

TCEQ Interoffice Memorandum

TO: Office of the Chief Clerk
Texas Commission on Environmental Quality

THRU: Chris Kozlowski, Team Leader
Water Rights Permitting Team

FROM: Natalia Ponebshek Project Manager
Water Rights Permitting Team

DATE: May 27, 2021

SUBJECT: RR 417, LLC
WRPERM 13631
CN605554203, RN110846045
Application No. 13631A to Amend Water Use Permit No. 13631
Texas Water Code § 11.122, Not Requiring Notice
Commissioners Creek, Nueces River Basin
Bandera County

The application and fees were received on January 21, 2021. Additional information was received on March 9 and April 14, 2021. The application was declared administratively complete and accepted for filing with the Office of the Chief Clerk on May 27, 2021. Notice is not required pursuant to Title 30 Texas Administrative Code § 295.158(c)(1).

All fees have been paid and the application is sufficient for filing.

Natalia Ponebshek

Natalia Ponebshek, Project Manager
Water Rights Permitting Team
Water Rights Permitting and Availability Section

OCC Mailed Notice Required **YES** **NO**

TCEQ Interoffice Memorandum

From: Natalia Ponebshek
Water Rights Permitting Team

Date: May 27, 2021

Subject: RR 417, LLC
Application No. 13631A to Amend Water Use Permit No. 13631
Commissioners Creek, Nueces River Basin
Bandera County

On June 9, 2006, the Texas Supreme Court issued an opinion in the case of *Marshall v Uncertain*.¹ The Supreme Court in that opinion considered the Commission's practices regarding notice and hearing for applications to amend a water right under Texas Water Code (TWC) §11.122(b). The Court held that it could not determine under the record in that case whether notice and a hearing would be required. The Court remanded the case to the Commission.

The court in *Marshall* held that when reviewing the type of notice required for an amendment to a water right, the Commission must determine whether there could be an adverse impact from the application on other water rights or the environment beyond or irrespective of the full use assumption, explained below. The court also held that the Commission must determine if the application could have an adverse impact on the public interest criteria: beneficial use, public welfare, groundwater effects, consistency with the state and regional water plan, compliance with administrative requirements, and conservation.

The types of amendments that come within the *Marshall* decision are those amendments that do not already have a specific notice requirement in a rule for that type of amendment, and that do not change the amount of water to be taken or the diversion rate. These amendments include changes in use, changes in place of use, or non-substantive changes in a water right.

The purpose of this memo is to discuss the public notice that should be given in the above referenced application by RR 417, LLC in light of agency rules and the Court's decision in the case of *Marshall*.

Current Permit and Application for Amendment

Water Use Permit No. 13631 (Permit) was issued to RR 417, LLC (Applicant or Owner) and authorizes the maintenance of two existing dams and reservoirs with a combined storage capacity of 29 acre-feet of water on Commissioners Creek, tributary of Hondo Creek, tributary of the Frio River, tributary of the Nueces River, Nueces River Basin for recreational purposes in Bandera County. The time priority of the right is October 8, 2019.

¹ City of Marshall et. al. v. City of Uncertain et. al., No. 03-1111 (Tx. June 9, 2006).

Owner is further authorized to use the bed and banks of Commissioners Creek to convey not to exceed 40 acre-feet of groundwater per year for subsequent diversion and use of 10 acre-feet of groundwater for agricultural purposes to irrigate 10 acres of land and for recreational purposes in Bandera County.

Applicant seeks to amend Water Use Permit 13631 to add an accounting plan.

Rules Related to Notice

Addition of an Accounting Plan to Facilitate the Administration of a Water Right
The Commission has rules concerning what notice is required for applications to amend a water right in 30 TAC §295.158. Under 30 TAC §295.158(c)(1), only an application to amend an existing permit, certified filing, or certificate of adjudication which does not contemplate an additional consumptive use of state water or an increased rate or period of diversion and which, in the judgment of the commission, has no potential for harming any other existing water right, is subject to amendment by the commission without notice other than that provided to the record holder. This application falls under that rule and does not require notice except to the record holder.

The notice recommendation for the Applicant's request to add an accounting plan will be discussed below.

Texas Water Code

This application for an amendment to an existing water right is governed by TWC § 11.122. TWC §11.122(a) requires a water right holder, except as discussed above, to obtain a water right amendment if the holder is going to change the place of use, purpose of use, point of diversion, rate of diversion, or "otherwise alter a water right."

TWC §11.122(b) sets out the scope of the Commission's authority in reviewing applications to amend a water right. Staff notes that the Applicant is not asking for either an increase in the amount of water authorized for diversion, or an increase in the rate of diversion. With that understanding of the application, it then becomes a duty of the Commission to approve the application *"if the requested change will not cause adverse impact on other water right holders or the environment on the stream of greater magnitude than under circumstances in which the permit . . . that is sought to be amended was fully exercised according to its terms and conditions as they existed before the requested amendment,"* and the application meets, *"all other applicable requirements,"* of Chapter 11 of the Texas Water Code. The clause that requires the Commission to compare the requested amendment to the existing permit as if the existing permit was fully exercised is often referred to as the "full use assumption."

Adverse Impact on Water Right Holders and the Environment

Under the *City of Marshall* opinion, the Commission must evaluate whether an amendment can adversely impact other water rights or the environment both under and beyond the full use assumption.

Under the full use assumption, adding an accounting plan can have no greater impact on other water right holders or the environment than the impacts to those interests under the existing Permit because adding an accounting plan will not increase the amount of water authorized for diversion by the Permit. Both before and after the amendment, the maximum amount of water diverted will be the same. The Applicant, under the existing Permit and the proposed amended Permit, could take all of that water in the first part of the year, or take all of that water in later parts of the year, subject to the existing limitations in the Permit, which the Applicant does not request to change. In other words, there are no special conditions in the Permit that restrict the water right holder to a particular pattern of use. Because there is no specific pattern of use in the Permit, the full use assumption requires the Commission to consider the existing Water Use Permit and the proposed amended permit as potentially exercised under all lawful patterns of use.

It makes no difference to other water right holders or the environment, whether the water right holder is complying with the existing terms and conditions of the Permit, or complying with an additional term and condition that adds an accounting plan. The effect on streamflow, and therefore water available for downstream water right holders or the downstream aquatic environment, will be the same. Therefore, with the full use assumption, the proposed addition of an accounting plan does not cause adverse impact to other water right holders or the environment.

The Executive Director has determined that there are no impacts to water rights or the environment beyond the full use assumption. The requested amendment is to add an accounting plan. This application does not change a non-consumptive use to a consumptive use. Also, there is no specific pattern of use required in the existing Permit that will be changed. Unless an existing Permit requires a specific pattern of use, the Executive Director has determined that this is not a proper factor to consider on notice because patterns of use change due to weather, time of use, and needs of the Applicant.

Other Applicable Requirements

Under TWC §11.122(b) the proposed amendment must also satisfy all other applicable requirements of TWC Chapter 11. The Supreme Court in the *Marshall* case itemized those other requirements, which are discussed below.

Administrative Requirements

Staff reviewed the application and has found that it meets all administrative requirements of TWC Chapter 11. The application was declared administratively complete and filed with the Office of the Chief Clerk on May 27, 2021.

Beneficial Use

Proposed appropriations of state water must be for a beneficial use. Beneficial use is defined in TWC §11.002(4) as “the use of the amount of water which is economically necessary for a purpose authorized by this chapter, when reasonable intelligence and reasonable diligence are used in applying the water to that purpose and shall include conserved water.” The authorized uses in the Permit are agricultural and recreational which are recognized as a beneficial use by TWC §§11.023(a)(2) & (6) and were already found to be a beneficial use when the Commission issued the Permit. The request to add an accounting plan does not change the authorized uses in the Permit because the accounting plan will be used as a tool in the Applicant’s water management practices.

Detriment to Public Welfare

A proposed appropriation of state water must not be detrimental to the public welfare. No definition of “detriment to public welfare” is provided in the law. Therefore, the Commission has wide discretion in determining benefits or detriments to the public welfare. The Applicant seeks to add an accounting plan, which will enhance public accountability and transparency relating to the Applicant’s operations under the Permit.

The Executive Director’s opinion is that nothing in the application raises an issue on detriment to the public welfare by granting this application because the Executive Director is aware of no facts indicating that the requested amendment would be detrimental to the public welfare.

Groundwater Effects

A proposed appropriation of state water must consider effects of the proposed permit on groundwater or groundwater recharge. The Commission’s Water Availability Model (WAM) is used to evaluate the availability of unappropriated water for new appropriations and takes into account both contribution to river flow caused by groundwater coming to the surface in the river (springs) and decreases in river flow caused by the river flowing over recharge features and losing surface water to groundwater recharge. The WAM contains channel loss factors that account for the gain or loss of river flow. These channel loss factors were developed by the expert engineering contractors hired by the Commission to develop the WAMs.

The Nueces WAM includes Commissioners Creek at the location of the existing Permit. The Water Availability Model for the Nueces River Basin does not include channel loss factors at the Applicant's location.²

Concerning use of the Texas Water Development Board Groundwater Availability Models (GAMs) and information from the University of Texas, Bureau of Economic Geology (BEG) to assess groundwater impact from the proposed amendment, predictive simulations using the GAMs do not account for streamflow changes associated with permitted surface water withdrawals or return flows. GAMs were not originally designed to address groundwater-surface water interaction and there are issues with using these models for that purpose.³ The GAMs are regional in nature and are not able to simulate groundwater-surface water interaction in detail.⁴ The BEG provides information about aquifer recharge rates.⁵

Both the WAMs and the GAMs have issues related to quantifying groundwater-surface water interaction; however, the WAMs were developed as a tool for surface water permitting. In general, recharge rates, where quantified, are applicable to aquifers or portions of aquifers. As such they do not provide sufficient detail to determine interaction between surface and groundwater at discrete points. Therefore, the ED concludes that neither the GAMs nor aquifer recharge rates should be used to assess groundwater/surface water interaction for water right applications.

Concerning information available from groundwater conservation districts and the Regional Water Plan, the application is located in the Bandera County River Authority and Groundwater District⁶, and the Region J Regional Water Planning Area.⁷ Bandera County River Authority and Groundwater District's management plan⁸ discussed groundwater and groundwater recharge but did not contain specific information at the application location. The Region J Water Plan discussed information about groundwater and groundwater recharge but not at the applicant's location.⁹

Adding an accounting plan does not change any authorization in the permit and will not affect the Applicant's utilization of groundwater under the existing Permit. Therefore, the Executive Director concludes that there is no potential groundwater issue involved with this application.

² Water Availability in the Nueces River Basin. Prepared by HDR Engineering Inc. for the Texas Natural Resource Conservation Commission. October 1999.

³ Bureau of Economic Geology. 2005. Groundwater-Surface Water Interactions in Texas. August 2005.

⁴ Mace, R., Austin, B. Angle, E. and R. Batchelder. 2007. Surface Water and Ground Water Together Again. Paper presented at State Bar of Texas 8th Annual Changing Face of Water Rights in Texas. San Antonio, Texas.

⁵ Scanlon, B., Dutton, A. and M. Sophocleous. 2002. Groundwater Recharge in Texas. Water Research Fund Grant Contract No. 2000-483-340.

⁶ <http://www.tceq.texas.gov/assets/public/permitting/watersupply/groundwater/maps/gcdmap.pdf>

⁷ <http://www.twdb.texas.gov/waterplanning/rwp/regions/g/index.asp>

⁸ https://www.twdb.texas.gov/groundwater/docs/GCD/bcragwd/bcragwd_mgmt_plan2018.pdf

⁹ Plateau Region Water Plan January 2021 Prepared by Plateau Water Planning Group Prepared for Texas Water Development Board.

Consistency with Regional and State Plans

Pursuant to TWC §11.134 (b)(3)(E), water right applications are only granted if the application addresses a water supply need in a manner that is consistent with the state water plan and the relevant regional water plan, unless the Commission determines that conditions warrant a waiver of this requirement. The purpose of the state and regional water plans is to assess the likely future use of water and to develop strategies for meeting water supply shortfalls. The state and regional water plans generally do not address every possible change in individual water rights. The Executive Director concludes that the requested amendment is consistent with the relevant regional water plan and the state water plan because there is nothing in the existing state and regional water plans that conflict with issuing this amendment.

Avoidance of Waste and Achievement of Water Conservation

The Commission has adopted rules in 30 TAC §295.9(4) that specify which applications to amend existing water rights require the submittal of water conservation plans. The Applicant is requesting to add an accounting plan and is not increasing the amount of the appropriation. Therefore, the submittal of a water conservation plan is not required.

Conclusion

The Applicant's request to add an accounting plan requires no notice, other than to the record holder, pursuant to Commission rules. The request does not seek to increase either the amount of water diverted or the rate of diversion. Under the full use assumption, the request to add an accounting plan will not have an adverse impact on other water right holders or the environment, and there are no negative impacts to other water rights or the environment beyond the full use assumption. Adding an accounting plan does not raise any issues of beneficial use, detriment to the public welfare, groundwater effects, consistency with the state and regional water plans, compliance with administrative requirements, or avoidance of waste and achievement of water conservation. As such, Commission rules, statutes, and case law allow the request to add an accounting plan to be processed with no notice. Therefore, the Executive Director recommends that no notice, other than to the record holder, be issued for this application pursuant to 30 TAC §295.158(c)(1).

Jon Niermann, *Chairman*
Emily Lindley, *Commissioner*
Bobby Janecka, *Commissioner*
Toby Baker, *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

May 27, 2021

Mr. Jordan Furnans, P.E.
LRE Water, LLC
1101 Satellite View #301
Round Rock, TX 78665

VIA E-MAIL

RE: RR 417, LLC
WRPERM 13631
CN605554203, RN110846045
Application No. 13631A to Amend Water Use Permit No. 13631
Texas Water Code § 11.122, Not Requiring Notice
Commissioners Creek, Nueces River Basin
Bandera County

Dear Mr. Furnans:

This acknowledges receipt on March 9 and April 14, 2021 of the requested additional information.

The application was declared administratively complete and filed with the Office of the Chief Clerk on May 27, 2021. Staff will continue processing the application for consideration by the Executive Director.

Please be advised that additional information may be requested during the technical review phase of the application process.

If you have any questions concerning the application, please contact me via email at Natalia.Ponebshek@tceq.texas.gov or by telephone at (512) 239-4641.

Sincerely,

Natalia Ponebshek

Natalia Ponebshek, Project Manager
Water Rights Permitting Team
Water Rights Permitting and Availability Section

From: Jordan Furnans <[REDACTED]>
Sent: Wednesday, April 14, 2021 2:23 PM
To: Brooke McGregor <brooke.mcgregor@tceq.texas.gov>
Cc: Kathy Alexander <kathy.alexander@tceq.texas.gov>; Sam Torn [REDACTED]; Chris Torn [REDACTED]
Subject: Marshall Criteria - Re submission

Hello Ms. McGregor -

Please find the attached responses to the Marshall Criteria questions for proposed amendment A to permit 13631 held by RR 417, LLC.

Sincerely,

Jordan

Jordan Furnans, PhD, PE, PG
Vice President - Texas Operations
Office: 720-259-7996 | Direct: 512-736-6485
[REDACTED]



LRE WATER.COM
1101 Satellite View #301, Round Rock, TX 78665

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Worksheet 1.2 – “The Marshall Criteria”

To: TCEQ Water Availability Division
From: Jordan Furnans, PhD, PE, PG
Date: April 14, 2021
Subject: RR 417 LLC Water Use Permit No. 13631, Amendment Application

This document contains responses required on TCEQ Worksheet 1.2 for the application to amend permit 13631 to include an accounting plan. The amendment does not change the amount of water authorized for diversion, the use of the water, or the rate at which the water may be used or diverted.

Administrative Requirements and Fees

RR 417, LLC holds water use permit No. 13631. It is applying per Texas Water Code (TWC) 11.122 to amend this permit to add the maintenance of an accounting plan to its responsibilities under this permit. The accounting plan will assist RR 417, LLC in determining that State of Texas water is not being stored within its impoundments.

As required under TWC Section 11.128, RR417, LLC has paid the prescribed application fee for this permit amendment application, and has received from TCEQ a receipt recognizing the payment. As provided for and explained in the application, the application meets the administrative requirements for an amendment to permit No. 13631 as required by TWC Chapter 11 and Title 30 Texas Administrative Code (TAC) Chapters 281, 295, and 297. The application is signed and notarized, and RR 417, LLC has provided evidence that Sam Torn has signature authority for RR 417, LLC.

Beneficial Use

RR417, LCC was granted permit No. 13631 in December, 2020. Permit No. 13631 allows RR417, LLC to utilize the bed and banks of two existing impoundments on Commissioner’s Creek to store locally-sourced groundwater, and to use the groundwater for agricultural use and recreation. As such, RR417, LLC complies with TWC 11.002 and 11.023 as it is using water for uses specifically stated within the Texas Water Code – namely agricultural uses (TWC 11.023(2)) and recreation and pleasure uses (TWC11.023(6)). The amendment application does not change the beneficial uses of water specified under this permit. Through the granting of this amendment and the requiring of RR 417, LLC to maintain an accounting plan, members of the public will be able to review RR 417, LLC water management practices and confirm that RR 417, LLC is 1) beneficially using water per the conditions of its permit, and 2) not capturing, storing, or using State of Texas water (which RR 417, LLC is not authorized to capture, store, or use under permit 13631).

Public Welfare

RR 417, LLC believes that this proposed amendment is not detrimental to the public welfare, and that it in fact will provide the public with a mechanism to better verify that RR 417, LLC is properly managing water supplies according to permit 13631. The imposition of an accounting plan as part of Permit 13631 will assist RR 417, LLC in determining and demonstrating that State of Texas water is not being stored within its impoundments, which is in the best interest of public welfare and the environment as it ensures compliance with state laws. The accounting plan, which will contain RR 417, LLC's water usage records, will be available for review by TCEQ and members of the public (upon prior request), thereby allowing concerned parties to verify that RR 417, LLC's operations are in accordance with all requirements of its permits. Without the accounting plan, members of the public would have to rely upon TCEQ, including the South Texas Watermaster, to ensure RR 417, LLC is operating according to its permits. As such, with the accounting plan in place through the granting of this amendment, the welfare of the public may increase as members of the public will have open access to RR 417, LLC water management records.

RR417, LLC is voluntarily requesting this amendment and formal requirement that an accounting plan be required to manage its permit 13631. This action was requested by members of the general public, residents of Bandera County, and others, including members of a citizen group "Friends of Hondo Canyon." This public group wishes to have the ability to review RR417, LLC water management records, in part so that RR417, LLC operations do not adversely affect their communities and water resources. RR417, LLC expects to be required to allow access to the accounting plan and associated water usage records to members of the public who make reasonable requests to see such documents. This public accountability is important both to RR 417, LLC and the members of the public who requested an accounting plan be required.

During the preparation of the initial water right application submitted to TCEQ for what has now become permit 13631, LRE Water developed a draft accounting plan designed to demonstrate compliance with the State of Texas prior appropriation system. This draft accounting plan was withdrawn by RR417, LLC after Dr. Kathy Alexander of TCEQ informed LRE Water that permit 13631 would not require an accounting plan per TCEQ rules and policy. We are now requesting that such an accounting plan in fact be required under permit 13631 in order to enhance the welfare of the public.

Groundwater Effects

This proposed amendment, to include an accounting plan as part of Permit 13631, will not have any effect on groundwater or groundwater recharge. The amendment itself will not alter RR 417, LLC's utilization of groundwater, but will assist in determining that State Water is not being stored. The accounting plan will serve as a publically available record of the groundwater usage by RR 417, LLC, and its usage will provide benefits to all groundwater users in Bandera County as the plan will become a tool used to ensure groundwater is not being used in excess of quantities (or rates) allowed by authorizing permits from the Bandera County River Authority & Groundwater District. RR 417, LLC specifically holds water well permits #P-1158 and #P-1159, the later of which will be used to ensure full compliance with Permit 13631 issued by the TCEQ. The accounting plan will actually enhance groundwater usage monitoring by RR 417, LLC as it will require daily accounting of groundwater usage. Currently RR417, LLC is only required to report water usage annually, with usage reported for each month of the calendar year.



State Water Plan

RR417, LLC utilizes permit 13631 to manage water resources within Bandera County, TX. As such, it is located within the jurisdiction of the Region J Regional Water Planning Group. As indicated in its original application to TCEQ for permit 13631, “the requested quantity of water (up to 30 acre-ft/yr) is too small to be considered individually within the regional water plan.” The proposed permit amendment to include an accounting plan does not in any way result in an impact to other area water right holders, and does not contrast with any items within the 2021 Region J water plan. The proposed amendment is therefore consistent with the adopted 2021 Region J water plan, which will become part of the 2022 State Water Plan when that plan is adopted by the TWDB. The 2017 State Water Plan lists multiple groundwater development projects for the City of Bandera slated to come online after 2020. These proposed projects demonstrate that groundwater was (and is) available to meet needs within Bandera County; RR 417, LLC is utilizing some of this available groundwater supply. During the preparation of the 2017 State Water Plan, RR417, LLC’s water needs could not have been anticipated.

The proposed amendment to permit 13631 to include an accounting plan is not formally included within any Region J or State Water Plan. However the proposed amendment is also not inconsistent with any existing Region J or State Water Plan, as the amendment does not alter the quantity or type of water use under the permit. The accounting plan will track water usage under permit #P-1159 issued by the Bandera County River Authority & Groundwater District. This district issued permit #P-1159 in accordance with the desired future conditions set by Groundwater Management Area 9 and used by the Texas Water Development Board within the Regional and State Water Planning process.

Waste Avoidance

As part of its original application for Permit 13631, RR417, LLC submitted a water conservation plan. This plan describes RR417, LLC’s commitment to manage water resources to minimize water usage in general, and water waste in particular. Per the conditions of its permits for groundwater usage, RR 417 has developed drought contingency plans and submitted them to the Bandera County River Authority & Groundwater District, which has jurisdiction over RR417, LLC’s groundwater withdrawals. The accounting plan included in this amendment application will effectively assist RR 417 in determining that State Water is not being stored, and in determining that groundwater usage will match requirements stipulated within Permit 13631. The Bandera County River Authority & Groundwater District rules specifically forbid wasting of groundwater, and this accounting plan will allow RR417, LLC to effectively demonstrate how it is beneficially using all groundwater pumped in relation to permit 13631.

Impacts on Water Rights or On-stream Environment

Through this amendment, RR 417, LLC is not seeking any increase or change in the overall amount or rate authorized for appropriation. Nor is RR 417, LLC requesting to alter or increase authorized diversion locations. RR 417, LLC seeks permission from TCEQ to formally track and document its water usage within an accounting plan, so that full compliance with all permit requirements may be determined and demonstrated.



RR 417, LLC believes the proposed amendment to Permit 13631 to include an accounting plan will not impact other water rights or the on-stream environment, and if any impact is to occur it would be to the benefit of other water right holders and the on-stream environment. Usage of the accounting plan will force RR 417, LLC to manage its facilities in strict accordance to all permitting requirements, and it will allow TCEQ, other water right holders, and the general public to easily scrutinize the documented water usage practices. The accounting plan will assist RR 417, LLC in determining inflows into the impoundments and to assist in ensuring proper passage of State of Texas water downstream of the impoundments. This proper passage of State of Texas water quantities assists in ensuring RR417, LLC operations do not affect other water right holders or the on-stream environment in ways contrary to Permit 13631, TCEQ rules or TCEQ's guidelines.

RR 417, LLC believes that having an accounting plan in place will also streamline its own water operations policies. The improved record-keeping resulting from maintaining an accounting plan will force RR 417, LLC to more actively manage and record its water resources actions. This will ensure that State of Texas water is not being improperly utilized, and that it is being conveyed downstream on Commissioner's Creek to the rightful benefit of other water right holders and the on-stream environment. RR 417, LLC believes in the benefit of full transparency with regard to water rights management on local and regional/statewide scales.

With or without the accounting plan requirement, RR 417, LLC is committed to properly managing its water resources in accordance with all permit requirements. The accounting plan will make that process easier and more transparent. Without the accounting plan, it would be easier for RR 417, LLC to periodically "slip" in its duties, and these unintentional slips could adversely affect other water right holders or the on-stream environment. For example, if RR 417, LLC neglected to keep its impoundments full, and then if a rain even caused inflows to the impoundments to refill the lakes, then RR 417, LLC would be improperly storing State of Texas water which is likely needed for beneficial uses downstream. In such a situation, RR 417, LLC would begin discharging the improperly stored inflows through the impoundment dams, releasing the flows to Commissioner's Creek and users downstream. Knowledge of the required quantities to be released, however, only comes from the accounting plan. Without the plan, RR 417, LLC and TCEQ (through the South Texas Watermaster) would have to estimate the appropriate amount of water to be released. This estimate could be too low or too high, and could thereby impact other water right holders or the on-stream environment. With the accounting plan, required release quantities would be known, and based on agreed-upon formulas specific to RR417, LLC and its upstream watershed. This specificity will insure that water management actions undertaken by RR 417, LLC will minimize impacts on downstream water right holders and the on-stream environment.



Natalia Ponebshek

From: Jordan Furnans <[REDACTED]>
Sent: Tuesday, March 9, 2021 9:08 AM
To: Natalia Ponebshek
Cc: Sarah Henderson
Subject: Re: RR 417, LLC App No. 13631A
Attachments: RR417_Response_RFI_13631_03092021.pdf

Dear Ms. Ponebshek -

Please find the attached requested information from your 2/9/2021 RFI regarding the permit amendment application submitted by RR 417, LLC.

Sincerely,

Jordan

Jordan Furnans, PhD, PE, PG

Vice President - Texas Operations
Office: 720-259-7996 | Direct: 512-736-6485
[REDACTED]



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On Tue, Feb 9, 2021 at 1:06 PM Natalia Ponebshek <Natalia.Ponebshek@tceq.texas.gov> wrote:

Mr. Furnans,

Please find the attached request for information for the abovementioned application. A response is due by March 11, 2021

Thank you,

Natalia Ponebshek, Project Manager
Water Rights Permitting Team
Water Rights Permitting and Availability Section
(512) 239-4641



Worksheet 1.2 – “The Marshall Criteria”

To: TCEQ Water Availability Division
From: Jordan Furnans, PhD, PE, PG
Date: March 9, 2021
Subject: RR 417 LLC Water Use Permit No. 13631, Amendment Application

Dear TCEQ –

Per your request for information dated 2/9/2021, we have provided the attached documents. These documents include:

- Completed worksheet 1.2 detailing “The Marshall Criteria.”
- Written evidence that Sam Torn is authorized to sign the application for RR 417, LLC

With respect to the written evidence of signature authority, we are enclosing the same evidence that was accepted by TCEQ as part of our original permit application for permit 13631. Please advise if additional evidence is necessary. The provided evidence demonstrates that Sam Torn is the manager with governing authority for RR 417, LLC.

Sincerely,

Jordan Furnans
LRE Water, LLC



Worksheet 1.2 – “The Marshall Criteria”

To: TCEQ Water Availability Division
From: Jordan Furnans, PhD, PE, PG
Date: March 9, 2021
Subject: RR 417 LLC Water Use Permit No. 13631, Amendment Application

This document contains responses required on TCEQ Worksheet 1.2 for the application to amend permit 13631 to include an accounting plan. The amendment does not change the amount of water authorized for diversion, the use of the water, or the rate at which the water may be used or diverted.

Administrative Requirements and Fees

RR 417, LLC holds water use permit No. 13631. It is applying per Texas Water Code (TWC) 11.122 to amend this permit to add the maintenance of an accounting plan to its responsibilities under this permit. The accounting plan will assist RR 417 in determining that State of Texas water is not being stored within its impoundments.

As required under TWC Section 11.128, RR417, LLC has paid the prescribed application fee for this permit amendment application, and had received from TCEQ a receipt recognizing the payment. As provided for and explained in the application, the application meets the administrative requirements for an amendment to permit No. 13631 as required by TWC Chapter 11 and Title 30 Texas Administrative Code (TAC) Chapters 281, 295, and 297.

Beneficial Use

RR417, LCC was granted permit No. 13631 in December, 2020. Permit No. 13631 allows RR417, LLC to utilize the bed and banks of two existing impoundments on Commissioner’s Creek to store locally-sourced groundwater, and to use the groundwater for agricultural use and recreation. As such, RR417, LLC complies with TWC 11.002 and 11.023 as it is using water for uses specifically stated within the Texas Water Code – namely agricultural uses (TWC 11.023(2)) and recreation and pleasure uses (TWC11.023(6)). The amendment application does not change the beneficial uses of water specified under this permit.

Public Welfare

This proposed amendment is not detrimental to the public welfare. The imposition of an accounting plan as part of Permit 13631 will assist RR 417 in determining that State of Texas water is not being stored within its impoundments, which in the best interest of public welfare and the environment.

Groundwater Effects

This proposed amendment, to include an accounting plan as part of Permit 13631 will not have any effect on groundwater or groundwater recharge. The amendment itself will not alter RR417, LLC's utilization of groundwater, but will assist in determining that State Water is not being stored.

State Water Plan

RR417, LLC utilizes permit 13631 to manage water resources within Bandera County, TX. As such, it is located within the jurisdiction of the Region J Regional Water Planning Group. As indicated in its original application to TCEQ for permit 13631, "the requested quantity of water (up to 30 acre-ft/yr) is too small to be considered individually with the regional water plan." The proposed permit amendment to include an accounting plan does not in any way result in an impact to other area water right holders, and does not contrast with any items within the 2021 Region J water plan. The proposed amendment is therefore consistent with the adopted 2021 Region J water plan.

Waste Avoidance

As part of its original application for Permit 13631, RR417, LLC submitted a water conservation plan. This plan describes RR417, LLC's commitment to manage water resources to minimize water usage in general, and water waste in particular. The accounting plan included in this amendment application will effectively assist RR 417 in determining that State Water is not being stored, and in determining that groundwater usage will match requirements stipulated within Permit 13631.

Impacts on Water Rights or On-stream Environment

The proposed amendment to Permit 13631 to include an accounting plan will not impact other water rights or the on-stream environment. The accounting plan will assist RR 417 in determining inflows into the impoundments and to assist in ensuring proper passage of State of Texas water downstream of the impoundments. This proper passage of State of Texas water quantities assists in ensuring RR417, LLC operations do not affect other water right holders or the on-stream environment in ways contrary to Permit 13631, TCEQ rules or TCEQ's guidelines.



CERTIFICATE OF FORMATION FOR LIMITED LIABILITY COMPANY

RR 417, LLC

ARTICLE 1. ENTITY NAME AND TYPE

The filing entity being formed is a limited liability company. The name of the entity is RR 417, LLC.

ARTICLE 2. DURATION

The period of duration of the Company is perpetual.

ARTICLE 3. REGISTERED AGENT AND REGISTERED OFFICE

A. The initial registered agent is an individual resident of the State of Texas whose name is George M. Kuhn, Jr.

B. The business address of the registered agent and the registered office address are 2930 Revere Street, Suite 301, Houston, Texas, 77098.

ARTICLE 4. GOVERNING AUTHORITY

A. The limited liability company will be managed by a manager. The name and address of the initial manager is set forth below:

<u>Name</u>	<u>Address</u>
Sam Torn	9225 Katy Freeway, Suite 320 Houston, Texas 77024-1510

ARTICLE 5. PURPOSE

The purposes for which the company is formed are: to acquire, own, develop, operate, lease, sell and otherwise dispose of real estate and all related activities incidental thereto and the transaction of any and all lawful purposes for which a limited liability company may be organized under the Texas Business Organizations Code.

ARTICLE 6. INDEMNITY

Every manager, member or officer of the Company shall be indemnified by the Company against all expenses and liabilities, including counsel fees, reasonably incurred by or imposed upon him in connection with any claim or proceeding to which he may be made a party, or in which he may become involved, by reason of his being or having been a manager, member or officer of the Company, or any settlement thereof, whether or not he is a manager, member or officer at the time such expenses are incurred, except in such cases wherein the manager,

member or officer is adjudged guilty of willful misfeasance or malfeasance in the performance of his duties; provided, that in the event of a settlement, the indemnification herein shall apply only when the board of directors approves such settlement and reimbursement as being for the best interest of the Company. The foregoing right of indemnification shall be in addition to and not exclusive of all other rights to which such manager, member or officer may be entitled.

ARTICLE 7. SUPPLEMENTAL PROVISIONS/INFORMATION

Any action which may be taken at any annual or special meeting of the members, may be taken without a meeting, without prior notice, and without a vote, if a consent in writing, setting forth the action so taken, shall be signed by the holder or holders of interest or units having not less than the minimum number of votes that would be necessary to take such action at a meeting at which the holders of all interest or units entitled to vote on the action were present and voted.

ARTICLE 8. ORGANIZER

The name and the address of the organizer are George M. Kuhn, Jr., 2930 Revere Street, Suite 301, Houston, Texas, 77098.

ARTICLE 9. EFFECTIVENESS OF FILING

A. This document becomes effective when the document is filed by the Secretary of State.

ARTICLE 10. EXECUTION

The undersigned signs this document subject to the penalties imposed by law for the submission of a materially false or fraudulent instrument.

Date: January 18, 2017.



George M. Kuhn, Jr., Organizer

Natalia Ponebshek

From: Natalia Ponebshek
Sent: Tuesday, February 9, 2021 1:07 PM
To: [REDACTED]
Cc: Sarah Henderson
Subject: RR 417, LLC App No. 13631A
Attachments: RR_417_LLC_13631_RFI Sent 2.9.2021.pdf; RR_417_LLC_13631A_Receipt #1.pdf

Mr. Furnans,

Please find the attached request for information for the abovementioned application. A response is due by March 11, 2021

Thank you,

Natalia Ponebshek, Project Manager
Water Rights Permitting Team
Water Rights Permitting and Availability Section
(512) 239-4641

Jon Niermann, *Chairman*
Emily Lindley, *Commissioner*
Bobby Janecka, *Commissioner*
Toby Baker, *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

February 9, 2021

VIA E-MAIL

Mr. Jordan Furnans, P.E.
LRE Water, LLC
1101 Satellite View #301
Round Rock, TX 78665

RE: RR 417, LLC
WRPERM 13631
CN605554203, RN110846045
Application No. 13631A to Amend Water Use Permit No. 13631
Texas Water Code § 11.122, Not Requiring Notice
Commissioners Creek, Nueces River Basin
Bandera County

Dear Mr. Furnans:

This acknowledges receipt, on January 21, 2021, of the referenced application and fees in the amount of \$112.50 (Receipt No. M111401, copy attached).

Additional information is required before the application can be declared administratively complete.

1. Complete Worksheet 1.2. Notice "The Marshall Criteria".
2. Provide written evidence that Sam Torn is authorized to sign the application for RR 417, LLC, pursuant to Title 30 Texas Administrative Code (TAC) § 295.14(5) which states:

If the applicant is a corporation, public district, county, municipality or other corporate entity, the application shall be signed by a duly authorized official. Written evidence in the form of by-laws, charters, or resolutions which specify the authority of the official to take such action shall be submitted. A corporation may file a corporate affidavit as evidence of the official's authority to sign.

Please provide the requested information by March 11, 2021 or the application may be returned pursuant to 30 (TAC) § 281.18.

If you have any questions concerning this matter, please contact me via e-mail at Natalia.Ponebshek@tceq.texas.gov or by telephone at (512) 239-4641.

Sincerely,

Natalia Ponebshek

Natalia Ponebshek, Project Manager
Water Rights Permitting Team
Water Rights Permitting and Availability Section

Attachment



29-JAN-21 10:20 AM

TCEQ - A/R RECEIPT REPORT BY ACCOUNT NUMBER

<u>Fee Description</u>	<u>Fee Code</u> <u>Account#</u> <u>Account Name</u>	<u>Ref#1</u> <u>Ref#2</u> <u>Paid In By</u>	<u>Check Number</u> <u>Card Auth.</u> <u>User Data</u>	<u>CC Type</u> <u>Tran Code</u> <u>Rec Code</u>	<u>Slip Key</u> <u>Document#</u>	<u>Tran Date</u>	<u>Tran Amount</u>
WTR USE PERMITS	WUP	M111401	1009		BS00085474	29-JAN-21	-\$112.50
	WUP	13631	012921	N	D1802301		
	WATER USE PERMITS	FURNANS	VHERNAND	CK			
		GROUP LLC					
						Total (Fee Code):	-\$112.50

RECEIVED

FEB 02 2021

Water Availability Division

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

TCEQ WATER RIGHTS PERMITTING APPLICATION

ADMINISTRATIVE INFORMATION CHECKLIST

Complete and submit this checklist for each application. See Instructions Page. 5.

APPLICANT(S): RR 417, LLC

Indicate whether the following items are included in your application by writing either Y (for yes) or N (for no) next to each item (all items are not required for every application).

Y/N

- Administrative Information Report**
- Additional Co-Applicant Information
- Additional Co-Applicant Signature Pages
- Written Evidence of Signature Authority
- Technical Information Report**
- USGS Map (or equivalent)
- Map Showing Project Details
- Original Photographs
- Water Availability Analysis
- Worksheet 1.0**
- Recorded Deeds for Irrigated Land
- Consent For Irrigation Land
- Worksheet 1.1**
- Addendum to Worksheet 1.1
- Worksheet 1.2**
- Addendum to Worksheet 1.2
- Worksheet 2.0**
- Additional W.S 2.0 for Each Reservoir
- Dam Safety Documents
- Notice(s) to Governing Bodies
- Recorded Deeds for Inundated Land
- Consent For Inundation Land

Y/N

- Worksheet 3.0**
- Additional W.S 3.0 for each Point
- Recorded Deeds for Diversion Points
- Consent For Diversion Access
- Worksheet 4.0**
- TPDES Permit(s)
- WWTP Discharge Data
- 24-hour Pump Test
- Groundwater Well Permit
- Signed Water Supply Contract
- Worksheet 4.1**
- Worksheet 5.0**
- Addendum to Worksheet 5.0
- Worksheet 6.0**
- Water Conservation Plan(s)
- Drought Contingency Plan(s)
- Documentation of Adoption
- Worksheet 7.0**
- Accounting Plan
- Worksheet 8.0**
- Fees

For Commission Use Only:

Proposed/Current Water Right Number: _____

Basin: _____ Watermaster area Y/N: _____

ADMINISTRATIVE INFORMATION REPORT

The following information is required for all new applications and amendments.

***** Applicants are strongly encouraged to schedule a pre-application meeting with TCEQ Staff to discuss Applicant's needs prior to submitting an application. Call the Water Rights Permitting Team to schedule a meeting at (512) 239-4600.**

1. TYPE OF APPLICATION (Instructions, Page. 6)

Indicate, by marking X, next to the following authorizations you are seeking.

New Appropriation of State Water

Amendment to a Water Right *

Bed and Banks

****If you are seeking an amendment to an existing water rights authorization, you must be the owner of record of the authorization. If the name of the Applicant in Section 2, does not match the name of the current owner(s) of record for the permit or certificate or if any of the co-owners is not included as an applicant in this amendment request, your application could be returned. If you or a co-applicant are a new owner, but ownership is not reflected in the records of the TCEQ, submit a change of ownership request (Form TCEQ-10204) prior to submitting the application for an amendment. See Instructions page. 6. Please note that an amendment application may be returned, and the Applicant may resubmit once the change of ownership is complete.***

Please summarize the authorizations or amendments you are seeking in the space below or attach a narrative description entitled "Summary of Request."

We are seeking an amendment to permit 13631 to require we maintain an accounting plan

designed to demonstrate that we are satisfying our permit requirements such that we are not

storing State of Texas water within our impoundments.

2. APPLICANT INFORMATION (Instructions, Page. 6)

a. Applicant

Indicate the number of Applicants/Co-Applicants 1
(Include a copy of this section for each Co-Applicant, if any)

What is the Full Legal Name of the individual or entity (applicant) applying for this permit?

(If the Applicant is an entity, the legal name must be spelled exactly as filed with the Texas Secretary of State, County, or in the legal documents forming the entity.)

If the applicant is currently a customer with the TCEQ, what is the Customer Number (CN)?
You may search for your CN on the TCEQ website at

<http://www15.tceq.texas.gov/crpub/index.cfm?fuseaction=cust.CustSearch>

CN : _____ (leave blank if you do not yet have a CN).

What is the name and title of the person or persons signing the application? Unless an application is signed by an individual applicant, the person or persons must submit written evidence that they meet the signatory requirements in 30 TAC § 295.14.

First/Last Name: **Sam Torn**

Title: **Manager**

Have you provided written evidence meeting the signatory requirements in 30 TAC § 295.14, as an attachment to this application? **Y**

What is the applicant's mailing address as recognized by the US Postal Service (USPS)? You may verify the address on the USPS website at

<https://tools.usps.com/go/ZipLookupAction!input.action>.

Name: **RR417, LLC**

Mailing Address: **9 South Cheska Lane**

City: **Houston**

State: **TX**

ZIP Code: **77024**

Indicate an X next to the type of Applicant:

<input type="checkbox"/> Individual	<input type="checkbox"/> Sole Proprietorship-D.B.A.
<input type="checkbox"/> Partnership	<input checked="" type="checkbox"/> Corporation
<input type="checkbox"/> Trust	<input type="checkbox"/> Estate
<input type="checkbox"/> Federal Government	<input type="checkbox"/> State Government
<input type="checkbox"/> County Government	<input type="checkbox"/> City Government
<input type="checkbox"/> Other Government	<input type="checkbox"/> Other _____

For Corporations or Limited Partnerships, provide:

State Franchise Tax ID Number: 32062602746 SOS Charter (filing) Number: 0802628956

3. APPLICATION CONTACT INFORMATION (Instructions, Page. 9)

If the TCEQ needs additional information during the review of the application, who should be contacted? Applicant may submit their own contact information if Applicant wishes to be the point of contact.

First and Last Name: **Jordan Furnans, PE**

Title: **Vice President**

Organization Name: **LRE Water, LLC**

Mailing Address: **1101 Satellite View #301**

City: **Round Rock**

State: **TX**

ZIP Code: **78665**

Phone No.: **512-736-6485**

Extension: **N/A**

Fax No.: **N/A**

E-mail Address: **[REDACTED]**

4. WATER RIGHT CONSOLIDATED CONTACT INFORMATION (Instructions, Page. 9)

This section applies only if there are multiple Owners of the same authorization. Unless otherwise requested, Co-Owners will each receive future correspondence from the Commission regarding this water right (after a permit has been issued), such as notices and water use reports. Multiple copies will be sent to the same address if Co-Owners share the same address. Complete this section if there will be multiple owners and **all** owners agree to let one owner receive correspondence from the Commission. Leave this section blank if you would like all future notices to be sent to the address of each of the applicants listed in section 2 above.

I/We authorize all future notices be received on my/our behalf at the following:

First and Last Name: **N/A**

Title:

Organization Name:

Mailing Address:

City:

State:

ZIP Code:

Phone No.:

Extension:

Fax No.:

E-mail Address:

5. MISCELLANEOUS INFORMATION (Instructions, Page. 9)

a. The application will not be processed unless all delinquent fees and/or penalties owed to the TCEQ or the Office of the Attorney General on behalf of the TCEQ are paid in accordance with the Delinquent Fee and Penalty Protocol by all applicants/co-applicants. If you need assistance determining whether you owe delinquent penalties or fees, please call the Water Rights Permitting Team at (512) 239-4600, prior to submitting your application.

1. Does Applicant or Co-Applicant owe any fees to the TCEQ? Yes / No

If yes, provide the following information:

Account number: N/A

Amount past due: N/A

2. Does Applicant or Co-Applicant owe any penalties to the TCEQ? Yes / No

If yes, please provide the following information:

Enforcement order number: N/A

Amount past due: N/A

b. If the Applicant is a taxable entity (corporation or limited partnership), the Applicant must be in good standing with the Comptroller or the right of the entity to transact business in the State may be forfeited. See Texas Tax Code, Subchapter F. Applicant's may check their status with the Comptroller at <https://mycpa.cpa.state.tx.us/coa/>

Is the Applicant or Co-Applicant in good standing with the Comptroller? Yes / No

c. The commission will not grant an application for a water right unless the applicant has submitted all Texas Water Development Board (TWDB) surveys of groundwater and surface water use - if required. See TWC §16.012(m) and 30 TAC § 297.41(a)(5).

Applicant has submitted all required TWDB surveys of groundwater and surface water? Yes / No

6. SIGNATURE PAGE (Instructions, Page. 11)

Applicant:

I, Sam Torn

(Typed or printed name)

Manager

(Title)

certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

I further certify that I am authorized under Title 30 Texas Administrative Code §295.14 to sign and submit this document and I have submitted written evidence of my signature authority.

Signature: Sam Torn

(Use blue ink)

Date: 1/20/2021

Subscribed and Sworn to before me by the said

on this 20th day of January, 2021.

My commission expires on the ~~1/30/22~~^{20th} day of January, 2022.

[Signature]
Notary Public

Harris
County, Texas



[SEAL]

If the Application includes Co-Applicants, each Applicant and Co-Applicant must submit an original, separate signature page

2. Amendments to Water Rights. TWC § 11.122 (Instructions, Page. 12)

This section should be completed if Applicant owns an existing water right and Applicant requests to amend the water right. ***If Applicant is not currently the Owner of Record in the TCEQ Records, Applicant must submit a Change of Ownership Application (TCEQ-10204) prior to submitting the amendment Application or provide consent from the current owner to make the requested amendment. If the application does not contain consent from the current owner to make the requested amendment, TCEQ will not begin processing the amendment application until the Change of Ownership has been completed and will consider the Received Date for the application to be the date the Change of Ownership is completed. See instructions page. 6.***

Water Right (Certificate or Permit) number you are requesting to amend: 13631

Applicant requests to sever and combine existing water rights from one or more Permits or Certificates into another Permit or Certificate? **Y / N^N** _____ (if yes, complete chart below):

List of water rights to sever	Combine into this ONE water right

- a. Applicant requests an amendment to an existing water right to increase the amount of the appropriation of State Water (diversion and/or impoundment)? **Y / N^N** _____

*If yes, application is a new appropriation for the increased amount, complete **Section 1 of this Report (PAGE. 1) regarding New or Additional Appropriations of State Water.***

- b. Applicant requests to amend existing Term authorization to extend the term or make the water right permanent (remove conditions restricting water right to a term of years)? **Y / N^N**

*If yes, application is a new appropriation for the entire amount, complete **Section 1 of this Report (PAGE. 1) regarding New or Additional Appropriations of State Water.***

- c. Applicant requests an amendment to change the purpose or place of use or to add an additional purpose or place of use to an existing Permit or Certificate? **Y / N^N** _____

If yes, submit:

- **Worksheet 1.0 - Quantity, Purpose, and Place of Use Information Worksheet**
- **Worksheet 1.2 - Notice: "Marshall Criteria"**

- d. Applicant requests to change: diversion point(s); or reach(es); or diversion rate? **Y / N^N** _____

If yes, submit:

- **Worksheet 3.0 - Diversion Point Information Worksheet** (submit one worksheet for each diversion point or one worksheet for the upstream limit and one worksheet for the downstream limit of each diversion reach)
- **Worksheet 5.0 - Environmental Information** (Required for any new diversion points that are not already authorized in a water right)

- e. Applicant requests amendment to add or modify an impoundment, reservoir, or dam? **Y / N^N** _____

*If yes, submit: **Worksheet 2.0 - Impoundment/Dam Information Worksheet** (submit one worksheet for each impoundment or reservoir)*

- f. Other - Applicant requests to change any provision of an authorization not mentioned above? **Y / N**_____ *If yes, call the Water Availability Division at (512) 239-4600 to discuss.*

Additionally, all amendments require:

- **Worksheet 8.0 – Calculation of Fees; and Fees calculated – see instructions Page. 34**
- **Maps – See instructions Page. 15.**
- **Additional Documents and Worksheets may be required (see within).**

3. Bed and Banks. TWC § 11.042 (Instructions, Page 13)

- a. Pursuant to contract, Applicant requests authorization to convey, stored or conserved water to the place of use or diversion point of purchaser(s) using the bed and banks of a watercourse? TWC § 11.042(a). **Y/N**_____

If yes, submit a signed copy of the Water Supply Contract pursuant to 30 TAC §§ 295.101 and 297.101. Further, if the underlying Permit or Authorization upon which the Contract is based does not authorize Purchaser's requested Quantity, Purpose or Place of Use, or Purchaser's diversion point(s), then either:

- 1. Purchaser must submit the worksheets required under Section 1 above with the Contract Water identified as an alternate source; or*
- 2. Seller must amend its underlying water right under Section 2.*

- b. Applicant requests to convey water imported into the state from a source located wholly outside the state using the bed and banks of a watercourse? TWC § 11.042(a-1). **Y / N**_____

If yes, submit: worksheets 1.0, 2.0, 3.0, 4.0, 5.0, 7.0, 8.0, Maps and fees from the list below.

- c. Applicant requests to convey Applicant's own return flows derived from privately owned groundwater using the bed and banks of a watercourse? TWC § 11.042(b). **Y / N**_____

If yes, submit: worksheets 1.0, 2.0, 3.0, 4.0, 5.0, 7.0, 8.0, Maps, and fees from the list below.

- d. Applicant requests to convey Applicant's own return flows derived from surface water using the bed and banks of a watercourse? TWC § 11.042(c). **Y / N**_____

If yes, submit: worksheets 1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0, Maps, and fees from the list below.

****Please note, if Applicant requests the reuse of return flows belonging to others, the Applicant will need to submit the worksheets and documents under Section 1 above, as the application will be treated as a new appropriation subject to termination upon direct or indirect reuse by the return flow discharger/owner.***

- e. Applicant requests to convey water from any other source, other than (a)-(d) above, using the bed and banks of a watercourse? TWC § 11.042(c). **Y / N**_____

If yes, submit: worksheets 1.0, 2.0, 3.0, 4.0, 5.0, 7.0, 8.0, Maps, and fees from the list below.

Worksheets and information:

- **Worksheet 1.0 – Quantity, Purpose, and Place of Use Information Worksheet**
- **Worksheet 2.0 - Impoundment/Dam Information Worksheet** (submit one worksheet for each impoundment or reservoir owned by the applicant through which water will be conveyed or diverted)
- **Worksheet 3.0 - Diversion Point Information Worksheet** (submit one worksheet for the downstream limit of each diversion reach for the proposed conveyances)
- **Worksheet 4.0 – Discharge Information Worksheet** (for each discharge point)

- **Worksheet 5.0 – Environmental Information Worksheet**
- **Worksheet 6.0 – Water Conservation Information Worksheet**
- **Worksheet 7.0 – Accounting Plan Information Worksheet**
- **Worksheet 8.0 – Calculation of Fees; and Fees calculated – see instructions Page. 34**
- **Maps – See instructions Page. 15.**
- **Additional Documents and Worksheets may be required (see within).**

4. General Information, Response Required for all Water Right Applications (Instructions, Page 15)

a. Provide information describing how this application addresses a water supply need in a manner that is consistent with the state water plan or the applicable approved regional water plan for any area in which the proposed appropriation is located or, in the alternative, describe conditions that warrant a waiver of this requirement (*not required for applications to use groundwater-based return flows*). Include citations or page numbers for the State and Regional Water Plans, if applicable. Provide the information in the space below or submit a supplemental sheet entitled “Addendum Regarding the State and Regional Water Plans”:

Applicant is located within the jurisdiction of the Region J planning Group.

Applicant is requesting an amendment to its existing permit 13631, such that the applicant

is required to maintain a water accounting plan related to permit 13631.

The application is consistent with the 2021 Region J water plan and the 2017 State Water Plan

because there is nothing in the plans that conflict with the application.

b. Did the Applicant perform its own Water Availability Analysis? Y / N N

If the Applicant performed its own Water Availability Analysis, provide electronic copies of any modeling files and reports.

c. Does the application include required Maps? (Instructions Page. 15) Y / N Y

WORKSHEET 1.0

Quantity, Purpose and Place of Use

1. New Authorizations (Instructions, Page. 16)

Submit the following information regarding quantity, purpose and place of use for requests for new or additional appropriations of State Water or Bed and Banks authorizations:

Quantity (acre- feet) <i>(Include losses for Bed and Banks)</i>	State Water Source (River Basin) or Alternate Source <i>*each alternate source (and new appropriation based on return flows of others) also requires completion of Worksheet 4.0</i>	Purpose(s) of Use	Place(s) of Use <i>*requests to move state water out of basin also require completion of Worksheet 1.1 Interbasin Transfer</i>

_____ Total amount of water (in acre-feet) to be used annually (*include losses for Bed and Banks applications*)

If the Purpose of Use is Agricultural/Irrigation for any amount of water, provide:

a. Location Information Regarding the Lands to be Irrigated

i) Applicant proposes to irrigate a total of _____ acres in any one year. This acreage is all of or part of a larger tract(s) which is described in a supplement attached to this application and contains a total of _____ acres in _____ County, TX.

ii) Location of land to be irrigated: In the _____ Original Survey No. _____, Abstract No. _____.

A copy of the deed(s) or other acceptable instrument describing the overall tract(s) with the recording information from the county records must be submitted. Applicant's name must match deeds.

If the Applicant is not currently the sole owner of the lands to be irrigated, Applicant must submit documentation evidencing consent or other documentation supporting Applicant's right to use the land described.

Water Rights for Irrigation may be appurtenant to the land irrigated and convey with the land unless reserved in the conveyance. 30 TAC § 297.81.

2. Amendments - Purpose or Place of Use (Instructions, Page. 12)

- a. Complete this section for each requested amendment changing, adding, or removing Purpose(s) or Place(s) of Use, complete the following:

Quantity (acre-foot)	Existing Purpose(s) of Use	Proposed Purpose(s) of Use*	Existing Place(s) of Use	Proposed Place(s) of Use**

**If the request is to add additional purpose(s) of use, include the existing and new purposes of use under "Proposed Purpose(s) of Use."*

***If the request is to add additional place(s) of use, include the existing and new places of use under "Proposed Place(s) of Use."*

Changes to the purpose of use in the Rio Grande Basin may require conversion. 30 TAC § 303.43.

- b. For any request which adds Agricultural purpose of use or changes the place of use for Agricultural rights, provide the following location information regarding the lands to be irrigated:
- i. Applicant proposes to irrigate a total of _____ acres in any one year. This acreage is all of or part of a larger tract(s) which is described in a supplement attached to this application and contains a total of _____ acres in _____ County, TX.
 - ii. Location of land to be irrigated: In the _____ Original Survey No. _____, Abstract No. _____.
A copy of the deed(s) describing the overall tract(s) with the recording information from the county records must be submitted. Applicant's name must match deeds. If the Applicant is not currently the sole owner of the lands to be irrigated, Applicant must submit documentation evidencing consent or other legal right for Applicant to use the land described.

Water Rights for Irrigation may be appurtenant to the land irrigated and convey with the land unless reserved in the conveyance. 30 TAC § 297.81.
- c. Submit Worksheet 1.1, Interbasin Transfers, for any request to change the place of use which moves State Water to another river basin.
- d. See Worksheet 1.2, Marshall Criteria, and submit if required.
- e. See Worksheet 6.0, Water Conservation/Drought Contingency, and submit if required.

WORKSHEET 1.1

INTERBASIN TRANSFERS, TWC § 11.085

Submit this worksheet for an application for a new or amended water right which requests to transfer State Water from its river basin of origin to use in a different river basin. A river basin is defined and designated by the Texas Water Development Board by rule pursuant to TWC § 16.051.

Applicant requests to transfer State Water to another river basin within the State? Y / N_____

1. Interbasin Transfer Request (Instructions, Page. 20)

- a. Provide the Basin of Origin. _____
- b. Provide the quantity of water to be transferred (acre-feet). _____
- c. Provide the Basin(s) and count(y/ies) where use will occur in the space below:

2. Exemptions (Instructions, Page. 20), TWC § 11.085(v)

Certain interbasin transfers are exempt from further requirements. Answer the following:

- a. The proposed transfer, which in combination with any existing transfers, totals less than 3,000 acre-feet of water per annum from the same water right. Y/N__
- b. The proposed transfer is from a basin to an adjoining coastal basin? Y/N__
- c. The proposed transfer from the part of the geographic area of a county or municipality, or the part of the retail service area of a retail public utility as defined by Section 13.002, that is within the basin of origin for use in that part of the geographic area of the county or municipality, or that contiguous part of the retail service area of the utility, not within the basin of origin? Y/N__
- d. The proposed transfer is for water that is imported from a source located wholly outside the boundaries of Texas, except water that is imported from a source located in the United Mexican States? Y/N__

3. Interbasin Transfer Requirements (Instructions, Page. 20)

For each Interbasin Transfer request that is not exempt under any of the exemptions listed above Section 2, provide the following information in a supplemental attachment titled "Addendum to Worksheet 1.1, Interbasin Transfer":

- a. the contract price of the water to be transferred (if applicable) (also include a copy of the contract or adopted rate for contract water);
- b. a statement of each general category of proposed use of the water to be transferred and a detailed description of the proposed uses and users under each category;
- c. the cost of diverting, conveying, distributing, and supplying the water to, and treating the water for, the proposed users (example - expert plans and/or reports documents may be provided to show the cost);

- d. describe the need for the water in the basin of origin and in the proposed receiving basin based on the period for which the water supply is requested, but not to exceed 50 years (the need can be identified in the most recently approved regional water plans. The state and regional water plans are available for download at this website: (<http://www.twdb.texas.gov/waterplanning/swp/index.asp>);
- e. address the factors identified in the applicable most recently approved regional water plans which address the following:
 - (i) the availability of feasible and practicable alternative supplies in the receiving basin to the water proposed for transfer;
 - (ii) the amount and purposes of use in the receiving basin for which water is needed;
 - (iii) proposed methods and efforts by the receiving basin to avoid waste and implement water conservation and drought contingency measures;
 - (iv) proposed methods and efforts by the receiving basin to put the water proposed for transfer to beneficial use;
 - (v) the projected economic impact that is reasonably expected to occur in each basin as a result of the transfer; and
 - (vi) the projected impacts of the proposed transfer that are reasonably expected to occur on existing water rights, instream uses, water quality, aquatic and riparian habitat, and bays and estuaries that must be assessed under Sections 11.147, 11.150, and 11.152 in each basin (*if applicable*). If the water sought to be transferred is currently authorized to be used under an existing permit, certified filing, or certificate of adjudication, such impacts shall only be considered in relation to that portion of the permit, certified filing, or certificate of adjudication proposed for transfer and shall be based on historical uses of the permit, certified filing, or certificate of adjudication for which amendment is sought;
- f. proposed mitigation or compensation, if any, to the basin of origin by the applicant; and
- g. the continued need to use the water for the purposes authorized under the existing Permit, Certified Filing, or Certificate of Adjudication, if an amendment to an existing water right is sought.

WORKSHEET 1.2 NOTICE. “THE MARSHALL CRITERIA”

This worksheet assists the Commission in determining notice required for certain **amendments** that do not already have a specific notice requirement in a rule for that type of amendment, and *that do not change the amount of water to be taken or the diversion rate*. The worksheet provides information that Applicant **is required** to submit for such amendments which include changes in use, changes in place of use, or other non-substantive changes in a water right (such as certain amendments to special conditions or changes to off-channel storage). These criteria address whether the proposed amendment will impact other water right holders or the on-stream environment beyond and irrespective of the fact that the water right can be used to its full authorized amount.

*This worksheet is **not required for Applications in the Rio Grande Basin** requesting changes in the purpose of use, rate of diversion, point of diversion, and place of use for water rights held in and transferred within and between the mainstems of the Lower Rio Grande, Middle Rio Grande, and Amistad Reservoir. See 30 TAC § 303.42.*

*This worksheet is **not required for amendments which are only changing or adding diversion points, or request only a bed and banks authorization or an IBT authorization**. However, Applicants may wish to submit the Marshall Criteria to ensure that the administrative record includes information supporting each of these criteria*

1. The “Marshall Criteria” (Instructions, Page. 21)

Submit responses on a supplemental attachment titled “Marshall Criteria” in a manner that conforms to the paragraphs (a) – (g) below:

- a. Administrative Requirements and Fees. Confirm whether application meets the administrative requirements for an amendment to a water use permit pursuant to TWC Chapter 11 and Title 30 Texas Administrative Code (TAC) Chapters 281, 295, and 297. An amendment application should include, but is not limited to, a sworn application, maps, completed conservation plan, fees, etc.
- b. Beneficial Use. Discuss how proposed amendment is a beneficial use of the water as defined in TWC § 11.002 and listed in TWC § 11.023. Identify the specific proposed use of the water (e.g., road construction, hydrostatic testing, etc.) for which the amendment is requested.
- c. Public Welfare. Explain how proposed amendment is not detrimental to the public welfare. Consider any public welfare matters that might be relevant to a decision on the application. Examples could include concerns related to the well-being of humans and the environment.
- d. Groundwater Effects. Discuss effects of proposed amendment on groundwater or groundwater recharge.

- e. State Water Plan. Describe how proposed amendment addresses a water supply need in a manner that is consistent with the state water plan or the applicable approved regional water plan for any area in which the proposed appropriation is located or, in the alternative, describe conditions that warrant a waiver of this requirement. The state and regional water plans are available for download at:
<http://www.twdb.texas.gov/waterplanning/swp/index.asp>.
- f. Waste Avoidance. Provide evidence that reasonable diligence will be used to avoid waste and achieve water conservation as defined in TWC § 11.002. Examples of evidence could include, but are not limited to, a water conservation plan or, if required, a drought contingency plan, meeting the requirements of 30 TAC Chapter 288.
- g. Impacts on Water Rights or On-stream Environment. Explain how proposed amendment will not impact other water right holders or the on-stream environment beyond and irrespective of the fact that the water right can be used to its full authorized amount.

WORKSHEET 2.0

Impoundment/Dam Information

This worksheet **is required** for any impoundment, reservoir and/or dam. Submit an additional Worksheet 2.0 for each impoundment or reservoir requested in this application.

If there is more than one structure, the numbering/naming of structures should be consistent throughout the application and on any supplemental documents (e.g. maps).

1. Storage Information (Instructions, Page. 21)

- a. Official USGS name of reservoir, if applicable: _____
- b. Provide amount of water (in acre-feet) impounded by structure at normal maximum operating level: _____.
- c. The impoundment is on-channel _____ or off-channel _____ (mark one)
 - i. Applicant has verified on-channel or off-channel determination by contacting Surface Water Availability Team at (512) 239-4600? **Y / N** _____
 - ii. If on-channel, will the structure have the ability to pass all State Water inflows that Applicant does not have authorization to impound? **Y / N** _____
- d. Is the impoundment structure already constructed? **Y / N** _____
 - i. For already constructed **on-channel** structures:
 - 1. Date of Construction: _____
 - 2. Was it constructed to be an exempt structure under TWC § 11.142? **Y / N** _____
 - a. If Yes, is Applicant requesting to proceed under TWC § 11.143? **Y / N** _____
 - b. If No, has the structure been issued a notice of violation by TCEQ? **Y / N** _____
 - 3. Is it a U.S. Natural Resources Conservation Service (NRCS) (formerly Soil Conservation Service (SCS)) floodwater-retarding structure? **Y / N** _____
 - a. If yes, provide the Site No. _____ and watershed project name _____;
 - b. Authorization to close "ports" in the service spillway requested? **Y / N** _____
 - ii. For **any** proposed new structures or modifications to structures:
 - 1. Applicant **must** contact TCEQ Dam Safety Section at (512) 239-0326, *prior to submitting an Application*. Applicant has contacted the TCEQ Dam Safety Section regarding the submission requirements of 30 TAC, Ch. 299? **Y / N** _____
Provide the date and the name of the Staff Person _____
 - 2. As a result of Applicant's consultation with the TCEQ Dam Safety Section, TCEQ has confirmed that:
 - a. No additional dam safety documents required with the Application. **Y / N** _____
 - b. Plans (with engineer's seal) for the structure required. **Y / N** _____
 - c. Engineer's signed and sealed hazard classification required. **Y / N** _____
 - d. Engineer's statement that structure complies with 30 TAC, Ch. 299 Rules required. **Y / N** _____

3. Applicants **shall** give notice by certified mail to each member of the governing body of each county and municipality in which the reservoir, or any part of the reservoir to be constructed, will be located. (30 TAC § 295.42). Applicant must submit a copy of all the notices and certified mailing cards with this Application. Notices and cards are included? Y / N_____

iii. Additional information required for **on-channel** storage:

1. Surface area (in acres) of on-channel reservoir at normal maximum operating level:_____.
2. Based on the Application information provided, Staff will calculate the drainage area above the on-channel dam or reservoir. If Applicant wishes to also calculate the drainage area they may do so at their option. Applicant has calculated the drainage area. Y/N_____ If yes, the drainage area is _____sq. miles. (If assistance is needed, call the Surface Water Availability Team prior to submitting the application, (512) 239-4600).

2. Structure Location (Instructions, Page. 23)

- a. On Watercourse (if on-channel) (USGS name):_____
- b. Zip Code: _____
- c. In the _____ Original Survey No. _____, Abstract No. _____, _____ County, Texas.

**** A copy of the deed(s) with the recording information from the county records must be submitted describing the tract(s) that include the structure and all lands to be inundated.***

*****If the Applicant is not currently the sole owner of the land on which the structure is or will be built and sole owner of all lands to be inundated, Applicant must submit documentation evidencing consent or other documentation supporting Applicant's right to use the land described.***

- d. A point on the centerline of the dam (on-channel) or anywhere within the impoundment (off-channel) is:

Latitude _____°N, Longitude _____°W.

****Provide Latitude and Longitude coordinates in decimal degrees to at least six decimal places***

- di. Indicate the method used to calculate the location (examples: Handheld GPS Device, GIS, Mapping Program):_____
- dii. Map submitted which clearly identifies the Impoundment, dam (where applicable), and the lands to be inundated. See instructions Page. 15. Y / N_____

WORKSHEET 3.0

DIVERSION POINT (OR DIVERSION REACH) INFORMATION

This worksheet **is required** for each diversion point or diversion reach. Submit one Worksheet 3.0 for **each** diversion point and two Worksheets for **each** diversion reach (one for the upstream limit and one for the downstream limit of each diversion reach).

The numbering of any points or reach limits should be consistent throughout the application and on supplemental documents (e.g. maps).

1. Diversion Information (Instructions, Page. 24)

- a. This Worksheet is to add new (select 1 of 3 below):
1. ___ Diversion Point No.
 2. ___ Upstream Limit of Diversion Reach No.
 3. ___ Downstream Limit of Diversion Reach No.
- b. Maximum Rate of Diversion for **this new point** _____ cfs (cubic feet per second)
or _____ gpm (gallons per minute)
- c. Does this point share a diversion rate with other points? **Y / N** _____
*If yes, submit Maximum **Combined** Rate of Diversion for all points/reaches* _____ cfs or _____ gpm
- d. For amendments, is Applicant seeking to increase combined diversion rate? **Y / N** _____

*** An increase in diversion rate is considered a new appropriation and would require completion of Section 1, New or Additional Appropriation of State Water.*

- e. Check (✓) the appropriate box to indicate diversion location and indicate whether the diversion location is existing or proposed:

Check one		Write: Existing or Proposed
	Directly from stream	
	From an on-channel reservoir	
	From a stream to an on-channel reservoir	
	Other method (explain fully, use additional sheets if necessary)	

- f. Based on the Application information provided, Staff will calculate the drainage area above the diversion point (or reach limit). If Applicant wishes to also calculate the drainage area, you may do so at their option.

Applicant has calculated the drainage area. **Y / N** _____

If yes, the drainage area is _____ sq. miles.

(If assistance is needed, call the Surface Water Availability Team at (512) 239-4600, prior to submitting application)

2. Diversion Location (Instructions, Page 25)

- a. On watercourse (USGS name): _____
- b. Zip Code: _____
- c. Location of point: In the _____ Original Survey No. _____, Abstract No. _____, _____ County, Texas.

A copy of the deed(s) with the recording information from the county records must be submitted describing tract(s) that include the diversion structure.

For diversion reaches, the Commission cannot grant an Applicant access to property that the Applicant does not own or have consent or a legal right to access, the Applicant will be required to provide deeds, or consent, or other documents supporting a legal right to use the specific points when specific diversion points within the reach are utilized. Other documents may include, but are not limited to: a recorded easement, a land lease, a contract, or a citation to the Applicant's right to exercise eminent domain to acquire access.

- d. Point is at:
Latitude _____°N, Longitude _____°W.
Provide Latitude and Longitude coordinates in decimal degrees to at least six decimal places
- e. Indicate the method used to calculate the location (examples: Handheld GPS Device, GIS, Mapping Program): _____
- f. Map submitted must clearly identify each diversion point and/or reach. See instructions Page. 38.
- g. If the Plan of Diversion is complicated and not readily discernable from looking at the map, attach additional sheets that fully explain the plan of diversion.

WORKSHEET 4.0 DISCHARGE INFORMATION

This worksheet required for any requested authorization to discharge water into a State Watercourse for conveyance and later withdrawal or in-place use. Worksheet 4.1 is also required for each Discharge point location requested. **Instructions Page. 26. Applicant is responsible for obtaining any separate water quality authorizations which may be required and for insuring compliance with TWC, Chapter 26 or any other applicable law.**

- a. The purpose of use for the water being discharged will be_____.
- b. Provide the amount of water that will be lost to transportation, evaporation, seepage, channel or other associated carriage losses _____% and explain the method of calculation:_____

Is the source of the discharged water return flows? Y / N_____If yes, provide the following information:

1. The TPDES Permit Number(s)._____ (attach a copy of the **current** TPDES permit(s))
2. Applicant is the owner/holder of each TPDES permit listed above? Y / N_____

PLEASE NOTE: If Applicant is not the discharger of the return flows, the application should be submitted under Section 1, New or Additional Appropriation of State Water, as a request for a new appropriation of state water. If Applicant is the discharger, then the application should be submitted under Section 3, Bed and Banks.

3. Monthly WWTP discharge data for the past 5 years in electronic format. (Attach and label as "Supplement to Worksheet 4.0").
 4. The percentage of return flows from groundwater_____, surface water_____?
 5. If any percentage is surface water, provide the base water right number(s)_____.
- c. Is the source of the water being discharged groundwater? Y / N_____If yes, provide the following information:
1. Source aquifer(s) from which water will be pumped:_____
 2. Any 24 hour pump test for the well if one has been conducted. If the well has not been constructed, provide production information for wells in the same aquifer in the area of the application. See <http://www.twdb.texas.gov/groundwater/data/gwdbbrpt.asp>. Additionally, provide well numbers or identifiers_____.
 3. Indicate how the groundwater will be conveyed to the stream or reservoir.
 4. A copy of the groundwater well permit if it is located in a Groundwater Conservation District (GCD) or evidence that a groundwater well permit is not required.
- ci. Is the source of the water being discharged a surface water supply contract? Y / N_____ If yes, provide the signed contract(s).
- cii. Identify any other source of the water_____

WORKSHEET 4.1

DISCHARGE POINT INFORMATION

This worksheet is required for **each** discharge point. Submit one Worksheet 4.1 for each discharge point. If there is more than one discharge point, the numbering of the points should be consistent throughout the application and on any supplemental documents (e.g. maps).
Instructions, Page 27.

For water discharged at this location provide:

- a. The amount of water that will be discharged at this point is _____ acre-feet per year. The discharged amount should include the amount needed for use and to compensate for any losses.
- b. Water will be discharged at this point at a maximum rate of _____ cfs or _____ gpm.
- c. Name of Watercourse as shown on Official USGS maps: _____
- d. Zip Code _____
- f. Location of point: In the _____ Original Survey No. _____, Abstract No. _____, _____ County, Texas.
- g. Point is at:
Latitude _____ °N, Longitude _____ °W.
****Provide Latitude and Longitude coordinates in decimal degrees to at least six decimal places***
- h. Indicate the method used to calculate the discharge point location (examples: Handheld GPS Device, GIS, Mapping Program): _____

Map submitted must clearly identify each discharge point. See instructions Page. 15.

WORKSHEET 5.0

ENVIRONMENTAL INFORMATION

1. Impingement and Entrainment

This section is required for any new diversion point that is not already authorized. Indicate the measures the applicant will take to avoid impingement and entrainment of aquatic organisms (ex. Screens on any new diversion structure that is not already authorized in a water right). **Instructions, Page 29.**

2. New Appropriations of Water (Canadian, Red, Sulphur, and Cypress Creek Basins only) and Changes in Diversion Point(s)

This section is required for new appropriations of water in the Canadian, Red, Sulphur, and Cypress Creek Basins and in all basins for requests to change a diversion point. **Instructions, Page 30.**

Description of the Water Body at each Diversion Point or Dam Location. (Provide an Environmental Information Sheet for each location),

a. Identify the appropriate description of the water body.

Stream

Reservoir

Average depth of the entire water body, in feet: _____

Other, specify: _____

b. Flow characteristics

If a stream, was checked above, provide the following. For new diversion locations, check one of the following that best characterize the area downstream of the diversion (check one).

Intermittent - dry for at least one week during most years

Intermittent with Perennial Pools - enduring pools

Perennial - normally flowing

Check the method used to characterize the area downstream of the new diversion location.

USGS flow records

Historical observation by adjacent landowners

Personal observation

Other, specify: _____

c. Waterbody aesthetics

Check one of the following that best describes the aesthetics of the stream segments affected by the application and the area surrounding those stream segments.

- Wilderness: outstanding natural beauty; usually wooded or unpastured area; water clarity exceptional
- Natural Area: trees and/or native vegetation common; some development evident (from fields, pastures, dwellings); water clarity discolored
- Common Setting: not offensive; developed but uncluttered; water may be colored or turbid
- Offensive: stream does not enhance aesthetics; cluttered; highly developed; dumping areas; water discolored

d. Waterbody Recreational Uses

Are there any known recreational uses of the stream segments affected by the application?

- Primary contact recreation (swimming or direct contact with water)
- Secondary contact recreation (fishing, canoeing, or limited contact with water)
- Non-contact recreation

Submit the following information in a Supplemental Attachment, labeled Addendum to Worksheet 5.0:

1. Photographs of the stream at the diversion point or dam location. Photographs should be in color and show the proposed point or reservoir and upstream and downstream views of the stream, including riparian vegetation along the banks. Include a description of each photograph and reference the photograph to the map submitted with the application indicating the location of the photograph and the direction of the shot.
2. If the application includes a proposed reservoir, also include:
 - i. A brief description of the area that will be inundated by the reservoir.
 - ii. If a United States Army Corps of Engineers (USACE) 404 permit is required, provide the project number and USACE project manager.
 - iii. A description of how any impacts to wetland habitat, if any, will be mitigated if the reservoir is greater than 5,000 acre-feet.

3. Alternate Sources of Water and/or Bed and Banks Applications

This section is required for applications using an alternate source of water and bed and banks applications in any basins. **Instructions, page 31.**

- a. For all bed and banks applications:
 - i. Submit an assessment of the adequacy of the quantity and quality of flows remaining after the proposed diversion to meet instream uses and bay and estuary freshwater inflow requirements.

b. For all alternate source applications:

- i. If the alternate source is treated return flows, provide the TPDES permit number_____

- ii. If groundwater is the alternate source, or groundwater or other surface water will be discharged into a watercourse provide:

Reasonably current water chemistry information including but not limited to the following parameters in the table below. Additional parameters may be requested if there is a specific water quality concern associated with the aquifer from which water is withdrawn. If data for onsite wells are unavailable; historical data collected from similar sized wells drawing water from the same aquifer may be provided. However, onsite data may still be required when it becomes available. Provide the well number or well identifier. Complete the information below for each well and provide the Well Number or identifier.

Parameter	Average Conc.	Max Conc.	No. of Samples	Sample Type	Sample Date/Time
Sulfate, mg/L					
Chloride, mg/L					
Total Dissolved Solids, mg/L					
pH, standard units					
Temperature*, degrees Celsius					

* Temperature must be measured onsite at the time the groundwater sample is collected.

- iii. If groundwater will be used, provide the depth of the well_____and the name of the aquifer from which water is withdrawn_____.

WORKSHEET 6.0

Water Conservation/Drought Contingency Plans

This form is intended to assist applicants in determining whether a Water Conservation Plan and/or Drought Contingency Plans is required and to specify the requirements for plans.

Instructions, Page 31.

*The TCEQ has developed guidance and model plans to help applicants prepare plans. Applicants may use the model plan with pertinent information filled in. For assistance submitting a plan call the Resource Protection Team (Water Conservation staff) at 512-239-4600, or e-mail wras@tceq.texas.gov. The model plans can also be downloaded from the TCEQ webpage. **Please use the most up-to-date plan documents available on the webpage.***

1. Water Conservation Plans

a. The following applications must include a completed Water Conservation Plan (30 TAC § 295.9) for each use specified in 30 TAC, Chapter 288 (municipal, industrial or mining, agriculture - including irrigation, wholesale):

1. Request for a new appropriation or use of State Water.
2. Request to amend water right to increase appropriation of State Water.
3. Request to amend water right to extend a term.
4. Request to amend water right to change a place of use.
**does not apply to a request to expand irrigation acreage to adjacent tracts.*
5. Request to amend water right to change the purpose of use.
**applicant need only address new uses.*
6. Request for bed and banks under TWC § 11.042(c), when the source water is State Water
**including return flows, contract water, or other State Water.*

b. If Applicant is requesting any authorization in section (1)(a) above, indicate each use for which Applicant is submitting a Water Conservation Plan as an attachment:

1. ____Municipal Use. See 30 TAC § 288.2. **
2. ____Industrial or Mining Use. See 30 TAC § 288.3.
3. ____Agricultural Use, including irrigation. See 30 TAC § 288.4.
4. ____Wholesale Water Suppliers. See 30 TAC § 288.5. **

**If Applicant is a water supplier, Applicant must also submit documentation of adoption of the plan. Documentation may include an ordinance, resolution, or tariff, etc. See 30 TAC §§ 288.2(a)(1)(J)(i) and 288.5(1)(H). Applicant has submitted such documentation with each water conservation plan? Y / N____

c. Water conservation plans submitted with an application must also include data and information which: supports applicant's proposed use with consideration of the plan's water conservation goals; evaluates conservation as an alternative to the proposed

appropriation; and evaluates any other feasible alternative to new water development.
See 30 TAC § 288.7.

Applicant has included this information in each applicable plan? Y / N____

2. Drought Contingency Plans

- a. A drought contingency plan is also required for the following entities if Applicant is requesting any of the authorizations in section (1) (a) above - indicate each that applies:
1. ____Municipal Uses by public water suppliers. See 30 TAC § 288.20.
 2. ____Irrigation Use/ Irrigation water suppliers. See 30 TAC § 288.21.
 3. ____Wholesale Water Suppliers. See 30 TAC § 288.22.
- b. If Applicant must submit a plan under section 2(a) above, Applicant has also submitted documentation of adoption of drought contingency plan (*ordinance, resolution, or tariff, etc.* See 30 TAC § 288.30) Y / N____

WORKSHEET 7.0

ACCOUNTING PLAN INFORMATION WORKSHEET

The following information provides guidance on when an Accounting Plan may be required for certain applications and if so, what information should be provided. An accounting plan can either be very simple such as keeping records of gage flows, discharges, and diversions; or, more complex depending on the requests in the application. Contact the Surface Water Availability Team at 512-239-4600 for information about accounting plan requirements, if any, for your application. **Instructions, Page 34.**

1. Is Accounting Plan Required

Accounting Plans are generally required:

- For applications that request authorization to divert large amounts of water from a single point where multiple diversion rates, priority dates, and water rights can also divert from that point;
- For applications for new major water supply reservoirs;
- For applications that amend a water right where an accounting plan is already required, if the amendment would require changes to the accounting plan;
- For applications with complex environmental flow requirements;
- For applications with an alternate source of water where the water is conveyed and diverted; and
- For reuse applications.

2. Accounting Plan Requirements

- a. A **text file** that includes:
 1. an introduction explaining the water rights and what they authorize;
 2. an explanation of the fields in the accounting plan spreadsheet including how they are calculated and the source of the data;
 3. for accounting plans that include multiple priority dates and authorizations, a section that discusses how water is accounted for by priority date and which water is subject to a priority call by whom; and
 4. Should provide a summary of all sources of water.
- b. A **spreadsheet** that includes:
 1. Basic daily data such as diversions, deliveries, compliance with any instream flow requirements, return flows discharged and diverted and reservoir content;
 2. Method for accounting for inflows if needed;
 3. Reporting of all water use from all authorizations, both existing and proposed;
 4. An accounting for all sources of water;
 5. An accounting of water by priority date;
 6. For bed and banks applications, the accounting plan must track the discharged water from the point of delivery to the final point of diversion;
 7. Accounting for conveyance losses;
 8. Evaporation losses if the water will be stored in or transported through a reservoir. Include changes in evaporation losses and a method for measuring reservoir content resulting from the discharge of additional water into the reservoir;
 9. An accounting for spills of other water added to the reservoir; and
 10. Calculation of the amount of drawdown resulting from diversion by junior rights or diversions of other water discharged into and then stored in the reservoir.

RR 417, LLC Accounting Plan for Permit 13631

To: TCEQ Water Availability Division
From: Jordan Furnans, PhD, PE, PG
Date: January 20, 2021
Project: 4035MGL01
Subject: Accounting Plan for RR 417
LLC Water Use Permit No. 13631



TBPE Firm #14368 1/20/2021

This document is the required "Text File" describing the accounting plan developed in support of RR417, LLC operations related to Water Use Permit No. 13631. Amongst other things, this permit allows RR417, LLC to use the Bed and Banks of two existing impoundments on Commissioner's Creek in Bandera County, TX to convey groundwater. RR417, LLC is not permitted to store or use surface water as defined by the State of Texas. This accounting plan is designed to estimate state surface water inflows into the impoundments and to record all flows that are passed downstream of the impoundments to ensure RR417, LLC is not storing surface water. Specifically, this accounting plan uses daily rainfall data from a rain gauge operated by RR417, LLC on their property in Bandera County to estimate volumes of surface water inflow to the RR417, LLC impoundments. The accounting plan then ensures that greater or equal volumes of water are passed downstream of the impoundments by RR417, LLC.

The accounting plan ("Plan") accompanying this document is a Microsoft Excel spreadsheet designed to quantify expected inflows to the RR417, LLC impoundments (Canoe Pond and Waterfront Pond) resulting from measured rain events. The Plan is designed so that the user may input rainfall measurements and discharge meter readings, with the spreadsheet then calculating whether RR417, LLC is satisfying its obligation not to capture State of Texas water within its impoundments. This document provides a detailed description of the how to use the Plan, and how the Plan is structured within the spreadsheet. This document also provides the hydrologic basis behind the spreadsheet calculations.

To comply with permit 13631, both ponds are to be kept full. When both ponds are full, any State of Texas water flowing into the ponds (via surface inflow or direct precipitation on the pond surface) will automatically flow through the impoundment outlet structures and downstream in Commissioner's Creek. Thus by keeping both ponds full, RR417, LLC is ensuring they are not improperly storing State of Texas water. If the ponds are not full on a given day, for example due to having to drain a pond for maintenance purposes, then it becomes necessary for RR417, LLC to estimate State of Texas water inflows and ensure they are properly passed downstream. The Plan performs these inflow estimates, and tracks RR417, LLC's discharges to Commissioner's Creek to demonstrate full passage of inflows to the ponds.

Accounting Plan – Usage

The Plan is designed to be user-friendly and require minimal effort to produce water accounting results. This section contains a detailed explanation of how to use the Plan, and how to interpret the Plan's results.

The Plan is implemented within a Microsoft Excel spreadsheet consisting of two worksheets: 1) "Accounting" and 2) "ReferenceData." To use the Plan, a user must only input data into the "Accounting" worksheet; it is not necessary to make any modifications to the "ReferenceData" worksheet.

Within the Accounting worksheet, the user may only enter data in **WHITE**, non-colored cells. All non-white/colored cells contain the results of formulas and must not be changed by the user. It is recommended that the user maintain an original, empty version of the Plan, and create a new "working" Plan each year.

The Accounting worksheet performs water accounting functions for a specified calendar year. The user must specify the year within **cell B5**. Calculations on each row correspond to a given day of the year, with the month, day, and year specified in Column A, B, and C respectively. As the Plan requires knowledge of a 5-day antecedent moisture condition, rows 11-15 correspond to the dates of December 27-31 of the prior year. Data in rows 11-15 are used in computing the 5-day antecedent moisture condition for January 1-5.

The user must enter the following items into the Accounting worksheet on a daily basis:

- Canoe Pond Distance to Full (ft) Column E
- Waterfront Pond Distance to Full (ft) Column F
- Discharge to Creek Meter Reading (cubic feet) Column J
- Rainfall (inches) Column M

The "Distance to Full" entries for the Canoe Pond (**Column B**) and Waterfront Pond (**Column F**) are the vertical distances between the respective pond's water surface and the elevation at which each dam is considered "Full."

The "Discharge to Creek" meter reading is the readout from a totalizing meter on the discharge into Commissioner's Creek downstream of the Waterfront Pond. The user must enter the daily meter reading in **Column J**. The plan currently assumes the meter will record water volumes with the units of "Cubic feet." The user must enter the meter reading for December 31 of the previous year (in **Cell J15**) to calculate discharges made on January 1.

Rainfall data is entered daily in **Column M**, as the total daily rainfall measured in inches. Rainfall data is to be measured using a rain gauge installed on the RR 417, LLC property near the ponds. The 5-day antecedent moisture condition is computed in **Column N**.

Once all data is entered into the Accounting worksheet for a given day, the Plan evaluates compliance with the terms of permit 13631 (**Column D**), computes direct precipitation to the ponds (**Column R**), estimates surface water inflows to the ponds (**Column S**), and compares the inflow volumes to volumes of water discharged downstream in Commissioner's Creek (**Column K** and **Column L**). If the ponds are full on both

the given day and the previous day, then RR417, LLC is meeting its obligation not to store State of Texas water within its impoundments. Under this condition, the appropriate cell in **Column D** is shown in **GREEN** with the word **“YES”** show in bold. This indicates that RR417, LLC does not “owe” any water to Commissioner’s Creek. If either pond is not full on the current or previous day, then there exists the possibility that RR417, LLC could improperly store inflows of State of Texas water on that day. In this situation, the appropriate cell in **Column E** would be filled in **RED** with the word **“NO”** in bold. This would indicate that RR417, LLC needs to discharge groundwater into its impoundments to fill them up, and that it would need to estimate inflows of State of Texas water in order to convey the appropriate quantity of water into Commissioner’s Creek downstream of the impoundments.

If the ponds are not full and rainfall is recorded, the Plan estimates the volume of water entering the ponds (**Column S**). It compares this inflow volume to metered discharges into Commissioner’s Creek (**Column K**), and assesses whether RR417, LLC has discharged a water volume of equal or greater volume to the estimated inflow volume. The Plan allows RR417, LLC to manage discharges to ensure that estimated inflows to the ponds are passed downstream within seven (7) days of the rain event triggering the estimated inflows. When 7-day total discharges equal or exceed inflow estimates, RR417 has complied with its permit requirement not to store inflows. This compliance is recognized in Column I, which is shown in **GREEN** with the word **“NO”** is displayed (indicating further discharges of groundwater are not needed). If further discharges are needed, the appropriate cell(s) in Column I are shown in **RED** with the word **“YES”** in bold.

Accounting Plan – Spreadsheet Structure & Contents

The Plan exists as a Microsoft Excel spreadsheet containing two worksheets:

- “Accounting” – Where daily data is entered, and accounting calculations are made, and
- “ReferenceData” – Where the Plan user enters basic data such pertaining to the RR417, LLC watershed and the calculation of runoff curve-numbers per standard Soil Conservation Service (SCS) engineering methods.

Both worksheets are locked for editing, permitting data entry only in the necessary locations. The Plan user should enter data only into the “Accounting” worksheet, and should not need to adjust entries within the “ReferenceData” worksheet. However should adjustments to either worksheet be necessary, the worksheets may be unlocked with the password “RR417.”

Reference Data Worksheet Description

Within this worksheet, information pertaining to the watershed draining to the RR417, LLC impoundments is used to determine a representative “curve number” for use in translating measured rainfall into estimated runoff entering the impoundments. The theory and methodology related to the curve number calculations is presented in the “Accounting Plan – Theory & Methodology” section.

Rows 1-5 of the ReferenceData worksheet contain my contact information and the date on which the Plan was submitted to TCEQ along with the Permit 13631 amendment application.



Row 8 provides the combined surface area of the Canoe Pond and Waterfront Pond, in acres. Cell G8 contains the acreage, specified as 4.77 acres as surveyed in February 2019.

Rows 12-15 contain the computed curve numbers for the RR417, LLC contributing watershed, using standard SCS curve number method rules and calculation methods for assessing the 5-day antecedent moisture condition curve number values. The computed curve numbers in cells E13, E14, and E15 correspond to the appropriate curve numbers for dry, average, and wet conditions, respectively. These values are used in Column M of the Accounting worksheet.

Rows 17-18 contain the computed area of the RR417, LLC contributing watershed as derived from the raster Land Use/Land Cover dataset within ArcGIS.

Row 20 computes the total weighting for all soil groups, and is part of the calculation of the weighted average curve number for the RR 417, LLC contributing watershed.

Row 21 computed the weighted average curve number for the RR 417, LLC contributing watershed. This value is also included in Row 14, where it is specified as the "Average Conditions" curve number for the watershed.

Rows 23-62 provide a breakdown of the RR417, LLC contributing watershed based on Land Use/Land Cover classifications and hydrologic soil groups. Rows 23-34 provide data for Soil Group D. Rows 37-48 provide data for Soil Group C. Rows 51-62 provide data for Soil Group B. As the data is similar for each soil group, it is only described here for Soil Group D (Rows 23-34).

Row 23 specifies the hydrologic soil group classification for which the data is provided. In Cell G23, the area of each raster Land Use/Land Cover grid cell is specified.

Row 24 specifies the data pertains to the RR417, LLC contributing watershed, and that the Land Use/Land Cover grid cell size is 30 meters.

Row 27-33 specifies the Land Use/Land Cover category found within the RR 417, LLC contributing watershed with the specified soil group. Column B provides the name of the category, and the Land Use/Land Cover category code is provided in Column E. Column F provides the number of grid cells within each category, as determined within the ArcGIS processing software. Column H contains the computed surface area (in acres) of the Land Use/Land Cover by category. Columns J-M contain the standard runoff curve numbers associated with each Land Use/Land Cover category for each hydrologic soil group A-D. Only the pertinent column for the specified hydrologic soil group is visible, with the other columns filled in Black. For example, as rows 23-34 pertain to hydrologic soil Group D, only column M is shown as it contains curve numbers associated with hydrologic soil group D. Columns J-L are shown in black, as their values are not pertinent for hydrologic soil group D. Column N is labeled as "Weighting" and it contains the number of grid cells of a specified Land Use/Land Cover category (Column F) multiplied by the applicable curve number (Column M for hydrologic Soil Group D in this example). The weighting is used in computing the area-average curve number for the watershed (Cell F21).

Row 34 contains the totals for the specified hydrologic soil group, including the total number of grid cells, the total area (in acres), and the total weighting.

Cell F55 contains the number of grid cells identified as “Open Water” for the region covered by Soil Group B. Cell F55 contains the value “0” rather than the value “3” as indicated by the Land Use/Land Cover dataset. By specifying a value of “0,” the plan excludes areas covered by the RR 417, LLC ponds within the Land Use/Land Cover dataset. The area covered by the ponds is modeled as receiving inflows as direct precipitation within the Accounting worksheet, and as such is specifically excluded from the watershed area contributing surface runoff to the ponds.

Accounting Worksheet Description

The Accounting worksheet is where the Plan user enters data, and where the Plan performs the water accounting calculations. The worksheet spans Columns A-T, and Rows 1-381. It is designed to perform accounting over an entire calendar year.

Cell B5 contains a user-specified year for which the accounting plan is to contain data. Cell B7 determines if the specified year is a leap year (containing 366 days) or if it is not a leap year (containing 365 days). Row 75 contains data pertaining to February 29, yet is only active if the specified year is a leap year.

Data within rows 11-381 are pertinent to a given day, with each row containing data for the day indicated in Columns A-C. Rows 11-15 contain data from December 27-December 31 of the year prior to the year specified in Cell B5.

Column A, Rows 11-381 contain the numerical month for each day within the calendar year, with each row corresponding to a single day.

Column B, Rows 11-381 contain the numerical day within the calendar year, with each row corresponding to a single day. Values reflect the different number of days in each month. For example, rows 16-46 contain values 1-31 (for the days of January), and then the value in cell B46 contains the value “1” reflecting that the day corresponding to row 46 is February 1.

Column C, Rows 11-381 contain the calendar year for the given day to which data and calculations pertain. For Cells C16 to C381, the year is that specified in Cell B5. For Cells C11-C15, the year specified is the year before that specified in Cell B5.

Column D, Rows 16-381 contains the Plan’s conclusion as to whether RR417, LLC has met its permit obligations to maintain the ponds at full capacity at all times. Cells in this column will be filled in **GREEN** and contain the word “**YES**” if RR417, LLC has maintained both ponds at full levels for the current AND previous days. If RR417, LLC has not kept both ponds full for the current and previous day, cells in this column will be filled in **RED** and will contain the word “**NO**.” This column provides a clear visual indication of RR417, LLC’s compliance with its permit stipulations regarding maintain both ponds at full conditions.

Column E, Rows 15-381 contain user-provided data regarding the water level within the Canoe Pond. Data in this column refers to the difference in water levels between the current water level and the water level at

which the Canoe Pond is full. Essentially, data in this column are the increase in water level needed to make the Canoe Pond full. When the Canoe Pond is full, data in this column will have the specification of “0.” Data in this column have the units of “feet.”

Column F, Rows 15-381 contain user-provided data regarding the water level within the Waterfront Pond. Data in this column refers to the difference in water levels between the current water level and the water level at which the Waterfront Pond is full. Essentially, data in this column are the increase in water level needed to make the Waterfront Pond full. When the Waterfront Pond is full, data in this column will have the specification of “0.” Data in this column have the units of “feet.”

Column G, Rows 16-381 contain specifications related to whether or not the given day is part of the typical irrigation growing season as defined within the standard SCS curve number method. Days containing the value “0” in this column are not included within the growing season. Days containing the value “1” in this column are included within the growing season. The Plan defines the growing season from March 15 through October 15, inclusively.

Column H, Rows 16-381 contains the Plan’s conclusion as to whether RR417, LLC has met its permit obligations not to store State of Texas water as of the given day. Cells in this column will be filled in **GREEN** and contain the word “**NO**” if RR417, LLC does not owe any water to Commissioner’s Creek downstream of its impoundments. If RR417, LLC does owe water to Commissioner’s Creek downstream of its impoundments, cells in this column will be filled in **RED** and will contain the word “**YES**.” This column provides a clear visual indication of RR417, LLC’s compliance with its permit stipulations.

Column I, Rows 16-381 contains the Plan’s conclusion as to whether RR417, LLC has discharged sufficient water downstream of its ponds such that the total discharged over the current day and up to seven days in the future equal or exceed the estimated surface water inflows for the given day. Cells in this column will be filled in **GREEN** and contain the word “**NO**” if RR417, LLC does not owe any water to Commissioner’s Creek downstream of its impoundments. If RR417, LLC does owe water to Commissioner’s Creek downstream of its impoundments, cells in this column will be filled in **RED** and will contain the word “**YES**.” This column provides a clear visual indication of RR417, LLC’s compliance with its permit stipulations.

Column J, Rows 15-381 contain user-provided meter readings showing the cumulative total water transferred by RR417, LLC to Commissioner’s Creek downstream of the impoundments. The data should be provided in units of “cubic feet,” and should consist of daily readings from a totalizer meter installed on any discharge pipe or impoundment outlet. Cell J15 contains the meter reading from December 31 of the prior calendar year.

Column K, rows 16-381 contain computed the daily volumes of water conveyed to Commissioner’s Creek downstream of the impoundments. This volume of water is computed as the difference in meter readings (Column J) between the given day and the prior day. The units of data in this column are “cubic feet.”

Column L, rows 16-381 contain the computed year-to-date total volume of water conveyed to Commissioner’s Creek downstream of the impoundments. Data in this column are computed from data in Column K, and have units of cubic feet.

Column M, rows 11-381 contain the user-provided daily rainfall totals (in inches) as measured at the RR417, LLC property near the impoundments.

Column N, rows 16-381 contain the 5-day antecedent rainfall (in inches), based on the data in Column M. Specifically, each entry in Column N contains the sum of the 5 previous daily rainfall totals contained in Column M. For example, cell N16 contains the sum of data stored in cells M11 to M15.

Column O, rows 16-381 contain the applicable curve number for the RR 417, LLC contributing watershed, based on the 5-day antecedent rainfall data (Column N). Values in Column O are derived from Cells E13-E15 on the ReferenceData worksheet, which pertain to the contributing area curve numbers under dry, average, and wet conditions.

Column P, rows 16-381 contain the computed value “S” for use in the calculation of expected runoff. The values of S have the units of “inches.” This column is usually hidden from view within the worksheet.

Column Q, rows 16-381 contain the computed value “I_a” for use in the calculation of expected runoff. The values of I_a have the units of “inches.” This column is usually hidden from view within the worksheet.

Column R, rows 16-381 contain the computed volume of water entering the ponds as rainfall directly on the pond surface. Formulas in this column compute the volume based on the daily rainfall (Column M) and the combined surface area of the ponds (specified in Cell G8 of the ReferenceData worksheet). The daily inflow units for data in this column are “cubic feet.”

Column S, rows 16-381 contain the computed daily inflow of surface water to the impoundments from the RR 417, LLC contributing watershed. Formulas in this column compute the inflow based on the daily rainfall (Column M), and the computed curve number method parameters “S” and “I_a” (Columns P and Q, respectively). The formula also uses the area of the contributing watershed as specified in Cell F19 of the ReferenceData worksheet. The daily inflow units for data in this column are “cubic feet.”

Column T, rows 16-381 contain the total year-to-date cumulative surface water inflow to the impoundments from the contributing watershed and inflow due to direct precipitation. Data are calculated as the sum of data in Column R and Column S plus the value of Column T for the previous day. Cell T16 (pertaining to January 1), contains only the sum of data in in Cell R16 and Cell S16. Data in this column have units of cubic feet.

Row 75 corresponds to data for February 29, and is therefore only active in the year specified in Cell B5 is a leap year. In instances where the specified year IS a leap year, then data and computations in this row are entered and executed as within any other row (or day). In instances where the specified year IS NOT a leap year, then data is not to be entered in this row and other calculations within the Accounting worksheet exclude data from this row. To visually indicate that calculations and data entry are not active in this row for non-leap years, calculation cells in this row are filled in **BLACK**. For non-leap years, the Plan adjusts its calculations to exclude data from row 75. For example, in cell K76, the daily discharge to Commissioner’s Creek is calculated as the difference between Cell J76 and Cell J74, thereby skipping row 75 data and ensuring discharges are properly calculated. Similar calculation adjustments are made in Columns D, H, I, L, N and T.

Accounting Plan – Theory & Methodology

The accounting plan (“Plan”) accompanying this document is a Microsoft Excel spreadsheet designed to quantify expected inflows to the RR417, LLC impoundments (Canoe Pond and Waterfront Pond) resulting from measured rain events. The Plan is designed so that the user may input rainfall measurements and discharge meter readings, with the spreadsheet then calculating whether RR417, LLC is satisfying its obligation not to capture State of Texas water within its impoundments. The spreadsheet calculations utilize the standard “Curve Number Method” originally developed by the Soil Conservation Service (SCS) and commonly described in all basic hydrology textbooks. The curve number method calculates runoff generated by rainfall events according to the following series of equations:

$$\text{Eq. 1} \quad S = \frac{1000}{CN} - 10$$

$$\text{Eq. 2} \quad I_a = 0.2S$$

$$\text{Eq. 3} \quad q = \frac{(P-I_a)^2}{(P-I_a)+S}$$

$$\text{Eq. 4} \quad Q = \frac{q}{12} A$$

Where “Q” is the total volume of water flowing as runoff (Units = cubic feet), “A” is the watershed area (Units = square feet), “q” is the resulting runoff (Units = inches), “P” is the depth of rainfall (Units = Inches), “I_a” is the initial abstractions representing the amount of rainfall lost to the land surface or canopy, and “S” is the potential maximum retention of water by the land surface and local groundwater system. All values computed using Eq. 1 – Eq. 4 are reflective of the time over which the rainfall “P” occurred.

The value “CN” is the curve number describing the land use/land cover of the watershed (which is also dependent upon the watershed’s hydrologic soil group). Curve numbers for a given area are also variable based on recent rainfall totals, specifically the “5-day antecedent moisture condition” defined as the total rainfall occurring over the previous 5 days. This total rainfall “RT” determines whether an area is considered “Dry,” “Average,” or “Wet” and causes adjustments to the area’s CN value accordingly. For example, under “Dry” conditions, the CN value is lowered, causing less rainfall to runoff and become surface water. In contrast, under “Wet” conditions, greater runoff occurs and the CN value is increased.

Table 1 provides the criteria defining each condition, as well as the standard formulas for adjusting the CN values. Note that CN values under “Average” conditions remain unchanged from their values based on land use/land cover.

Table 1 - Adjustments to curve numbers based on antecedent moisture conditions

Condition	Formula	5-Day Antecedent Rainfall Criteria	
		Growing Season March 15-October 15	Dormant Season October 16-March 14
I - Dry	$CN_I = \frac{4.2CN}{10 - 0.058CN}$	RT < 1.4 in	RT < 0.5 in
II - Average	CN = CN	1.4 in ≤ RT ≤ 2.0 in	0.5 in ≤ RT ≤ 1.0 in
III - Wet	$CN_{III} = \frac{23CN}{10 + 0.13CN}$	RT > 2.0 in	RT > 1.0 in

RT = Total rainfall for the previous 5-days

When implementing the curve number equations for computing runoff, the Plan first determines the appropriate CN based on antecedent moisture conditions, then computes values for “S” and “Ia” using Eq. 1 and Eq. 2. Prior to computing runoff (“q”), however, the Plan first compares values of P to the computed values of Ia, and only computes runoff if precipitation exceeds the depth of water lost to the initial abstractions. Mathematically, this ensures that the terms “P-Ia” included in Eq. 3 do not become negative. Physically, this signifies that runoff is only computed if there is sufficient precipitation to reach the ground, after accounting for canopy losses.

Application of the standard Curve Number method requires definition of the characteristics of the subject watershed that will contribute runoff. The RR417, LLC watershed is shown in Figure 1, and was determined through manual inspection of LiDAR elevation contours from the Texas Natural Resources Information System (TNRIS - <https://tnris.org/>).

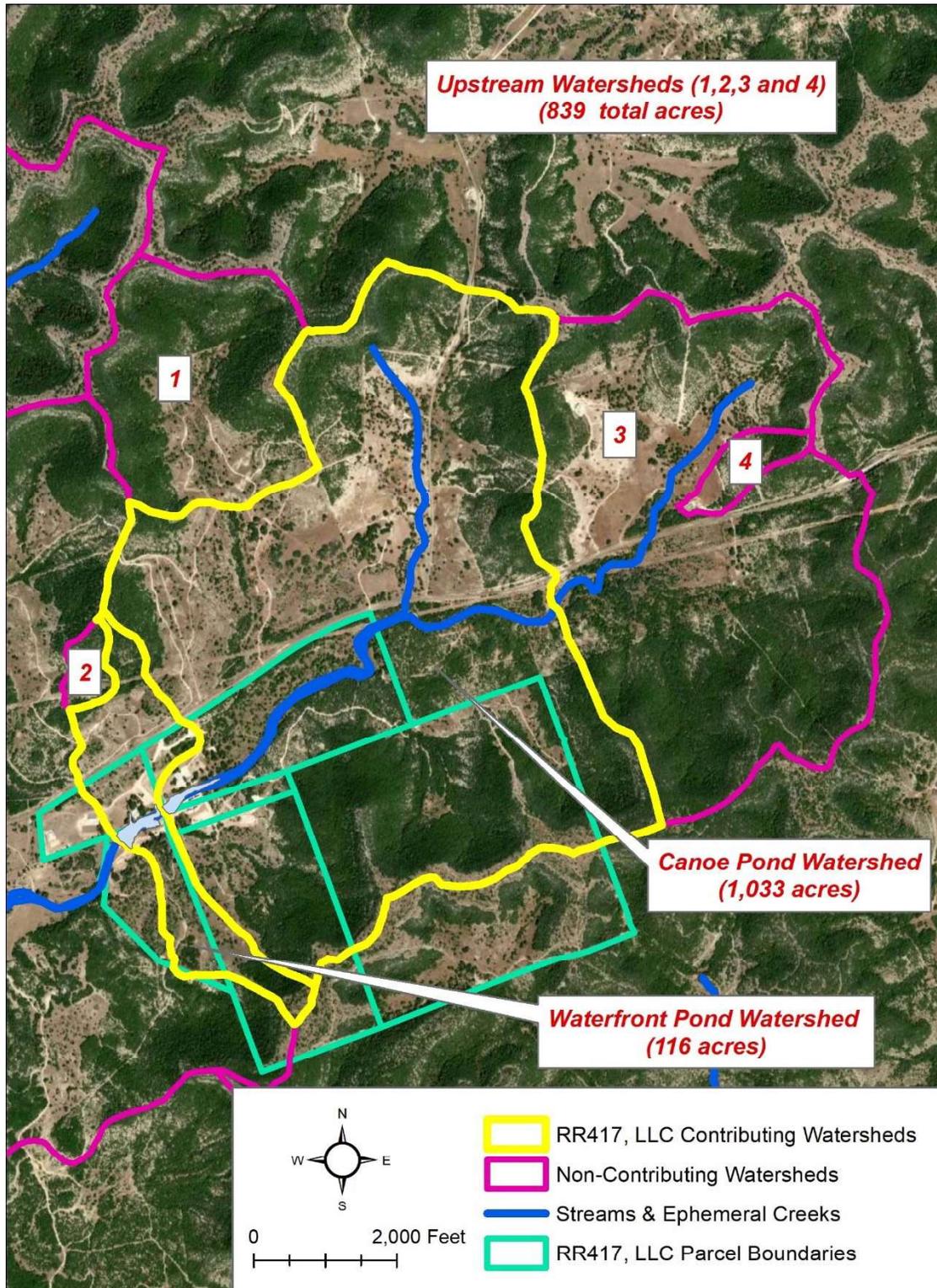


Figure 1 – Map of the RR417, LLC watershed as included within the Plan

As shown in Figure 1, the contributing watershed for RR 417, LLC (Yellow) extends outside of the property owned by RR 417, LLC (Green), especially to the north. RR 417, LLC does not have any control of portions of its contributing watershed that are outside of its property. Land management practices of adjacent landowners may alter the amount of runoff reaching the RR 417, LLC impoundments. Such practices have actually already reduced the land area directly contributing runoff to the RR 417, LLC impoundments. Figure 1 shows four “Upstream Watersheds” (labeled 1, 2, 3, and 4) which would have naturally drained to RR 417, LLC impoundments, but no longer do so as ponds have been constructed at the watershed outlets. These ponds will capture any available runoff from their respective watersheds prior to it flowing to the RR 417, LLC impoundments. It is possible that water could overflow from these ponds and enter the RR 417, LLC contributing watershed, especially as the result of multiple larger rainfall events. However, RR 417, LLC cannot control the water management actions of these pond owners, and cannot manage any inflows or outflows to or from these ponds. As such these watersheds (combining to total 839 acres) are excluded from the RR 417, LLC contributing area and are not incorporated into the Plan. The contributing area for the Canoe Pond was calculated to be 1,033 acres, and the contributing area only for the Watershed Pond was calculated to be 116 acres. The combined area for the RR417, LLC contributing watershed is 1,149 acres. Visual inspection of imagery from Google Earth confirmed that water may drain across HW 470 via culverts, thereby preventing HW 470 from serving as a drainage divide.

Per standard methods, curve numbers specified (in published tables) based on area’s Land Use/Land Cover (“LULC”) and hydrologic soil group. It is also common to use a weighted-average approach to assign a single curve number to an entire subject watershed. To determine the appropriate “Average” condition curve number for the RR 417, LLC contributing watershed, LULC data were obtained from the Multi-Resolution Land Characteristics Consortium (MRLC - <https://www.mrlc.gov/>), with the last update being from 2016. The hydrologic soil group data were available from the US Department of Agriculture (<https://websoilsurvey.nrcs.usda.gov/>).

LULC data were available as an ArcGIS raster grid with 30m x 30m resolution, and the grid was clipped to the extent of the RR 417, LLC contributing watershed using ArcGIS software. As shown in Figure 2, LULC within the watershed is predominantly “Evergreen Forest” and “Shrub/Scrub.” There also exist pockets of “Deciduous Forest” and “Grassland/Herbaceous” areas. The areas designated as “Developed Open Space” and “Developed – Low Intensity” correspond to roadways, specifically HW 470 and Kyle Ranch Rd. Three grid cells are classified as “Open Water” and represent the approximate extent of the Canoe Pond.

Hydrologic soil group data were available as an ArcGIS polygon shapefile, which was clipped to the extent of the RR 417, LLC contributing watershed using ArcGIS software. As shown in Figure 3, differing hydrologic soil groups tended to be located relative to their distance from Commissioner’s Creek. Soil group B, which tends to absorb more rainfall and generate less runoff, is located around Commissioner’s Creek including underneath the RR 417, LLC impoundments. Hydrologic soil group C is generally located further away from Commissioner’s Creek than the group B soils, and tends to encompass the flatter portions of the terrain. Hydrologic soil group D, which generates the most runoff, is located along the outer edge of the watershed and generally encompasses the steeper terrain.

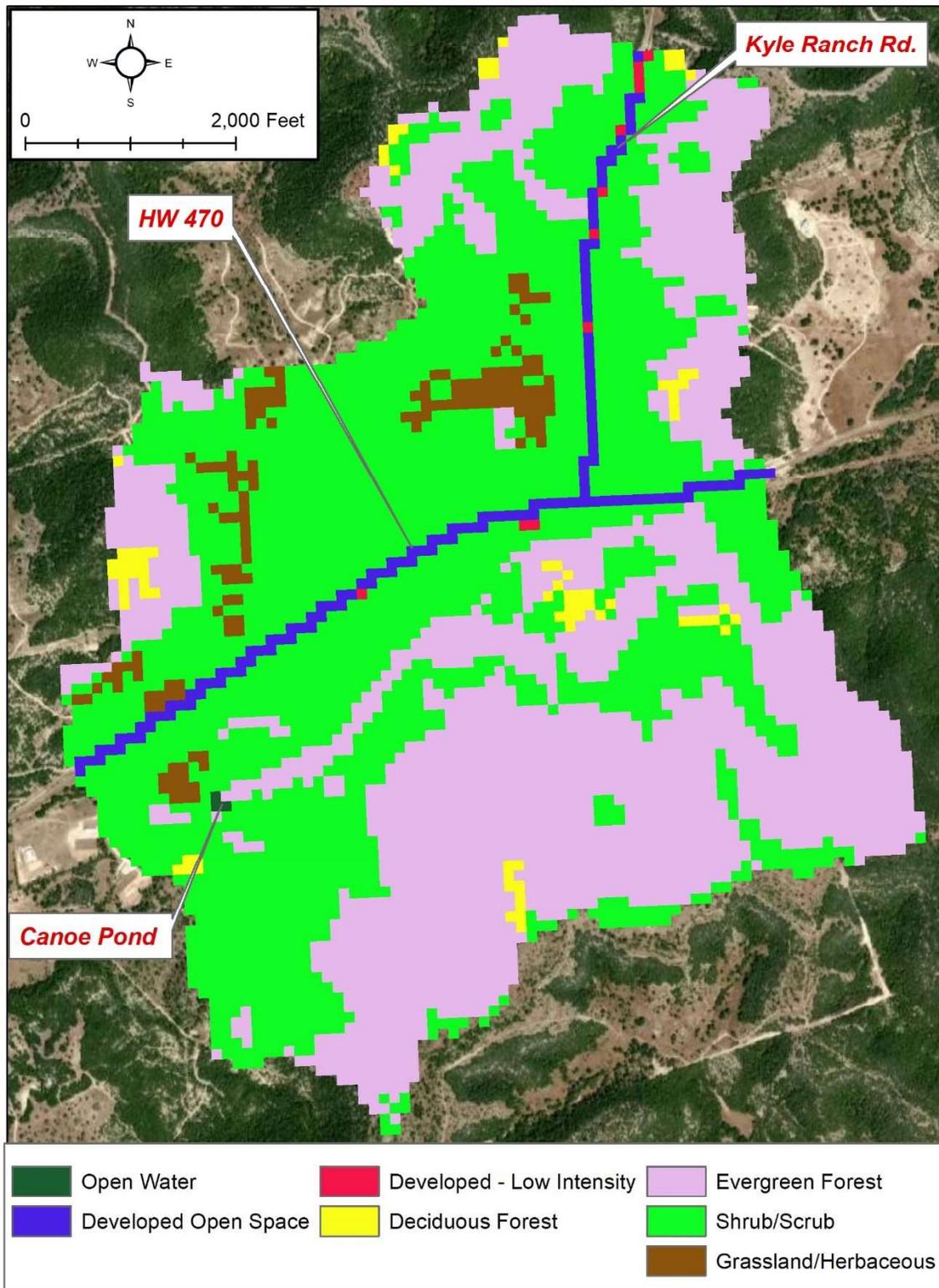


Figure 2 – Land Use/Land Cover classification for the RR 417, LLC contributing watershed.

Table 2 presents LULC data for the RR 417, LLC contributing watershed, and contains the standard curve number assignments for each LULC category based on the hydrologic soil group classification (A-D). As shown, CN values can differ by hydrologic soil group for a given LULC value. As such, ArcGIS raster processing was needed to quantify the aerial extent of each LULC category by hydrologic soil group. A watershed-average curve number was calculated as a weighted-average curve number based on the LULC and hydrologic soil group classifications. Data for hydrologic soil groups B, C, and D are provided in Table 3, Table 4, and Table 5, respectively. In each of these tables, the column “Weighted” is the product of the LULC curve number and the “# of Grid Cells” for the specified LULC. The watershed-average curve number was calculated based on these weightings as:

$$\text{Eq. 5} \quad CN_{Average} = \frac{\text{Weighted}_B + \text{Weighted}_C + \text{Weighted}_D}{\text{Total \# of Grid Cells}}$$

Table 2 – Land Use/Land Cover & Curve Number Properties for the RR417, LLC contributing watershed.

LULC	Code	Curve Number by Soil Group			
		A	B	C	D
Open Water	11	100	100	100	100
Developed Open Space	21	65	77	84	88
Developed Low-Intensity	22	65	77	84	88
Deciduous Forest	41	38	48	57	63
Evergreen Forest	42	48	58	73	80
Shrub/Scrub	52	35	56	70	77
Grassland/Herbaceous	71	49	69	79	84
Totals					

Table 3 – LULC & Curve Number Properties for the RR417, LLC contributing watershed, Hydrologic Soil Group B.

For Hydrologic Soil Group B				Curve Number	
LULC	Code	# of Grid Cells	Area (Acres)	B	Weighting
Open Water	11	0	0.000	100	0
Developed Open Space	21	0	0.000	77	0
Developed Low-Intensity	22	0	0.000	77	0
Deciduous Forest	41	0	0.000	48	0
Evergreen Forest	42	50	11.119	58	2900
Shrub/Scrub	52	184	40.920	56	10304
Grassland/Herbaceous	71	13	2.891	69	897
Totals		247	54.93019		14101

Table 4 – LULC & Curve Number Properties for the RR417, LLC contributing watershed, Hydrologic Soil Group C.

For Hydrologic Soil Group C				Curve Number	
LULC	Code	# of Grid Cells	Area (Acres)	C	Weighting
Open Water	11	0	0.000	100	0
Developed Open Space	21	69	15.345	84	5796
Developed Low-Intensity	22	4	0.890	84	336
Deciduous Forest	41	20	4.448	57	1140
Evergreen Forest	42	273	60.712	73	19929
Shrub/Scrub	52	1090	242.404	70	76300
Grassland/Herbaceous	71	29	6.449	79	2291
Totals		1485	330.248		105792

Table 5 – LULC & Curve Number Properties for the RR417, LLC contributing watershed, Hydrologic Soil Group D.

For Hydrologic Soil Group D				Curve Number	
LULC	Code	# of Grid Cells	Area (Acres)	D	Weighting
Open Water	11	0	0.000	100	0
Developed Open Space	21	65	14.455	88	5720
Developed Low-Intensity	22	7	1.557	88	616
Deciduous Forest	41	58	12.899	63	3654
Evergreen Forest	42	1794	398.967	80	143520
Shrub/Scrub	52	1314	292.220	77	101178
Grassland/Herbaceous	71	107	23.796	84	8988
Totals		3345	743.893		263676

By applying Eq. 5 using the data in Table 3, Table 4, and Table 5, the watershed-average curve number for RR 417, LLC is:

$$CN_{Average} = \frac{14101 + 105792 + 263676}{5077} = 75.6$$

This average weighted CN value is the value used for “Average” antecedent moisture conditions. Using the formulas from

Table 1, the “Dry” and “Wet” curve numbers for the RR 417, LLC contributing watershed become:

$$CN_{\text{Dry}} = \frac{4.2CN_{\text{Average}}}{10 - 0.058CN_{\text{Average}}} = \frac{4.2(75.6)}{10 - 0.058(75.6)} = 56.5$$

$$CN_{\text{Wet}} = \frac{23CN_{\text{Average}}}{10 + 0.13CN_{\text{Average}}} = \frac{23(75.6)}{10 + 0.13(75.6)} = 87.7$$

Notes: the Land Use/Land Cover data set used in this analysis contained three (3) grid cells within the Soil Group B region that were classified as “Open Water.” These three cells are not included within Table 3, as they pertain to land inundated by the Canoe Pond, as identified by the Land Use/Land Cover grid generation process. These grid cells were excluded from the rainfall-runoff calculation process for the RR 417, LLC watershed, because the Plan separately calculates inflows entering the ponds as direct precipitation.

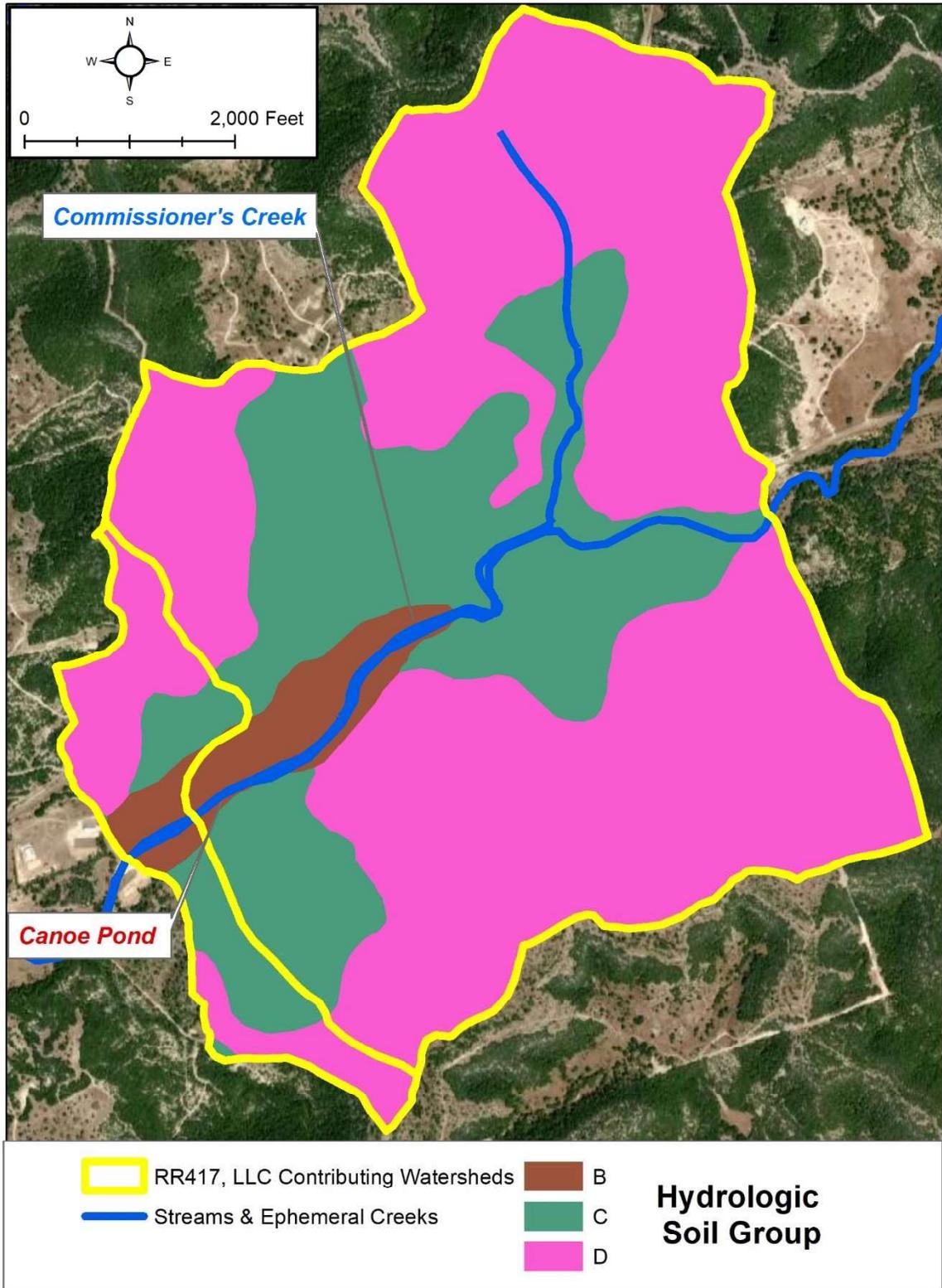


Figure 3 – Hydrologic Soil Group classification for the RR 417, LLC contributing watersheds

RR 417, LLC

May 27, 2021

Accounting plan with text file available upon request

Version 3.05b

Contact Mr. Chris Kozlowski at (512) 239-1801