

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
INTEROFFICE MEMORANDUM

TO: Chief Clerk DATE: October 1, 2009

THRU: Iliana Delgado, Team Leader
Water Rights Permitting Team

FROM: Esteban (Steve) Ramos, Project Manager
Water Rights Permitting Team

SUBJECT: City of Bryan
Docket No. 2006-1832-WR
WRPERM 5912
CN600373310, RN105158307, RN105158380, RN105158414, RN105158422
Application No. 5912 for a Water Use Permit
TWC §11.042, Requiring Limited Mailed Notice
Still Creek, Burton Creek, and Turkey Creek, Brazos River Basin
Brazos, Grimes, Washington, Waller, Austin, Fort Bend and Brazoria Counties

The Executive Director received an application from City of Bryan seeking a Water Use Permit pursuant to Texas Water Code §11.042 and Texas Commission on Environmental Quality Rules 30 TAC §§295.1, *et seq.*

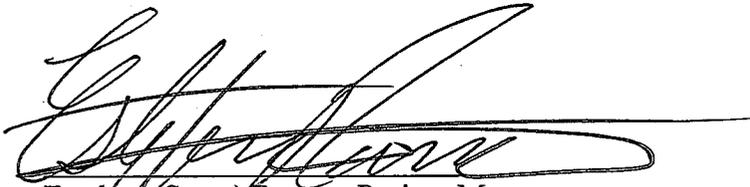
The application was received on August 5, 2005. The application was declared administratively complete on December 20, 2006 and filed with the Office of the Chief Clerk on February 9, 2007. Notice of the application was issued on March 20, 2007, and mailed to the 105 downstream water right holders in the Brazos River Basin. Several requests for a public hearing were received.

Because this application was declared administratively complete after September 1, 1999, the rules in Chapter 55, Subchapter G, Section 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. Applicants, 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.

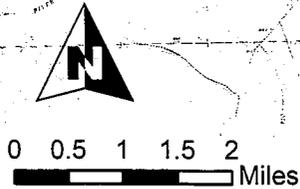
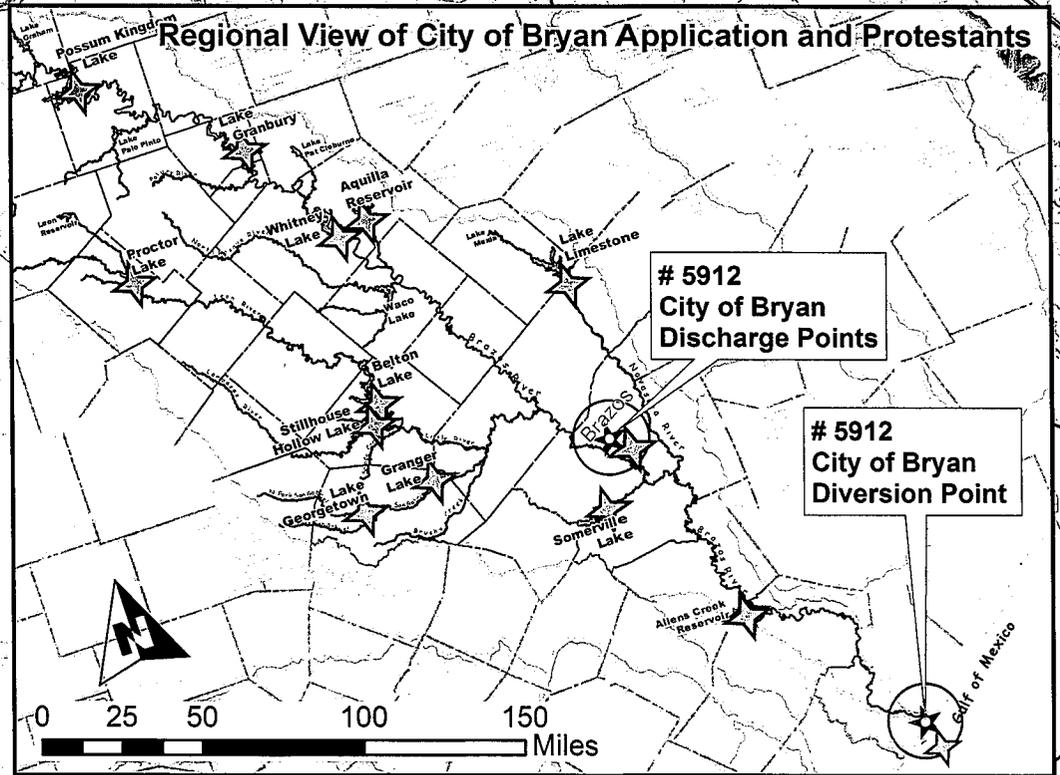
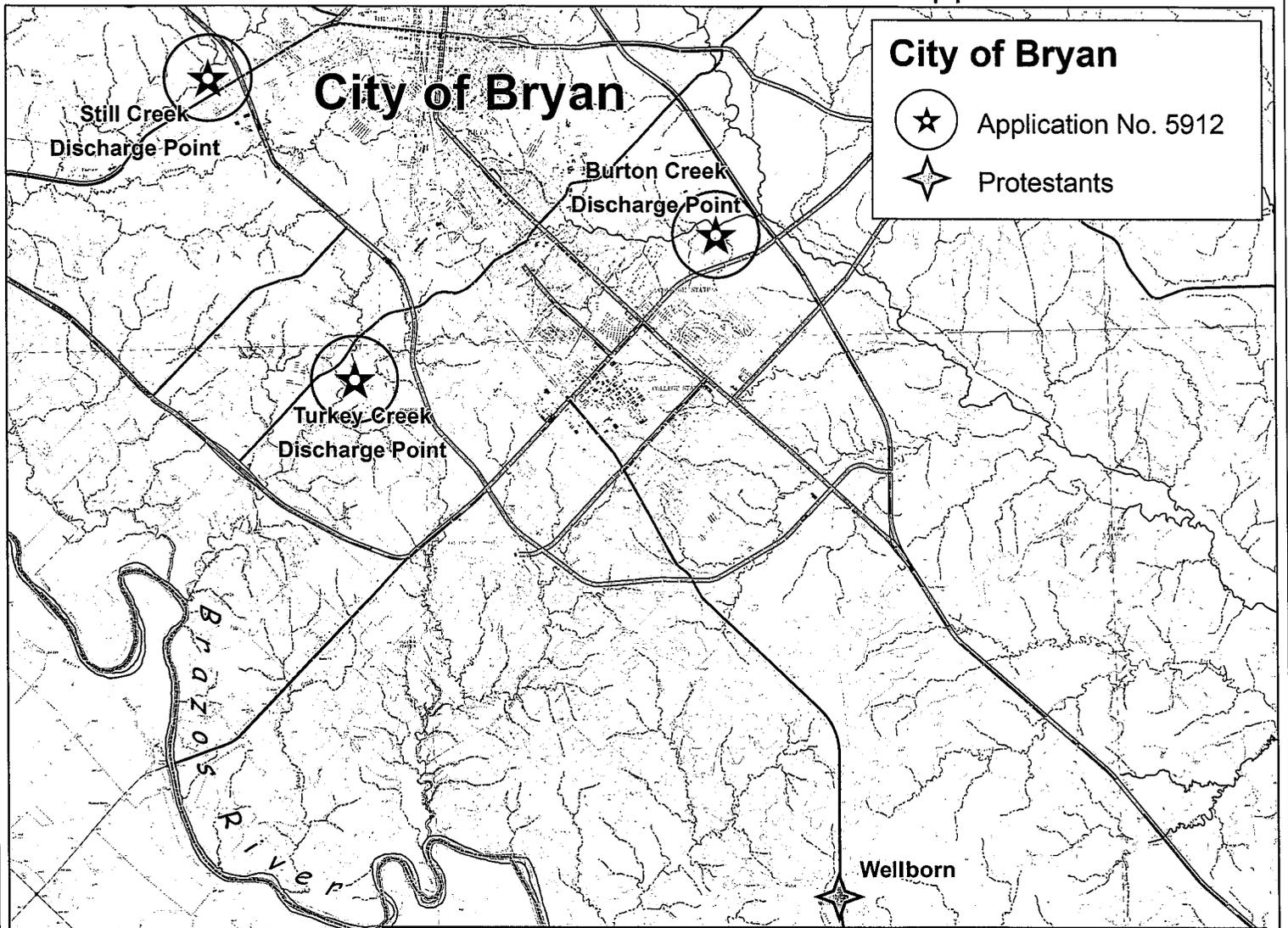
Below is the caption for this application:

Consideration of the City of Bryan's application for authorization to use the bed and banks of several watercourses to transport the current and future groundwater-based return flows discharged from three discharge points downstream and to subsequently divert and reuse up to 14,282.1 acre-feet (less losses) of those return flows per year for municipal, industrial, and agricultural purposes in whole or in part of Brazos, Grimes, Washington, Waller, Austin, Fort Bend, and Brazoria Counties within the Brazos River Basin. Burton Creek Discharge Point discharges into an unnamed tributary of Burton Creek for subsequent conveyance down Carters Creek, tributary of the Navasota River, tributary of the Brazos River, Brazos River Basin, approximately 3.71 miles southeast of the Brazos County courthouse, and is 297 river miles upstream of the diversion point. Still Creek Discharge Point discharges into Still Creek for subsequent conveyance down Thompsons Creek, tributary of the Brazos River, Brazos River Basin, approximately 2.58 miles west-southwest of the Brazos County courthouse, and is 300 river miles upstream of the diversion point. Turkey Creek Discharge Point discharges into an unnamed tributary of Turkey Creek for subsequent conveyance down the Brazos River, Brazos River Basin, approximately 3.88 miles south-southwest of the Brazos County courthouse, and is 295 river miles upstream of the diversion point. The commission will consider hearing requests and any related filings. (Steve Ramos, Shana Horton)



Esteban (Steve) Ramos, Project Manager
Water Rights Permitting Team

- cc: Lann Bookout, TCEQ
Kellye Rila, TCEQ
Iliana Delgado, TCEQ
Chris Loft, TCEQ
Gregg Easley, TCEQ
Kristin Wang, TCEQ
Shana Horton, TCEQ
Kathy Alexander, TCEQ



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



NOTICE OF WATER RIGHTS APPLICATION APPLICATION NO. 5912

The City of Bryan has applied for authorization to use the bed and banks of several watercourses to transport current and future groundwater-based return flows and to divert and reuse those flows for municipal, industrial, and agricultural purposes in all or part of Brazos, Grimes, Washington, Waller, Austin, Fort Bend, and Brazoria Counties within the Brazos River Basin. More information on the application and how to participate in the permitting process is given below.

APPLICATION. The City of Bryan, applicant, P.O. Box 1000, Bryan, TX 77805-1000, seeks a permit pursuant to Texas Water Code §11.042 and Texas Commission on Environmental Quality Rules 30 Texas Administrative Code (TAC) §§295.1, *et seq.* Notice is being mailed to the 105 downstream water right holders and diverters of record in the Brazos River Basin pursuant to 30 TAC §295.161.

The applicant seeks authorization to use the bed and banks of several watercourses to transport the current and future groundwater-based return flows discharged from three discharge points downstream and to subsequently divert and reuse up to 14,282.1 acre-feet (less losses) of those return flows for municipal, industrial, and agricultural purposes in whole or in part of Brazos, Grimes, Washington, Waller, Austin, Fort Bend, and Brazoria Counties within the Brazos River Basin. The loss rate and travel time will vary, but the applicant indicates a maximum carriage loss of 9% and an average estimated travel time from the discharge points to the proposed diversion point of 8.24 days. Deliveries of water will be made to the diversion point throughout the year on a daily basis.

The applicant indicates a maximum diversion rate of 17.95 cfs (8,057 gpm) from the Brazos River, Brazos River Basin at a point approximately 4.7 miles from the Brazoria County courthouse being at Latitude 28.9467°N, Longitude 95.3801°W, also bearing S23.4439°E, 3760 feet from the northwest corner of the John G. McNeel League, Abstract 335, Brazoria County.

The proposed discharge points in Brazos County and the requested watercourses to be used for the bed and banks authorization are as follows:

- 1 Burton Creek Discharge Point – discharges into an unnamed tributary of Burton Creek for subsequent conveyance down Carters Creek, tributary of the Navasota River, tributary of the Brazos River, Brazos River Basin, approximately 3.71 miles southeast of the Brazos County courthouse being at Latitude 30.6414°N, Longitude 96.3210°W and bearing N64.2861°E, 21,834.21 feet from the intersection of the southwest corner of the Zeno Phillips League, Abstract 45 and the northwest corner of the Joseph E. Scott League, Abstract 50. The applicant indicates the outfall is 297 river miles upstream of the diversion point.
- 2 Still Creek Discharge Point – discharges into Still Creek for subsequent conveyance down Thompsons Creek, tributary of the Brazos River, Brazos River Basin, approximately 2.58 miles west-southwest of the Brazos County courthouse being at Latitude 30.6681°N, Longitude 96.4133°W and bearing N28.5547°W, 21,351.09 feet from the intersection of the southwest

corner of the Zeno Phillips League, Abstract 45 and the northwest corner of the Joseph E. Scott League, Abstract 50. The applicant indicates the outfall is 300 river miles upstream of the diversion point.

- 3 Turkey Creek Discharge Point - discharges into an unnamed tributary of Turkey Creek for subsequent conveyance down the Brazos River, Brazos River Basin, approximately 3.88 miles south-southwest of the Brazos County courthouse being at Latitude 30.6198°N, Longitude 96.3879°W and bearing N45.2833°W, 2,791.21 feet from the intersection of the southwest corner of the Zeno Phillips League, Abstract 45 and the northwest corner of the Joseph E. Scott League, Abstract 50. The applicant indicates the outfall is 295 river miles upstream of the diversion point.

TPDES Permit No. 10426001 currently authorizes the discharge of 8,961 acre-feet of water per year (8.0 mgd); TPDES Permit No. 10426002 currently authorizes the discharge of 4,481 acre-feet of water per year (4.0 mgd), and TPDES Permit No. 10426003 currently authorizes the discharge of 840.1 acre-feet of water per year (0.75 mgd) for a total annual authorized discharge equaling 14,282.1 acre-feet.

If this application is granted, unlawful diversion and taking of such water in transit may result in administrative penalties, criminal penalties, or the applicant may elect to pursue private civil remedies as provided by law.

The Commission will review the application as submitted by the applicant and may or may not grant the application as requested.

The application and partial fees were received on August 5, 2005. Additional information and fees were received on April 14, 2006, July 6, 2006, and August 22, 2006. The Executive Director returned the application and fees for failure to supply requested information on September 21, 2006. On October 16, 2006 Applicant filed a Motion to Overturn. The Applicant's motion was considered and granted by the Commission on December 13, 2006. The application is considered administratively complete as of December 20, 2006. This application is being filed with the Office of the Chief Clerk on February 9, 2007.

PUBLIC COMMENT / PUBLIC MEETING. Written public comments and requests for a public meeting should be submitted to the Office of the Chief Clerk, at the address provided in the information section below by April 23, 2007. 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 23, 2007. The Executive Director can consider an approval of the application unless a written request for a contested case hearing is filed by April 23, 2007.

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 for 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 Executive Director 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. 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.state.tx.us. Si desea información en Español, puede llamar al 1-800-687-4040.

Issued: March 20, 2007

WATER USE PERMIT

PERMIT NO. 5912

TYPE §11.042

| | | | |
|--------------|---|------------|---|
| Permittee: | City of Bryan | Address: | P.O. Box 1000 Bryan, TX 77805-1000 |
| Filed: | February 12, 2006 | Granted: | |
| Purpose: | Municipal, Industrial, and Agricultural | Counties: | Brazos, Grimes, Washington, Waller, Austin, Fort Bend, and Brazoria |
| Watercourse: | Unnamed Tributary of Burton Creek, Burton Creek, Tributary of Carters Creek, Tributary of the Navasota River, Tributary of the Brazos River; Still Creek, Tributary of Thompsons Creek, Tributary of the Brazos River; and an Unnamed Tributary of Turkey Creek, Turkey Creek, Tributary of the Brazos River | Watershed: | Brazos River Basin |

WHEREAS, The applicant seeks authorization to use the bed and banks of several watercourses to transport the current and future groundwater-based return flows discharged from three discharge points downstream and to subsequently divert and reuse up to 14,282.1 acre-feet (less losses) of those return flows per year for municipal, industrial, and agricultural purposes in whole or in part of Brazos, Grimes, Washington, Waller, Austin, Fort Bend, and Brazoria Counties within the Brazos River Basin; and

WHEREAS, Texas Pollutant Discharge Elimination System (TPDES) Permit No. 10426001 (Burton Creek Wastewater Treatment Plant) currently authorizes the discharge of 8,961 acre-feet of water per year (8.0 mgd), TPDES Permit No. 10426002 (Still Creek Wastewater Treatment Plant) currently authorizes the discharge of 4,481 acre-feet of water per year (4.0 mgd), and TPDES Permit No. 10426003 (Turkey Creek Wastewater Treatment Plant) currently authorizes the discharge of 840.1 acre-feet of water per year (0.75 mgd) for a total annual authorized discharge equaling 14,282.1 acre-feet; and

WHEREAS, the proposed three discharge points in Brazos County and the requested watercourses to be used for the bed and banks authorization are as follows:

Burton Creek Discharge Point – discharges into an unnamed tributary of Burton Creek for subsequent

conveyance down Carters Creek, tributary of the Navasota River, tributary of the Brazos River, Brazos River Basin, approximately 3.71 miles southeast of the Brazos County courthouse being at Latitude 30.6414°N, Longitude 96.3210°W and bearing N64.2861°E, 21,834.21 feet from the intersection of the southwest corner of the Zeno Phillips League, Abstract 45 and the northwest corner of the Joseph E. Scott League, Abstract 50. The applicant indicates the outfall is 297 river miles upstream of the diversion point, and

Still Creek Discharge Point – discharges into Still Creek for subsequent conveyance down Thompsons Creek, tributary of the Brazos River, Brazos River Basin, approximately 2.58 miles west-southwest of the Brazos County courthouse being at Latitude 30.6681°N, Longitude 96.4133°W and bearing N28.5547°W, 21,351.09 feet from the intersection of the southwest corner of the Zeno Phillips League, Abstract 45 and the northwest corner of the Joseph E. Scott League, Abstract 50. The applicant indicates the outfall is 300 river miles upstream of the diversion point, and

Turkey Creek Discharge Point - discharges into an unnamed tributary of Turkey Creek for subsequent conveyance down the Brazos River, Brazos River Basin, approximately 3.88 miles south-southwest of the Brazos County courthouse being at Latitude 30.6198°N, Longitude 96.3879°W and bearing N45.2833°W, 2,791.21 feet from the intersection of the southwest corner of the Zeno Phillips League, Abstract 45 and the northwest corner of the Joseph E. Scott League, Abstract 50. The applicant indicates the outfall is 295 river miles upstream of the diversion point; and

WHEREAS, the applicant seeks to divert at a maximum diversion rate of 17.95 cfs (8,057 gpm) from the Brazos River, Brazos River Basin at a point approximately 4.7 miles from the Brazoria County courthouse being at Latitude 28.9467°N, Longitude 95.3801°W, also bearing S23.4439°E, 3760 feet from the northwest corner of the John G. McNeel League, Abstract 335, Brazoria County; and

WHEREAS, the loss rate and travel time will vary, but the applicant indicates an approximate carriage loss of 9% and an average estimated travel time from the discharge points to the proposed diversion point of 8.24 days. Deliveries of water will be made to the diversion point throughout the year on a daily basis; and

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

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

WHEREAS, the applicant has provided and the Executive Director has approved, the *City of Bryan Groundwater Based Effluent Water Accounting Plan Water Use Permit Applicant No. 5912*; 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 amendment;

NOW, THEREFORE, this Water Use Permit No. 5912 is issued to The City of Bryan, subject to the following terms and conditions:

1. USE

Permittee is authorized to use the bed and banks of an unnamed tributary of Burton Creek,

Burton Creek, Carters Creek, the Navasota River, the Brazos River, Still Creek, Thompsons Creek, an unnamed tributary of Turkey Creek, and Turkey Creek in the Brazos River Basin to convey current and future groundwater-based return flows for subsequent diversion and use of up to 14,282.1 acre-feet (less losses) of those return flows per year for municipal, industrial, and agricultural purposes in whole or in part of Brazos, Grimes, Washington, Waller, Austin, Fort Bend, and Brazoria Counties within the Brazos River Basin.

2. DISCHARGE

The TPDES permits authorize the Permittee to discharge groundwater-based return flows at each of the following locations:

- A. Burton Creek Discharge Point – discharges up to 8,961 acre-feet of water per year (8.0 mgd) pursuant to TPDES Permit No. 10426001 into an unnamed tributary of Burton Creek for subsequent conveyance down Carters Creek, tributary of the Navasota River, tributary of the Brazos River, Brazos River Basin, approximately 3.71 miles southeast of the Brazos County courthouse being at Latitude 30.6414°N, Longitude 96.3210°W and bearing N64.2861°E, 21,834.21 feet from the intersection of the southwest corner of the Zeno Phillips League, Abstract 45 and the northwest corner of the Joseph E. Scott League, Abstract 50. The applicant indicates the outfall is 297 river miles upstream of the diversion point.
- B. Still Creek Discharge Point – discharges up to 4,481 acre-feet of water per year (4.0 mgd) pursuant to TPDES Permit No. 10426002 into Still Creek for subsequent conveyance down Thompsons Creek, tributary of the Brazos River, Brazos River Basin, approximately 2.58 miles west-southwest of the Brazos County courthouse being at Latitude 30.6681°N, Longitude 96.4133°W and bearing N28.5547°W, 21,351.09 feet from the intersection of the southwest corner of the Zeno Phillips League, Abstract 45 and the northwest corner of the Joseph E. Scott League, Abstract 50. The applicant indicates the outfall is 300 river miles upstream of the diversion point.
- C. Turkey Creek Discharge Point - discharges up to 840.1 acre-feet of water per year (0.75 mgd) pursuant to TPDES Permit No. 10426003 into an unnamed tributary of Turkey Creek for subsequent conveyance down the Brazos River, Brazos River Basin, approximately 3.88 miles south-southwest of the Brazos County courthouse being at Latitude 30.6198°N, Longitude 96.3879°W and bearing N45.2833°W, 2,791.21 feet from the intersection of the southwest corner of the Zeno Phillips League, Abstract 45 and the northwest corner of the Joseph E. Scott League, Abstract 50. The applicant indicates the outfall is 295 river miles upstream of the diversion point.

3. DIVERSION

Permittee is authorized to divert at a maximum diversion rate of 17.95 cfs (8,057 gpm) from the Brazos River, Brazos River Basin at a point approximately 4.7 miles from the Brazoria County courthouse being at Latitude 28.9467°N, Longitude 95.3801°W, also bearing

S23.4439°E, 3760 feet from the northwest corner of the John G. McNeel League, Abstract 335, Brazoria County.

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 senior water rights.

5. SPECIAL CONDITIONS

- A. Permittee shall install a screen with a mesh size of 0.25 inches or smaller on the diversion structure with a maximum through screen velocity of 0.5 feet per second in order to minimize entrainment and impingement of aquatic organisms.
- B. A change in the location of the diversion point shall require an amendment to the permit and additional special conditions could be required.
- C. The City of Bryan 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 *City of Bryan Groundwater Based Effluent Water Accounting Plan Water Use Permit Applicant No. 5912*. The City shall maintain the plan in electronic format and make the date available to the Executive Director and the public upon request. Any modifications to *City of Bryan Groundwater Based Effluent Water Accounting Plan Water Use Permit Application No. 5912* 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 the City fail to maintain the accounting plan or notify the Executive Director of any modifications to the plan, the City shall immediately cease diversion pursuant to Paragraph 3. DIVERSION, and either apply to amend the permit, or voluntarily forfeit the permit. If the City fails to amend the accounting plan or forfeit the permit, the TCEQ may begin proceedings to cancel the permit. The Commission shall be notified immediately by the City upon modification of the accounting plan and provided with copies of the appropriate documents effectuating such changes.
- D. Permittee shall only divert the actual daily amount of groundwater-based return flows discharged from the three treatment plants less the estimated losses after accounting for travel times between the discharge and diversion points.
- E. Permittee shall only divert the actual annual amount of groundwater-based return flows discharged from the Still Creek outfall less up to 935 acre-feet as authorized in Certificate of Adjudication 12-5269 when Certificate of Adjudication 12-5269 is being used.
- F. Prior to diversion of groundwater-based return flows in excess of the amount currently authorized by TPDES Permit Nos 10426001, 10426002 and 10426003, described in Paragraph 2. DISCHARGE, Permittee shall apply for and be granted the

right to reuse those return flows. Permittee shall amend the accounting plan to include future discharges of groundwater-based return flows prior to diverting said return flows.

- G. The diversions authorized by this permit are dependant 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, Permittee shall immediately cease diversion under this permit and either apply to amend the permit, or voluntarily forfeit the permit. If Permittee does not amend or forfeit the permit, the TCEQ may begin proceedings to cancel this permit. Permittee shall only divert its return flows that are actually discharged and if there is a permanent reduction in available return flows, Permittee shall immediately seek an amendment to the permit to reflect the reductions.
- H. Permittee is not authorized to divert water released by the Brazos River Authority out of storage in reservoirs upstream of Permittee's diversion point for use by the Authority or its customers downstream of Permittee's diversion point. Permittee may demonstrate compliance with this special condition by establishing that it has diverted its groundwater based return flows in accordance with its approved accounting plan.

This permit is issued subject to all superior water rights in the Brazos River Basin.

Permittee agrees 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 permit are denied.

This 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.

For the Commission

Date issued:

Texas Commission on Environmental Quality

INTEROFFICE MEMORANDUM

To: Iliana Delgado, Application Manager
Water Rights Permitting Team July 10, 2007

Through: JB Lann Bookout, Team Leader
Surface Water Availability & Interstate Compacts Team

From: Ivan Ortiz, Hydrologist
Surface Water Availability & Interstate Compacts Team

Subject: City of Bryan
WRPERM5912
CN600373310
Still Creek and Unnamed tributaries of Burton Creek and
Turkey Creek, Brazos River Basin
Brazos County

WATER AVAILABILITY REVIEW

Application Summary

City of Bryan seeks authorization to divert and reuse up to 14,282.1 acre-feet of historic and future groundwater-based return flows per year from three treatment plants located on Still Creek and unnamed tributaries of Burton Creek and Turkey Creek for municipal, industrial, and agricultural use in whole or part of Brazos, Grimes, Washington, Waller, Austin, Fort Bend, and Brazoria Counties at a maximum rate of 17.95 cfs (8,057 gpm). The amount of effluent requested for reuse is up to 4,481 acre-feet from the Still Creek outfall, up to 8,961 acre-feet from the Burton Creek outfall, and up to 840.1 acre-feet from the Turkey Creek outfall.

The applicant also seeks authorization to use the bed and banks to convey these historic and future groundwater-based return flows from the three treatment plants to a diversion point located approximately 300 river miles downstream on the Brazos River. The applicant estimates conveyance losses from the three treatment plants to the requested diversion point to be approximately 9 % of the discharge volume and an average estimated travel time of 8.24 days.

No Injury Analysis

The Commission's water availability model (WAM) for the Brazos River Basin protects existing water rights based on the prior appropriation doctrine. The period of record for the Brazos WAM is 1940 to 1997. Resource Protection staff did not recommend an instream flow restriction.

As the applicant is requesting the reuse of groundwater based return flows, a water availability analysis is not necessary. However, the request must be analyzed to assess any potential impact on existing permits or certificates of adjudication when discharging, conveying, and diverting the applicant's historically discharged return flows.

Staff performed a simulation using the Full Authorization simulation, in which all basin rights utilize their maximum authorized amount, and calculated the volume reliabilities of all basin water rights. Staff then performed a simulation which included the applicant's estimated historic discharges and modeled diversion of the discharged effluent as the most senior water right in the basin. Staff then compared results for the two simulations.

The results indicate that when 100% of the historically discharged amount of 6,389.89 acre-feet was diverted, 56 of the approximately 1,300 water rights in the basin showed a decrease in volume reliability. Volume reliability is defined as actual amount of water diverted during the simulation period expressed as a percentage of the total permitted amount. The 56 rights were located throughout the basin. Twelve of the 56 rights were authorized for municipal use. Additional simulations were conducted to determine the effects of varying levels of diversions on basin water rights. The results indicate that when 50% (3,194.94 acre-feet) of the historically discharged amount was diverted, 39 water rights showed a decrease in volume reliability with 9 of those rights authorized for municipal use. When 30% (1,916.97 acre-feet) of the historically discharged amount was diverted, 6 water rights showed a decrease in volume reliability with 1 of those rights authorized for municipal use. When 5% (319.49 acre-feet) of the historically discharged amount was diverted, 3 water rights showed a decrease in volume reliability with none of those rights authorized for municipal use. (Table 1. lists the water rights that showed a decrease in volume reliability, the type of right, and other information about the right.)

Staff notes that no municipal water rights that were 100% firm in the original scenario were reduced below 100% by diversions of the requested return flows in any of the simulations. Staff reviewed water rights in the Brazos River Basin and determined that Certificate of Adjudication 12-5269, authorizing diversion of 935 acre-foot per year, is based on historical discharges of the applicant's return flows from the Still Creek outfall. Staff reviewed the applicant's estimate of losses and found them adequate.

Conclusion

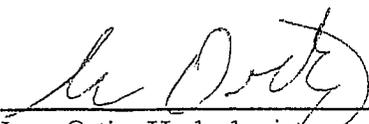
The results of the analysis indicate the potential for impacts on water rights in the Brazos River Basin. However, based on the accuracy of U.S.G.S. stream gages¹, staff is of the opinion that these

¹ United States Department of the Interior. 2004. *Water Resources Data Texas Water Year 2004. Volume 3. San Jacinto River Basin, Brazos River Basin, San Bernard River Basin, and Intervening Coastal Basins. Water-Data Report TX-04-3.* Accuracy of Field Data and Computed Results. Page 10-11. Prepared by United States Geological Survey in cooperation with the State of Texas and other agencies.

results indicate no practical effect on basin water rights. Staff is of the opinion that requiring the applicant to maintain an accounting plan will mitigate any possible impacts on existing basin water rights located downstream of the applicant's diversion point. Staff recommends that the estimate of losses be accepted.

Staff can recommend granting the diversion of up to 14,282.1 acre-feet per year of the applicant's historic and future groundwater based return flows as requested so long as the permit includes the following special conditions:

1. Prior to diversion of any water authorized by this permit, permittee shall provide to and have approved by the Executive Director a daily accounting plan that includes, at a minimum, the discharge rate and point for the groundwater based return flows, the amount discharged, travel time, losses, and diversion rate and amount. The plan must be provided in electronic format.
2. Permittee may only divert the actual daily amount of effluent discharged from the three treatment plants less the estimated losses after accounting for travel times between the discharge and diversion points.
3. Permittee may only divert the actual annual amount of effluent discharged from the Still Creek outfall less up to 935 acre-feet as authorized in Certificate of Adjudication 12-5269 when Certificate of Adjudication 12-5269 is being used.
4. Permittee shall maintain daily electronic records (in spreadsheet or database format) of the accounting plan and shall submit the plan to the Executive Director upon request.
5. The recommended maximum diversion amounts only apply to the specific diversion point authorized by this permit. Should the diversion point change, or additional points be added, the recommended diversion amounts will be adjusted accordingly.


Ivan Ortiz, Hydrologist

Stream: Still Creek, an unnamed tributary of
 Burton Creek, and an unnamed tributary of
 Turkey Creek

Basin: Brazos River Basin
 County: Brazos
 Requested Amount: 14,282.1 acre-feet

Input

Changes made to *.dis - none necessary

Changes made to *.dat

FD591201 BRGM73 1 BRRO72
 WP591201 36015 70.58 30.64

**Burton
 CI104261 364.33 339.97 315.05 357.18 365.57 339.99 City of Bryan
 CI 351.33 356.36 290.19 410.20 376.29 323.41

**Still
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**Turkey
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Remarks: Resource Protection Staff did not recommend an instream flow restriction.

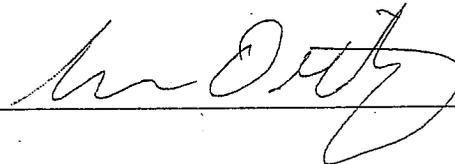
Signature:  Date: 7/10/07

Table 1. Water Right Impacts

% Reduction Volume Reliability @ Varying Diversion

| WRID | Priority | Use | Div Amt - af | Full Div. | 50% Div. | 30% Div. | 5% Div. |
|----------|----------|------|--------------|-----------|----------|----------|---------|
| C3413 1 | 08/31/57 | IRR1 | 182 | -0.08 | -0.08 | | |
| C3440 1 | 06/13/58 | IRR1 | 2,000 | -0.39 | -0.39 | | |
| C3445 1 | 08/31/31 | IRR1 | 31 | -0.65 | -0.31 | | |
| C3453 1 | 12/19/60 | MIN1 | 100 | -0.14 | | | |
| C3458 1 | 11/21/27 | MUN | 4,000 | -0.07 | -0.07 | | |
| C3458 4 | 11/15/54 | IND | 7,400 | -0.03 | | | |
| C3460 1 | 08/20/28 | IRR1 | 76 | -0.12 | -0.08 | | |
| C3708 1 | 08/01/66 | IRR1 | 120 | -0.23 | | | |
| C3715 1 | 11/16/27 | MUN1 | 166 | -0.02 | -0.01 | | |
| C3716 1 | 12/31/58 | IRR1 | 134 | -0.01 | | | |
| C3717 1 | 08/31/51 | IRR1 | 420 | -0.35 | | | |
| C3718 1 | 03/05/58 | MIN1 | 3,525 | -0.29 | -0.14 | | |
| C3718 2 | 07/22/69 | MIN1 | 2,375 | -0.14 | | | |
| C3719 1 | 06/24/68 | MIN1 | 165 | -0.15 | | | |
| C3721 1 | 02/28/65 | IRR1 | 100 | -0.01 | | | |
| C3722 1 | 07/03/72 | MIN1 | 565 | -0.14 | | | |
| C3724 1 | 08/31/55 | IRR1 | 1,016 | -0.35 | | | |
| C3775 1 | 04/10/60 | IRR3 | 578 | -0.04 | | | |
| C3775 2 | 04/10/60 | IRR3 | 623 | -0.02 | | | |
| C3775 4 | 09/29/00 | IRR3 | 500 | -0.05 | -0.05 | -0.05 | -0.05 |
| C4004 1 | 03/18/32 | MUN2 | 5 | -0.19 | -0.19 | | |
| C4005 1 | 04/30/32 | IRR2 | 781 | -0.01 | -0.01 | | |
| C4094 1 | 06/30/35 | IRR2 | 16 | -0.40 | -0.40 | | |
| C4116 1 | 12/31/26 | IRR1 | 2 | -0.46 | -0.46 | | |
| C4124 1 | 04/03/26 | IRR1 | 55 | -0.31 | -0.31 | | |
| C4128 1 | 10/08/14 | MUN1 | 2,000 | -0.04 | -0.04 | | |
| C4130 1 | 10/17/27 | MUN1 | 2,730 | -0.17 | -0.17 | | |
| C4137 1 | 07/13/26 | IRR1 | 54 | -0.45 | -0.45 | | |
| C4150 1 | 10/10/27 | MUN1 | 3,765 | -0.12 | -0.12 | | |
| C4151 1 | 10/12/28 | IND1 | 2,500 | -0.21 | -0.21 | | |
| C4161 2 | 03/25/37 | IND1 | 4,000 | -0.02 | -0.02 | | |
| C4161 3 | 03/25/37 | IRR1 | 1,000 | -0.01 | -0.01 | | |
| C4168 1 | 05/31/56 | IRR1 | 15 | -0.02 | | | |
| C4171 1 | 12/31/18 | IRR1 | 310 | -0.31 | -0.31 | | |
| C4175 1 | 07/01/26 | D&L1 | 21 | -0.34 | -0.34 | | |
| C4175 3 | 07/01/26 | MIN1 | 63 | -0.28 | -0.28 | | |
| C4188 1 | 12/31/14 | IRR1 | 40 | -0.30 | -0.30 | | |
| C4192 1 | 12/31/15 | IRR1 | 30 | -0.30 | -0.30 | | |
| C4199 1 | 12/31/24 | IRR1 | 98 | -0.04 | -0.04 | | |
| C4199 2 | 12/31/24 | IRR1 | 0 | -0.38 | -0.38 | | |
| C4206 1 | 09/08/27 | IRR1 | 40 | -0.13 | -0.13 | | |
| C4213 1 | 05/28/57 | MUN1 | 21,008 | -0.05 | -0.02 | | |
| C4223 1 | 06/01/26 | IND1 | 97 | -0.35 | -0.33 | | |
| C4318 1 | 12/31/21 | IRR2 | 647 | -0.41 | -0.41 | | |
| C4318 2 | 12/31/21 | IRR2 | 2,820 | -0.15 | -0.15 | | |
| C4342 1 | 08/21/26 | IND3 | 12,000 | -0.20 | -0.20 | | |
| C4344 1 | 03/16/18 | IRR3 | 400 | -0.96 | -0.44 | | |
| C4344 2 | 01/26/29 | IRR3 | 660 | -0.44 | -0.44 | | |
| C4345 1 | 03/06/51 | IND3 | 10,000 | -0.01 | | | |
| C4346 1 | 08/28/25 | IRR3 | 200 | -0.44 | -0.44 | | |
| C4359 1 | 10/22/25 | IRR3 | 496 | -0.44 | -0.44 | | |
| C5163 1 | 02/12/68 | MUN3 | 6,566 | -0.01 | | | |
| C5286 3 | 12/20/82 | IRR3 | 259 | -0.20 | | | |
| C5289 1 | 06/13/21 | MUN3 | 2,500 | -0.03 | -0.01 | | |
| C5327 1 | 04/24/40 | IRR4 | 746 | -0.05 | -0.05 | -0.03 | |
| C5328 1 | 02/28/29 | IND4 | 20,000 | -0.22 | -0.11 | -0.04 | -0.05 |
| C5328 11 | 04/04/60 | D&L4 | 20 | -0.13 | | | |
| C5328 7 | 04/03/51 | MUN4 | 7,500 | -0.58 | -0.49 | -0.39 | |
| C5332 1 | 07/14/00 | MIN4 | 52,000 | -0.41 | -0.25 | -0.16 | |
| C5366 1 | 04/04/60 | MUN4 | 11,700 | -0.01 | | | |
| C5470 1 | 11/22/17 | IRR3 | 514 | -0.96 | -0.44 | | |
| P4013 1 | 11/29/82 | IRR3 | 1,200 | -0.14 | | | |
| P4017 1 | 12/20/82 | IRR3 | 962 | -0.39 | | | |
| P4146 1 | 10/05/81 | MUN1 | 35,000 | -0.02 | | | |
| P5282 1 | 02/02/90 | MIN1 | 235 | -0.14 | | | |
| P5692 1 | 07/19/00 | MIN1 | 67 | -0.15 | | | |
| P5752 1 | 10/18/01 | IRR | 1,200 | -0.06 | -0.04 | -0.10 | -0.10 |

Texas Commission on Environmental Quality

INTEROFFICE MEMORANDUM

To: Steve Ramos, Application Manager
Water Rights Permitting Team
December 19, 2008

Through:  Lann Bookout, Team Leader
Surface Water Availability & Interstate Compacts Team

From: Kathy Alexander, Hydrologist
Surface Water Availability & Interstate Compacts Team

Subject: City of Bryan
WRPERM 5912
CN600373310
Still Creek and Unnamed tributaries of Burton Creek and
Turkey Creek, Brazos River Basin
Brazos County

WATER AVAILABILITY ANALYSIS ADDENDUM

The original Water Availability Analysis was completed on July 10, 2007, an addendum was prepared on July 21, 2008, and the draft permit was sent to the applicant and protestants on July 24, 2008. Since that time, the City of Bryan submitted an accounting plan. Staff reviewed the accounting plan and found it adequate. Any final draft permit should include the following in lieu of the current Special Condition 5.C.:

The City of Bryan 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 *City of Bryan Groundwater Based Effluent Water Accounting Plan Water Use Permit Application No. 5912*. The City shall maintain the plan in electronic format and make the data available to the Executive Director and the public upon request. Any modifications to *City of Bryan Groundwater Based Effluent Water Accounting Plan Water Use Permit Application No. 5912* 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 the City fail to maintain the accounting plan or notify the Executive Director of any modifications to the plan, the City shall immediately cease diversion pursuant to Paragraph 3. DIVERSION, and either apply to amend the permit, or voluntarily forfeit the permit. If the City fails to amend the accounting plan or forfeit the permit, the TCEQ may begin proceedings to cancel the permit. The Commission shall be notified immediately by the City upon modification of the accounting plan and provided with copies of the appropriate documents effectuating such changes.

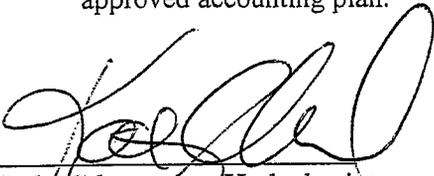
After reviewing the application and the applicant's response to the draft permit, staff recommends revisions to Special Conditions 5.G and 5.H.:

In lieu of Special Condition 5.G.:

The diversions authorized by this permit are dependant 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, Permittee shall immediately cease diversion under this permit and either apply to amend the permit, or voluntarily forfeit the permit. If Permittee does not amend or forfeit the permit, the TCEQ may begin proceedings to cancel this permit. Permittee shall only divert its return flows that are actually discharged and if there is a permanent reduction in available return flows, Permittee shall immediately seek an amendment to the permit to reflect the reductions.

In lieu of Special Condition 5.H.:

Permittee is not authorized to divert water released by the Brazos River Authority out of storage in reservoirs upstream of Permittee's diversion point for use by the Authority or its customers downstream of Permittee's diversion point. Permittee may demonstrate compliance with this special condition by establishing that it has diverted its groundwater based return flows in accordance with its approved accounting plan.



Kathy Alexander, Hydrologist

Texas Commission on Environmental Quality

INTEROFFICE MEMORANDUM

To: Iliana Delgado, Application Manager **Date:** April 17, 2007
Water Rights Team
Water Rights Permitting & Availability Section

Through: Bill Billingsley, Team Leader
Resource Protection Team *BB 4/17/07*
Water Rights Permitting & Availability Section

From: *WGD*
4/17/07 Wendy Gordon, Ph.D., Aquatic Scientist
Resource Protection Team
Water Rights Permitting & Availability Section

Subject: City of Bryan
WRPERM 5912
CN600373340
Unnamed tributary of Burton Creek, Burton Creek, and Carters Creek, tributary of the Navasota River, and Still Creek, Thompsons Creek, unnamed tributary of Turkey Creek, Turkey Creek, tributaries of the Brazos River, Brazos River Basin
Brazos, Grimes, Washington, Waller, Austin, Fort Bend, and Brazoria Counties

The City of Bryan has applied for an authorization to use the bed and banks of an unnamed tributary of Burton Creek, Burton Creek, and Carters Creek, tributary of the Navasota River, and Still Creek, Thompsons Creek, unnamed tributary of Turkey Creek, Turkey Creek, tributaries of the Brazos River, all in the Brazos River Basin, to convey groundwater-based effluent from three wastewater treatment plants. The water would be re-diverted downstream from the Brazos River at a point in Brazoria County. The Texas Commission on Environmental Quality (Commission) regulates bed and banks authorizations to convey groundwater-based effluent under the authority of Texas Water Code §11.042(b). That provision allows the Commission to place special conditions in the authorization to "help maintain instream uses and freshwater inflows to bays and estuaries."

ENVIRONMENTAL ANALYSIS

The applicant seeks authorization to use the bed and banks of several watercourses in the Brazos River Basin to transport current and future groundwater-based effluent or return flows discharged from three points and to subsequently divert and reuse up to 14,282.1 acre-feet of those return flows, minus carriage losses, for municipal, industrial, and agricultural purposes in whole or part of Brazos, Grimes, Washington, Waller, Austin, Fort Bend, and Brazoria Counties. The water will be diverted at a maximum diversion rate of 17.95 cfs (8,057 gpm) from the Brazos River, Brazos River Basin at a point in Brazoria County near the mouth of the river. TPDES Permit No. 10042001 (Burton Creek WWTP) currently authorizes the discharge of 8,961 acre-feet of water per year (8.0 mgd). TPDES

Permit No. 10042002 (Still Creek WWTP) currently authorizes the discharge of 4,481 acre-feet of water per year (4.0 mgd). TPDES Permit No. 10042003 (Turkey Creek WWTP) currently authorizes the discharge of 840.1 acre-feet of water per year (0.75 mgd) for a total annual authorized discharge equaling 14,282.1 acre-feet.

INSTREAM USES

The applicant is proposing to leave groundwater-based effluent in watercourses from three points of discharge nearly 300 hundred miles upstream of a proposed diversion point on the Brazos River in Brazoria County that lies approximately five river miles from the mouth of the river at the Gulf Coast. As such, the riverine environment in the future would experience no change compared to past or current practices of discharging groundwater-based effluent from the city's three wastewater treatment plants. However, this riverine environment has, in all likelihood, adjusted to the increased flow stemming from historical discharges of wastewater dating as far back as 1948. Should the applicant propose in the future to divert those return flows from a point closer to the current discharge points, instream flow restrictions may be necessary to protect aquatic resources downstream of that diversion point. The proposed maximum diversion rate is high enough to cause impingement and entrapment of aquatic life. Therefore, Resource Protection staff recommends the inclusion of a special condition in the draft permit in accordance with U.S. Army Corps of Engineers guidelines to minimize such harm. 9

Diversions could affect the receiving waters at the Gulf of Mexico. However, the Brazos River discharges directly into the Gulf of Mexico rather than a receiving bay and estuary system, reducing the likelihood of adverse effects. The study of the Brazos River Estuary to determine freshwater inflow needs being executed by the Texas Water Development Board is still in progress.

Resource Protection staff support issuance of the permit if the following special conditions are adopted in the permit if granted:

- 1. Permittee shall install a screen with a mesh size of 0.25 inches or smaller on the diversion structure with a maximum through screen velocity of 0.5 feet per second in order to minimize entrainment and impingement of aquatic organisms. A mesh size of 0.25 inches is the maximum allowable mesh size for the protective screen on an intake structure according to general permit guidelines established by the U.S. Army Corps of Engineers, Regulatory Branch, Fort Worth District.**
- 2. A change in the location of the diversion point shall require an amendment to the permit and could trigger additional special conditions.**

This instream use assessment was conducted using current TCEQ operation procedures and policies and available data and information. The recommendations in this environmental analysis are intended for the protection of instream uses and do not necessarily provide protection to downstream water rights; that analysis is addressed in the hydrology memo and further restrictions may be

applicable as necessary. 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.