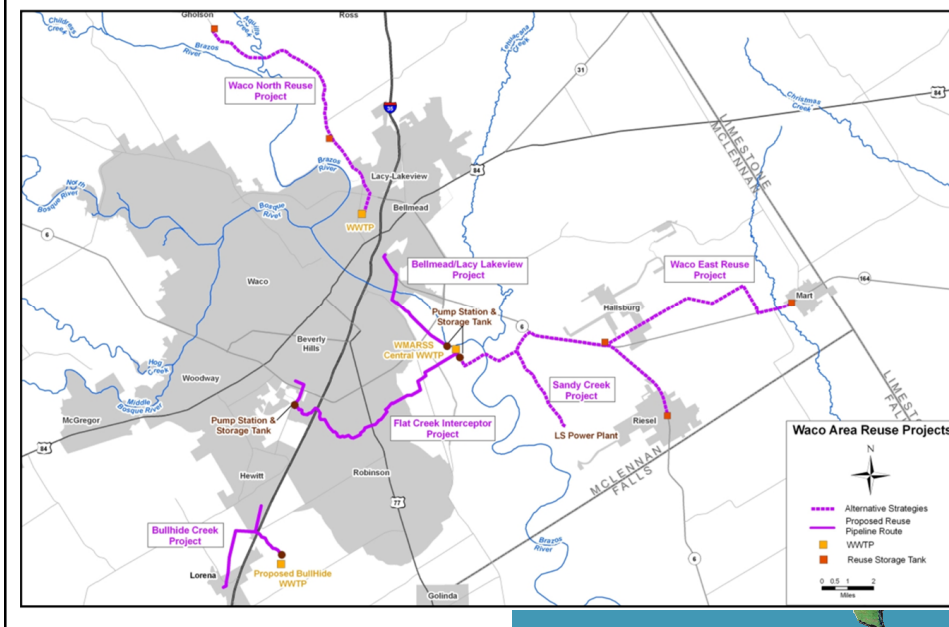


City of Bryan: Miramont Reuse

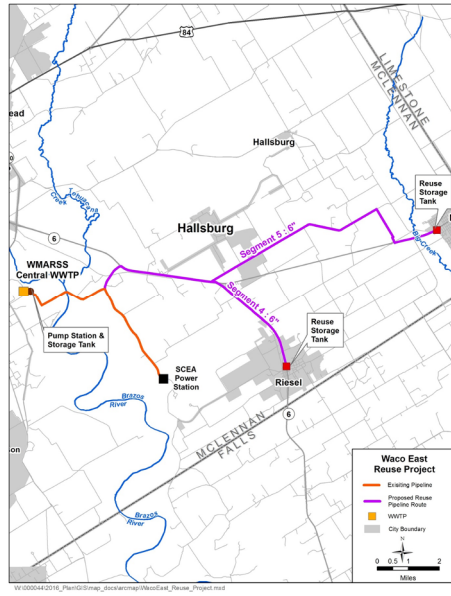
Cost Estimate Summary Water Supply Project Option September 2018 Prices City of Bryan - Miramont Reuse	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 202.4 for September 2018	
Item	Estimated Costs for Facilities
CAPITAL COST	
Dam and Reservoir (Conservation Pool acft, acres)	\$0
Off-Channel Storage/Ring Dike (Conservation Pool acft, acres)	\$0
Terminal Storage (Conservation Pool acft, acres)	\$0
Primary Pump Station (0 MGD)	\$500,000
Transmission Pipeline (0 in dia., miles)	\$2,029,000
Transmission Pump Station(s) & Storage Tank(s)	\$0
Well Fields (Wells, Pumps, and Piping)	\$0
Storage Tanks (Other Than at Booster Pump Stations)	\$0
Water Treatment Plant (0 MGD)	\$0
Advanced Water Treatment Facility (MGD)	\$0
Conservation (Leaking Pipe/Meter Replacement)	\$0
Integration, Relocations, & Other	\$0
TOTAL COST OF FACILITIES	\$2,529,000
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	\$784,000
Environmental & Archaeology Studies and Mitigation	\$88,000
Land Acquisition and Surveying (5 acres)	\$0
Interest During Construction (3% for 1 years with a 0.5% ROI)	\$94,000
TOTAL COST OF PROJECT	\$3,495,000



Waco WMARSS: Location Map



Waco WMARSS: East Reuse (Hallsburg, Mart and Riesel)



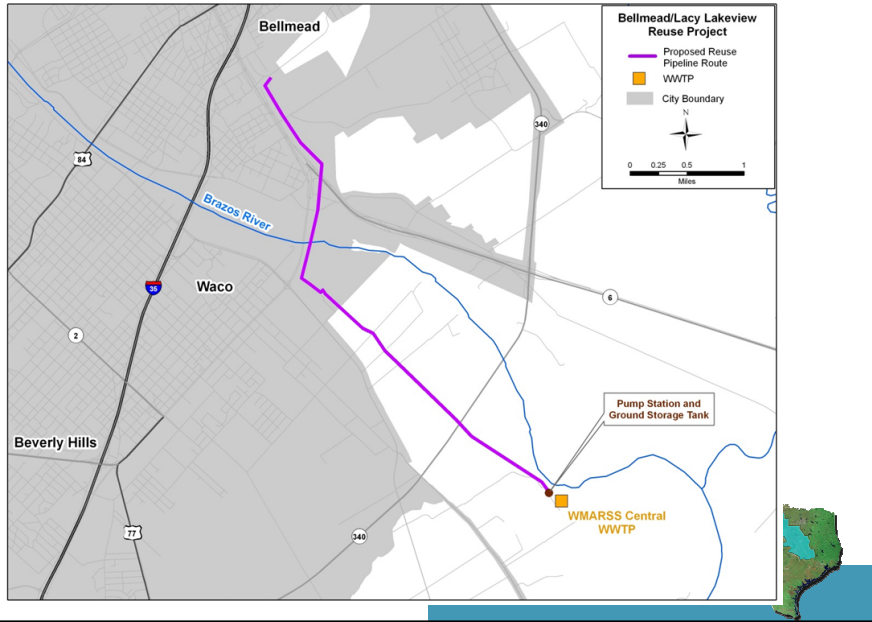
Waco WMARSS: East reuse

Cost Estimate Summary Water Supply Project Option September 2018 Prices City of Waco - WMARSS Bellmead & Lacy Lakeview Reuse Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	Estimated Costs for Facilities
Primary Pump Station (1 MGD)	\$1,784,000
Transmission Pipeline (10 in dia., miles)	\$3,551,000
Transmission Pump Station(s) & Storage Tank(s)	\$3,483,000
Storage Tanks (Other Than at Booster Pump Stations)	\$2,560,000
TOTAL COST OF FACILITIES	\$11,378,000
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	\$3,805,000
Environmental & Archaeology Studies and Mitigation	\$615,000
Land Acquisition and Surveying (100 acres)	\$505,000
Interest During Construction (4% for 1 years with a 1% ROI)	\$571,000
TOTAL COST OF PROJECT	\$16,874,000

* Costs may vary



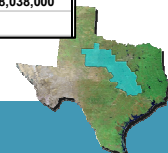
Waco WMARSS: Bellmead/Lacy- Lakeview reuse



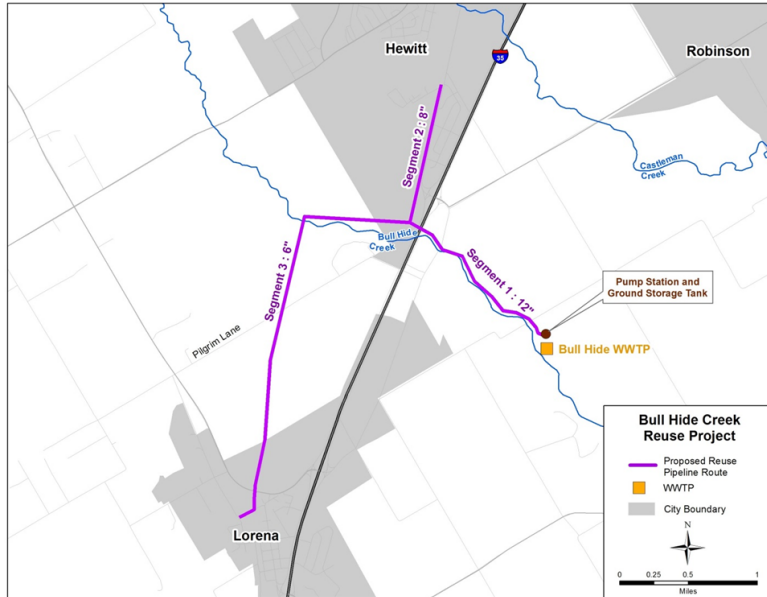
Waco WMARSS: Bellmead/Lacy- Lakeview reuse

Cost Estimate Summary Water Supply Project Option September 2018 Prices City of Waco - WMARSS Bellmead & Lacy Lakeview Reuse	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	Estimated Costs for Facilities
Primary Pump Station (2.1 MGD)	\$1,089,000
Transmission Pipeline (12 in dia., miles)	\$2,619,000
Storage Tanks (Other Than at Booster Pump Stations)	\$1,956,000
TOTAL COST OF FACILITIES	\$5,664,000
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	\$1,851,000
Environmental & Archaeology Studies and Mitigation	\$144,000
Land Acquisition and Surveying (31 acres)	\$107,000
Interest During Construction (4% for 1 years with a 1% ROI)	\$272,000
TOTAL COST OF PROJECT	\$8,038,000

* Costs may vary



Waco WMARSS: Bullhide Creek Reuse

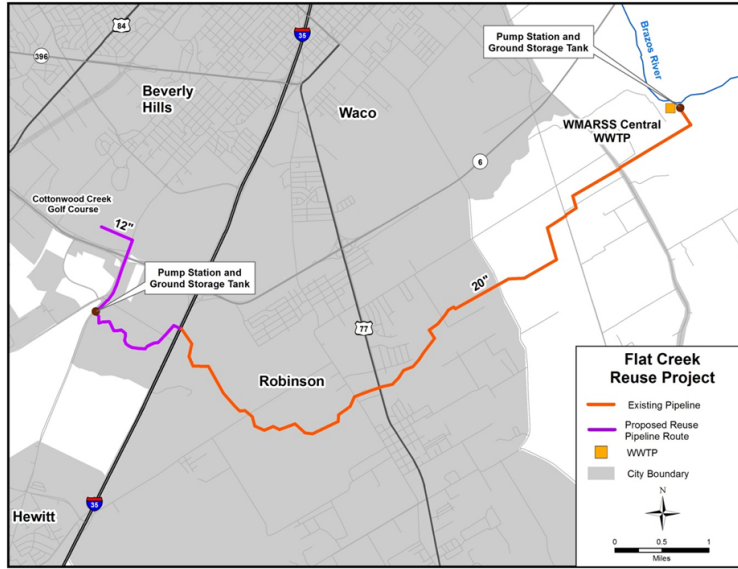


Waco WMARSS: Bullhide Creek Reuse

Cost Estimate Summary Water Supply Project Option September 2018 Prices City of Waco - WMARSS Bullhide Creek Reuse	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	Estimated Costs for Facilities
Primary Pump Station (1.6 MGD)	\$1,053,000
Transmission Pipeline (12 in dia., miles)	\$1,592,000
Transmission Pump Station(s) & Storage Tank(s)	\$928,000
Storage Tanks (Other Than at Booster Pump Stations)	\$1,516,000
TOTAL COST OF FACILITIES	\$5,089,000
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	\$1,702,000
Environmental & Archaeology Studies and Mitigation	\$174,000
Land Acquisition and Surveying (39 acres)	\$135,000
Interest During Construction (4% for 1 years with a 1% ROI)	\$249,000
TOTAL COST OF PROJECT	\$7,349,000

* Costs may vary

Waco WMARSS: Flat Creek reuse



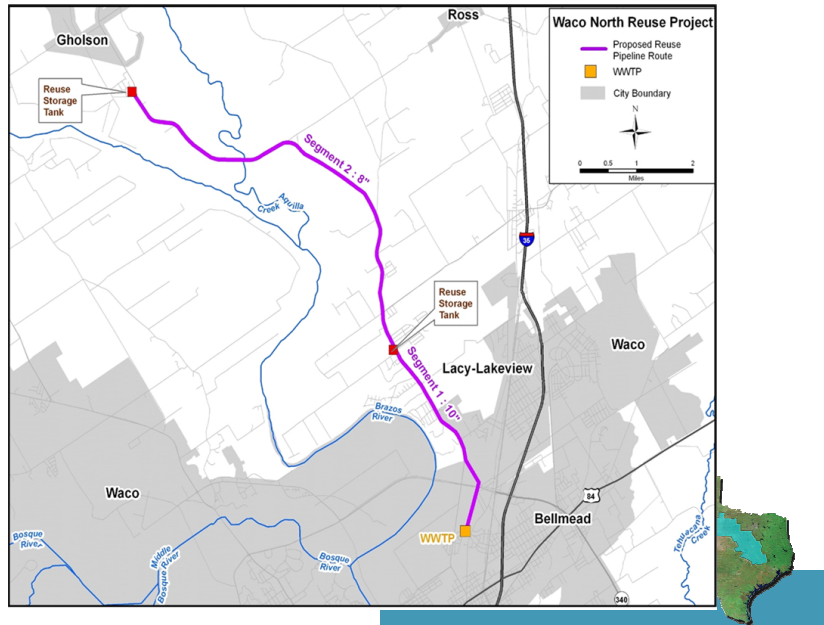
Waco WMARSS: Flat Creek reuse

Cost Estimate Summary Water Supply Project Option September 2018 Prices City of Waco - WMARSS Flat Creek Reuse Project	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	Estimated Costs for Facilities
Transmission Pipeline (0 in dia., miles)	\$1,560,000
Transmission Pump Station(s) & Storage Tank(s)	\$8,297,000
Storage Tanks (Other Than at Booster Pump Stations)	\$4,330,000
TOTAL COST OF FACILITIES	\$14,187,000
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	\$4,887,000
Environmental & Archaeology Studies and Mitigation	\$120,000
Land Acquisition and Surveying (26 acres)	\$143,000
Interest During Construction (4% for 1 years with a 1% ROI)	\$677,000
TOTAL COST OF PROJECT	\$20,014,000

* Costs may vary



Waco WMARSS: Chalk Bluff WSC and Gholson Reuse



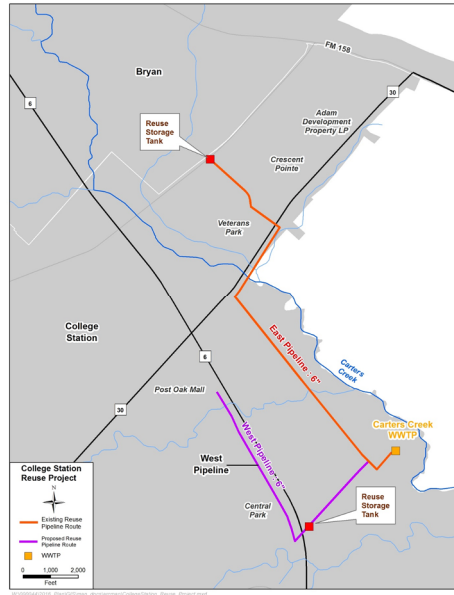
Waco WMARSS: Chalk Bluff WSC and Gholson Reuse

Cost Estimate Summary Water Supply Project Option September 2018 Prices City of Waco - WMARSS North Reuse Project	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	Estimated Costs for Facilities
Primary Pump Station (1.1 MGD)	\$1,000,000
Transmission Pipeline (10 in dia., miles)	\$3,190,000
Storage Tanks (Other Than at Booster Pump Stations)	\$3,100,000
Two Water Treatment Plants (3 MGD and 3 MGD)	\$14,469,000
TOTAL COST OF FACILITIES	\$21,759,000
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	\$7,456,000
Environmental & Archaeology Studies and Mitigation	\$395,000
Land Acquisition and Surveying (65 acres)	\$318,000
Interest During Construction (4% for 1 years with a 1% ROI)	\$1,048,000
TOTAL COST OF PROJECT	\$30,976,000

* Costs may vary



City of College Station

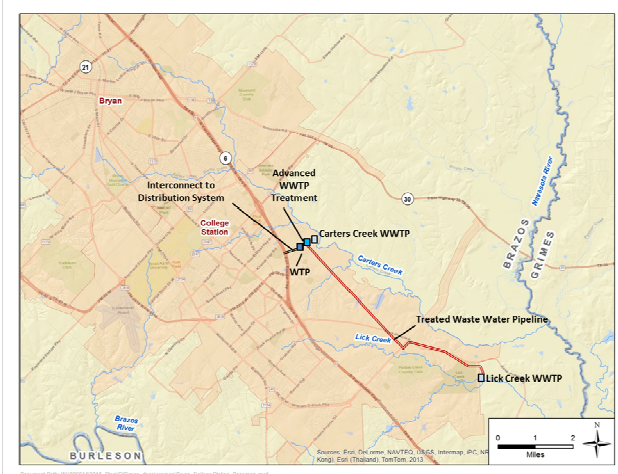


*Pending Updates



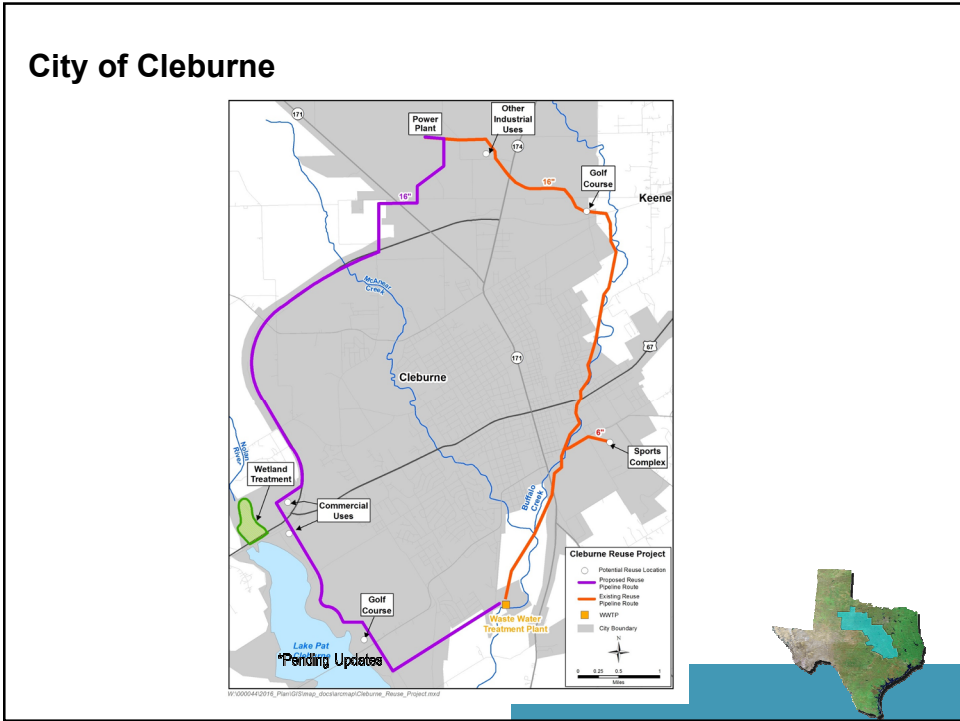
City of College Station

- 2016 Plan states Indirect and Direct Potable Reuse
- In contact with City Water Resources Engineer to get updates to 2016 plan information




*Pending Updates





- ### City of Cleburne
- In contact with Director of PW and wastewater treatment supervisor
 - City had a recent meeting targeting reuse strategies with more updates to follow



Replace Evaluation of San Gabriel Diversion with ASR

Agenda Item 6.11.2

March 20, 2015

HDR

BRAZOS G
WATER PLANNING GROUP

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Diversion of South Fork of San Gabriel River to Lake Georgetown

- Information based on CDM July 2014 Memorandum
- Evaluated cost savings in lieu of pumping from Lake Stillhouse
- Utilizes existing 30-in pipeline to Lake Georgetown
- Results in annual pumping cost savings for Georgetown
- Insufficient information available at time of 2016 Plan
 - No evaluation of impact to downstream senior rights
 - Missing Lake Georgetown yield analysis
 - Missing e-flows analysis
- Full evaluation scoped for 2021 Plan (\$5,400 budget)

City of Georgetown is no longer interested in this project.



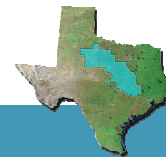
Alternative to Replace San Gabriel Diversion Evaluation


- Lake Georgetown Aquifer Storage and Recovery (ASR)
 - Overdraft Lake Georgetown when full
 - Inject water into Trinity Aquifer for later use
 - Similar to Lake Granger ASR project (recommended in 2016 Plan)
 - Requires WAM analysis, environmental evaluation, costing (other information to be provided by City of Georgetown)
 - \$15,300 to complete analysis
- Recommendation:
 - Replace San Gabriel River Diversion with Lake Georgetown ASR
 - Will require \$9,900 from Additional ASR Projects to cover additional work



Recommended Action

“The Brazos G Regional Water Planning Group directs the BRA and HDR to modify the scope of work for Task 5A, Evaluation of Water Management Strategies, by eliminating Task 9.7 South San Gabriel River Diversion into Lake Georgetown. Funds from Task 9.7 will be added to funds from Task 7.6 Additional ASR Projects to enable the evaluation of the Lake Georgetown Aquifer Storage and Recovery project. Brazos G directs BRA and HDR to complete the contract amendments necessary to accomplish this modification of the scope of work for Task 5A.”







Request Analysis of the Socioeconomic Impacts of Not Meeting Needs

Agenda Item 6.11.3

March 20, 2019

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Socioeconomic Impacts Analysis

- TWDB is again available to conduct the socioeconomic impacts analysis of not meeting identified water needs for inclusion in 2021 Regional Water Plans.
- Optional to utilize the TWDB analysis.
 - However, an analysis must be performed and included in the regional water plans per 31 TAC §§357.33(c) and 357.40(a).
- TWDB timeline will allow for inclusion of results in IPPs due March 3, 2020.
- Analyses will be performed on needs in the state water planning database (DB22) as of May 31, 2019.

September 2018

Summary of peer review and potential enhancement to the socioeconomic impact analysis for the 2021 Regional Water Plans

Administrative rule 31 TAC §357.40 requires that Regional Water Planning Groups (RWPGs) evaluate the impacts of not meeting water needs as part of the regional water planning process, and directs the Texas Water Development Board (TWDB) to provide technical assistance. TWDB has historically developed a socioeconomic impact analysis for the regional water plans, if requested by RWPGs. For the 2021 Regional Water Plans (RWPs), the same general methodology and report format as the last planning cycle will be used. However, in preparation for the economic impact analysis for the 2021 RWPs and 2022 State Water Plan (SWP), the TWDB received external peer reviews of the socioeconomic impact analysis methodology to address some of the comments received from the previous planning cycle and identify potential enhancements to the analysis.


In addition, for this cycle of planning, the TWDB plans to conduct its analysis on a timeline to allow for inclusion of results in the Initially Prepared Plans (IPPs). In order to meet this deadline, the overall timeline will be adjusted and the analysis will be conducted on identified needs as of a set date in the planning cycle.

The purpose of this document is to provide 1) a summary of peer reviews performed by the Texas Comptroller of Public Accounts and BBC Research & Consulting (BBC) and their recommendations; 2) potential changes to the methodology considered by the TWDB staff as a result of those reviews; and 3) proposed timeline of the completion and delivery of the socioeconomic impact analysis and reports for the 2021 RWPs.

1. Summary of comments from RWPGs on 2017 impact reports

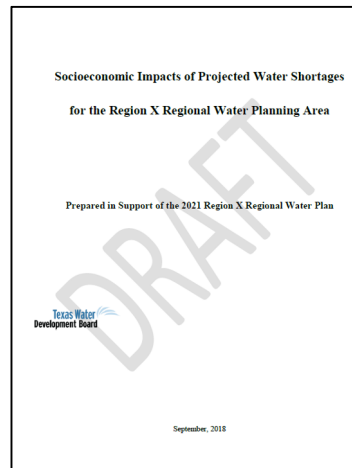
Valuable comments from the RWPGs and stakeholders were received on the impact estimates used in the 2016 RWPs and 2017 SWP. TWDB provided responses to all comments. Below are identified issues provided to external peer reviewers for consideration.

1) Evaluate the threshold for initiation of economic elasticity for the municipal (commercial water-intensive) and industrial (manufacturing and mining) impacts, which seem too high.



Socioeconomic Impacts Analysis


- Analyses will be performed on needs in the state water planning database (DB22) as of May 31, 2019.
- TWDB intends to utilize 2016 water use and purchased IMPLAN data and the final economic impact will be adjusted to 2018 dollars to align with the project costs.
 - Similar to the analysis for the 2016 RWPs, in which 2011 water use and IMPLAN data were used, adjusted to 2013 dollars.
- Schedule:
 - May 31, 2019 – Needs utilized from DB22 for “as of” analysis date
 - December 2019 – Socioeconomic impacts reports sent to RWPGs
 - March 3, 2020 – IPPs due to TWDB



Suggested Action

“The Brazos G Regional Water Planning Group directs HDR to prepare a formal request on behalf of the Brazos G RWPG for the TWDB to conduct the socioeconomic impacts analysis of not meeting identified water needs for inclusion in the 2021 Brazos G Regional Water Plan.”







Methodology for Water Conservation Recommendations

Agenda Item 6.11.4

March 20, 2019



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Why Conservation?

- Extends existing supplies through more efficient use
- Conservation goes beyond 1991 Performance Standards for Plumbing Fixtures Act
- Treated as a “new” supply in planning
- TAC §357.34 stipulates: “RWPGs must consider water conservation practices, including potentially applicable best management practices, for each identified water need....If RWPGs do not adopt a water conservation strategy to meet an identified need, they shall document the reason in the RWP.”



Conservation is our Duty!



Conservation Strategies Need to be Effective



Resources Available from the TWDB

Guidance to Water User Groups:

- Water Conservation Best Management Practice Guides
 - Agricultural Water Users
 - Industrial Water Users
 - Municipal Water Providers
 - Wholesale Water Providers
- Water Conservation Plan Guidance for Utilities
 - Water Conservation Plan Checklist
 - How to Develop a Water Conservation Plan
 - Identifying Water Conservation Targets and Goals



Resources Available from the TWDB

Guidance to Water Planning Groups:

- Utility-Provided Best Management Practices Implemented as of the 2017 reporting year
- Annual Water Conservation Report Data (Years 2015 and 2016)
 - Summarizes information provided by water utilities on implementation of conservation plans
 - 61 Brazos G entities submitted information (population: 135 to 139,072)
- Municipal Water Conservation Planning Tool
 - Excel spreadsheet tool
 - Cost and savings data for a variety of BMPs
 - Pre-loaded baseline demand data for 75 of 246 Brazos G WUGs
 - Population, connections, water demands, gpcd and water loss
 - Can be used by utilities to test various mixes and levels of BMPs
 - Great for individual utility planning, but too cumbersome to use for all 246 Brazos G WUGs



Suggested Approach for 2021 Plan – Municipal WUGs

Target efficiency: 140 gpcd (same as 2016 Plan)

- Reduce gpcd by 1% annually until 140 gpcd met, then hold constant
- Williamson County – 120 gpcd target by 2070
- All WUGs with gpcd > 140

BMP recommendations (modification from 2016 Plan)

- Use TWDB reports to identify BMPs typically used in Brazos G Area
 - Vary by utility size and rural/urban/suburban classification
- Use Municipal Water Conservation Planning Tool
 - Develop generalized conservation savings and costs for typical utility classifications
- Consider water loss audits for calculating replacement costs for WUGs reporting > 15% water losses

Benefits:

- Consistent with previous planning cycles
- Improves information regarding conservation savings and costs
- Incorporates practices specific to Brazos G
- Continues to not “prescribe” a specific set of BMPs



Suggested Approach for 2021 Plan – Irrigation

Target efficiency: (same as 2016 Plan)

- Reduce irrigation use by 3% in 2020, 5% in 2030 and 7% in 2040-2070
- All WUGs with needs

BMP recommendations (modification from 2016 Plan)

- Summarize TWDB’s “Best Management Practices for Agricultural Water Users, Nov 2013”
 - Applicability, implementation, savings, cost-effectiveness
- Prepare updated list of common irrigation BMPs
- Develop savings and costs from TWDB document

Benefits:

- Consistent with previous planning cycles
- Improves information regarding conservation savings and costs
- Continues to not “prescribe” a specific set of BMPs



Suggested Approach for 2021 Plan – Industrial (mining, manufacturing, steam-electric)

Target efficiency: (same as 2016 Plan)

- Reduce irrigation use by 3% in 2020, 5% in 2030 and 7% in 2040-2070
- All WUGs with needs

BMP recommendations (modification from 2016 Plan)

- Summarize TWDB's "Best Management Practices for Industrial Water Users, Feb 2013"
 - Applicability, implementation, savings, cost-effectiveness
- Prepare updated list of common industrial BMPs
- Develop savings only (costs will vary substantially between industrial sites)

Benefits:


- Consistent with previous planning cycles
- Improves information regarding conservation savings and costs
- Continues to not "prescribe" a specific set of BMPs



Suggested Action

"The Brazos G Regional Water Planning Group directs HDR to develop water conservation recommendations utilizing the new tools available from the TWDB, per HDR's suggested approach as presented."







Chapter 7 Drought Information

Agenda Item 6.11.5

March 20, 2019



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Topics for Today

- Describe Chapter 7 requirements
 - Drought Response Information, Activities and Recommendations
- Establish or assign subcommittee to address Chapter 7 requirements



Chapter 7 Requirements (from Exhibit C Guidelines)

7.1 – Droughts of Record

- Identify regional, sub-regional, basin-based and/or sub-basin based droughts of record that impact water supplies

7.2 – Current Preparations for Drought

- Assess overall drought preparations in the region
- Summarize drought response triggers
- Describe how water suppliers identify and respond to drought onset

7.3 – Existing and Potential Emergency Interconnects

- Collect information regarding emergency interconnects
- Submit data under separate hard cover (approved in a closed meeting, subcommittee?)
- 2021 Plan shall include methodology and count of existing and potential interconnects

7.4 – Emergency Responses to Local Drought Conditions or Loss of Supply

- Evaluate potential responses to supply, particularly less than 180 days of supply
- 2010 populations less than 7,500 and rely on sole source plus all county-other (minimum requirement)



Chapter 7 Requirements (from Exhibit C Guidelines)

7.5 – Recommended Drought Triggers and Actions

- Drought response recommendations for existing surface water and groundwater supplies
- Responses by the manager of the source and entities relying on the source
- Minimum 2 distinct sets of triggers: severe and critical/emergency conditions

7.6 – Region-Specific Model Drought Contingency Plans

- Minimum 2 model plans

7.7 – Drought Management Strategies

- Summarize those considered or evaluated, recommended and alternative
- Previous Brazos G plans do not recommend drought management as a water management strategies

7.8 – Other Drought-Related Considerations and Recommendations


TWDB will develop a working outline template for Chapter 7 – Drought Protection Council recommends RWPG's follow



Suggested Action

“The Brazos G Regional Water Planning Group directs HDR to develop Chapter 7 Drought Response Information, Activities and Recommendations in coordination with a subcommittee to be assigned by the Brazos G Chair.”







Water Needs in Williamson County

Agenda Item 6.11.6

March 20, 2019



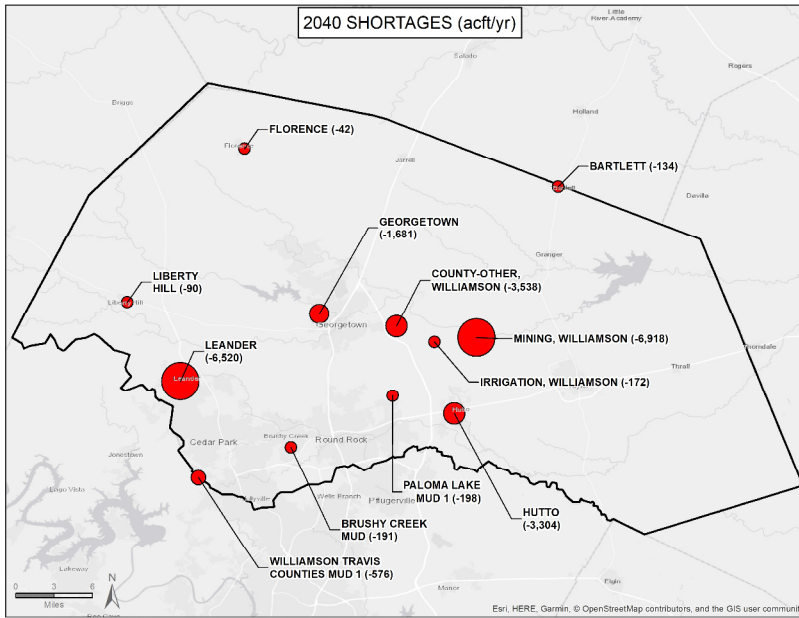
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Background

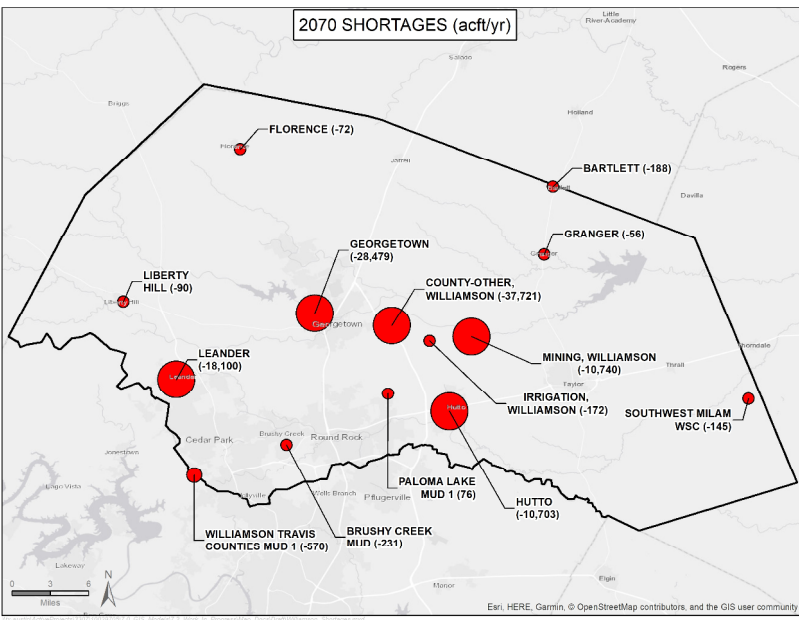
- Williamson County population will grow substantially
 - 2020: 560,419
 - 2040: 839,261
 - 2070: 1,490,951
- Large water needs in 2040 and 2070
 - Hutto
 - 2040: 3,304
 - 2070: 10,703
 - Leander
 - 2040: 6,520
 - 2070: 18,100
 - Georgetown
 - 2040: 1,681
 - 2070: 28,479
 - **County-Other**
 - **2040: 3,538**
 - **2070: 37,721**



Williamson County




Williamson County



Water Needs in Williamson County

- Roughly, about 30,000 acft/yr of “unidentified” new water supply needs to be developed for Williamson County by 2070, not accounting for mining shortages
 - Accounts for strategies in 2016 Plan, except for Little River OCR
- No single entity has been identified to supply County-Other
 - Likely a mixture of MUDs and WSCs that form to serve development outside current CCNs
- Requires additional coordination with Williamson County leadership to resolve
 - Who will supply what? From where? By when?
- HDR recommends additional coordination in Williamson County be organized to solve this issue over the spring/summer







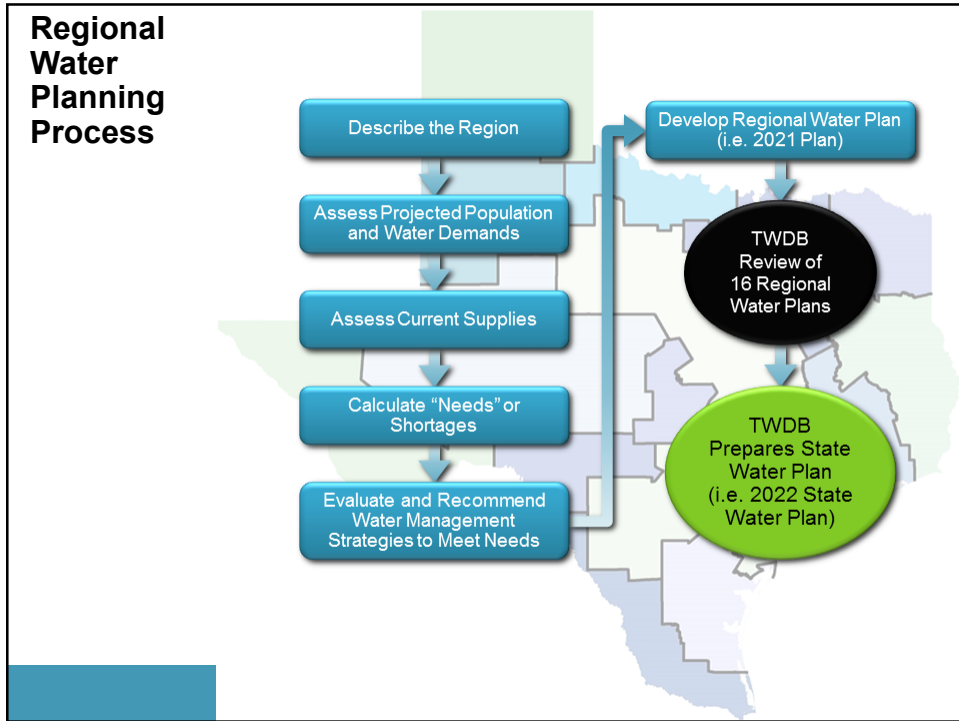
Schedule to Develop the 2021 Brazos G Plan

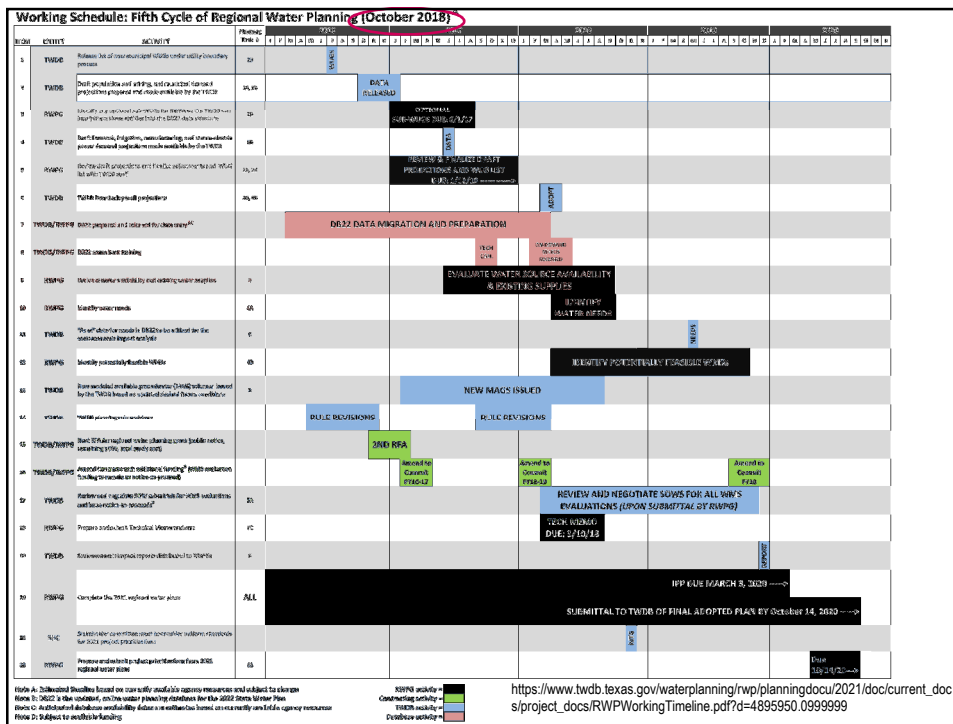
Agenda Item 6.11.7

March 20, 2019



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Working Schedule for the 2021 Planning Cycle

- Apr 17, 2018 – TWDB approved Hydrologic Variance Request
- May/June/July/Aug – determine available supplies
 - SW availability analyses
 - GW allocations, including MAG Peak Factors (if applicable)
 - Allocate supplies to WUGs and WWPs
 - Database entry
- June/July – identify potentially feasible strategies – SOW Committee
- August – Brazos G RWPG meeting
 - Adopt tech memo
 - Approve SOW and Budget for Task 5A
- Sep 10, 2018 – Technical Memorandum submitted
- January – began Task 5A Evaluation of Water Management Strategies
- January – December 2019 – develop 2021 Plan (detailed schedule next RWPG mtg)
 - Plan on 4-6 meetings by end of 2019, plus 2 more in January/February 2020
 - May, July, September, **October**, November, **December**, January '20, February '20
- March 2020 – Initially Prepared Plan

