

TCEQ Interoffice Memorandum

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

THRU:  Iliana Delgado, Team Leader
Water Rights Permitting Team

FROM: Chris Kozlowski, Project Manager
Water Rights Permitting Team

DATE: September 2, 2016

SUBJECT: Montgomery County Municipal Utility District No. 8
Montgomery County Municipal Utility District No. 9
WRPERM 12510
CN600736599, CN600626519, RN105907273
Application No. 12510 for a Water Use Permit
Texas Water Code §11.042, Requiring Limited Mailed Notice
West Fork San Jacinto River (Lake Conroe), San Jacinto River Basin
Montgomery County

The Executive Director received an application from Montgomery County Municipal Utility District Nos. 8 & 9 seeking a Water Use Permit pursuant to Texas Water Code § 11.121 and Texas Commission on Environmental Quality Rules Title 30 Texas Administrative Code §§ 295.1, *et seq.*

The application was received on October 10, 2009. The application was declared administratively complete and accepted for filing with the Office of the Chief Clerk on April 12, 2010. Notice of the application was mailed on March 23, 2011 to the downstream water right holders in the San Jacinto River Basin. Two requests for a contested case hearing were received.

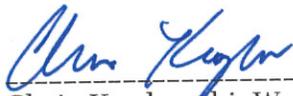
Because this application was declared administratively complete after September 1, 1999, the rules in Chapter 55, Subchapter G, Sections 55.250 - 55.256 apply. The Chief Clerk shall mail notice to the applicant, executive director, public interest counsel, and timely hearing requestors not later than 35 days prior to the agenda setting. The Applicant, the public interest counsel, and the executive director shall file a response no later than 23 days before agenda, and the hearing requestors shall reply no later than nine days before agenda.

The application is now technically complete and the staff has recommended that the application be granted based on the analysis in the technical review memos.

Below is the caption for this application:

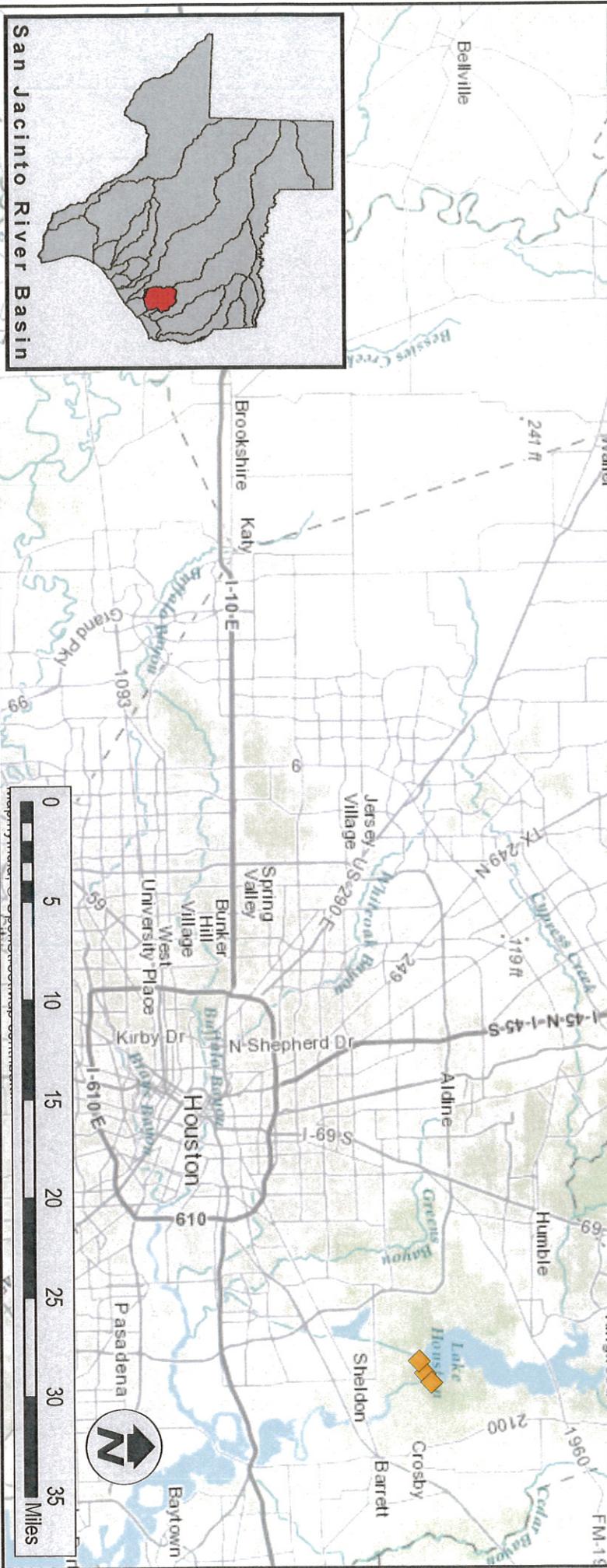
Consideration of an application for Water Use Permit 12510 by Montgomery County Municipal Utility District Nos. 8 & 9 (the Districts) to use the bed and banks of the West Fork San Jacinto River (Lake Conroe), tributary of the San Jacinto River, San Jacinto River Basin, to convey their present and future groundwater-based return flows for subsequent diversion and reuse. The return flows are discharged under the Districts'

TPDES Permit No. WQ0011371001 at a discharge rate of 0.9 MGD per year from two outfall points into Lake Conroe. The Districts indicate that the water will be diverted, less carriage losses, from diversion points at or inland of the perimeter of Lake Conroe at a maximum combined diversion rate of 3,422 cfs for municipal, industrial, and agricultural purposes within the Districts' service areas in Montgomery County in the San Jacinto River Basin. Lake Conroe is authorized by Certificate of Adjudication No. 10-4963, issued jointly to the San Jacinto River Authority and the City of Houston. The Commission will consider the application and timely filed hearing requests and responses. (Chris Kozlowski, Robin Smith)



Chris Kozlowski, Work Leader
Water Rights Permitting Team

Enclosures



Applicant
 ▲ Montgomery County MUDs 8 & 9
 Application No. 12510

Protestants
 ◆ City of Houston
 * San Jacinto River Authority



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



NOTICE OF AN APPLICATION FOR A WATER USE PERMIT

APPLICATION NO. 12510

Montgomery County Municipal Utility District Nos. 8 and 9 seek authorization to use the bed and banks of the West Fork San Jacinto River (Lake Conroe), San Jacinto River Basin, to convey their present and future groundwater-based return flows for use within the Districts' service areas in Montgomery County in the San Jacinto River Basin. More information on the application and how to participate in the permitting process is given below.

APPLICATION. Montgomery County Municipal Utility District No. 8, 1001 McKinney, Suite 1001, Houston, Texas, 77002-6424, and Montgomery County Municipal Utility District No. 9, 1001 Fannin, Suite 2500, Houston, Texas, 77002-6760, Applicants, have applied to the Texas Commission on Environmental Quality (TCEQ) for a Water Use Permit pursuant to Texas Water Code (TWC) §11.042, and TCEQ Rules Title 30 Texas Administrative Code (TAC) §295.1, *et seq.* Notice of the application is being mailed to the nine downstream water right holders of record in the San Jacinto River Basin pursuant to Title 30 TAC 295.161(a).

Applicants seek authorization to use the bed and banks of the West Fork San Jacinto River (Lake Conroe), tributary of the San Jacinto River, San Jacinto River Basin, to convey their present and future groundwater-based return flows.

TPDES Permit No. WQ0011371001 authorizes the Permittees to discharge up to 1,008.86 acre-feet of water per year (0.9 MGD) into Lake Conroe on the West Fork San Jacinto, tributary of the San Jacinto River, San Jacinto River Basin, at two points as described below:

Outfall 1 - Latitude 30.390833°N, Longitude 95.604722°W, also bearing N81.350000°E, 5,270 feet from the westernmost corner of the W.C. Clark Survey, Abstract No. 3, Montgomery County.

Outfall 2 - Latitude 30.389722°N, Longitude 95.604167°W, also bearing S34.531667°W, 237 feet from the east corner of Lot 44 in Block 36 of Walden On Lake Conroe, Section 5 out of the William Clark Survey, Abstract No. 6, Montgomery County.

Applicants indicate the water will be diverted, less carriage losses, from diversion point(s) at or inland of the perimeter of Lake Conroe, Montgomery County at a maximum combined diversion rate of 3,422 cfs (1,500 gpm) for municipal, industrial, and agricultural purposes within the Districts' service areas in Montgomery County in the San Jacinto River Basin.

Lake Conroe is authorized by Certificate of Adjudication No. 10-4963, issued jointly to San Jacinto River Authority and the City of Houston.

Applicants submitted an accounting plan on October 30, 2009, which was accepted by the Executive Director.

The application and partial fees were received on October 2, 2009. Additional information was received on October 30, November 3 and December 14, 2009, and April 7 and June 3, 2010. The application was declared administratively complete and filed with the Office of the Chief Clerk on April 12, 2010.

The Executive Director completed the technical review of the application and prepared a draft permit. The draft permit, if granted, would contain special conditions including but not limited to, restricting diversions to the return flows that are actually discharged. The application, technical memoranda, and Executive Director's draft amendment are available for viewing and copying at the Office of the Chief Clerk, 12100 Park 35 Circle, Building F, Austin, Texas, 78753.

PUBLIC COMMENT / PUBLIC MEETING. Written public comments and requests for a public meeting should be received in the Office of Chief Clerk, at the address provided in the information section below, by April 28, 2011. A public meeting is intended for the taking of public comment, and is not a contested case hearing. A public meeting will be held if the Executive Director determines that there is a significant degree of public interest in the application.

CONTESTED CASE HEARING. The TCEQ may grant a contested case hearing on this application if a written hearing request is filed by April 28, 2011. The Executive Director may approve the application unless a written request for a contested case hearing is filed.

To request a contested case hearing, you must submit the following: (1) your name (or for a group or association, an official representative), mailing address, daytime phone number, and fax number, if any; (2) applicant's name and permit number; (3) the statement "[I/we] request a contested case hearing;" (4) a brief and specific description of how you would be affected by the application in a way not common to the general public; and (5) the location and distance of your property relative to the proposed activity. You may also submit proposed conditions to the requested permit which would satisfy your concerns. Requests for a contested case hearing must be submitted in writing to the Office of the Chief Clerk at the address provided in the information section below.

If a hearing request is filed, the TCEQ will not issue the permit and will forward the application and hearing request to the TCEQ Commissioners for their consideration at a scheduled Commission meeting.

INFORMATION. Written hearing requests, public comments or requests for a public meeting should be submitted to the Office of the Chief Clerk, MC 105, TCEQ, P.O. Box 13087, Austin, TX 78711-3087 or electronically at <http://www.tceq.texas.gov/about/comments.html>. For information concerning the hearing process, please contact the Public Interest Counsel, MC 103, the same address. For additional information, individual members of the general public may contact the Office of Public Assistance at 1-800-687-4040. General information regarding the TCEQ can be found at our web site at www.tceq.texas.gov. Si desea información en Español, puede llamar al 1-800-687-4040 o por el internet al <http://www.tceq.texas.gov>.

Issued: March 23, 2011

WATER USE PERMIT

DRAFT

PERMIT NO. 12510

TYPE §11.042

Permittee: Montgomery County Municipal Utility District No. 8 Address: 1001 McKinney, Suite 1001 Houston, Texas 77002-6424

Montgomery County Municipal Utility District No. 9 1001 Fannin, Suite 2500 Houston, Texas 77002-6760

Filed: April 12, 2010

Granted

DRAFT

Purpose: Municipal, Industrial, and Agricultural County: Montgomery

Watercourse: West Fork San Jacinto River (Lake Conroe), tributary of the San Jacinto River Watershed: San Jacinto River Basin

WHEREAS, Applicants seek authorization to use the bed and banks of the West Fork San Jacinto River (Lake Conroe), tributary of the San Jacinto River, San Jacinto River Basin, to convey their present and future groundwater-based return flows; and

WHEREAS, TPDES Permit No. WQ0011371001 authorizes a final phase combined discharge rate of 0.9 MGD (1,008.86 acre-feet/year) from two outfall points into Lake Conroe; and

WHEREAS, Applicants indicate the water will be diverted, less carriage losses, from diversion point(s) at or inland of the perimeter of Lake Conroe, Montgomery County at a maximum combined diversion rate of 3.422 cfs (1,500 gpm) for municipal, industrial, and agricultural purposes within the Districts' service areas in Montgomery County in the San Jacinto River Basin; and

WHEREAS, Lake Conroe is authorized by Certificate of Adjudication No. 10-4963, issued jointly to San Jacinto River Authority and the City of Houston; and

WHEREAS, the Texas Commission on Environmental Quality (TCEQ) finds that jurisdiction over the application is established; and

WHEREAS, Applicants submitted an accounting plan on October 30, 2009, which was accepted by the Executive Director; and

WHEREAS, the Executive Director recommends special conditions be included in the permit; and

WHEREAS, no requests for a contested case hearing were received for this application; and

WHEREAS, the Commission has complied with the requirements of the Texas Water Code and Rules of the Texas Commission on Environmental Quality in issuing this water use permit;

NOW, THEREFORE, Water Use Permit No. 12510 is issued to Montgomery County Municipal Utility District No. 8 and Montgomery County Municipal Utility District No. 9 subject to the following terms and conditions:

1. USE

Permittees are authorized to use the bed and banks of the West Fork San Jacinto River (Lake Conroe), tributary of the San Jacinto River, San Jacinto River Basin, to convey their current and future groundwater-based return flows for subsequent diversion and reuse of up to 1,008.86 acre-feet per year (less losses) of those return flows for municipal, industrial and agricultural purposes within their service areas in Montgomery County in the San Jacinto River Basin.

2. DISCHARGE

TPDES Permit No. WQ0011371001 authorizes the Permittees to discharge up to 1,008.86 acre-feet of water per year (0.9 MGD) into Lake Conroe on the West Fork San Jacinto, tributary of the San Jacinto River, San Jacinto River Basin, at two points as described below:

Outfall 1 - Latitude 30.390833°N, Longitude 95.604722°W, also bearing N81.350000°E, 5,270 feet from the westernmost corner of the W.C. Clark Survey, Abstract No. 3, Montgomery County.

Outfall 2 - Latitude 30.389722°N, Longitude 95.604167°W, also bearing S34.531667°W, 237 feet from the east corner of Lot 44 in Block 36 of Walden On Lake Conroe, Section 5 out of the William Clark Survey, Abstract No. 6, Montgomery County.

3. DIVERSION

Permittee is authorized to divert the groundwater-based return flows at a maximum combined diversion rate of 3.422 cfs (1,500 gpm) from a point or points to be determined at or inland from the perimeter of Lake Conroe.

4. TIME PRIORITY

The groundwater-based return flows authorized to be conveyed via the bed and banks of a State watercourse in this permit do not have a priority date and are not subject to priority calls from downstream senior water rights.

5. SPECIAL CONDITIONS

- A. The diversions authorized by this permit are dependent upon potentially interruptible return flows or discharges and are conditioned on the availability of those discharges. The right to divert the discharged return flows is subject to revocation if all discharges become permanently unavailable for diversion. Should all discharges become permanently unavailable for diversion, Permittees shall immediately cease diversion under this permit and either apply to amend the permit or voluntarily forfeit the permit. If Permittees do not amend or forfeit the permit, the Commission may begin proceedings to cancel this permit. This permit is subject to reduction if the return flows are not available in quantities and qualities sufficient to fully satisfy the permit. Permittees shall only divert the return flows that are actually discharged, and if there is a permanent reduction in available return flows, Permittees shall immediately seek an amendment to the permit to reflect the reductions.
- B. Permittees shall only divert and use groundwater-based return flows pursuant to Paragraph 1. USE and Paragraph 3. DIVERSION in accordance with the most recently approved accounting plan. Permittees shall maintain the plan in electronic format and make the data available to the Executive Director and the public upon request. Any modifications to the accounting plan shall be approved by the Executive Director. Any modification to the accounting plan that changes the permit terms must be in the form of an amendment to the permit. Should Permittees fail to maintain the accounting plan or notify the Executive Director before making any such modifications to the plan, Permittees shall immediately cease diversion of discharged return flows and either apply to amend the

permit or voluntarily forfeit the permit. If Permittees fail to amend the accounting plan or forfeit the permit, the Commission may begin proceedings to cancel the permit. Permittees shall immediately notify the Executive Director upon modification of the accounting plan and provide copies of the appropriate documents effectuating such changes.

- C. Prior to diversion of groundwater-based return flows in excess of the amount currently authorized by TPDES Permit No. WQ0011371001, described in Paragraph 2. DISCHARGE, Permittees shall apply for and be granted the right to reuse those return flows. Permittees shall amend the accounting plan to include future discharges of groundwater-based return flows prior to diverting said return flows.
- D. To the extent that the exercise of the authority granted in Paragraph 3. DIVERSION, requires an easement or agreement for installation of diversion works upon the land of another, Permittees shall, prior to the diversion and use of the groundwater-based return flows, submit a signed document showing that such easement or agreement exists.
- E. To the extent that Special Condition 5.D. of this Permit requires submission of an easement or agreement, the exercise of rights under Paragraph 3. DIVERSION is conditioned upon the continued effectiveness of such easement or agreement. Upon expiration of the easement or agreement, Permittees shall immediately cease diversion of the water and either apply to amend the permit or voluntarily forfeit the permit. If Permittees fail to acquire and maintain the easement or agreement, or forfeit the permit, the Commission may begin proceedings to cancel the permit. The Permittees shall immediately notify the Commission upon amendment or expiration of the easement or agreement and provide copies of appropriate documents effectuating such changes.
- F. Permittees shall implement measures to minimize impacts to aquatic resources due to entrainment or impingement including, but not limited to, the installation of screens at the diversion facilities with a mesh size that will provide for a maximum flow through velocity of 0.5 feet per second.
- G. Permittees shall install a measuring device which accounts for, within 5% accuracy, the quantity of water diverted from Lake Conroe. Permittees shall allow representatives of the TCEQ reasonable access to the property to inspect the measuring device.

This water use permit is issued subject to all superior water rights in the San Jacinto River Basin.

Permittees agree to be bound by the terms, conditions, and provisions contained herein and such agreement is a condition precedent to the granting of this permit.

All other matters requested in the application which are not specifically granted by this water use permit are denied.

This water use permit is issued subject to the Rules of the Texas Commission on Environmental Quality and to the right of continuing supervision of state water resources exercised by the Commission.

Date Issued:
DRAFT

For the Commission
DRAFT

Texas Commission on Environmental Quality

INTEROFFICE MEMORANDUM

To: Craig Mikes
Water Rights Permitting Team

December 06, 2010

From: Kathy Alexander, Technical Specialist
Water Rights Permitting and Availability Section

Subject: Montgomery County MUD Nos. 8 & 9
WRPERM 12510
CN600736599 and CN600626519
West Fork San Jacinto River (Lake Conroe)
San Jacinto River Basin
Montgomery County

HYDROLOGY REVIEW

Application Summary

Montgomery County MUD Nos. 8 & 9 (the MUDs) seek authorization to use the bed and banks of the West Fork San Jacinto River (Lake Conroe), tributary of the San Jacinto River, to convey current and future groundwater based return flows. TPDES Permit No. WQ0011371001 currently authorizes the discharge of 0.9 MGD from a combination of one existing and one proposed discharge point on the perimeter of Lake Conroe. The discharged return flows will be diverted at a diversion location(s) at, or inland from, the perimeter of Lake Conroe within or adjacent to the MUDs' boundaries, for municipal, industrial, and agricultural purposes within the MUDs' service area in Montgomery County.

Review

The Water Rights Analysis Package (WRAP) simulates management of the water resources of a river basin. TCEQ uses WRAP in the evaluation of water right permit applications using priority-based water allocation. WRAP is a generalized simulation model for application to any river basin, and input datasets must be developed for the particular river basin of concern. The TCEQ developed water availability models (WAMs) for Texas' river basins that include geographical information, water right information, naturalized flows, evaporation rates, and specific management assumptions. Hydrology staff operates WRAP to determine water availability and ensure that senior water rights are protected.

Resource Protection staff did not recommend instream flow requirements for this application, though they did recommend special conditions to protect aquatic organisms.

Staff acknowledges that the naturalized flow dataset for the San Jacinto WAM likely includes the MUDs' return flows. The procedure for adjusting the naturalized flows in this basin is consistent with the WAM Resolved Technical issues. Historic discharges from the MUDs did not meet the threshold for consideration in the naturalization process and are extremely small compared to the total flow. Therefore, in order to determine the impacts associated with current return flow volumes, staff modified the Full Authorization version of the San Jacinto WAM dataset (all basin rights utilize their maximum authorized amount) to include an estimate of the

Montgomery County MUDs 8 & 9

Application 12510

San Jacinto River (Lake Conroe)

2 of 3

MUDs' historic discharges. To estimate the historic discharges, staff used discharge data submitted by the MUDs for the period 2004-2008. Staff used the minimum monthly value for each month of the five year period to create constant inflow records. Staff then ran a simulation and calculated the volume reliabilities of all basin water rights. Volume reliability is defined as the percentage of the total target demand for each water right that is actually supplied. Next, staff performed a simulation using the modified version of the WAM dataset described above and included the diversion of the discharged return flows, assuming that those diversions had the most senior priority date in the basin. Staff then compared results for the two simulations.

The results indicate that when 100% of the modeled historic discharge of 356 acre-feet was diverted, 7 of the approximately 140 modeled water rights showed a decrease in volume reliability. These rights include water diversion rights from Lake Conroe although the effect was minimal. The average decrease in volume reliability was 0.08%, with a maximum decrease of 0.26%. Staff conducted an additional simulation to determine the effect of a reduced level of diversions on the volume reliability of basin water rights. The results indicate that when 50% (178 acre-feet) of the modeled historic discharge was diverted, 5 water rights showed a decrease in volume reliability. The average decrease in volume reliability was 0.01% with a maximum decrease of 0.04%.

One water right authorized for municipal use was 100% reliable in the original scenario and was reduced below 100% when return flows were diverted, although the reduction was less than 0.04% when all return flows were diverted. Although availability for this water right was determined using the WAM, which may have included the MUDs historic return flows, staff does not believe that this water right would be impacted by the diversion of return flows because any actual impacts are well within the accuracy of the USGS stream gages used to determine the naturalized flows. Staff reviewed water rights in the San Jacinto River Basin and found no additional water rights that were granted based on the use and availability of the MUDs' groundwater based return flows.

The results of the analysis indicate that although the volume reliabilities of some rights were negatively affected as a result of this application, the effects are minimal. In addition, because none of the affected water rights were based on the use and availability of the MUDs' return flows, this does not constitute an impact on these water rights. Requiring the MUDs to maintain an accounting plan will mitigate any possible impacts on existing basin water rights, should those impacts be determined to exist.

The MUDs provided an accounting plan on October 30, 2009 that accounts for discharges and diversion of return flows. To estimate losses, the MUDs propose to use the maximum calculated monthly loss rate of 0.08% for each month of the year. Staff reviewed the estimate of losses and accounting plan and found them adequate.

Conclusion

TWC 11.042(b) specifically allows for the use of waters of the state for the conveyance of groundwater based return flows. The bed and banks of Lake Conroe meet the definition of a watercourse, and the water impounded in Lake Conroe is state water. The MUDs' groundwater based return flows are not part of the natural inflows to the reservoir and therefore cannot

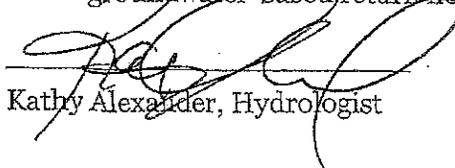
Montgomery County MUDs 8 & 9
Application 12510
San Jacinto River (Lake Conroe)

3 of 3

impact the flows which were the basis of the Lake Conroe authorization.

Pursuant to TWC 11.042(b), the only limitations on the amount of return flows the MUDs could reuse are for losses, environmental interests, and protection of any water rights that were granted based on the use or availability of those return flows. Therefore, staff can support granting the MUDs' request to divert current and future groundwater based return flows provided the permit includes Resource Protection staff's recommendations and the following special conditions:

1. The diversions authorized by this permit are dependent upon potentially interruptible return flows or discharges and are conditioned on the availability of those discharges. The right to divert the discharged return flows is subject to revocation if discharges become permanently unavailable for diversion and may be subject to reduction if the return flows are not available in quantities and qualities sufficient to fully satisfy the permit. Should the discharges become permanently unavailable for diversion, Permittees shall immediately cease diversion under this permit and either apply to amend the permit, or voluntarily forfeit the permit. If Permittees do not amend or forfeit the permit, the Commission may begin proceedings to cancel this permit. Permittees shall only divert the return flows that are actually discharged and if there is a permanent reduction in available return flows, Permittees shall immediately seek an amendment to the permit to reflect the reductions.
2. Permittees shall only divert and use groundwater based return flows pursuant to Paragraph 1. USE and Paragraph 3. DIVERSION in accordance with the most recently approved accounting plan. Permittees shall maintain the plan in electronic format and make the data available to the Executive Director and the public upon request. Any modifications to the accounting plan shall be approved by the Executive Director. Any modification to the accounting plan that changes the permit terms must be in the form of an amendment to the permit. Should Permittees fail to maintain the accounting plan or notify the Executive Director of any modifications to the plan, Permittees shall immediately cease diversion of discharged return flows, and either apply to amend the permit, or voluntarily forfeit the permit. If Permittees fail to amend the accounting plan or forfeit the permit, the Commission may begin proceedings to cancel the permit. Permittees shall immediately notify the Executive Director upon modification of the accounting plan and provide copies of the appropriate documents effectuating such changes.
3. Prior to diversion of groundwater-based return flows in excess of the amount currently authorized by TPDES Permit No. WQ0011371001, described in Paragraph 2. DISCHARGE, Permittees shall apply for and be granted the right to reuse those return flows. Permittees shall amend the accounting plan to include future discharges of groundwater-based return flows prior to diverting said return flows.


Kathy Alexander, Hydrologist

Texas Commission on Environmental Quality

INTEROFFICE MEMORANDUM

To: Craig Mikes, Project Manager
Water Rights Permitting Team
Water Rights Permitting & Availability Section

Date: December 6, 2010

Through: *DL* Chris Loft, Team Leader
Resource Protection Team
12/6/10 Water Rights Permitting & Availability Section

DL Gregg Easley, Aquatic Scientist
12/6/10 Resource Protection Team
for Water Rights Permitting & Availability Section

From: *DL* Kaci Myrick, Aquatic Scientist
12/6/10 Resource Protection Team
for Water Rights Permitting & Availability Section

Subject: Montgomery County MUD Nos. 8 and 9
WRPERM 12510
CN600736599 and CN600626519
Lake Conroe, San Jacinto River Basin
Montgomery County

Environmental reviews of water right applications are conducted in accordance with §11.042, §11.147, §11.1491, §11.150, and §11.152 of the Texas Water Code and with TCEQ administrative rules which include 30 TAC §297.53 through §297.56. These statutes and rules require the TCEQ to consider the possible impacts of the granting of a water right on fish and wildlife habitat, water quality, and instream uses associated with the affected body of water. Possible impacts to bays and estuaries are also addressed.

ENVIRONMENTAL ANALYSIS

Application Summary: Montgomery County Municipal Utility District Nos. 8 & 9 (the MUDs) seek authorization to use the bed and banks of the West Fork San Jacinto River (Lake Conroe), tributary of the San Jacinto River, San Jacinto River Basin, to convey current and future groundwater based return flows. TPDES Permit No. WQ0011371001 currently authorizes the discharge of 0.9 MGD from a combination of one existing and one proposed discharge point on the perimeter of Lake Conroe. The discharged return flows will be diverted at a diversion location(s) at, or inland from, the perimeter of Lake Conroe within or adjacent to the MUDs' boundaries, for municipal, industrial, and agricultural purposes within the MUD's service area in Montgomery County.

INSTREAM USES

Aquatic and Riparian Habitats: Lake Conroe is situated seven miles west of the City of Conroe at the Lake Conroe Dam (<http://www.sjra.net/>) in Montgomery County. Montgomery County covers 1,047 square miles of flat to gently rolling terrain, with elevations ranging from 150 to 300 feet. To

the south and west soils are light-colored and loamy with deep, reddish, clayey to loamy subsoils. The remainder of the county has reddish soils with loamy surfaces and very deep, clayey subsoils. Vegetation is typical of the Piney Woods area, with thick stands of longleaf, shortleaf, and loblolly pines and hickory, maple, sweet and black gum, oak, and magnolia trees. Grasses include Virginia wildrye, blackseed needlegrass, and purpletop. Wildlife in the county includes eastern gray and fox squirrels, various species of bats and skunks, and small herbivores such as gophers, mice, rabbits, and armadillos, as well as raccoons, white-tailed deer, opossum, bobcat, coyote, and red and grey fox. Alligators, frogs, toads, and numerous species of snake, including the poisonous copperhead, cottonmouth, coral snakes, and rattlesnake, are found in abundance (*Handbook of Texas Online*). Based on aerial images of Lake Conroe, the shoreline is dominated by numerous residential communities, docks, and marinas.

The average annual discharge to Lake Conroe from TPDES Permit WQ0011371001 based on historical discharge data provided by the applicant for the period of November 2003 – October 2009 was 411 acre-feet per year. Lake Conroe is authorized to impound 430,260 acre-feet per year. Resource Protection Staff are of the opinion that the use of return flows associated with TPDES Permit No. WQ0011371001 from Lake Conroe will have minimal impacts to the aquatic and riparian habitat. The Applicant has indicated that they will install screens with a mesh size that will provide for a maximum flow through velocity of 0.5 feet per second as recommended by Resource Protection staff for the prevention of potential entrainment and impingement of aquatic organisms.

Recreational Uses: Lake Conroe offers clean, clear water for a large variety of recreation including boating, fishing, hunting, golfing, swimming, water skiing, and jet skiing (http://lakeconroe.com/about_lake_conroe.htm). Predominant sport fish present in Lake Conroe include largemouth bass, bluegill, channel catfish, and white bass (<http://www.tpwd.state.tx.us/fishboat/fish/recreational/lakes/conroe/>). Resource Protection staff does not expect adverse impacts to the recreational uses of Lake Conroe from the proposed amendment.

Water Quality: Lake Conroe is designated as classified Segment No. 1012, as listed in the state surface water quality standards (30 TAC 307.10(1) and (3)). The designated uses for Segment No. 1012, as listed in 30 TAC 307.10(1), are contact recreation, high aquatic life use, and public water supply. All uses are fully supported, but there are concerns for chlorophyll a levels in portions of the segment (TCBQ 2008). Resource Protection staff do not expect any adverse impacts to water quality due to the use of the bed and banks of Lake Conroe for conveyance of historic and future discharged effluent and subsequent diversion of return flows.

Bay and Estuary Freshwater Inflows: Freshwater inflows are critical for maintaining the historical productivity of bays and estuaries along the Gulf Coast. The proposed project site is located within the Coastal Management Boundary and is less than 200 miles from the Gulf Coast. However, the application's request is not subject to the State's Coastal Management Program. Therefore Resource Protection staff is of the opinion that any impacts to freshwater inflows to the receiving bays and estuaries are minimal.

SUMMARY

Montgomery County Municipal Utility District Nos. 8 & 9 (the MUDs) seek authorization to use the bed and banks of the West Fork San Jacinto River (Lake Conroe), tributary of the San Jacinto River,

San Jacinto River Basin, to convey current and future groundwater based return flows. TPDES Permit No. WQ0011371001 currently authorizes the discharge of 0.9 MGD from a combination of one existing and one proposed discharge point on the perimeter of Lake Conroe. The discharged return flows will be diverted at a diversion location(s) at, or inland from, the perimeter of Lake Conroe within or adjacent to the MUDs' boundaries, for municipal, industrial, and agricultural purposes within the MUD's service area in Montgomery County.

Resource Protection staff recommend the following special condition be included in the permit, if granted:

Permittees shall implement measures to minimize impacts to aquatic resources due to entrainment or impingement including, but not limited to, the installation of screens at the diversion facilities with a mesh size that will provide for a maximum flow through velocity of 0.5 feet per second.

This instream use assessment was conducted using current TCEQ operation procedures and policies and available data and information. Authorizations granted to the permittee by the water rights permit shall comply with all rules of the Texas Commission on Environmental Quality, and other applicable State and Federal authorizations.

LITERATURE CITED

Handbook of Texas Online, s.v. "Montgomery County" <http://www.tshaonline.org/handbook/online/articles/MM/hcm11.html> (accessed September 10, 2010).

http://lakeconroe.com/about_lake_conroe.htm Accessed on September 13, 2010.

<http://www.sjra.net> Accessed on September 13, 2010.

TCEQ. 2008. Texas Water Quality Inventory and 303(d) List. Texas Commission on Environmental Quality.

<http://www.tpwd.state.tx.us/fishboat/fish/recreational/lakes/conroe/>. Accessed on September 15, 2010.