



Administrative Package Cover Page

This file contains the following documents:

1. Summary of application (in plain language)
 - English
 - Alternative Language (Spanish)
 2. First Notice (NORI-Notice of Receipt of Application and Intent to Obtain a Permit)
 - English
 - Alternative Language (Spanish)
 3. Application materials
-



Portada de Paquete Administrativo

Este archivo contiene los siguientes documentos:

1. Resumen en lenguaje sencillo (PLS, por sus siglas en inglés) de la actividad propuesta
 - Inglés
 - Idioma alternativo (español)
2. Primer aviso (NORI, por sus siglas en inglés)
 - Inglés
 - Idioma alternativo (español)
3. Solicitud original



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

PLAIN LANGUAGE SUMMARY FOR TPDES OR TLAP PERMIT APPLICATIONS

ENGLISH TEMPLATE FOR TPDES or TLAP NEW/RENEWAL/AMENDMENT APPLICATIONS DOMESTIC WASTEWATER/STORMWATER

The following summary is provided for this pending water quality permit application being reviewed by the Texas Commission on Environmental Quality as required by 30 TAC Chapter 39. The information provided in this summary may change during the technical review of the application and is not a federal enforceable representation of the permit application.

City of Dripping Springs (CN602491284) proposes to operate Scenic Greens WWTP (RN105330948), a 0.25MGD wastewater treatment plant. The facility will be located at approximately 2,600 feet West from the intersection of McGregor Lane and US 290 West, in Dripping Springs, Hays County, Texas 78620. This is a renewal application to discharge 250,000 gallons per day of processed wastewater on an intermittent and flow-variable basis.

Discharges from the facility are expected to contain five-day carbonaceous biochemical oxygen demand (CBOD₅), total suspended solids (TSS), ammonia nitrogen (NH₃-N), total phosphorus (P), and Escherichia Coli. Domestic wastewater will be treated by a future WWTP consisting of a packaged single stage nitrification plant, including headworks (bar screening), aeration, clarification, chlorination, chlorine contact & aerobic digestion. Treated effluent will be stored in a holding tank for six days in the initial phase, three days in the interim phase and three days in the final phase prior to disposal using subsurface drip irrigation near the treatment plant on land owned by the applicant. Sludge will be disposed of by hauling off-site by a licensed hauler, to a permitted landfill.

PLANTILLA EN INGLÉS PARA SOLICITUDES DE NUEVA/RENOVACIÓN/ENMIENDA TPDES o TLAP

AGUAS RESIDUALES DOMÉSTICAS/AGUAS PLUVIALES

El siguiente resumen se proporciona para esta solicitud de permiso de calidad del agua pendiente que está siendo revisada por la Comisión de Calidad Ambiental de Texas según lo exige el Capítulo 39 del 30 TAC. La información proporcionada en este resumen puede cambiar durante la revisión técnica de la solicitud y no es un documento federal ejecutable. representación de la solicitud de permiso.

La ciudad de Dripping Springs (CN602491284) propone operar la PTAR de Scenic Greens (RN105330948), una planta de tratamiento de aguas residuales de 0,25 MGD. La instalación estará ubicada aproximadamente a 2,600 pies al oeste de la intersección de McGregor Lane y US 290 West, en Dripping Springs, condado de Hays, Texas 78620. Esta es una solicitud de renovación para descargar 250,000 galones por día de aguas residuales procesadas de manera intermitente y de flujo. -base variable.

Se espera que las descargas de la instalación contengan demanda bioquímica de oxígeno carbonoso (CBOD5) de cinco días, sólidos suspendidos totales (SST), nitrógeno amoniacal (NH3-N), fósforo total (P) y Escherichia coli. Las aguas residuales domésticas serán tratadas por una futura EDAR que consistirá en una planta de nitrificación de una sola etapa, que incluye obras de captación (cribado de barras), aireación, clarificación, cloración, contacto con cloro y digestión aeróbica. El efluente tratado se almacenará en un tanque de retención durante seis días en la fase inicial, tres días en la fase intermedia y tres días en la fase final antes de su eliminación mediante riego por goteo subterráneo cerca de la planta de tratamiento en un terreno propiedad del solicitante. Los lodos se eliminarán mediante transporte fuera del sitio por parte de un transportista autorizado, a un vertedero autorizado.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



AMENDED NOTICE OF RECEIPT OF APPLICATION AND INTENT TO OBTAIN WATER QUALITY PERMIT RENEWAL

PERMIT NO. WQ0014488002

APPLICATION. City of Dripping Springs, P.O. Box 384, Dripping Springs, Texas 78260, has applied to the Texas Commission on Environmental Quality (TCEQ) to renew Texas Land Application Permit (TLAP) No. WQ0014488002 to authorize the disposal of treated wastewater at a volume not to exceed a daily average flow of 250,000 gallons per day via a public access subsurface area drip dispersal of 57.39 acres. The domestic wastewater treatment facility and disposal area are located approximately 2,600 feet west of the intersection of McGregor Lane and U.S. Highway 290 West, near the city of Dripping Springs, in Hays County, Texas 78260. TCEQ received this application on August 27, 2024. The permit application will be available for viewing and copying at Dripping Springs Community Library, 501 Sportsplex Drive, Dripping Springs, in Hays County, Texas prior to the date this notice is published in the newspaper. The application, including any updates, and associated notices are available electronically at the following webpage:

<https://www.tceq.texas.gov/permitting/wastewater/pending-permits/tlap-applications>. This link to an electronic map of the site or facility's general location is provided as a public courtesy and not part of the application or notice. For the exact location, refer to the application.

<https://gisweb.tceq.texas.gov/LocationMapper/?marker=-98.151944,30.205277&level=18>

ALTERNATIVE LANGUAGE NOTICE. Alternative language notice in Spanish is available at:

<https://www.tceq.texas.gov/permitting/wastewater/pending-permits/tlap-applications>.

El aviso de idioma alternativo en español está disponible en

<https://www.tceq.texas.gov/permitting/wastewater/pending-permits/tlap-applications>.

ADDITIONAL NOTICE. TCEQ's Executive Director has determined the application is administratively complete and will conduct a technical review of the application. After technical review of the application is complete, the Executive Director may prepare a draft permit and will issue a preliminary decision on the application. **Notice of the Application and Preliminary Decision will be published and mailed to those who are on the county-wide mailing list and to those who are on the mailing list for this application. That notice will contain the deadline for submitting public comments.**

PUBLIC COMMENT / PUBLIC MEETING. You may submit public comments or request a public meeting on this application. The purpose of a public meeting is to provide the opportunity to submit comments or to ask questions about the application. TCEQ will hold a public meeting if the Executive Director determines that there is a significant degree of public

interest in the application or if requested by a local legislator. A public meeting is not a contested case hearing.

OPPORTUNITY FOR A CONTESTED CASE HEARING. After the deadline for submitting public comments, the Executive Director will consider all timely comments and prepare a response to all relevant and material, or significant public comments. **Unless the application is directly referred for a contested case hearing, the response to comments, and the Executive Director's decision on the application, will be mailed to everyone who submitted public comments and to those persons who are on the mailing list for this application.** If comments are received, the mailing will also provide instructions for requesting reconsideration of the Executive Director's decision and for requesting a contested case hearing. A contested case hearing is a legal proceeding similar to a civil trial in state district court.

TO REQUEST A CONTESTED CASE HEARING, YOU MUST INCLUDE THE FOLLOWING ITEMS IN YOUR REQUEST: your name, address, phone number; applicant's name and proposed permit number; the location and distance of your property/activities relative to the proposed facility; a specific description of how you would be adversely affected by the facility in a way not common to the general public; a list of all disputed issues of fact that you submit during the comment period and, the statement "[I/we] request a contested case hearing." If the request for contested case hearing is filed on behalf of a group or association, the request must designate the group's representative for receiving future correspondence; identify by name and physical address an individual member of the group who would be adversely affected by the proposed facility or activity; provide the information discussed above regarding the affected member's location and distance from the facility or activity; explain how and why the member would be affected; and explain how the interests the group seeks to protect are relevant to the group's purpose.

Following the close of all applicable comment and request periods, the Executive Director will forward the application and any requests for reconsideration or for a contested case hearing to the TCEQ Commissioners for their consideration at a scheduled Commission meeting.

The Commission may only grant a request for a contested case hearing on issues the requestor submitted in their timely comments that were not subsequently withdrawn. **If a hearing is granted, the subject of a hearing will be limited to disputed issues of fact or mixed questions of fact and law relating to relevant and material water quality concerns submitted during the comment period.**

TCEQ may act on an application to renew a permit for discharge of wastewater without providing an opportunity for a contested case hearing if certain criteria are met.

MAILING LIST. If you submit public comments, a request for a contested case hearing or a reconsideration of the Executive Director's decision, you will be added to the mailing list for this specific application to receive future public notices mailed by the Office of the Chief Clerk. In addition, you may request to be placed on: (1) the permanent mailing list for a specific applicant name and permit number; and/or (2) the mailing list for a specific county. If you wish to be placed on the permanent and/or the county mailing list, clearly specify which list(s) and send your request to TCEQ Office of the Chief Clerk at the address below.

INFORMATION AVAILABLE ONLINE. For details about the status of the application, visit the Commissioners' Integrated Database at www.tceq.texas.gov/goto/cid. Search the database using the permit number for this application, which is provided at the top of this notice.

AGENCY CONTACTS AND INFORMATION. All public comments and requests must be submitted either electronically at <https://www14.tceq.texas.gov/epic/eComment/>, or in writing to the Texas Commission on Environmental Quality, Office of the Chief Clerk, MC-105, P.O. Box 13087, Austin, Texas 78711-3087. Please be aware that any contact information you provide, including your name, phone number, email address and physical address will become part of the agency's public record. For more information about this permit application or the permitting process, please call the TCEQ Public Education Program, Toll Free, at 1-800-687-4040 or visit their website at www.tceq.texas.gov/goto/pep. Si desea información en Español, puede llamar al 1-800-687-4040.

Further information may also be obtained from City of Dripping Springs at the address stated above or by calling Ms. Lauren Crone, P.E., LJA Engineering, Inc., at 512-439-4700.

Issuance Date: September 19, 2024

Comisión de Calidad Ambiental del Estado de Texas



AVISO DE RECIBO DE LA SOLICITUD MODIFICADO E INTENCION DE OBTENER PERMISO PARA LA CALIDAD DEL AGUA RENOVACION

PERMISO NO. WQ0014488001

SOLICITUD. Ciudad de Dripping Springs, P.O. Box 384, Dripping Springs, Texas 78260, tiene solicitado a la Comisión de Calidad Ambiental de Texas (TCEQ) para renovar Tierras de Texas Permiso de Solicitud (TLAP) No. WQ0014488002 para autorizar la disposición de tratamiento aguas residuales en un volumen que no exceda un flujo promedio diario de 62,500 galones por día en Fase provisional I a través de un sistema de eliminación de goteo subterráneo de acceso público (SADDS) con un mínimo área de 14,35 acres, 125.000 galones por día en la fase Interim II a través de un SADDS de acceso público con una superficie mínima de 28,70 hectáreas y 250.000 galones diarios en la fase Final mediante un SADDS de acceso público con una superficie mínima de 57,39 hectáreas. Las aguas residuales domésticas La instalación de tratamiento y el área de eliminación están ubicadas aproximadamente a 2,600 pies al oeste del intersección de McGregor Lane y U.S. Highway 290 West, cerca de la ciudad de Dripping Springs, en el condado de Hays, Texas 78260. TCEQ recibió esta solicitud el 27 de agosto de 2024. El permiso La solicitud estará disponible para ver y copiar en el Biblioteca Comunitaria de Dripping Springs, 501 Sportsplex Drive, Dripping Springs, en el condado de Hays, Texas, antes de la fecha Este aviso se publica en el periódico. La aplicación, incluidas las actualizaciones, y Los avisos asociados están disponibles electrónicamente en la siguiente página web:
<https://www.tceq.texas.gov/permitting/wastewater/pending-permits/tlap-applications> Este El enlace a un mapa electrónico de la ubicación general del sitio o instalación se proporciona como acceso público. cortesía y no forma parte de la solicitud o notificación. Para conocer la ubicación exacta, consulte la solicitud.

<https://gisweb.tceq.texas.gov/LocationMapper/?marker=-98.151944,30.205277&level=18>

AVISO ADICIONAL. El Director Ejecutivo de la TCEQ ha determinado que la solicitud es administrativamente completa y conducirá una revisión técnica de la solicitud. Después de completar la revisión técnica, el Director Ejecutivo puede preparar un borrador del permiso y emitirá una Decisión Preliminar sobre la solicitud. **El aviso de la solicitud y la decisión preliminar serán publicados y enviado a los que están en la lista de correo de las personas a lo largo del condado que desean recibir los avisos y los que están en la lista de correo que desean recibir avisos de esta solicitud. El aviso dará la fecha límite para someter comentarios públicos.**

COMENTARIO PUBLICO / REUNION PUBLICA. Usted puede presentar comentarios públicos o pedir una reunión pública sobre esta solicitud. El propósito

de una reunión pública es dar la oportunidad de presentar comentarios o hacer preguntas acerca de la solicitud. La TCEQ realiza una reunión pública si el Director Ejecutivo determina que hay un grado de interés público suficiente en la solicitud o si un legislador local lo pide. Una reunión pública no es una audiencia administrativa de lo contencioso.

OPORTUNIDAD DE UNA AUDIENCIA ADMINISTRATIVA DE LO CONTENCIOSO.

Después del plazo para presentar comentarios públicos, el Director Ejecutivo considerará todos los comentarios apropiados y preparará una respuesta a todo los comentarios públicos esenciales, pertinentes, o significativos. **A menos que la solicitud haya sido referida directamente a una audiencia administrativa de lo contencioso, la respuesta a los comentarios y la decisión del Director Ejecutivo sobre la solicitud serán enviados por correo a todos los que presentaron un comentario público y a las personas que están en la lista para recibir avisos sobre esta solicitud. Si se reciben comentarios, el aviso también proveerá instrucciones para pedir una reconsideración de la decisión del Director Ejecutivo y para pedir una audiencia administrativa de lo contencioso.** Una audiencia administrativa de lo contencioso es un procedimiento legal similar a un procedimiento legal civil en un tribunal de distrito del estado.

PARA SOLICITAR UNA AUDIENCIA DE CASO IMPUGNADO, USTED DEBE INCLUIR EN SU SOLICITUD LOS SIGUIENTES DATOS: su nombre, dirección, y número de teléfono; el nombre del solicitante y número del permiso; la ubicación y distancia de su propiedad/actividad con respecto a la instalación; una descripción específica de la forma cómo usted sería afectado adversamente por el sitio de una manera no común al público en general; una lista de todas las cuestiones de hecho en disputa que usted presente durante el período de comentarios; y la declaración "[Yo/nosotros] solicito/solicitamos una audiencia de caso impugnado". Si presenta la petición para una audiencia de caso impugnado de parte de un grupo o asociación, debe identificar una persona que representa al grupo para recibir correspondencia en el futuro; identificar el nombre y la dirección de un miembro del grupo que sería afectado adversamente por la planta o la actividad propuesta; proveer la información indicada anteriormente con respecto a la ubicación del miembro afectado y su distancia de la planta o actividad propuesta; explicar cómo y porqué el miembro sería afectado; y explicar cómo los intereses que el grupo desea proteger son pertinentes al propósito del grupo.

Después del cierre de todos los períodos de comentarios y de petición que aplican, el Director Ejecutivo enviará la solicitud y cualquier petición para reconsideración o para una audiencia de caso impugnado a los Comisionados de la TCEQ para su consideración durante una reunión programada de la Comisión. La Comisión sólo puede conceder una solicitud de una audiencia de caso impugnado sobre los temas que el solicitante haya presentado en sus comentarios oportunos que no fueron retirados posteriormente. Si se concede una audiencia, el tema de la audiencia estará limitado a cuestiones de hecho en disputa o cuestiones mixtas de hecho y de derecho relacionadas a intereses pertinentes y materiales de calidad del agua que se hayan presentado durante el período de comentarios.

Si ciertos criterios se cumplen, la TCEQ puede actuar sobre una solicitud para renovar un permiso sin proveer una oportunidad de una audiencia administrativa de lo contencioso.

LISTA DE CORREO. Si somete comentarios públicos, un pedido para una audiencia

administrativa de lo contencioso o una reconsideración de la decisión del Director Ejecutivo, la Oficina del Secretario Principal enviará por correo los avisos públicos en relación con la solicitud. Además, puede pedir que la TCEQ ponga su nombre en una o más de las listas de correos siguientes (1) la lista de correo permanente para recibir los avisos de el solicitante indicado por nombre y número del permiso específico y/o (2) la lista de correo de todas las solicitudes en un condado específico. Si desea que se agregue su nombre en una de las listas designe cual lista(s) y envía por correo su pedido a la Oficina del Secretario Principal de la TCEQ.

CONTACTOS E INFORMACIÓN A LA AGENCIA. Todos los comentarios públicos y solicitudes deben ser presentadas electrónicamente vía

<http://www14.tceq.texas.gov/epic/eComment/> o por escrito dirigidos a la Comisión de Texas de Calidad Ambiental, Oficial de la Secretaría (Office of Chief Clerk), MC-105, P.O. Box 13087, Austin, Texas 78711-3087. Tenga en cuenta que cualquier información personal que usted proporcione, incluyendo su nombre, número de teléfono, dirección de correo electrónico y dirección física pasarán a formar parte del registro público de la Agencia. Para obtener más información acerca de esta solicitud de permiso o el proceso de permisos, llame al programa de educación pública de la TCEQ, gratis, al 1-800-687-4040. Si desea información en Español, puede llamar al 1-800-687-4040.

También se puede obtener más información de la ciudad de Dripping Springs en la dirección indicada arriba o llamando a la Sra. Lauren Crone, P.E., LJA Engineering, Inc., al 512-439-4700.

Fecha de emisión: 19 de septiembre de 2024

**TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
DOMESTIC WASTEWATER PERMIT APPLICATION
FOR A
TEXAS LAND APPLICATION PERMIT**

FOR

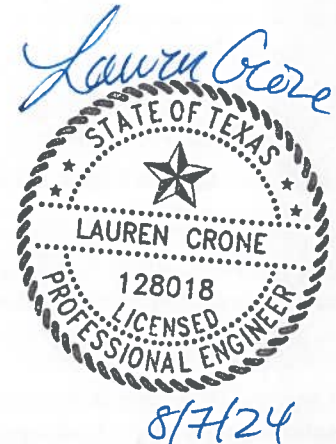
SCENIC GREENS WASTEWATER TREATMENT PLANT

AUGUST 2024

**PREPARED FOR
City of Dripping Springs
PO BOX 384
Dripping Springs, TX 78620
(512) 858-4725**

PREPARED BY

**LJA Engineering, Inc.
7500 RIALTO BLVD
BUILDING II, SUITE 100
Austin, Texas 78735
(512) 439-4700**





PERMIT NO. WQ0014488002

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
P.O. Box 13087
Austin, Texas 78711-3087

This is a renewal of Permit No.
WQ0014488002 issued
September 18, 2013.

PERMIT TO DISCHARGE WASTES
under provisions of Chapter 26
of the Texas Water Code

City of Dripping Springs

whose mailing address is

P.O. Box 384
Dripping Springs, Texas 78620

Nature of Business Producing Waste: Domestic wastewater treatment operation, SIC Code 4952.

General Description and Location of Waste Disposal System:

Description: The Scenic Greens Wastewater Treatment Facility will consist of an activated sludge process plant using the single stage nitrification mode in all phases. Treatment units will include bar screens, aeration basins, final clarifiers, aerobic digesters, and chlorine contact chambers. The permittee is required to provide at least three days of temporary storage for time when the facility is out of service due to an emergency or for scheduled maintenance. The permittee is authorized to dispose of treated domestic wastewater effluent at a daily average flow not to exceed 0.0625 million gallons per day (MGD) in the Interim I phase via a public access subsurface drip disposal system (SADDs) with a minimum area of 14.35 acres, 0.125 MGD in Interim II phase via a public access SADDs with a minimum area of 28.70 acres and 0.250 MGD in the Final phase via a public access SADDs with a minimum area of 57.39 acres. Application rates shall not exceed 0.1 gallons per square foot per day. The permittee will maintain Bermuda grass overseeded with rye grass and green cover on the disposal site.

Location and Drainage Area: The wastewater treatment facility and disposal site are located approximately 2,600 feet west of the intersection of McGregor Lane and U.S. Highway 290 West, in Hays County, Texas 78620. (See Attachment A.). The wastewater treatment facility and disposal site are located in the drainage basin of Onion Creek in Segment No. 1427 of the Colorado River Basin. No discharge of pollutants into water in the State is authorized by this permit.

This permit and the authorization contained herein shall expire at midnight **five years from the date of issuance.**

ISSUED DATE: **December 6, 2019**

A handwritten signature in black ink, appearing to read "T. G. Baker".

For the Commission

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Conditions of the Permit: No discharge of pollutants into water in the State is authorized.

A. Effluent Limitations

Character: Treated Domestic Sewage Effluent

Volume: Daily Average Flow – 0.0625 MGD in the Interim I phase 2-hour peak flow 174 gallons per minute
Daily Average Flow – 0.125 MGD in the Interim II phase 2-hour peak flow 347 gallons per minute
Daily Average Flow – 0.250 MGD in the Final phase 2-hour peak flow 694 gallons per minute

Quality: The following effluent limitations shall be required:

<u>Parameter</u>	Effluent Concentrations (Not to Exceed)			<u>Single Grab mg/l</u>
	<u>Daily Average mg/l</u>	<u>7-Day Average mg/l</u>	<u>Daily Maximum mg/</u>	
Biochemical Oxygen Demand (5-day)	20	30	45	65
Total Suspended Solids	20	30	45	65
<i>E. coli</i> , CFU or MPN/ 100 ml	N/A	N/A	N/A	126

The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units. The permittee shall utilize an Ultraviolet Light (UV) system for disinfection purposes. An equivalent method of disinfection may be substituted only with prior approval of the Executive Director.

B. Monitoring Requirements:

<u>Parameter</u>	<u>Monitoring Frequency</u>	<u>Sample Type</u>
Flow	Continuous	Totalizing meter
Biochemical Oxygen Demand (5-day)	One/week	Grab
Total Suspended Solids	One/week	Grab
pH	One/month	Grab
<i>E. coli</i>	Five/week	Grab

The monitoring shall be done after the final treatment unit and prior to storage of the treated effluent. If the effluent is land applied directly from the treatment system, monitoring shall be done after the final treatment unit and prior to land application. These records shall be maintained on a monthly basis and be available at the plant site for inspection by authorized representatives of the Commission for at least three years.

STANDARD PERMIT CONDITIONS

This permit is granted in accordance with the Texas Water Code and the rules and other Orders of the Commission and the laws of the State of Texas.

DEFINITIONS

All definitions in Section 26.001 of the Texas Water Code and 30 TAC Chapter 305 shall apply to this permit and are incorporated by reference. Some specific definitions of words or phrases used in this permit are as follows:

1. Flow Measurements

- a. Daily average flow - the arithmetic average of all determinations of the daily flow within a period of one calendar month. The daily average flow determination shall consist of determinations made on at least four separate days. If instantaneous measurements are used to determine the daily flow, the determination shall be the arithmetic average of all instantaneous measurements taken during that month. Daily average flow determination for intermittent discharges shall consist of a minimum of three flow determinations on days of discharge.
- b. Annual average flow - the arithmetic average of all daily flow determinations taken within the preceding 12 consecutive calendar months. The annual average flow determination shall consist of daily flow volume determinations made by a totalizing meter, charted on a chart recorder and limited to major domestic wastewater discharge facilities with a 1 million gallons per day or greater permitted flow.
- c. Instantaneous flow - the measured flow during the minimum time required to interpret the flow measuring device.

2. Concentration Measurements

- a. Daily average concentration - the arithmetic average of all effluent samples, composite or grab as required by this permit, within a period of one calendar month, consisting of at least four separate representative measurements.
 - i. For domestic wastewater treatment plants - When four samples are not available in a calendar month, the arithmetic average (weighted by flow) of all values in the previous four consecutive month period consisting of at least four measurements shall be utilized as the daily average concentration.
 - ii. For all other wastewater treatment plants - When four samples are not available in a calendar month, the arithmetic average (weighted by flow) of all values taken during the month shall be utilized as the daily average concentration.
- b. 7-day average concentration - the arithmetic average of all effluent samples, composite or grab as required by this permit, within a period of one calendar week, Sunday through Saturday.
- c. Daily maximum concentration - the maximum concentration measured on a single day, by the sample type specified in the permit, within a period of one calendar month.

3. Sample Type

- a. Composite sample - For domestic wastewater, a composite sample is a sample made up of a minimum of three effluent portions collected in a continuous 24-hour period or during the period of daily discharge if less than 24 hours, and combined in volumes proportional to flow, and collected at the intervals required by 30 TAC § 319.9 (a). For industrial wastewater, a composite sample is a sample made up of a minimum of three effluent portions collected in a continuous 24-hour period or during the period of daily discharge if less than 24 hours, and combined in volumes proportional to flow, and collected at the intervals required by 30 TAC § 319.9 (b).
 - b. Grab sample - an individual sample collected in less than 15 minutes.
4. Treatment Facility (facility) - wastewater facilities used in the conveyance, storage, treatment, recycling, reclamation and/or disposal of domestic sewage, industrial wastes, agricultural wastes, recreational wastes, or other wastes including sludge handling or disposal facilities under the jurisdiction of the Commission.
 5. The term "sewage sludge" is defined as solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in 30 TAC Chapter 312. This includes the solids which have not been classified as hazardous waste separated from wastewater by unit processes.
 6. Bypass - the intentional diversion of a waste stream from any portion of a treatment facility.

MONITORING REQUIREMENTS

1. Monitoring Requirements

Monitoring results shall be collected at the intervals specified in the permit. Unless otherwise specified in this permit or otherwise ordered by the Commission, the permittee shall conduct effluent sampling in accordance with 30 TAC §§ 319.4 - 319.12.

As provided by state law, the permittee is subject to administrative, civil and criminal penalties, as applicable, for negligently or knowingly violating the Texas Water Code, Chapters 26, 27, and 28, and Texas Health and Safety Code, Chapter 361, including but not limited to knowingly making any false statement, representation, or certification on any report, record or other document submitted or required to be maintained under this permit, including monitoring reports, records or reports of compliance or noncompliance, or falsifying, tampering with or knowingly rendering inaccurate any monitoring device or method required by this permit or violating any other requirement imposed by state or federal regulations.

2. Test Procedures

- a. Unless otherwise specified in this permit, test procedures for the analysis of pollutants shall comply with procedures specified in 30 TAC §§ 319.11 - 319.12. Measurements, tests and calculations shall be accurately accomplished in a representative manner.
- b. All laboratory tests submitted to demonstrate compliance with this permit must meet the requirements of 30 TAC Chapter 25, Environmental Testing Laboratory Accreditation and Certification.

3. Records of Results

- a. Monitoring samples and measurements shall be taken at times and in a manner so as to be representative of the monitored activity.
- b. Except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years, monitoring and reporting records, including strip charts and records of calibration and maintenance, copies of all records required by this permit, and records of all data used to complete the application for this permit shall be retained at the facility site, or shall be readily available for review by a TCEQ representative for a period of three years from the date of the record or sample, measurement, report, or application. This period shall be extended at the request of the Executive Director.
- c. Records of monitoring activities shall include the following:
 - i. date, time and place of sample or measurement;
 - ii. identity of individual who collected the sample or made the measurement.
 - iii. date and time of analysis;
 - iv. identity of the individual and laboratory who performed the analysis;
 - v. the technique or method of analysis; and
 - vi. the results of the analysis or measurement and quality assurance/quality control records.

The period during which records are required to be kept shall be automatically extended to the date of the final disposition of any administrative or judicial enforcement action that may be instituted against the permittee.

4. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit using approved analytical methods as specified above, all results of such monitoring shall be included in determining compliance with permit requirements.

5. Calibration of Instruments

All automatic flow measuring or recording devices and all totalizing meters for measuring flows shall be accurately calibrated by a trained person at plant start-up and as often thereafter as necessary to ensure accuracy, but not less often than annually unless authorized by the Executive Director for a longer period. Such person shall verify in writing that the device is operating properly and giving accurate results. Copies of the verification shall be retained at the facility site and/or shall be readily available for review by a TCEQ representative for a period of three years.

6. Compliance Schedule Reports

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of the permit shall be submitted no later than 14 days following each schedule date to the Regional Office and the Compliance Monitoring Team of the Enforcement Division (MC 224).

7. Noncompliance Notification

- a. In accordance with 30 TAC § 305.125(9), any noncompliance which may endanger human health or safety, or the environment shall be reported by the permittee to the TCEQ. Except as allowed by 30 TAC § 305.132, report of such information shall be provided orally or by facsimile transmission (FAX) to the Regional Office within 24 hours of becoming aware of the noncompliance. A written submission of such information shall also be provided by the permittee to the Regional Office and the Compliance Monitoring Team of the Enforcement Division (MC 224) within five working days of becoming aware of the noncompliance. The written submission shall contain a description of the noncompliance and its cause; the potential danger to human health or safety, or the environment; the period of noncompliance, including exact dates and times; if the noncompliance has not been corrected, the time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance, and to mitigate its adverse effects.
 - b. The following violations shall be reported under Monitoring and Reporting Requirement 7.a.:
 - i. Unauthorized discharges as defined in Permit Condition 2(g).
 - ii. Any unanticipated bypass which exceeds any effluent limitation in the permit.
 - c. In addition to the above, any effluent violation which deviates from the permitted effluent limitation by more than 40% shall be reported by the permittee in writing to the Regional Office and the Compliance Monitoring Team of the Enforcement Division (MC 224) within 5 working days of becoming aware of the noncompliance.
 - d. Any noncompliance other than that specified in this section, or any required information not submitted or submitted incorrectly, shall be reported to the Compliance Monitoring Team of the Enforcement Division (MC 224) as promptly as possible.
8. In accordance with the procedures described in 30 TAC §§ 35.301 - 35.303 (relating to Water Quality Emergency and Temporary Orders) if the permittee knows in advance of the need for a bypass, it shall submit prior notice by applying for such authorization.
9. Changes in Discharges of Toxic Substances

All existing manufacturing, commercial, mining, and silvicultural permittees shall notify the Regional Office, orally or by facsimile transmission within 24 hours, and both the Regional Office and the Compliance Monitoring Team of the Enforcement Division (MC 224) in writing within five (5) working days, after becoming aware of or having reason to believe:

- a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant listed at 40 CFR Part 122, Appendix D, Tables II and III (excluding Total Phenols) which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
 - i. One hundred micrograms per liter (100 µg/L);
 - ii. Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,4-dinitrophenol and for 2-methyl-

- 4,6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
 - iii. Five (5) times the maximum concentration value reported for that pollutant in the permit application; or
 - iv. The level established by the TCEQ.
- b. That any activity has occurred or will occur which would result in any discharge, on a nonroutine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
- i. Five hundred micrograms per liter (500 µg/L);
 - ii. One milligram per liter (1 mg/L) for antimony;
 - iii. Ten (10) times the maximum concentration value reported for that pollutant in the permit application; or
 - iv. The level established by the TCEQ.
10. Signatories to Reports

All reports and other information requested by the Executive Director shall be signed by the person and in the manner required by 30 TAC § 305.128 (relating to Signatories to Reports).

PERMIT CONDITIONS

1. General

- a. When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in an application or in any report to the Executive Director, it shall promptly submit such facts or information.
- b. This permit is granted on the basis of the information supplied and representations made by the permittee during action on an application, and relying upon the accuracy and completeness of that information and those representations. After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked, in whole or in part, in accordance with 30 TAC Chapter 305, Subchapter D, during its term for good cause including, but not limited to, the following:
 - i. Violation of any terms or conditions of this permit;
 - ii. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or
 - iii. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.
- c. The permittee shall furnish to the Executive Director, upon request and within a reasonable time, any information to determine whether cause exists for amending, revoking, suspending or terminating the permit. The permittee shall also furnish to the Executive Director, upon request, copies of records required to be kept by the permit.

2. Compliance

- a. Acceptance of the permit by the person to whom it is issued constitutes acknowledgment and agreement that such person will comply with all the terms and conditions embodied

in the permit, and the rules and other orders of the Commission.

- b. The permittee has a duty to comply with all conditions of the permit. Failure to comply with any permit condition constitutes a violation of the permit and the Texas Water Code or the Texas Health and Safety Code, and is grounds for enforcement action, for permit amendment, revocation or suspension, or for denial of a permit renewal application or an application for a permit for another facility.
- c. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit.
- d. The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal or other permit violation which has a reasonable likelihood of adversely affecting human health or the environment.
- e. Authorization from the Commission is required before beginning any change in the permitted facility or activity that may result in noncompliance with any permit requirements.
- f. A permit may be amended, suspended and reissued, or revoked for cause in accordance with 30 TAC §§ 305.62 and 305.66 and Texas Water Code Section 7.302. The filing of a request by the permittee for a permit amendment, suspension and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.
- g. There shall be no unauthorized discharge of wastewater or any other waste. For the purpose of this permit, an unauthorized discharge is considered to be any discharge of wastewater into or adjacent to water in the state at any location not permitted as an outfall or otherwise defined in the Special Provisions section of this permit.
- h. The permittee is subject to administrative, civil, and criminal penalties, as applicable, under Texas Water Code §§ 7.051 - 7.075 (relating to Administrative Penalties), 7.101 - 7.111 (relating to Civil Penalties), and 7.141 - 7.202 (relating to Criminal Offenses and Penalties).

3. Inspections and Entry

- a. Inspection and entry shall be allowed as prescribed in the Texas Water Code Chapters 26, 27, and 28, and Texas Health and Safety Code Chapter 361.
- b. The members of the Commission and employees and agents of the Commission are entitled to enter any public or private property at any reasonable time for the purpose of inspecting and investigating conditions relating to the quality of water in the state or the compliance with any rule, regulation, permit or other order of the Commission. Members, employees, or agents of the Commission and Commission contractors are entitled to enter public or private property at any reasonable time to investigate or monitor or, if the responsible party is not responsive or there is an immediate danger to public health or the environment, to remove or remediate a condition related to the quality of water in the state. Members, employees, Commission contractors, or agents acting under this authority who enter private property shall observe the establishment's

rules and regulations concerning safety, internal security, and fire protection, and if the property has management in residence, shall notify management or the person then in charge of his presence and shall exhibit proper credentials. If any member, employee, Commission contractor, or agent is refused the right to enter in or on public or private property under this authority, the Executive Director may invoke the remedies authorized in Texas Water Code Section 7.002. The statement above, that Commission entry shall occur in accordance with an establishment's rules and regulations concerning safety, internal security, and fire protection, is not grounds for denial or restriction of entry to any part of the facility, but merely describes the Commission's duty to observe appropriate rules and regulations during an inspection.

4. Permit Amendment and/or Renewal

- a. The permittee shall give notice to the Executive Director as soon as possible of any planned physical alterations or additions to the permitted facility if such alterations or additions would require a permit amendment or result in a violation of permit requirements. Notice shall also be required under this paragraph when:
 - i. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements in Monitoring and Reporting Requirements No. 9;
 - ii. The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.
- b. Prior to any facility modifications, additions, or expansions that will increase the plant capacity beyond the permitted flow, the permittee must apply for and obtain proper authorization from the Commission before commencing construction.
- c. The permittee must apply for an amendment or renewal at least 180 days prior to expiration of the existing permit in order to continue a permitted activity after the expiration date of the permit. If an application is submitted prior to the expiration date of the permit, the existing permit shall remain in effect until the application is approved, denied, or returned. If the application is returned or denied, authorization to continue such activity shall terminate upon the effective date of the action. If an application is not submitted prior to the expiration date of the permit, the permit shall expire and authorization to continue such activity shall terminate.
- d. Prior to accepting or generating wastes which are not described in the permit application or which would result in a significant change in the quantity or quality of the existing discharge, the permittee must report the proposed changes to the Commission. The permittee must apply for a permit amendment reflecting any necessary changes in permit conditions, including effluent limitations for pollutants not identified and limited by this permit.
- e. In accordance with the Texas Water Code § 26.029(b), after a public hearing, notice of which shall be given to the permittee, the Commission may require the permittee, from

time to time, for good cause, in accordance with applicable laws, to conform to new or additional conditions.

5. Permit Transfer

- a. Prior to any transfer of this permit, Commission approval must be obtained. The Commission shall be notified in writing of any change in control or ownership of facilities authorized by this permit. Such notification should be sent to the Applications Review and Processing Team (MC 148) of the Water Quality Division.
- b. A permit may be transferred only according to the provisions of 30 TAC § 305.64 (relating to Transfer of Permits) and 30 TAC § 50.133 (relating to Executive Director Action on Application or WQMP update).

6. Relationship to Hazardous Waste Activities

This permit does not authorize any activity of hazardous waste storage, processing, or disposal which requires a permit or other authorization pursuant to the Texas Health and Safety Code.

7. Property Rights

A permit does not convey any property rights of any sort, or any exclusive privilege.

8. Permit Enforceability

The conditions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstances, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

9. Relationship to Permit Application

The application pursuant to which the permit has been issued is incorporated herein; provided, however, that in the event of a conflict between the provisions of this permit and the application, the provisions of the permit shall control.

10. Notice of Bankruptcy.

- a. Each permittee shall notify the Executive Director, in writing, immediately following the filing of a voluntary or involuntary petition for bankruptcy under any chapter of Title 11 (Bankruptcy) of the United States Code (11 USC) by or against:
 - i. the permittee;
 - ii. an entity (as that term is defined in 11 USC, § 101(14)) controlling the permittee or listing the permit or permittee as property of the estate; or
 - iii. an affiliate (as that term is defined in 11 USC, § 101(2)) of the permittee.
- b. This notification must indicate:
 - i. the name of the permittee;

- ii. the permit number(s);
- iii. the bankruptcy court in which the petition for bankruptcy was filed; and
- iv. the date of filing of the petition.

OPERATIONAL REQUIREMENTS

1. The permittee shall at all times ensure that the facility and all of its systems of collection, treatment, and disposal are properly operated and maintained. This includes, but is not limited to, the regular, periodic examination of wastewater solids within the treatment plant by the operator in order to maintain an appropriate quantity and quality of solids inventory as described in the various operator training manuals and according to accepted industry standards for process control. Process control, maintenance, and operations records shall be retained at the facility site, or shall be readily available for review by a TCEQ representative, for a period of three years.
2. Upon request by the Executive Director, the permittee shall take appropriate samples and provide proper analysis in order to demonstrate compliance with Commission rules. Unless otherwise specified in this permit or otherwise ordered by the Commission, the permittee shall comply with all applicable provisions of 30 TAC Chapter 312 concerning sewage sludge use and disposal and 30 TAC §§ 319.21 - 319.29 concerning the discharge of certain hazardous metals.
3. Domestic wastewater treatment facilities shall comply with the following provisions:
 - a. The permittee shall notify the Municipal Permits Team, Wastewater Permitting Section (MC 148) of the Water Quality Division, in writing, of any facility expansion at least 90 days prior to conducting such activity.
 - b. The permittee shall submit a closure plan for review and approval to the Municipal Permits Team, Wastewater Permitting Section (MC 148) of the Water Quality Division, for any closure activity at least 90 days prior to conducting such activity. Closure is the act of permanently taking a waste management unit or treatment facility out of service and includes the permanent removal from service of any pit, tank, pond, lagoon, surface impoundment and/or other treatment unit regulated by this permit.
4. The permittee is responsible for installing prior to plant start-up, and subsequently maintaining, adequate safeguards to prevent the discharge of untreated or inadequately treated wastes during electrical power failures by means of alternate power sources, standby generators, and/or retention of inadequately treated wastewater.
5. Unless otherwise specified, the permittee shall provide a readily accessible sampling point and, where applicable, an effluent flow measuring device or other acceptable means by which effluent flow may be determined.
6. The permittee shall remit an annual water quality fee to the Commission as required by 30 TAC Chapter 21. Failure to pay the fee may result in revocation of this permit under Texas Water Code § 7.302(b)(6).
7. Documentation

For all written notifications to the Commission required of the permittee by this permit, the permittee shall keep and make available a copy of each such notification under the same

conditions as self-monitoring data are required to be kept and made available. Except for information specified as not confidential in 30 TAC § 1.5(d), any information submitted pursuant to this permit may be claimed as confidential by the submitter. Any such claim must be asserted in the manner prescribed in the application form or by stamping the words "confidential business information" on each page containing such information. If no claim is made at the time of submission, information may be made available to the public without further notice. If the Commission or Executive Director agrees with the designation of confidentiality, the TCEQ will not provide the information for public inspection unless required by the Texas Attorney General or a court pursuant to an open records request. If the Executive Director does not agree with the designation of confidentiality, the person submitting the information will be notified.

8. Facilities which generate domestic wastewater shall comply with the following provisions; domestic wastewater treatment facilities at permitted industrial sites are excluded.

- a. Whenever flow measurements for any domestic sewage treatment facility reach 75 percent of the permitted daily average or annual average flow for three consecutive months, the permittee must initiate engineering and financial planning for expansion and/or upgrading of the domestic wastewater treatment and/or collection facilities. Whenever the flow reaches 90 percent of the permitted daily average or annual average flow for three consecutive months, the permittee shall obtain necessary authorization from the Commission to commence construction of the necessary additional treatment and/or collection facilities. In the case of a domestic wastewater treatment facility which reaches 75 percent of the permitted daily average or annual average flow for three consecutive months, and the planned population to be served or the quantity of waste produced is not expected to exceed the design limitations of the treatment facility, the permittee shall submit an engineering report supporting this claim to the Executive Director of the Commission.

If in the judgement of the Executive Director the population to be served will not cause permit noncompliance, then the requirement of this section may be waived. To be effective, any waiver must be in writing and signed by the Director of the Enforcement Division (MC 219) of the Commission, and such waiver of these requirements will be reviewed upon expiration of the existing permit; however, any such waiver shall not be interpreted as condoning or excusing any violation of any permit parameter.

- b. The plans and specifications for domestic sewage collection and treatment works associated with any domestic permit must be approved by the Commission and failure to secure approval before commencing construction of such works or making a discharge is a violation of this permit and each day is an additional violation until approval has been secured.
- c. Permits for domestic wastewater treatment plants are granted subject to the policy of the Commission to encourage the development of area-wide waste collection, treatment and disposal systems. The Commission reserves the right to amend any domestic wastewater permit in accordance with applicable procedural requirements to require the system covered by this permit to be integrated into an area-wide system, should such be developed; to require the delivery of the wastes authorized to be collected in, treated by or discharged from said system, to such area-wide system; or to amend this permit in any other particular to effectuate the Commission's policy. Such amendments may be made when the changes required are advisable for water quality control purposes and are feasible on the basis of waste treatment technology, engineering, financial, and related

considerations existing at the time the changes are required, exclusive of the loss of investment in or revenues from any then existing or proposed waste collection, treatment or disposal system.

9. Domestic wastewater treatment plants shall be operated and maintained by sewage plant operators holding a valid certificate of competency at the required level as defined in 30 TAC Chapter 30.
10. Facilities which generate industrial solid waste as defined in 30 TAC § 335.1 shall comply with these provisions:
 - a. Any solid waste, as defined in 30 TAC § 335.1 (including but not limited to such wastes as garbage, refuse, sludge from a waste treatment, water supply treatment plant or air pollution control facility, discarded materials, discarded materials to be recycled, whether the waste is solid, liquid, or semisolid), generated by the permittee during the management and treatment of wastewater, must be managed in accordance with all applicable provisions of 30 TAC Chapter 335, relating to Industrial Solid Waste Management.
 - b. Industrial wastewater that is being collected, accumulated, stored, or processed before discharge through any final discharge outfall, specified by this permit, is considered to be industrial solid waste until the wastewater passes through the actual point source discharge and must be managed in accordance with all applicable provisions of 30 TAC Chapter 335.
 - c. The permittee shall provide written notification, pursuant to the requirements of 30 TAC § 335.8(b)(1), to the Corrective Action Section (MC 221) of the Remediation Division informing the Commission of any closure activity involving an Industrial Solid Waste Management Unit, at least 90 days prior to conducting such an activity.
 - d. Construction of any industrial solid waste management unit requires the prior written notification of the proposed activity to the Registration and Reporting Section (MC 129) of the Permitting and Remediation Support Division. No person shall dispose of industrial solid waste, including sludge or other solids from wastewater treatment processes, prior to fulfilling the deed recordation requirements of 30 TAC § 335-5.
 - e. The term "industrial solid waste management unit" means a landfill, surface impoundment, waste-pile, industrial furnace, incinerator, cement kiln, injection well, container, drum, salt dome waste containment cavern, or any other structure vessel, appurtenance, or other improvement on land used to manage industrial solid waste.
 - f. The permittee shall keep management records for all sludge (or other waste) removed from any wastewater treatment process. These records shall fulfill all applicable requirements of 30 TAC Chapter 335 and must include the following, as it pertains to wastewater treatment and discharge:
 - i. Volume of waste and date(s) generated from treatment process;
 - ii. Volume of waste disposed of on-site or shipped off-site;
 - iii. Date(s) of disposal;
 - iv. Identity of hauler or transporter;
 - v. Location of disposal site; and
 - vi. Method of final disposal.

The above records shall be maintained on a monthly basis. The records shall be retained at the facility site, or shall be readily available for review by authorized representatives of the TCEQ for at least five years.

11. For industrial facilities to which the requirements of 30 TAC Chapter 335 do not apply, sludge and solid wastes, including tank cleaning and contaminated solids for disposal, shall be disposed of in accordance with Chapter 361 of the Texas Health and Safety Code.

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SLUDGE PROVISIONS

The permittee is authorized to dispose of sludge only at a Texas Commission on Environmental Quality (TCEQ) authorized land application site, co-disposal landfill, wastewater treatment facility, or facility that further processes sludge. **The disposal of sludge by land application on property owned, leased or under the direct control of the permittee is a violation of the permit unless the site is authorized with the TCEQ. This provision does not authorize Distribution and Marketing of Class A or Class AB Sewage Sludge. This provision does not authorize the permittee to land apply sludge on property owned, leased or under the direct control of the permittee.**

SECTION I. REQUIREMENTS APPLYING TO ALL SEWAGE SLUDGE LAND APPLICATION**A. General Requirements**

1. The permittee shall handle and dispose of sewage sludge in accordance with 30 TAC § 312 and all other applicable state and federal regulations in a manner that protects public health and the environment from any reasonably anticipated adverse effects due to any toxic pollutants that may be present in the sludge.
2. In all cases, if the person (permit holder) who prepares the sewage sludge supplies the sewage sludge to another person for land application use or to the owner or lease holder of the land, the permit holder shall provide necessary information to the parties who receive the sludge to assure compliance with these regulations.
3. The permittee shall give 180 days prior notice to the Executive Director in care of the Wastewater Permitting Section (MC 148) of the Water Quality Division of any change planned in the sewage sludge disposal practice.

B. Testing Requirements

1. Sewage sludge shall be tested once during the term of this permit in accordance with the method specified in both 40 CFR Part 261, Appendix II and 40 CFR Part 268, Appendix I [Toxicity Characteristic Leaching Procedure (TCLP)] or other method that receives the prior approval of the TCEQ for the contaminants listed in 40 CFR Part 261.24, Table 1. Sewage sludge failing this test shall be managed according to RCRA standards for generators of hazardous waste, and the waste's disposition must be in accordance with all applicable requirements for hazardous waste processing, storage, or disposal. Following failure of any TCLP test, the management or disposal of sewage sludge at a facility other than an authorized hazardous waste processing, storage, or disposal facility shall be prohibited until such time as the permittee can demonstrate the sewage sludge no longer exhibits the hazardous waste toxicity characteristics (as demonstrated by the results of the TCLP tests). A written report shall be provided to both the TCEQ Registration and Reporting Section (MC 129) of the Permitting and Registration Support Division and the Regional Director (MC Region 11) within seven (7) days after failing the TCLP Test.

The report shall contain test results, certification that unauthorized waste management has stopped and a summary of alternative disposal plans that comply with RCRA standards for the management of hazardous waste. The report shall be addressed to: Director, Permitting and Registration Support Division (MC 129), Texas Commission on Environmental Quality, P.O. Box 13087, Austin, Texas 78711-3087. In addition, the permittee shall prepare an annual report on the results of all sludge toxicity testing. This annual report shall be submitted to the TCEQ Regional Office (MC Region 11) and the Compliance Monitoring Team (MC 224) of the Enforcement Division by September 30th of each year. Effective September 1, 2020, the permittee must submit this annual report using the online electronic reporting system available through the TCEQ website unless the permittee requests and obtains an electronic reporting waiver.

2. Sewage sludge shall not be applied to the land if the concentration of the pollutants exceeds the pollutant concentration criteria in Table 1. The frequency of testing for pollutants in Table 1 is found in Section I.C. of this permit.

TABLE 1

<u>Pollutant</u>	<u>Ceiling Concentration</u> <u>(Milligrams per kilogram)*</u>
Arsenic	75
Cadmium	85
Chromium	3000
Copper	4300
Lead	840
Mercury	57
Molybdenum	75
Nickel	420
PCBs	49
Selenium	100
Zinc	7500

* Dry weight basis

3. Pathogen Control

All sewage sludge that is applied to agricultural land, forest, a public contact site, or a reclamation site must be treated by one of the following methods to ensure that the sludge meets either the Class A, Class AB or Class B pathogen requirements.

- a. For sewage sludge to be classified as Class A with respect to pathogens, the density of fecal coliform in the sewage sludge must be less than 1,000 most probable number (MPN) per gram of total solids (dry weight basis), or the density of Salmonella sp. bacteria in the sewage sludge must be less than three MPN per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed. In addition, one of the alternatives listed below must be met:

Alternative 1 - The temperature of the sewage sludge that is used or disposed shall be maintained at or above a specific value for a period of time. See 30 TAC § 312.82(a)(2)(A) for specific information;

Alternative 5 (PFRP) - Sewage sludge that is used or disposed of must be treated in one of the Processes to Further Reduce Pathogens (PFRP) described in 40 CFR Part 503, Appendix B. PFRP include composting, heat drying, heat treatment, and thermophilic aerobic digestion; or

Alternative 6 (PFRP Equivalent) - Sewage sludge that is used or disposed of must be treated in a process that has been approved by the U. S. Environmental Protection Agency as being equivalent to those in Alternative 5.

- b. For sewage sludge to be classified as Class AB with respect to pathogens, the density of fecal coliform in the sewage sludge must be less than 1,000 MPN per gram of total solids (dry weight basis), or the density of *Salmonella* sp. bacteria in the sewage sludge be less than three MPN per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed. In addition, one of the alternatives listed below must be met:

Alternative 2 - The pH of the sewage sludge that is used or disposed shall be raised to above 12 std. units and shall remain above 12 std. units for 72 hours.

The temperature of the sewage sludge shall be above 52° Celsius for 12 hours or longer during the period that the pH of the sewage sludge is above 12 std. units.

At the end of the 72-hour period during which the pH of the sewage sludge is above 12 std. units, the sewage sludge shall be air dried to achieve a percent solids in the sewage sludge greater than 50%; or

Alternative 3 - The sewage sludge shall be analyzed for enteric viruses prior to pathogen treatment. The limit for enteric viruses is less than one Plaque-forming Unit per four grams of total solids (dry weight basis) either before or following pathogen treatment. See 30 TAC § 312.82(a)(2)(C)(i-iii) for specific information. The sewage sludge shall be analyzed for viable helminth ova prior to pathogen treatment. The limit for viable helminth ova is less than one per four grams of total solids (dry weight basis) either before or following pathogen treatment. See 30 TAC § 312.82(a)(2)(C)(iv-vi) for specific information; or

Alternative 4 - The density of enteric viruses in the sewage sludge shall be less than one Plaque-forming Unit per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed. The density of viable helminth ova in the sewage sludge shall be less than one per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed.

- c. Sewage sludge that meets the requirements of Class AB sewage sludge may be classified a Class A sewage sludge if a variance request is submitted in writing that is supported by substantial documentation demonstrating equivalent methods for reducing odors and written approval is granted by the executive director. The executive director may deny the variance request or revoke that approved variance if it is determined that the variance may potentially endanger human health or the environment, or create nuisance odor conditions.
- d. Three alternatives are available to demonstrate compliance with Class B criteria for

sewage sludge.

Alternative 1

- i. A minimum of seven random samples of the sewage sludge shall be collected within 48 hours of the time the sewage sludge is used or disposed of during each monitoring episode for the sewage sludge.
- ii. The geometric mean of the density of fecal coliform in the samples collected shall be less than either 2,000,000 MPN per gram of total solids (dry weight basis) or 2,000,000 Colony Forming Units per gram of total solids (dry weight basis).

Alternative 2 - Sewage sludge that is used or disposed of shall be treated in one of the Processes to Significantly Reduce Pathogens (PSRP) described in 40 CFR Part 503, Appendix B, so long as all of the following requirements are met by the generator of the sewage sludge.

- i. Prior to use or disposal, all the sewage sludge must have been generated from a single location, except as provided in paragraph v. below;
- ii. An independent Texas Licensed Professional Engineer must make a certification to the generator of a sewage sludge that the wastewater treatment facility generating the sewage sludge is designed to achieve one of the PSRP at the permitted design loading of the facility. The certification need only be repeated if the design loading of the facility is increased. The certification shall include a statement indicating the design meets all the applicable standards specified in Appendix B of 40 CFR Part 503;
- iii. Prior to any off-site transportation or on-site use or disposal of any sewage sludge generated at a wastewater treatment facility, the chief certified operator of the wastewater treatment facility or other responsible official who manages the processes to significantly reduce pathogens at the wastewater treatment facility for the permittee, shall certify that the sewage sludge underwent at least the minimum operational requirements necessary in order to meet one of the PSRP. The acceptable processes and the minimum operational and record keeping requirements shall be in accordance with established U.S. Environmental Protection Agency final guidance;
- iv. All certification records and operational records describing how the requirements of this paragraph were met shall be kept by the generator for a minimum of three years and be available for inspection by commission staff for review; and
- v. If the sewage sludge is generated from a mixture of sources, resulting from a person who prepares sewage sludge from more than one wastewater treatment facility, the resulting derived product shall meet one of the PSRP, and shall meet the certification, operation, and record keeping requirements of this paragraph.

Alternative 3 - Sewage sludge shall be treated in an equivalent process that has been approved by the U.S. Environmental Protection Agency, so long as all of the following requirements are met by the generator of the sewage sludge.

- i. Prior to use or disposal, all the sewage sludge must have been generated from a

single location, except as provided in paragraph v. below;

- ii. Prior to any off-site transportation or on-site use or disposal of any sewage sludge generated at a wastewater treatment facility, the chief certified operator of the wastewater treatment facility or other responsible official who manages the processes to significantly reduce pathogens at the wastewater treatment facility for the permittee, shall certify that the sewage sludge underwent at least the minimum operational requirements necessary in order to meet one of the PSRP. The acceptable processes and the minimum operational and record keeping requirements shall be in accordance with established U.S. Environmental Protection Agency final guidance;
- iii. All certification records and operational records describing how the requirements of this paragraph were met shall be kept by the generator for a minimum of three years and be available for inspection by commission staff for review;
- iv. The Executive Director will accept from the U.S. Environmental Protection Agency a finding of equivalency to the defined PSRP; and
- v. If the sewage sludge is generated from a mixture of sources resulting from a person who prepares sewage sludge from more than one wastewater treatment facility, the resulting derived product shall meet one of the Processes to Significantly Reduce Pathogens, and shall meet the certification, operation, and record keeping requirements of this paragraph.

In addition to the Alternatives 1 – 3, the following site restrictions must be met if Class B sludge is land applied:

- i. Food crops with harvested parts that touch the sewage sludge/soil mixture and are totally above the land surface shall not be harvested for 14 months after application of sewage sludge.
- ii. Food crops with harvested parts below the surface of the land shall not be harvested for 20 months after application of sewage sludge when the sewage sludge remains on the land surface for 4 months or longer prior to incorporation into the soil.
- iii. Food crops with harvested parts below the surface of the land shall not be harvested for 38 months after application of sewage sludge when the sewage sludge remains on the land surface for less than 4 months prior to incorporation into the soil.
- iv. Food crops, feed crops, and fiber crops shall not be harvested for 30 days after application of sewage sludge.
- v. Animals shall not be allowed to graze on the land for 30 days after application of sewage sludge.
- vi. Turf grown on land where sewage sludge is applied shall not be harvested for 1 year after application of the sewage sludge when the harvested turf is placed on either land with a high potential for public exposure or a lawn.

- vii. Public access to land with a high potential for public exposure shall be restricted for 1 year after application of sewage sludge.
- viii. Public access to land with a low potential for public exposure shall be restricted for 30 days after application of sewage sludge.
- ix. Land application of sludge shall be in accordance with the buffer zone requirements found in 30 TAC § 312.44.

4. Vector Attraction Reduction Requirements

All bulk sewage sludge that is applied to agricultural land, forest, a public contact site, or a reclamation site shall be treated by one of the following Alternatives 1 through 10 for vector attraction reduction.

- Alternative 1 - The mass of volatile solids in the sewage sludge shall be reduced by a minimum of 38%.
- Alternative 2 - If Alternative 1 cannot be met for an anaerobically digested sludge, demonstration can be made by digesting a portion of the previously digested sludge anaerobically in the laboratory in a bench-scale unit for 40 additional days at a temperature between 30° and 37° Celsius. Volatile solids must be reduced by less than 17% to demonstrate compliance.
- Alternative 3 - If Alternative 1 cannot be met for an aerobically digested sludge, demonstration can be made by digesting a portion of the previously digested sludge with percent solids of two percent or less aerobically in the laboratory in a bench-scale unit for 30 additional days at 20° Celsius. Volatile solids must be reduced by less than 15% to demonstrate compliance.
- Alternative 4 - The specific oxygen uptake rate (SOUR) for sewage sludge treated in an aerobic process shall be equal to or less than 1.5 milligrams of oxygen per hour per gram of total solids (dry weight basis) at a temperature of 20° Celsius.
- Alternative 5 - Sewage sludge shall be treated in an aerobic process for 14 days or longer. During that time, the temperature of the sewage sludge shall be higher than 40° Celsius and the average temperature of the sewage sludge shall be higher than 45° Celsius.
- Alternative 6 - The pH of sewage sludge shall be raised to 12 or higher by alkali addition and, without the addition of more alkali shall remain at 12 or higher for two hours and then remain at a pH of 11.5 or higher for an additional 22 hours at the time the sewage sludge is prepared for sale or given away in a bag or other container.
- Alternative 7 - The percent solids of sewage sludge that does not contain unstabilized solids generated in a primary wastewater treatment process shall be equal to or greater than 75% based on the moisture content and total solids prior to mixing with other materials. Unstabilized solids are

defined as organic materials in sewage sludge that have not been treated in either an aerobic or anaerobic treatment process.

Alternative 8 - The percent solids of sewage sludge that contains unstabilized solids generated in a primary wastewater treatment process shall be equal to or greater than 90% based on the moisture content and total solids prior to mixing with other materials at the time the sludge is used. Unstabilized solids are defined as organic materials in sewage sludge that have not been treated in either an aerobic or anaerobic treatment process.

Alternative 9 -

- i. Sewage sludge shall be injected below the surface of the land.
- ii. No significant amount of the sewage sludge shall be present on the land surface within one hour after the sewage sludge is injected.
- iii. When sewage sludge that is injected below the surface of the land is Class A or Class AB with respect to pathogens, the sewage sludge shall be injected below the land surface within eight hours after being discharged from the pathogen treatment process.

Alternative 10 -

- i. Sewage sludge applied to the land surface or placed on a surface disposal site shall be incorporated into the soil within six hours after application to or placement on the land.
- ii. When sewage sludge that is incorporated into the soil is Class A or Class AB with respect to pathogens, the sewage sludge shall be applied to or placed on the land within eight hours after being discharged from the pathogen treatment process.

C. Monitoring Requirements

Toxicity Characteristic Leaching Procedure (TCLP) Test	- once during the term of this permit
PCBs	- once during the term of this permit

All metal constituents and fecal coliform or *Salmonella* sp. bacteria shall be monitored at the appropriate frequency shown below, pursuant to 30 TAC § 312.46(a)(1):

<u>Amount of sewage sludge (*) metric tons per 365-day period</u>	<u>Monitoring Frequency</u>
0 to less than 290	Once/Year
290 to less than 1,500	Once/Quarter
1,500 to less than 15,000	Once/Two Months
15,000 or greater	Once/Month

(*) *The amount of bulk sewage sludge applied to the land (dry wt. basis).*

Representative samples of sewage sludge shall be collected and analyzed in accordance with the methods referenced in 30 TAC § 312.7

Identify each of the analytic methods used by the facility to analyze enteric viruses, fecal coliforms, helminth ova, *Salmonella* sp., and other regulated parameters.

Identify in the following categories (as applicable) the sewage sludge treatment process or processes at the facility: preliminary operations (e.g., sludge grinding and degritting), thickening (concentration), stabilization, anaerobic digestion, aerobic digestion, composting, conditioning, disinfection (e.g., beta ray irradiation, gamma ray irradiation, pasteurization), dewatering (e.g., centrifugation, sludge drying beds, sludge lagoons), heat drying, thermal reduction, and methane or biogas capture and recovery.

Identify the nature of material generated by the facility (such as a biosolid for beneficial use or land-farming, or sewage sludge for disposal at a landfill) and whether the material is ultimately conveyed off-site in bulk or in bags.

SECTION II. REQUIREMENTS SPECIFIC TO BULK SEWAGE SLUDGE FOR APPLICATION TO THE LAND MEETING CLASS A, CLASS AB or B PATHOGEN REDUCTION AND THE CUMULATIVE LOADING RATES IN TABLE 2, OR CLASS B PATHOGEN REDUCTION AND THE POLLUTANT CONCENTRATIONS IN TABLE 3

For those permittees meeting Class A, Class AB or B pathogen reduction requirements and that meet the cumulative loading rates in Table 2 below, or the Class B pathogen reduction requirements and contain concentrations of pollutants below listed in Table 3, the following conditions apply:

A. Pollutant Limits

Table 2

<u>Pollutant</u>	<u>Cumulative Pollutant Loading Rate (pounds per acre)*</u>
Arsenic	36
Cadmium	35
Chromium	2677
Copper	1339
Lead	268
Mercury	15
Molybdenum	Report Only
Nickel	375
Selenium	89
Zinc	2500

Table 3

<u>Pollutant</u>	<u>Monthly Average Concentration (milligrams per kilogram)*</u>
Arsenic	41
Cadmium	39
Chromium	1200
Copper	1500
Lead	300
Mercury	17
Molybdenum	Report Only
Nickel	420
Selenium	36
Zinc	2800

*Dry weight basis

B. Pathogen Control

All bulk sewage sludge that is applied to agricultural land, forest, a public contact site, a reclamation site, shall be treated by either Class A, Class AB or Class B pathogen reduction requirements as defined above in Section I.B.3.

C. Management Practices

1. Bulk sewage sludge shall not be applied to agricultural land, forest, a public contact site, or a reclamation site that is flooded, frozen, or snow-covered so that the bulk sewage sludge enters a wetland or other waters in the State.
2. Bulk sewage sludge not meeting Class A requirements shall be land applied in a manner which complies with Applicability in accordance with 30 TAC §312.41 and the Management Requirements in accordance with 30 TAC § 312.44.
3. Bulk sewage sludge shall be applied at or below the agronomic rate of the cover crop.
4. An information sheet shall be provided to the person who receives bulk sewage sludge sold or given away. The information sheet shall contain the following information:
 - a. The name and address of the person who prepared the sewage sludge that is sold or given away in a bag or other container for application to the land.
 - b. A statement that application of the sewage sludge to the land is prohibited except in accordance with the instruction on the label or information sheet.
 - c. The annual whole sludge application rate for the sewage sludge application rate for the sewage sludge that does not cause any of the cumulative pollutant loading rates in Table 2 above to be exceeded, unless the pollutant concentrations in Table 3 found in Section II above are met.

D. Notification Requirements

1. If bulk sewage sludge is applied to land in a State other than Texas, written notice shall be provided prior to the initial land application to the permitting authority for the State in which the bulk sewage sludge is proposed to be applied. The notice shall include:
 - a. The location, by street address, and specific latitude and longitude, of each land application site.
 - b. The approximate time period bulk sewage sludge will be applied to the site.
 - c. The name, address, telephone number, and National Pollutant Discharge Elimination System permit number (if appropriate) for the person who will apply the bulk sewage sludge.
2. The permittee shall give 180 days prior notice to the Executive Director in care of the Wastewater Permitting Section (MC 148) of the Water Quality Division of any change planned in the sewage sludge disposal practice.

E. Record keeping Requirements

The sludge documents will be retained at the facility site and/or shall be readily available for review by a TCEQ representative. The person who prepares bulk sewage sludge or a sewage sludge material shall develop the following information and shall retain the information at

the facility site and/or shall be readily available for review by a TCEQ representative for a period of five years. If the permittee supplies the sludge to another person who land applies the sludge, the permittee shall notify the land applier of the requirements for record keeping found in 30 TAC § 312.47 for persons who land apply.

1. The concentration (mg/kg) in the sludge of each pollutant listed in Table 3 above and the applicable pollutant concentration criteria (mg/kg), or the applicable cumulative pollutant loading rate and the applicable cumulative pollutant loading rate limit (lbs/ac) listed in Table 2 above.
2. A description of how the pathogen reduction requirements are met (including site restrictions for Class AB and Class B sludge, if applicable).
3. A description of how the vector attraction reduction requirements are met.
4. A description of how the management practices listed above in Section II.C are being met.
5. The following certification statement:

"I certify, under penalty of law, that the applicable pathogen requirements in 30 TAC § 312.82(a) or (b) and the vector attraction reduction requirements in 30 TAC § 312.83(b) have been met for each site on which bulk sewage sludge is applied. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the management practices have been met. I am aware that there are significant penalties for false certification including fine and imprisonment."

6. The recommended agronomic loading rate from the references listed in Section II.C.3. above, as well as the actual agronomic loading rate shall be retained. The person who applies bulk sewage sludge or a sewage sludge material shall develop the following information and shall retain the information at the facility site and/or shall be readily available for review by a TCEQ representative indefinitely. If the permittee supplies the sludge to another person who land applies the sludge, the permittee shall notify the land applier of the requirements for record keeping found in 30 TAC § 312.47 for persons who land apply:
 - a. A certification statement that all applicable requirements (specifically listed) have been met, and that the permittee understands that there are significant penalties for false certification including fine and imprisonment. See 30 TAC § 312.47(a)(4)(A)(ii) or 30 TAC § 312.47(a)(5)(A)(ii), as applicable, and to the permittee's specific sludge treatment activities.
 - b. The location, by street address, and specific latitude and longitude, of each site on which sludge is applied.
 - c. The number of acres in each site on which bulk sludge is applied.
 - d. The date and time sludge is applied to each site.

- e. The cumulative amount of each pollutant in pounds/acre listed in Table 2 applied to each site.
- f. The total amount of sludge applied to each site in dry tons.

The above records shall be maintained on-site on a monthly basis and shall be made available to the Texas Commission on Environmental Quality upon request.

F. Reporting Requirements

The permittee shall report annually to the TCEQ Regional Office (MC Region 11) and Compliance Monitoring Team (MC 224) of the Enforcement Division, by September 30th of each year the following information. Effective September 1, 2020, the permittee must submit this annual report using the online electronic reporting system available through the TCEQ website unless the permittee requests and obtains an electronic reporting waiver.

1. Identify in the following categories (as applicable) the sewage sludge treatment process or processes at the facility: preliminary operations (e.g., sludge grinding and degritting), thickening (concentration), stabilization, anaerobic digestion, aerobic digestion, composting, conditioning, disinfection (e.g., beta ray irradiation, gamma ray irradiation, pasteurization), dewatering (e.g., centrifugation, sludge drying beds, sludge lagoons), heat drying, thermal reduction, and methane or biogas capture and recovery.
2. Identify the nature of material generated by the facility (such as a biosolid for beneficial use or land-farming, or sewage sludge for disposal at a monofill) and whether the material is ultimately conveyed off-site in bulk or in bags.
3. Results of tests performed for pollutants found in either Table 2 or 3 as appropriate for the permittee's land application practices.
4. The frequency of monitoring listed in Section I.C. that applies to the permittee.
5. Toxicity Characteristic Leaching Procedure (TCLP) results.
6. PCB concentration in sludge in mg/kg.
7. Identity of hauler(s) and TCEQ transporter number.
8. Date(s) of transport.
9. Texas Commission on Environmental Quality registration number, if applicable.
10. Amount of sludge disposal dry weight (lbs/acre) at each disposal site.
11. The concentration (mg/kg) in the sludge of each pollutant listed in Table 1 (defined as a monthly average) as well as the applicable pollutant concentration criteria (mg/kg) listed in Table 3 above, or the applicable pollutant loading rate limit (lbs/acre) listed in Table 2 above if it exceeds 90% of the limit.
12. Level of pathogen reduction achieved (Class A, Class AB or Class B).
13. Alternative used as listed in Section I.B.3.(a. or b.). Alternatives describe how the pathogen reduction requirements are met. If Class B sludge, include information on how site restrictions were met.

14. Identify each of the analytic methods used by the facility to analyze enteric viruses, fecal coliforms, helminth ova, *Salmonella* sp., and other regulated parameters.
15. Vector attraction reduction alternative used as listed in Section I.B.4.
16. Amount of sludge transported in dry tons/year.
17. The certification statement listed in either 30 TAC § 312.47(a)(4)(A)(ii) or 30 TAC § 312.47(a)(5)(A)(ii) as applicable to the permittee's sludge treatment activities, shall be attached to the annual reporting form.
18. When the amount of any pollutant applied to the land exceeds 90% of the cumulative pollutant loading rate for that pollutant, as described in Table 2, the permittee shall report the following information as an attachment to the annual reporting form.
 - a. The location, by street address, and specific latitude and longitude.
 - b. The number of acres in each site on which bulk sewage sludge is applied.
 - c. The date and time bulk sewage sludge is applied to each site.
 - d. The cumulative amount of each pollutant (i.e., pounds/acre) listed in Table 2 in the bulk sewage sludge applied to each site.
 - e. The amount of sewage sludge (i.e., dry tons) applied to each site.

The above records shall be maintained on a monthly basis and shall be made available to the Texas Commission on Environmental Quality upon request.

**SECTION III. REQUIREMENTS APPLYING TO ALL SEWAGE SLUDGE
DISPOSED IN A MUNICIPAL SOLID WASTE LANDFILL**

- A. The permittee shall handle and dispose of sewage sludge in accordance with 30 TAC § 330 and all other applicable state and federal regulations to protect public health and the environment from any reasonably anticipated adverse effects due to any toxic pollutants that may be present. The permittee shall ensure that the sewage sludge meets the requirements in 30 TAC § 330 concerning the quality of the sludge disposed in a municipal solid waste landfill.
- B. If the permittee generates sewage sludge and supplies that sewage sludge to the owner or operator of a municipal solid waste landfill (MSWLF) for disposal, the permittee shall provide to the owner or operator of the MSWLF appropriate information needed to be in compliance with the provisions of this permit.
- C. The permittee shall give 180 days prior notice to the Executive Director in care of the Wastewater Permitting Section (MC 148) of the Water Quality Division of any change planned in the sewage sludge disposal practice.
- D. Sewage sludge shall be tested once during the term of this permit in accordance with the method specified in both 40 CFR Part 261, Appendix II and 40 CFR Part 268, Appendix I (Toxicity Characteristic Leaching Procedure) or other method, which receives the prior approval of the TCEQ for contaminants listed in Table 1 of 40 CFR § 261.24. Sewage sludge failing this test shall be managed according to RCRA standards for generators of hazardous waste, and the waste's disposition must be in accordance with all applicable requirements for hazardous waste processing, storage, or disposal.

Following failure of any TCLP test, the management or disposal of sewage sludge at a facility other than an authorized hazardous waste processing, storage, or disposal facility shall be prohibited until such time as the permittee can demonstrate the sewage sludge no longer exhibits the hazardous waste toxicity characteristics (as demonstrated by the results of the TCLP tests). A written report shall be provided to both the TCEQ Registration and Reporting Section (MC 129) of the Permitting and Registration Support Division and the Regional Director (MC Region 11) of the appropriate TCEQ field office within 7 days after failing the TCLP Test.

The report shall contain test results, certification that unauthorized waste management has stopped and a summary of alternative disposal plans that comply with RCRA standards for the management of hazardous waste. The report shall be addressed to: Director, Permitting and Registration Support Division (MC 129), Texas Commission on Environmental Quality, P. O. Box 13087, Austin, Texas 78711-3087. In addition, the permittee shall prepare an annual report on the results of all sludge toxicity testing. This annual report shall be submitted to the TCEQ Regional Office (MC Region 11) and the Compliance Monitoring Team (MC 224) of the Enforcement Division by September 30 of each year.

- E. Sewage sludge shall be tested as needed, in accordance with the requirements of 30 TAC Chapter 330.
- F. Record keeping Requirements

The permittee shall develop the following information and shall retain the information for five years.

1. The description (including procedures followed and the results) of all liquid Paint Filter Tests performed.
2. The description (including procedures followed and results) of all TCLP tests performed.

The above records shall be maintained on-site on a monthly basis and shall be made available to the Texas Commission on Environmental Quality upon request.

G. Reporting Requirements

The permittee shall report annually to the TCEQ Regional Office (MC Region 11) and Compliance Monitoring Team (MC 224) of the Enforcement Division by September 30th of each year the following information. Effective September 1, 2020, the permittee must submit this annual report using the online electronic reporting system available through the TCEQ website unless the permittee requests and obtains an electronic reporting waiver.

1. Identify in the following categories (as applicable) the sewage sludge treatment process or processes at the facility: preliminary operations (e.g., sludge grinding and degritting), thickening (concentration), stabilization, anaerobic digestion, aerobic digestion, composting, conditioning, disinfection (e.g., beta ray irradiation, gamma ray irradiation, pasteurization), dewatering (e.g., centrifugation, sludge drying beds, sludge lagoons), heat drying, thermal reduction, and methane or biogas capture and recovery.
2. Toxicity Characteristic Leaching Procedure (TCLP) results.
3. Annual sludge production in dry tons/year.
4. Amount of sludge disposed in a municipal solid waste landfill in dry tons/year.
5. Amount of sludge transported interstate in dry tons/year.
6. A certification that the sewage sludge meets the requirements of 30 TAC § 330 concerning the quality of the sludge disposed in a municipal solid waste landfill.
7. Identity of hauler(s) and transporter registration number.
8. Owner of disposal site(s).
9. Location of disposal site(s).
10. Date(s) of disposal.

The above records shall be maintained on-site on a monthly basis and shall be made available to the Texas Commission on Environmental Quality upon request.

SECTION IV. REQUIREMENTS APPLYING TO SLUDGE TRANSPORTED TO ANOTHER FACILITY FOR FURTHER PROCESSING

These provisions apply to sludge that is transported to another wastewater treatment facility or facility that further processes sludge. These provisions are intended to allow transport of sludge to facilities that have been authorized to accept sludge. These provisions do not limit the ability of the receiving facility to determine whether to accept the sludge, nor do they limit the ability of the receiving facility to request additional testing or documentation.

A. General Requirements

1. The permittee shall handle and dispose of sewage sludge in accordance with 30 TAC Chapter 312 and all other applicable state and federal regulations in a manner that protects public health and the environment from any reasonably anticipated adverse effects due to any toxic pollutants that may be present in the sludge.
2. Sludge may only be transported using a registered transporter or using an approved pipeline.

B. Record Keeping Requirements

1. For sludge transported by an approved pipeline, the permittee must maintain records of the following:
 - a. the amount of sludge transported;
 - b. the date of transport;
 - c. the name and TCEQ permit number of the receiving facility or facilities;
 - d. the location of the receiving facility or facilities;
 - e. the name and TCEQ permit number of the facility that generated the waste; and
 - f. copy of the written agreement between the permittee and the receiving facility to accept sludge.
2. For sludge transported by a registered transporter, the permittee must maintain records of the completed trip tickets in accordance with 30 TAC § 312.145(a)(1)-(7) and amount of sludge transported.
3. The above records shall be maintained on-site on a monthly basis and shall be made available to the TCEQ upon request. These records shall be retained for at least five years.

C. Reporting Requirements

The permittee shall report the following information annually to the TCEQ Regional Office (MC Region 11) and Compliance Monitoring Team (MC 224) of the Enforcement Division, by September 30th of each year. Effective September 1, 2020, the permittee must submit this annual report using the online electronic reporting system available through the TCEQ website unless the permittee requests and obtains an electronic reporting waiver.

1. Identify in the following categories (as applicable) the sewage sludge treatment process or processes at the facility: preliminary operations (e.g., sludge grinding and degritting), thickening (concentration), stabilization, anaerobic digestion, aerobic digestion, composting, conditioning, disinfection (e.g., beta ray irradiation, gamma ray irradiation, pasteurization), dewatering (e.g., centrifugation, sludge drying beds, sludge lagoons), heat drying, thermal reduction, and methane or biogas capture and recovery.
2. the annual sludge production;
3. the amount of sludge transported;
4. the owner of each receiving facility;
5. the location of each receiving facility; and
6. the date(s) of disposal at each receiving facility.

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SPECIAL PROVISIONS:

1. This permit is granted subject to the policy of the Commission to encourage the development of areawide waste collection, treatment and disposal systems. The Commission reserves the right to amend this permit in accordance with applicable procedural requirements to require the system covered by this permit to be integrated into an areawide system, should such be developed; to require the delivery of the wastes authorized to be collected in, treated by or discharged from said system, to such areawide system; or to amend this permit in any other particular to effectuate the Commission's policy. Such amendments may be made when the changes required are advisable for water quality control purposes and are feasible on the basis of waste treatment technology, engineering, financial, and related considerations existing at the time the changes are required, exclusive of the loss of investment in or revenues from any then existing or proposed waste collection, treatment or disposal system.
2. The permittee shall employ or contract with one or more licensed wastewater treatment facility operators or wastewater system operations companies holding a valid license or registration according to the requirements of 30 TAC Chapter 30, Occupational Licenses and Registrations, and in particular 30 TAC Chapter 30, Subchapter J, Wastewater Operators and Operations Companies.

This Category C facility must be operated by a chief operator or an operator holding a Category C license or higher. The facility must be operated a minimum of five days per week by the licensed chief operator or an operator holding the required level of license or higher. The licensed chief operator or operator holding the required level of license or higher must be available by telephone or pager seven days per week. Where shift operation of the wastewater treatment facility is necessary, each shift which does not have the on-site supervision of the licensed chief operator must be supervised by an operator in charge who is licensed not less than one level below the category for the facility.

3. The permittee shall maintain and operate the treatment facility in order to achieve optimum efficiency of treatment capability. This shall include required monitoring of effluent flow and quality as well as appropriate grounds and building maintenance.
4. Prior to construction of the Interim I, Interim II, and Final phase wastewater treatment facilities, the permittee shall submit to the TCEQ Wastewater Permitting Section (MC 148) of the Water Quality Division, a summary transmittal letter according to the requirements in 30 TAC § 217.6(d). If requested by the Wastewater Permitting Section, the permittee shall submit plans, specifications and a final engineering design report which comply with the requirements of 30 TAC Chapter 217, Design Criteria for Wastewater Treatment Systems. The permittee shall clearly show how the treatment system will meet the permitted effluent limitations required on Page 2 of the permit. A copy of the summary transmittal letter shall be available at the plant site for inspection by authorized representatives of the TCEQ.
5. Prior to construction of the subsurface area drip dispersal system, the permittee shall submit, to the TCEQ Wastewater Permitting Section (MC148) of the Water Quality Division, an engineering report, including plans and specifications, that meets the requirements in 30 TAC Chapter 222, Subsurface Drip Dispersal Systems, Subchapter D: Design Criteria.
6. Reporting requirements according to 30 TAC §§ 319.1-319.11 and any additional effluent reporting requirements contained in this permit are suspended from the effective date of the

permit until plant startup or discharge, whichever occurs first, from the facility described by this permit. The permittee shall provide written notice to the TCEQ Regional Office (MC Region 11) and the Applications Review and Processing Team (MC 148) of the Water Quality Division at least forty-five (45) days prior to plant startup or anticipated discharge, whichever occurs first, and prior to completion of each additional phase on Notification of Completion Form 20007.

7. The permittee shall comply with the requirements of 30 TAC § 309.13 (a) through (d). In addition, by ownership of the required buffer zone area, the permittee shall comply with the requirements of 30 TAC § 309.13(e).
8. According to the requirements of 30 TAC § 222.81(a), the permittee shall locate the subsurface area drip dispersal system a minimum horizontal distance of 100 feet from surface waters in the state. The permittee shall locate the subsurface area drip dispersal system a minimum horizontal distance of 500 feet from public water wells, springs, or other similar sources of public drinking water and 150 feet from private water wells as described in 30 TAC § 309.13(c)(1). The permittee shall not locate a subsurface area drip dispersal system within a floodway according to the requirements of 30 TAC § 222.81(d).
9. The permittee will maintain Bermuda grass overseeded with rye grass and green cover on the disposal site. Application rates shall not exceed 0.1 gallons per square foot per day. The permittee is responsible for providing equipment to determine the application rate and for maintaining accurate records of the volume of effluent applied. According to the requirements of 30 TAC § 222.161(d), the permittee shall maintain records documenting all activities associated with maintaining the vegetative cover, like planting, over-seeding, mowing height, fertilizing, and harvesting. These records shall be maintained for a minimum of five years and be made available to TCEQ staff upon request.
10. Based on the requirements of 30 TAC § 222.151, the subsurface drip irrigation system shall be designed and managed so as to prevent seepage or percolation out of the root zone, other than leaching in the amount required to maintain the health of the vegetative cover. Surfacing and ponding is prohibited. Creating a condition at the treatment facility or the drip dispersal zones that contributes to vector attraction or odor is prohibited.
11. The permittee will maintain Bermuda grass overseeded with rye grass and green cover on the disposal site. The irrigated crops shall be established and well maintained to provide year-round vegetative growth for effluent and nutrient uptake by the crop and to prevent pathways for effluent surfacing.
12. The subsurface drip disposal system shall consist of a sufficient number of different dispersal zones. The minimum depth of soil above the drip irrigation lines shall be at least six inches, and the minimum depth of soil below the drip irrigation lines shall consist of at least twelve inches of usable soil. In the event of effluent surfacing due to damage to the drip irrigation lines, effluent application shall be shut-off to the drip irrigation zone and public access to the zone shall be restricted.
13. The permittee shall design and install temporary storage that equals at least three days of the design flow of the facility for times when the subsurface area drip dispersal system is out of service due to an emergency or scheduled maintenance. In addition, the permittee shall pump and haul wastewater from the facility to prevent the discharge of treated or untreated wastewater if complete shutdown of the wastewater treatment facility becomes necessary or

if the storage capacity is exceeded.

14. Permanent transmission lines shall be installed from the treatment system to each drip irrigation zone of the subsurface drip irrigation system. According to 30 TAC § 222.153, the permittee shall flush the subsurface area drip dispersal system from the dispersal zone and return the flush water to a point preceding the treatment system at least once every two months.
15. Effluent shall not be applied for irrigation when the ground is saturated.
16. Irrigation with effluent shall be accomplished only when the area specified is not in use.
17. The permittee shall erect adequate signs stating that the irrigation water is from a non-potable water supply for any area where treated effluent is stored or where there exist hose bibs or faucets. Signs shall consist of a red slash superimposed over the international symbol for drinking water accompanied by the message "DO NOT DRINK THE WATER" in both English and Spanish. All piping transporting the effluent shall be clearly marked with these same signs.
18. The permittee shall maintain a long term contract with the owner(s) of the land application site which is authorized for use in this permit, or own the land authorized for land application of treated effluent.
19. According to 30 TAC § 222.163, Closure Requirements, the permittee shall close the system under the standards set forth in this section.
20. The permittee shall address any recharge features uncovered by construction activities in an updated and certified Recharge Feature Plan (RFP). The RFP shall include the best management practices implemented that will prevent impact to recharge features from wastewater application and prevent groundwater contamination. The updated certified RFP will be submitted to the TCEQ Water Quality Assessment Team (MC 150) and the TCEQ Regional Office (MC Region 11).
21. According to the requirements of 30 TAC § 222.43, the permittee shall notify the TCEQ Regional Office (MC Region 11) for each of the following activities:
 - a. At least 30 days prior to the date the field layout and/or construction startup is scheduled to begin for the proposed subsurface drip irrigation system.
 - b. At least 30 days prior to the date that construction is projected to be complete.
 - c. Within 30 days after operation of the proposed subsurface drip irrigation system.
 - d. If soils are imported, at least 30 days prior to completion of the soil importing project.
22. According to the requirements of 30 TAC § 222.45, the permittee shall submit a copy of the issued permit to the health department with jurisdiction in the area where the system is located before commencing operation of the proposed subsurface drip irrigation system. The permittee shall retain proof of delivery for the duration of the permit.

23. The permittee shall use cultural practices to promote and maintain the health and propagation of the grass vegetation and avoid plant lodging. Harvesting (cutting and removing from the field) shall be conducted at least once per year. Harvesting and mowing dates of the grass crops shall be recorded in a log book kept on site and made available to TCEQ personnel upon request.
24. The permittee shall maintain a minimum rootable soil depth below the drip irrigation lines of 12 inches. At least a six-inch layer of soil shall be maintained over the drip lines. If imported soils are utilized, the permittee shall submit no later than 90 days prior to construction to the TCEQ Water Quality Assessment Team (MC 150) and the Wastewater Permitting Section (MC 148) of the Water Quality Division a plan for review/revision and approval describing how the imported soils will be incorporated into the native soils and how soil erosion will be prevented in the affected areas.
25. Drip irrigation lines shall be installed on the contour and lateral slopes of the tubing shall not exceed 1 percent. The permittee can apply for a variance to this provision by providing justification in the detailed design criteria per Chapter 222 indicating how uneven application of effluent due to back draining will be avoided. The permittee shall notify the TCEQ Regional Office (MC Region 11) 30 days prior to installation of the drip lines.
26. Each drainfield (zone) shall have at least one moisture sensing device placed at 12 inches below the drip lines that will automatically shut off irrigation to the drainfield when the soil becomes saturated.
27. Each drainfield (zone) shall be dosed a minimum of two (2) times in a 24-hour period with minimum rest periods of 3 hours between dosings.
28. The permittee shall obtain representative soil samples from the root zones of the land application area receiving wastewater. Composite sampling techniques shall be used. Each composite sample shall represent no more than 57.4 acres with no less than two soil cores per each dispersal zone. Subsamples shall be composited by like sampling depth and soil type for analysis and reporting. Soil types are soils that have like topsoil or plow layer textures. These soils shall be sampled individually from 0 to 12 inches and 12 to 24 inches below ground level. Soils shall be sampled in December to February and shall be analyzed within 30 days of sample procurement.

The permittee shall provide annual soil analyses of the land application area according to the following table:

Parameter	Method	Minimum Analytical Level (MAL)	Reporting units
pH	2:1 (v/v) water to soil mixture		Reported to 0.1 pH units after calibration of pH meter
Electrical Conductivity	2:1 (v/v) water to soil mixture	0.01	dS/m (same as mmho/cm)

Nitrate-nitrogen	From a 1 <u>N</u> KCl soil extract	1	mg/kg (dry weight basis)
Total Kjeldahl Nitrogen (TKN)	For determination of Organic plus Ammonium Nitrogen. Procedures that use Mercury (Hg) are not acceptable.	20	mg/kg (dry weight basis)
Total Nitrogen	= TKN plus Nitrate-nitrogen		mg/kg (dry weight basis)
Plant-available: Phosphorus	Mehlich III with inductively coupled plasma	1	mg/kg (dry weight basis)
Plant-available: Potassium (K) Calcium (Ca) Magnesium (Mg) Sodium (Na) Sulfur (S)	May be determined in the same Mehlich III extract with inductively coupled plasma	5 (K) 10 (Ca) 5 (Mg) 10 (Na) 1 (S)	mg/kg (dry weight basis)
Amendment addition, e.g., gypsum			Report in <i>short tons/acre</i> in the year effected

A copy of this soil testing plan shall be provided to the analytical laboratory prior to sample analysis. The permittee shall submit the results of the annual soil sample analyses with copies of the laboratory reports and a map depicting the areas that have received wastewater within the permanent land application fields to the TCEQ Regional Office (MC Region), the Compliance Monitoring Team (MC 224) of the Enforcement Division, and the Water Quality Assessment (MC 150), no later than September 1st of each sampling year. If wastewater is not applied in a particular year, the permittee shall notify the same TCEQ offices and indicate that wastewater has not been applied on the approved land irrigation site(s) during that year.

29. The physical condition of the drip irrigation fields shall be monitored on a weekly basis. Any areas with problems such as surface runoff, surficial erosion, stressed or damaged vegetation, etc., will be recorded in the field log kept onsite and corrective measures will be implemented immediately.

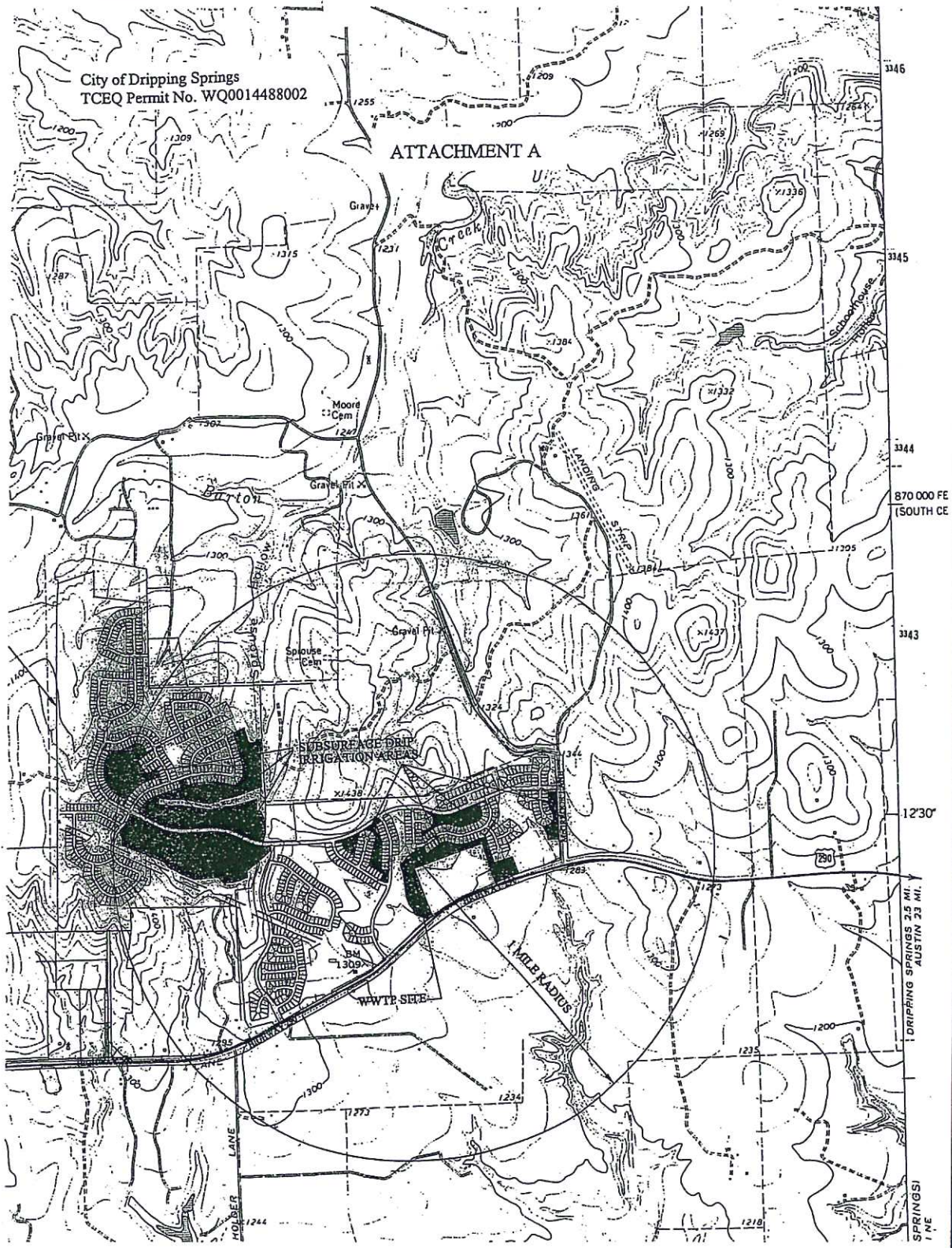
30. The facility is located on the Edwards Aquifer Contributing Zone, as mapped by the TCEQ, and is subject to 30 TAC Chapter 213, Subchapter B.
31. The permittee shall construct berms or swales that will prevent stormwater from entering all subsurface wastewater application areas.
32. The permittee shall develop a Seeps/Springs monitoring plan and submit the plan to the TCEQ Water Quality Assessment Team (MC 150) for review and approval 30 days of permit issuance.
 - a. At a minimum, the plan shall include:
 - i. A procedure to conduct field checks at the irrigation fields and down-gradient of the fields to identify emerging springs or seeps.
 - A. Field checks shall be conducted quarterly. If possible, the field checks shall be made within 3 days of a 0.5-inch or greater rain event.
 - B. The locations of the field checks shall be recorded in a field log kept onsite for TCEQ inspection for 5 years.
 - C. The quarterly checks shall continue for the life of the system.
 - ii. A procedure to obtain grab samples of springs or seeps in the event that springs/seeps develop after irrigation.
 - A. The samples from the springs/seeps water shall be analyzed for chlorides, specific conductivity, the complete nitrogen series [(NO₃ + NO₂ - N), Total Kjeldahl Nitrogen, ammonia-N], total phosphorus, ortho-phosphate.
 - B. The locations of the seeps/springs that were sampled shall be recorded in a field log kept onsite for TCEQ inspection for 5 years, along with the results of the analyses.
 - C. Monitoring of emerging springs/seeps and of existing seeps shall continue for the life of the system.
 - b. The permittee shall implement the plan upon approval by the TCEQ Water Quality Assessment Team. The executive director may request modification of the approved plan if future information indicates that it would be necessary for the protection of the environment.
 - c. The applicant shall submit the data from the Seeps/Springs Monitoring Plan to the TCEQ Water Quality Assessment Team (MC 150) of the Water Quality Division and the Water Quality Compliance Monitoring Team (MC 224) of the Enforcement Division during the month of September of each year for review.
33. The permittee shall provide facilities for the protection of its wastewater treatment facilities from a 100-year flood.
34. The water well identified as a windmill on the USGS topographic map located in irrigation area C shall be plugged and abandoned per 16 TAC Section 76.1004 before construction of

the drip irrigation facility.

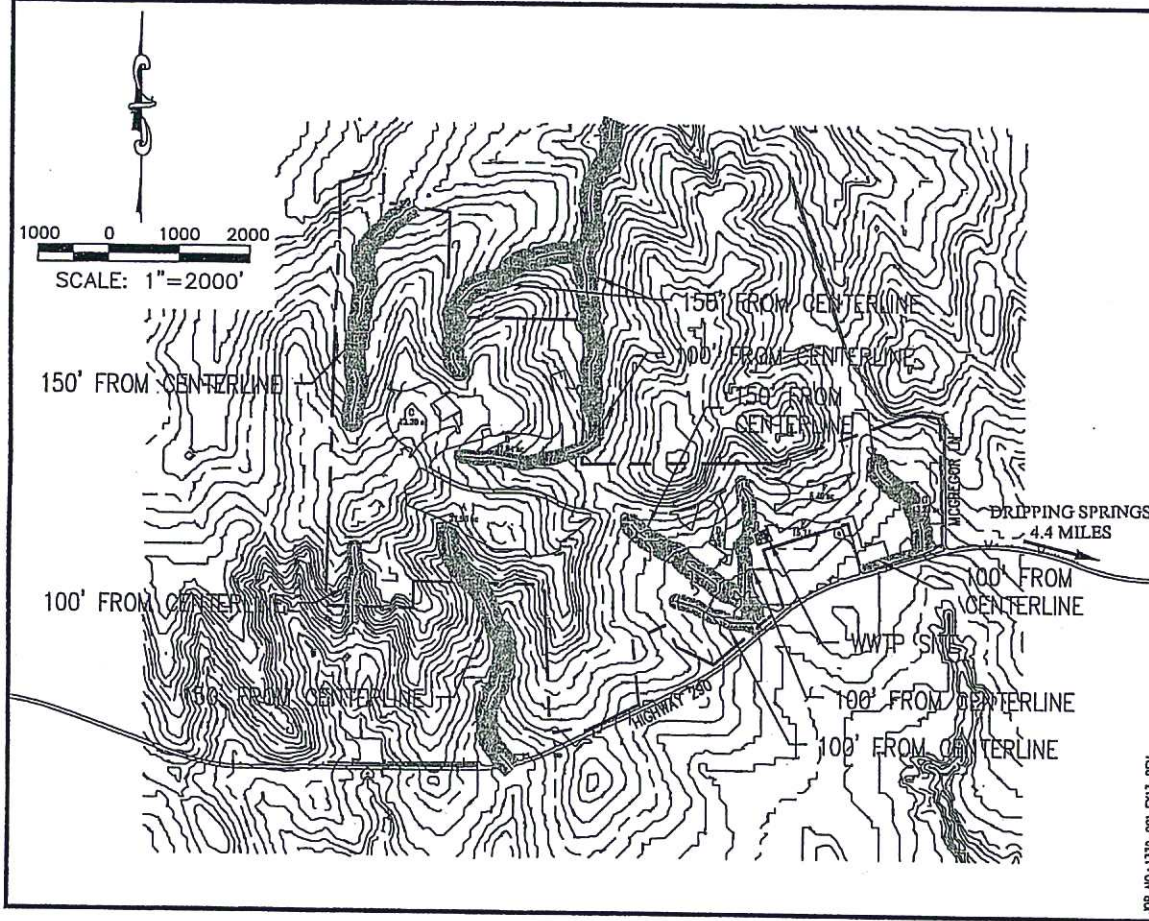
35. The permittee shall not construct, permit, or operate the subsurface drip dispersal system within the buffer zones shown as shaded areas in Attachment B. There shall be no effluent irrigation within these areas.
36. The permittee shall install and operate on-site back-up generators for the wastewater treatment plant and lift stations. The permittee shall construct the lift stations according to applicable standards, and each lift station shall include: generator with automatic transfer switch; wet wells shall be constructed with lined concrete or material that is less permeable than concrete; all-weather access roads; chain link security fence with 3-strand wire; and auto-dialer.
37. In accordance with 30 TAC §319.9, a permittee that has at least twelve months of uninterrupted compliance with its bacteria limit may notify the commission in writing of its compliance and request a less frequent measurement schedule. To request a less frequent schedule, the permittee shall submit a written request to the TCEQ Wastewater Permitting Section (MC 148) for each phase that includes a different monitoring frequency. The request must contain all of the reported bacteria values (Daily Avg. and Daily Max/Single Grab) for the twelve consecutive months immediately prior to the request. If the Executive Director finds that a less frequent measurement schedule is protective of human health and the environment, the permittee may be given a less frequent measurement schedule. For this permit, 5/week may be reduced to 3/week. **A violation of any bacteria limit by a facility that has been granted a less frequent measurement schedule will require the permittee to return to the standard frequency schedule**, and the permittee may not apply for another reduction in measurement frequency for at least 24 months from the date of the last violation. The Executive Director may establish a more frequent measurement schedule if necessary to protect human health or the environment.

City of Dripping Springs
TCEQ Permit No. WQ0014488002

ATTACHMENT A



City of Dripping Springs
TCEQ Permit No. WQ0014488002



JOB NO.: 1319-001 EX13-REV

CMA ENGINEERING, INC.
235 LEDGE STONE DRIVE
AUSTIN, TEXAS 78727
(512) 432-1000 Fax: (512) 432-1015
Registration # F-3053

SCENIC GREENS
BUFFER ZONE MAP
FOR SUBSURFACE DRIP IRRIGATION FIELDS

ATTACHMENT
B

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APPENDIX B:	PLAIN LANGUAGE SUMMARY
APPENDIX C:	USGS MAP
APPENDIX D:	LEASE AGREEMENT
APPENDIX E:	PROCESS FLOW DIAGRAM
APPENDIX F:	SITE DRAWING
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EXHIBIT 1

ADMINISTRATIVE REPORT 1.0



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

DOMESTIC WASTEWATER PERMIT APPLICATION CHECKLIST

Complete and submit this checklist with the application.

APPLICANT NAME: City of Dripping Springs

PERMIT NUMBER (If new, leave blank): WQ00 WQ0014488002

Indicate if each of the following items is included in your application.

	Y	N		Y	N
Administrative Report 1.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Original USGS Map	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Administrative Report 1.1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Affected Landowners Map	<input type="checkbox"/>	<input checked="" type="checkbox"/>
SPIF	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Landowner Disk or Labels	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Core Data Form	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Buffer Zone Map	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Public Involvement Plan Form	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Flow Diagram	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Technical Report 1.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Site Drawing	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Technical Report 1.1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Original Photographs	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Worksheet 2.0	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Design Calculations	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Worksheet 2.1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Solids Management Plan	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Worksheet 3.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Water Balance	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Worksheet 3.1	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
Worksheet 3.2	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
Worksheet 3.3	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
Worksheet 4.0	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
Worksheet 5.0	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
Worksheet 6.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>			
Worksheet 7.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>			

For TCEQ Use Only

Segment Number _____ County _____
Expiration Date _____ Region _____
Permit Number _____



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

DOMESTIC WASTEWATER PERMIT APPLICATION ADMINISTRATIVE REPORT 1.0

For any questions about this form, please contact the Applications Review and Processing Team at 512-239-4671.

Section 1. Application Fees (Instructions Page 26)

Indicate the amount submitted for the application fee (check only one).

Flow	New/Major Amendment	Renewal
<0.05 MGD	\$350.00 <input type="checkbox"/>	\$315.00 <input type="checkbox"/>
≥0.05 but <0.10 MGD	\$550.00 <input type="checkbox"/>	\$515.00 <input type="checkbox"/>
≥0.10 but <0.25 MGD	\$850.00 <input type="checkbox"/>	\$815.00 <input type="checkbox"/>
≥0.25 but <0.50 MGD	\$1,250.00 <input type="checkbox"/>	\$1,215.00 <input checked="" type="checkbox"/>
≥0.50 but <1.0 MGD	\$1,650.00 <input type="checkbox"/>	\$1,615.00 <input type="checkbox"/>
≥1.0 MGD	\$2,050.00 <input type="checkbox"/>	\$2,015.00 <input type="checkbox"/>

Minor Amendment (for any flow) \$150.00 ☐

Payment Information:

Mailed Check/Money Order Number:

Check/Money Order Amount:

Name Printed on Check:

EPAY Voucher Number:

Copy of Payment Voucher enclosed? Yes ☐

Section 2. Type of Application (Instructions Page 26)

a. Check the box next to the appropriate authorization type.

- ☐ Publicly-Owned Domestic Wastewater
- ☐ Privately-Owned Domestic Wastewater
- ☒ Conventional Wastewater Treatment

b. Check the box next to the appropriate facility status.

- ☐ Active
- ☒ Inactive

c. Check the box next to the appropriate permit type.

- ☐ TPDES Permit
☒ TLAP
☐ TPDES Permit with TLAP component
☐ Subsurface Area Drip Dispersal System (SADDS)

d. Check the box next to the appropriate application type

- | | |
|---|---|
| <input type="checkbox"/> New | |
| <input type="checkbox"/> Major Amendment <u>with</u> Renewal | <input type="checkbox"/> Minor Amendment <u>with</u> Renewal |
| <input type="checkbox"/> Major Amendment <u>without</u> Renewal | <input type="checkbox"/> Minor Amendment <u>without</u> Renewal |
| <input checked="" type="checkbox"/> Renewal without changes | <input type="checkbox"/> Minor Modification of permit |

e. For amendments or modifications, describe the proposed changes: [Click to enter text.](#)

f. **For existing permits:**

Permit Number: WQ00 14488002

EPA I.D. (TPDES only): TX [Click to enter text.](#)

Expiration Date: December 6, 2024

Section 3. Facility Owner (Applicant) and Co-Applclicant Information (Instructions Page 26)

A. **The owner of the facility must apply for the permit.**

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

City of Dripping Springs

(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/>

CN: 602491284

What is the name and title of the person signing the application? The person must be an executive official meeting signatory requirements in 30 TAC § 305.44.

Prefix: Mr.

Last Name, First Name: Foulds, Bill Jr.

Title: Mayor

Credential: [Click to enter text.](#)

B. **Co-applicant information.** Complete this section only if another person or entity is required to apply as a co-permittee.

What is the Legal Name of the co-applicant applying for this permit?

[Click to enter text.](#)

(The legal name must be spelled exactly as filed with the TX SOS, with the County, or in the legal documents forming the entity.)

If the co-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/>

CN: Click to enter text.

What is the name and title of the person signing the application? The person must be an executive official meeting signatory requirements in 30 TAC § 305.44.

Prefix: Click to enter text.

Last Name, First Name: Click to enter text.

Title: Click to enter text.

Credential: Click to enter text.

Provide a brief description of the need for a co-permittee: Click to enter text.

C. Core Data Form

Complete the Core Data Form for each customer and include as an attachment. If the customer type selected on the Core Data Form is **Individual**, complete **Attachment 1** of Administrative Report 1.0. Appendix A

Section 4. Application Contact Information (Instructions Page 27)

This is the person(s) TCEQ will contact if additional information is needed about this application. Provide a contact for administrative questions and technical questions.

- A. Prefix: Ms. Last Name, First Name: Crone, Lauren
Title: Senior Project Manager Credential: P.E.
Organization Name: LJA Engineering, Inc.
Mailing Address: 7500 Rialto Blvd Bldg II, Suite 100 City, State, Zip Code: Austin, Texas 78735
Phone No.: 512-439-4700 E-mail Address: lcrone@lja.com
Check one or both: ☒ Administrative Contact ☒ Technical Contact
- B. Prefix: Click to enter text. Last Name, First Name: Fischer, Michelle
Title: City Administrator Credential: Click to enter text.
Organization Name: City of Dripping Springs
Mailing Address: PO Box 384 City, State, Zip Code: Dripping Springs, TX 78620
Phone No.: 512-858-4725 E-mail Address: mfischer@cityofdrippingsprings.gov
Check one or both: ☒ Administrative Contact ☐ Technical Contact

Section 5. Permit Contact Information (Instructions Page 27)

Provide the names and contact information for two individuals that can be contacted throughout the permit term.

- A. Prefix: Click to enter text. Last Name, First Name: Fischer, Michelle
Title: City Administrator Credential: Click to enter text.
Organization Name: City of Dripping Springs
Mailing Address: PO Box 384 City, State, Zip Code: Dripping Springs, TX 78620
Phone No.: 512-858-4725 E-mail Address: mfischer@cityofdrippingsprings.gov

B. Prefix: Ms. Last Name, First Name: Crone, Lauren
Title: Senior Project Manager Credential: P.E.
Organization Name: LJA Engineering, Inc.
Mailing Address: 7500 Rialto Blvd Bldg II Suite 100 City, State, Zip Code: Austin, TX 78735
Phone No.: 512-439-4700 E-mail Address: lcrone@lja.com

Section 6. Billing Contact Information (Instructions Page 27)

The permittee is responsible for paying the annual fee. The annual fee will be assessed to permits ***in effect on September 1 of each year***. The TCEQ will send a bill to the address provided in this section. The permittee is responsible for terminating the permit when it is no longer needed (using form TCEQ-20029).

Prefix: Click to enter text. Last Name, First Name: Fischer, Michelle
Title: City Administrator Credential: Click to enter text.
Organization Name: City of Dripping Springs
Mailing Address: PO Box 384 City, State, Zip Code: Dripping Springs, TX 78620
Phone No.: 512-858-4725 E-mail Address: mfischer@cityofdrippingsprings.com

Section 7. DMR/MER Contact Information (Instructions Page 27)

Provide the name and complete mailing address of the person delegated to receive and submit Discharge Monitoring Reports (DMR) (EPA 3320-1) or maintain Monthly Effluent Reports (MER).

Prefix: Click to enter text. Last Name, First Name: Fischer, Michelle
Title: City Administrator Credential: Click to enter text.
Organization Name: City of Dripping Springs
Mailing Address: PO Box 384 City, State, Zip Code: Dripping Springs, TX 78620
Phone No.: 512-858-4725 E-mail Address: mfischer@cityofdrippingsprings.com

Section 8. Public Notice Information (Instructions Page 27)

A. Individual Publishing the Notices

Prefix: Click to enter text. Last Name, First Name: Crone, Lauren
Title: Senior Project Manager Credential: P.E.
Organization Name: LJA Engineering, Inc.
Mailing Address: 7500 Rialto Blvd Bldg II Suite 100 City, State, Zip Code: Austin, TX 78735
Phone No.: 512-439-4700 E-mail Address: lcrone@lja.com

B. Method for Receiving Notice of Receipt and Intent to Obtain a Water Quality Permit Package

Indicate by a check mark the preferred method for receiving the first notice and instructions:

☒ E-mail Address

☐ Fax

☐ Regular Mail

C. Contact permit to be listed in the Notices

Prefix: Click to enter text. Last Name, First Name: Crone, Lauren

Title: Senior Project Manager Credential: P.E.

Organization Name: LJA Engineering, Inc

Mailing Address: 7500 Rialto Blvd. Bldg II Suite 100 City, State, Zip Code: Austin, TX 78735

Phone No.: 512-439-4700 E-mail Address: lcrone@lja.com

D. Public Viewing Information

If the facility or outfall is located in more than one county, a public viewing place for each county must be provided.

Public building name: City of Dripping Springs City Hall

Location within the building: Front Desk

Physical Address of Building: 511 Mercer Street

City: Dripping Springs County: Hays

Contact (Last Name, First Name): Faught, Ginger

Phone No.: 512-858-4725 Ext.: Click to enter text.

E. Bilingual Notice Requirements

This information **is required** for **new, major amendment, minor amendment or minor modification, and renewal** applications.

This section of the application is only used to determine if alternative language notices will be needed. Complete instructions on publishing the alternative language notices will be in your public notice package.

Please call the bilingual/ESL coordinator at the nearest elementary and middle schools and obtain the following information to determine whether an alternative language notices are required.

1. Is a bilingual education program required by the Texas Education Code at the elementary or middle school nearest to the facility or proposed facility?

☒ Yes ☐ No

If **no**, publication of an alternative language notice is not required; **skip to** Section 9 below.

2. Are the students who attend either the elementary school or the middle school enrolled in a bilingual education program at that school?

☒ Yes ☐ No

3. Do the students at these schools attend a bilingual education program at another location?

☐ Yes ☒ No

4. Would the school be required to provide a bilingual education program but the school has waived out of this requirement under 19 TAC §89.1205(g)?

☐ Yes ☒ No

5. If the answer is **yes** to **question 1, 2, 3, or 4**, public notices in an alternative language are required. Which language is required by the bilingual program? Spanish

F. Plain Language Summary Template

Complete the Plain Language Summary (TCEQ Form 20972) and include as an attachment.

Attachment: Appendix B

G. Public Involvement Plan Form

Complete the Public Involvement Plan Form (TCEQ Form 20960) for each application for a **new permit or major amendment to a permit** and include as an attachment.

Attachment: Appendix B

Section 9. Regulated Entity and Permitted Site Information (Instructions Page 29)

A. If the site is currently regulated by TCEQ, provide the Regulated Entity Number (RN) issued to this site. RN 105330948

Search the TCEQ's Central Registry at <http://www15.tceq.texas.gov/crpub/> to determine if the site is currently regulated by TCEQ.

B. Name of project or site (the name known by the community where located):

Scenic Greens Wastewater Treatment Plant

C. Owner of treatment facility: City of Dripping Springs

Ownership of Facility: ☒ Public ☐ Private ☐ Both ☐ Federal

D. Owner of land where treatment facility is or will be:

Prefix: Click to enter text. Last Name, First Name: Click to enter text.

Title: Click to enter text. Credential: Click to enter text.

Organization Name: Paintbrush 290 GP LLC

Mailing Address: 11612 FM 2244, Bldg II Suite 100 City, State, Zip Code: Austin, TX 78738

Phone No.: Click to enter text. E-mail Address: Click to enter text.

If the landowner is not the same person as the facility owner or co-applicant, attach a lease agreement or deed recorded easement. See instructions.

Attachment: Appendix D

E. Owner of effluent disposal site:

Prefix: [Click to enter text.](#)

Last Name, First Name: [Click to enter text.](#)

Title: [Click to enter text.](#)

Credential: [Click to enter text.](#)

Organization Name: Paintbrush 290 GP LLC

Mailing Address: 11612 FM 2244, Building 2 Suite 100
78738

City, State, Zip Code: Austin, TX

Phone No.: [Click to enter text.](#)

E-mail Address: [Click to enter text.](#)

If the landowner is not the same person as the facility owner or co-applicant, attach a lease agreement or deed recorded easement. See instructions.

Attachment: Appendix D

F. Owner sewage sludge disposal site (if authorization is requested for sludge disposal on property owned or controlled by the applicant):

Prefix: N/A

Last Name, First Name: [Click to enter text.](#)

Title: [Click to enter text.](#)

Credential: [Click to enter text.](#)

Organization Name: [Click to enter text.](#)

Mailing Address: [Click to enter text.](#)

City, State, Zip Code: [Click to enter text.](#)

Phone No.: [Click to enter text.](#)

E-mail Address: [Click to enter text.](#)

If the landowner is not the same person as the facility owner or co-applicant, attach a lease agreement or deed recorded easement. See instructions.

Attachment: [Click to enter text.](#)

Section 10. TPDES Discharge Information (Instructions Page 31)

A. Is the wastewater treatment facility location in the existing permit accurate?

☐

Yes

☐

No

If **no**, or a new permit application, please give an accurate description:

N/A

B. Are the point(s) of discharge and the discharge route(s) in the existing permit correct?

☐

Yes

☐

No

If **no**, or a new or amendment permit application, provide an accurate description of the point of discharge and the discharge route to the nearest classified segment as defined in 30 TAC Chapter 307:

N/A

City nearest the outfall(s): [Click to enter text.](#)

County in which the outfalls(s) is/are located: [Click to enter text.](#)

C. Is or will the treated wastewater discharge to a city, county, or state highway right-of-way, or a flood control district drainage ditch?

☐ Yes ☒ No

If **yes**, indicate by a check mark if:

☐ Authorization granted ☐ Authorization pending

For **new and amendment** applications, provide copies of letters that show proof of contact and the approval letter upon receipt.

Attachment: [Click to enter text.](#)

- D. For all applications involving an average daily discharge of 5 MGD or more, provide the names of all counties located within 100 statute miles downstream of the point(s) of discharge: [Click to enter text.](#)

Section 11. TLAP Disposal Information (Instructions Page 32)

- A. For TLAPs, is the location of the effluent disposal site in the existing permit accurate?

☒ Yes ☐ No

If **no, or a new or amendment permit application**, provide an accurate description of the disposal site location:

[Click to enter text.](#)

- B. City nearest the disposal site: Dripping Springs

- C. County in which the disposal site is located: Hays County

- D. For **TLAPs**, describe the routing of effluent from the treatment facility to the disposal site:

Treated effluent will flow to ground storage tanks located on the plant site and then be pumped to disposal areas.

- E. For **TLAPs**, please identify the nearest watercourse to the disposal site to which rainfall runoff might flow if not contained: Unnamed tributaries of Barton Creek and Onion Creek

Section 12. Miscellaneous Information (Instructions Page 32)

- A. Is the facility located on or does the treated effluent cross American Indian Land?

☐ Yes ☒ No

- B. If the existing permit contains an onsite sludge disposal authorization, is the location of the sewage sludge disposal site in the existing permit accurate?

☐ Yes ☐ No ☒ Not Applicable

If No, or if a new onsite sludge disposal authorization is being requested in this permit application, provide an accurate location description of the sewage sludge disposal site.

[Click to enter text.](#)

C. Did any person formerly employed by the TCEQ represent your company and get paid for service regarding this application?

☐ Yes ☒ No

If yes, list each person formerly employed by the TCEQ who represented your company and was paid for service regarding the application: [Click to enter text.](#)

D. Do you owe any fees to the TCEQ?

☐ Yes ☒ No

If yes, provide the following information:

Account number: [Click to enter text.](#)

Amount past due: [Click to enter text.](#)

E. Do you owe any penalties to the TCEQ?

☐ Yes ☒ No

If yes, please provide the following information:

Enforcement order number: [Click to enter text.](#)

Amount past due: [Click to enter text.](#)

Section 13. Attachments (Instructions Page 33)

Indicate which attachments are included with the Administrative Report. Check all that apply:

☒ Lease agreement or deed recorded easement, if the land where the treatment facility is located or the effluent disposal site are not owned by the applicant or co-applicant.

☒ Original full-size USGS Topographic Map with the following information:

- Applicant's property boundary
- Treatment facility boundary
- Labeled point of discharge for each discharge point (TPDES only)
- Highlighted discharge route for each discharge point (TPDES only)
- Onsite sewage sludge disposal site (if applicable)
- Effluent disposal site boundaries (TLAP only)
- New and future construction (if applicable)
- 1 mile radius information
- 3 miles downstream information (TPDES only)
- All ponds.

☐ Attachment 1 for Individuals as co-applicants

☒ Other Attachments. Please specify: APPENDIX A: CORE DATA FORM, APPENDIX B: PLAIN LANGUAGE SUMMARY

Section 14. Signature Page (Instructions Page 34)

If co-applicants are necessary, each entity must submit an original, separate signature page.

Permit Number: WQ0014488002

Applicant: City of Dripping Springs

Certification:

I 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 30 Texas Administrative Code § 305.44 to sign and submit this document, and can provide documentation in proof of such authorization upon request.

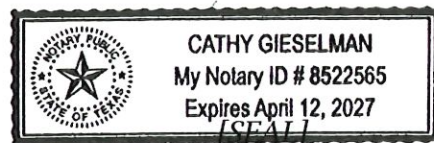
Signatory name (typed or printed): Bill Foulds, Jr.

Signatory title: Mayor

Signature: Bill Foulds Jr Date: Aug. 21, 2024
(Use blue ink)

Subscribed and Sworn to before me by the said Bill Foulds Jr.
on this 21st day of August, 2024.
My commission expires on the 12th day of April, 2027.

Cathy Gieselman
Notary Public



Hays
County, Texas

DOMESTIC WASTEWATER PERMIT APPLICATION ADMINISTRATIVE REPORT 1.0

The following information is required for new and amendment applications.

Section 1. Affected Landowner Information (Instructions Page 36)

- A. Indicate by a check mark that the landowners map or drawing, with scale, includes the following information, as applicable:
- ☐ The applicant's property boundaries
 - ☐ The facility site boundaries within the applicant's property boundaries
 - ☐ The distance the buffer zone falls into adjacent properties and the property boundaries of the landowners located within the buffer zone
 - ☐ The property boundaries of all landowners surrounding the applicant's property (Note: if the application is a major amendment for a lignite mine, the map must include the property boundaries of all landowners adjacent to the new facility (ponds).)
 - ☐ The point(s) of discharge and highlighted discharge route(s) clearly shown for one mile downstream
 - ☐ The property boundaries of the landowners located on both sides of the discharge route for one full stream mile downstream of the point of discharge
 - ☐ The property boundaries of the landowners along the watercourse for a one-half mile radius from the point of discharge if the point of discharge is into a lake, bay, estuary, or affected by tides
 - ☐ The boundaries of the effluent disposal site (for example, irrigation area or subsurface drainfield site) and all evaporation/holding ponds within the applicant's property
 - ☐ The property boundaries of all landowners surrounding the effluent disposal site
 - ☐ The boundaries of the sludge land application site (for land application of sewage sludge for beneficial use) and the property boundaries of landowners surrounding the applicant's property boundaries where the sewage sludge land application site is located
 - ☐ The property boundaries of landowners within one-half mile in all directions from the applicant's property boundaries where the sewage sludge disposal site (for example, sludge surface disposal site or sludge monofill) is located
- B. ☐ Indicate by a check mark that a separate list with the landowners' names and mailing addresses cross-referenced to the landowner's map has been provided.
- C. Indicate by a check mark in which format the landowners list is submitted:
- ☐ USB Drive ☐ Four sets of labels
- D. Provide the source of the landowners' names and mailing addresses: [Click to enter text.](#)
- E. As required by *Texas Water Code § 5.115*, is any permanent school fund land affected by this application?
- ☐ Yes ☐ No

If **yes**, provide the location and foreseeable impacts and effects this application has on the land(s):

Click to enter text.

Section 2. Original Photographs (Instructions Page 38)

Provide original ground level photographs. Indicate with checkmarks that the following information is provided.

- ☐ At least one original photograph of the new or expanded treatment unit location
- ☐ At least two photographs of the existing/proposed point of discharge and as much area downstream (photo 1) and upstream (photo 2) as can be captured. If the discharge is to an open water body (e.g., lake, bay), the point of discharge should be in the right or left edge of each photograph showing the open water and with as much area on each respective side of the discharge as can be captured.
- ☐ At least one photograph of the existing/proposed effluent disposal site
- ☐ A plot plan or map showing the location and direction of each photograph

Section 3. Buffer Zone Map (Instructions Page 38)

A. Buffer zone map. Provide a buffer zone map on 8.5 x 11-inch paper with all of the following information. The applicant's property line and the buffer zone line may be distinguished by using dashes or symbols and appropriate labels.

- The applicant's property boundary;
- The required buffer zone; and
- Each treatment unit; and
- The distance from each treatment unit to the property boundaries.

B. Buffer zone compliance method. Indicate how the buffer zone requirements will be met. Check all that apply.

- ☐ Ownership
- ☐ Restrictive easement
- ☐ Nuisance odor control
- ☐ Variance

C. Unsuitable site characteristics. Does the facility comply with the requirements regarding unsuitable site characteristic found in 30 TAC § 309.13(a) through (d)?

- ☐ Yes ☐ No

DOMESTIC WASTEWATER PERMIT APPLICATION

SUPPLEMENTAL PERMIT INFORMATION FORM (SPIF)

This form applies to TPDES permit applications only. Complete and attach the Supplemental Permit information Form (SPIF) (TCEQ Form 20971).

Attachment: [Click to enter text.](#)

WATER QUALITY PERMIT

PAYMENT SUBMITTAL FORM

Use this form to submit the Application Fee, if the mailing the payment.

- Complete items 1 through 5 below.
- Staple the check or money order in the space provided at the bottom of this document.
- **Do Not mail this form with the application form.**
- Do not mail this form to the same address as the application.
- Do not submit a copy of the application with this form as it could cause duplicate permit entries.

Mail this form and the check or money order to:

BY REGULAR U.S. MAIL

Texas Commission on Environmental Quality
Financial Administration Division
Cashier's Office, MC-214
P.O. Box 13088
Austin, Texas 78711-3088

BY OVERNIGHT/EXPRESS MAIL

Texas Commission on Environmental Quality
Financial Administration Division
Cashier's Office, MC-214
12100 Park 35 Circle
Austin, Texas 78753

Fee Code: WQP **Waste Permit No:** [Click to enter text.](#)

1. Check or Money Order Number: [Click to enter text.](#)
2. Check or Money Order Amount: [Click to enter text.](#)
3. Date of Check or Money Order: [Click to enter text.](#)
4. Name on Check or Money Order: [Click to enter text.](#)
5. APPLICATION INFORMATION

Name of Project or Site: [Click to enter text.](#)

Physical Address of Project or Site: [Click to enter text.](#)

If the check is for more than one application, attach a list which includes the name of each Project or Site (RE) and Physical Address, exactly as provided on the application.

Staple Check or Money Order in This Space

ATTACHMENT 1

INDIVIDUAL INFORMATION

Section 1. Individual Information (Instructions Page 41)

Complete this attachment if the facility applicant or co-applicant is an individual. Make additional copies of this attachment if both are individuals.

Prefix (Mr., Ms., Miss): [Click to enter text.](#)

Full legal name (Last Name, First Name, Middle Initial): [Click to enter text.](#)

Driver's License or State Identification Number: [Click to enter text.](#)

Date of Birth: [Click to enter text.](#)

Mailing Address: [Click to enter text.](#)

City, State, and Zip Code: [Click to enter text.](#)

Phone Number: [Click to enter text.](#) Fax Number: [Click to enter text.](#)

E-mail Address: [Click to enter text.](#)

CN: [Click to enter text.](#)

For Commission Use Only:

Customer Number:

Regulated Entity Number:

Permit Number:

DOMESTIC WASTEWATER PERMIT APPLICATION CHECKLIST OF COMMON DEFICIENCIES

Below is a list of common deficiencies found during the administrative review of domestic wastewater permit applications. To ensure the timely processing of this application, please review the items below and indicate by checking Yes that each item is complete and in accordance applicable rules at 30 TAC Chapters 21, 281, and 305. If an item is not required this application, indicate by checking N/A where appropriate. Please do not submit the application until the items below have been addressed.

Core Data Form (TCEQ Form No. 10400) ☒ Yes
*(Required for all application types. Must be completed in its entirety and signed.
 Note: Form may be signed by applicant representative.)*

Correct and Current Industrial Wastewater Permit Application Forms ☒ Yes
(TCEQ Form Nos. 10053 and 10054. Version dated 6/25/2018 or later.)

Water Quality Permit Payment Submittal Form (Page 19) ☒ Yes
(Original payment sent to TCEQ Revenue Section. See instructions for mailing address.)

7.5 Minute USGS Quadrangle Topographic Map Attached ☒ Yes
*(Full-size map if seeking "New" permit.
 8 ½ x 11 acceptable for Renewals and Amendments)*

Current/Non-Expired, Executed Lease Agreement or Easement ☐ N/A ☒ Yes

Landowners Map ☒ N/A ☐ Yes
(See instructions for landowner requirements)

Things to Know:

- All the items shown on the map must be labeled.
- The applicant's complete property boundaries must be delineated which includes boundaries of contiguous property owned by the applicant.
- The applicant cannot be its own adjacent landowner. You must identify the landowners immediately adjacent to their property, regardless of how far they are from the actual facility.
- If the applicant's property is adjacent to a road, creek, or stream, the landowners on the opposite side must be identified. Although the properties are not adjacent to applicant's property boundary, they are considered potentially affected landowners. If the adjacent road is a divided highway as identified on the USGS topographic map, the applicant does not have to identify the landowners on the opposite side of the highway.

Landowners Cross Reference List ☒ N/A ☐ Yes
(See instructions for landowner requirements)

Landowners Labels or USB Drive attached ☒ N/A ☐ Yes
(See instructions for landowner requirements)

Original signature per 30 TAC § 305.44 – Blue Ink Preferred ☒ Yes
*(If signature page is not signed by an elected official or principle executive officer,
 a copy of signature authority/delegation letter must be attached)*

Plain Language Summary ☒ Yes

EXHIBIT 2

DOMESTIC TECHNICAL REPORT 1.0

DOMESTIC TECHNICAL REPORT 3.0

DOMESTIC TECHNICAL REPORT 6.0

DOMESTIC TECHNICAL REPORT 7.0



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

DOMESTIC WASTEWATER PERMIT APPLICATION TECHNICAL REPORT 1.0

For any questions about this form, please contact the Domestic Wastewater Permitting Team at 512-239-4671.

The following information is required for all renewal, new, and amendment applications.

Section 1. Permitted or Proposed Flows (Instructions Page 43)

A. Existing/Interim I Phase

Design Flow (MGD): 0.0625

2-Hr Peak Flow (MGD): 0.25

Estimated construction start date: September 2025

Estimated waste disposal start date: December 2025

B. Interim II Phase

Design Flow (MGD): 0.125

2-Hr Peak Flow (MGD): 0.500

Estimated construction start date: September 2027

Estimated waste disposal start date: December 2027

C. Final Phase

Design Flow (MGD): 0.25

2-Hr Peak Flow (MGD): 1.00

Estimated construction start date: September 2029

Estimated waste disposal start date: December 2029

D. Current Operating Phase

Provide the startup date of the facility: Not in operation

Section 2. Treatment Process (Instructions Page 43)

A. Current Operating Phase

Provide a detailed description of the treatment process. **Include the type of treatment plant, mode of operation, and all treatment units.** Start with the plant's head works and

finish with the point of discharge. Include all sludge processing and drying units. **If more than one phase exists or is proposed, a description of *each phase* must be provided.**

N/A – Not in operation. Future WWTP will consist of a packaged single stage nitrification plant, including headworks (bar screening), aeration, clarification, chlorination, chlorine contact & aerobic digestion. Treated effluent will be stored in a holding tank for six days in the initial phase, three days in the interim phase and three day sin the final phase prior to disposal using subsurface drip irrigation near the treatment plant on land owned by the applicant. Sludge will be disposed of by hauling off-site by a licensed hauler, to a permitted landfill.

B. Treatment Units

In Table 1.0(1), provide the treatment unit type, the number of units, and dimensions (length, width, depth) of **each treatment unit, accounting for *all* phases of operation.**

Table 1.0(1) - Treatment Units

Treatment Unit Type	Number of Units	Dimensions (L x W x D)
Headworks Screen		1" x ¼" Bar Sect @ ¾"
Aeration	Initial 1 Unit, Interim 2 Units, Final 4 Units	26' x 12' x 12'
Clarifier	Initial & Interim 1 Unit, Final 2 Units	30' Diameter x 10'D
Chlorine Contact	Initial & Interim 1 Unit, Final 2 Units	16' x 6' x 12'
Digester	Initial 1 Unit, Interim 2 Units, Final 4 Units	19' x 12' x 12'

C. Process Flow Diagram

Provide flow diagrams for the existing facilities and **each** proposed phase of construction.

Attachment: Appendix E

Section 3. Site Information and Drawing (Instructions Page 44)

Provide the TPDES discharge outfall latitude and longitude. Enter N/A if not applicable.

- Latitude: N/A
- Longitude: N/A

Provide the TLAP disposal site latitude and longitude. Enter N/A if not applicable.

- Latitude: 30°12'15.092"
- Longitude: -98°10'18.763"

Provide a site drawing for the facility that shows the following:

- The boundaries of the treatment facility;
- The boundaries of the area served by the treatment facility;
- If land disposal of effluent, the boundaries of the disposal site and all storage/holding ponds; and

- If sludge disposal is authorized in the permit, the boundaries of the land application or disposal site.

Attachment: Appendix F

Provide the name **and** a description of the area served by the treatment facility.

The facility will serve the Scenic Greens subdivision in Hays County. The area is shown in Appendix F.

Collection System Information **for wastewater TPDES permits only:** Provide information for each **uniquely owned** collection system, existing and new, served by this facility, including satellite collection systems. **Please see the instructions for a detailed explanation and examples.**

Collection System Information

Collection System Name	Owner Name	Owner Type	Population Served
		Choose an item.	
		Choose an item.	
		Choose an item.	
		Choose an item.	

Section 4. Unbuilt Phases (Instructions Page 45)

Is the application for a renewal of a permit that contains an unbuilt phase or phases?

☒ Yes ☐ No

If yes, does the existing permit contain a phase that has not been constructed **within five years** of being authorized by the TCEQ?

☒ Yes ☐ No

If yes, provide a detailed discussion regarding the continued need for the unbuilt phase. **Failure to provide sufficient justification may result in the Executive Director recommending denial of the unbuilt phase or phases.**

The original timeline for construction was delayed due to market conditions.

Section 5. Closure Plans (Instructions Page 45)

Have any treatment units been taken out of service permanently, or will any units be taken out of service in the next five years?

☐ Yes ☒ No

If **yes**, was a closure plan submitted to the TCEQ?

☐ Yes ☐ No

If **yes**, provide a brief description of the closure and the date of plan approval.

N/A

Section 6. Permit Specific Requirements (Instructions Page 45)

For applicants with an existing permit, check the Other Requirements or Special Provisions of the permit.

A. Summary transmittal

Have plans and specifications been approved for the existing facilities and each proposed phase?

☐ Yes ☒ No

If **yes**, provide the date(s) of approval for each phase: [Click to enter text.](#)

Provide information, including dates, on any actions taken to meet a *requirement or provision* pertaining to the submission of a summary transmittal letter. **Provide a copy of an approval letter from the TCEQ, if applicable.**

[Click to enter text.](#)

B. Buffer zones

Have the buffer zone requirements been met?

☒ Yes ☐ No

Provide information below, including dates, on any actions taken to meet the conditions of the buffer zone. If available, provide any new documentation relevant to maintaining the buffer zones.

150' Buffer Zone is proposed around the treatment plant. There are no wells within a 1 mile radius of the WWTP boundary.

C. Other actions required by the current permit

Does the *Other Requirements* or *Special Provisions* section in the existing permit require submission of any other information or other required actions? Examples include Notification of Completion, progress reports, soil monitoring data, etc.

☒ Yes ☐ No

If yes, provide information below on the status of any actions taken to meet the conditions of an *Other Requirement* or *Special Provision*.

See attached pages in Appendix D.

D. Grit and grease treatment

1. Acceptance of grit and grease waste

Does the facility have a grit and/or grease processing facility onsite that treats and decants or accepts transported loads of grit and grease waste that are discharged directly to the wastewater treatment plant prior to any treatment?

☐ Yes ☒ No

If No, stop here and continue with Subsection E. Stormwater Management.

2. Grit and grease processing

Describe below how the grit and grease waste is treated at the facility. In your description, include how and where the grit and grease is introduced to the treatment works and how it is separated or processed. Provide a flow diagram showing how grit and grease is processed at the facility.

Click to enter text.

3. Grit disposal

Does the facility have a Municipal Solid Waste (MSW) registration or permit for grit disposal?

☐ Yes ☐ No

If No, contact the TCEQ Municipal Solid Waste team at 512-239-2335. Note: A registration or permit is required for grit disposal. Grit shall not be combined with treatment plant sludge. See the instruction booklet for additional information on grit disposal requirements and restrictions.

Describe the method of grit disposal.

[Click to enter text.](#)

4. *Grease and decanted liquid disposal*

Note: A registration or permit is required for grease disposal. Grease shall not be combined with treatment plant sludge. For more information, contact the TCEQ Municipal Solid Waste team at 512-239-2335.

Describe how the decant and grease are treated and disposed of after grit separation.

[Click to enter text.](#)

E. Stormwater management

1. *Applicability*

Does the facility have a design flow of 1.0 MGD or greater in any phase?

☐ Yes ☒ No

Does the facility have an approved pretreatment program, under 40 CFR Part 403?

☐ Yes ☒ No

If no to both of the above, then skip to Subsection F, Other Wastes Received.

2. *MSGP coverage*

Is the stormwater runoff from the WWTP and dedicated lands for sewage disposal currently permitted under the TPDES Multi-Sector General Permit (MSGP), TXR050000?

☐ Yes ☐ No

If yes, please provide MSGP Authorization Number and skip to Subsection F, Other Wastes Received:

TXR05 [Click to enter text.](#) or TXRNE [Click to enter text.](#)

If no, do you intend to seek coverage under TXR050000?

☐ Yes ☐ No

3. *Conditional exclusion*

Alternatively, do you intend to apply for a conditional exclusion from permitting based TXR050000 (Multi Sector General Permit) Part II B.2 or TXR050000 (Multi Sector General Permit) Part V, Sector T 3(b)?

☐ Yes ☐ No

If yes, please explain below then proceed to Subsection F, Other Wastes Received:

Click to enter text.

4. *Existing coverage in individual permit*

Is your stormwater discharge currently permitted through this individual TPDES or TLAP permit?

☐ Yes ☐ No

If yes, provide a description of stormwater runoff management practices at the site that are authorized in the wastewater permit then skip to Subsection F, Other Wastes Received.

Click to enter text.

5. *Zero stormwater discharge*

Do you intend to have no discharge of stormwater via use of evaporation or other means?

☐ Yes ☐ No

If yes, explain below then skip to Subsection F. Other Wastes Received.

Click to enter text.

Note: If there is a potential to discharge any stormwater to surface water in the state as the result of any storm event, then permit coverage is required under the MSGP or an individual discharge permit. This requirement applies to all areas of facilities with treatment plants or systems that treat, store, recycle, or reclaim domestic sewage, wastewater or sewage sludge (including dedicated lands for sewage sludge disposal located within the onsite property boundaries) that meet the applicability criteria of above. You have the option of obtaining coverage under the MSGP for direct discharges, (recommended), or obtaining coverage under this individual permit.

6. *Request for coverage in individual permit*

Are you requesting coverage of stormwater discharges associated with your treatment plant under this individual permit?

☐ Yes ☐ No

If yes, provide a description of stormwater runoff management practices at the site for which you are requesting authorization in this individual wastewater permit and describe whether you intend to comingle this discharge with your treated effluent or discharge it via a separate dedicated stormwater outfall. Please also indicate if you intend to divert stormwater to the treatment plant headworks and indirectly discharge it to water in the state.

[Click to enter text.](#)

Note: Direct stormwater discharges to waters in the state authorized through this individual permit will require the development and implementation of a stormwater pollution prevention plan (SWPPP) and will be subject to additional monitoring and reporting requirements. Indirect discharges of stormwater via headworks recycling will require compliance with all individual permit requirements including 2-hour peak flow limitations. All stormwater discharge authorization requests will require additional information during the technical review of your application.

F. Discharges to the Lake Houston Watershed

Does the facility discharge in the Lake Houston watershed?

☐ Yes ☒ No

If yes, attach a Sewage Sludge Solids Management Plan. See Example 5 in the instructions.

[Click to enter text.](#)

G. Other wastes received including sludge from other WWTPs and septic waste

1. Acceptance of sludge from other WWTPs

Does or will the facility accept sludge from other treatment plants at the facility site?

☐ Yes ☒ No

If yes, attach sewage sludge solids management plan. See Example 5 of instructions.

In addition, provide the date the plant started or is anticipated to start accepting sludge, an estimate of monthly sludge acceptance (gallons or millions of gallons), an estimate of the BOD₅ concentration of the sludge, and the design BOD₅ concentration of the influent from the collection system. Also note if this information has or has not changed since the last permit action.

[Click to enter text.](#)

Note: Permits that accept sludge from other wastewater treatment plants may be required to have influent flow and organic loading monitoring.

2. Acceptance of septic waste

Is the facility accepting or will it accept septic waste?

☐ Yes ☒ No

If **yes**, does the facility have a Type V processing unit?

☐ Yes ☐ No

If **yes**, does the unit have a Municipal Solid Waste permit?

☐ Yes ☐ No

If **yes to any of the above**, provide the date the plant started or is anticipated to start accepting septic waste, an estimate of monthly septic waste acceptance (gallons or millions of gallons), an estimate of the BOD₅ concentration of the septic waste, and the design BOD₅ concentration of the influent from the collection system. Also note if this information has or has not changed since the last permit action.

Click to enter text.

Note: Permits that accept sludge from other wastewater treatment plants may be required to have influent flow and organic loading monitoring.

3. Acceptance of other wastes (not including septic, grease, grit, or RCRA, CERCLA or as discharged by IUs listed in Worksheet 6)

Is or will the facility accept wastes that are not domestic in nature excluding the categories listed above?

☐ Yes ☒ No

If **yes**, provide the date that the plant started accepting the waste, an estimate how much waste is accepted on a monthly basis (gallons or millions of gallons), a description of the entities generating the waste, and any distinguishing chemical or other physical characteristic of the waste. Also note if this information has or has not changed since the last permit action.

Click to enter text.

Section 7. Pollutant Analysis of Treated Effluent (Instructions Page 50)

Is the facility in operation?

☐ Yes ☒ No

If **no**, this section is not applicable. Proceed to Section 8.

If yes, provide effluent analysis data for the listed pollutants. **Wastewater treatment facilities** complete Table 1.0(2). **Water treatment facilities** discharging filter backwash water, complete Table 1.0(3). Provide copies of the laboratory results sheets. **These tables are not applicable for a minor amendment without renewal.** See the instructions for guidance.

Note: The sample date must be within 1 year of application submission.

Table1.0(2) – Pollutant Analysis for Wastewater Treatment Facilities

Pollutant	Average Conc.	Max Conc.	No. of Samples	Sample Type	Sample Date/Time
CBOD ₅ , mg/l					
Total Suspended Solids, mg/l					
Ammonia Nitrogen, mg/l					
Nitrate Nitrogen, mg/l					
Total Kjeldahl Nitrogen, mg/l					
Sulfate, mg/l					
Chloride, mg/l					
Total Phosphorus, mg/l					
pH, standard units					
Dissolved Oxygen*, mg/l					
Chlorine Residual, mg/l					
<i>E.coli</i> (CFU/100ml) freshwater					
Enterococci (CFU/100ml) saltwater					
Total Dissolved Solids, mg/l					
Electrical Conductivity, µmohs/cm, †					
Oil & Grease, mg/l					
Alkalinity (CaCO ₃)*, mg/l					

*TPDES permits only

†TLAP permits only

Table1.0(3) – Pollutant Analysis for Water Treatment Facilities

Pollutant	Average Conc.	Max Conc.	No. of Samples	Sample Type	Sample Date/Time
Total Suspended Solids, mg/l					
Total Dissolved Solids, mg/l					
pH, standard units					
Fluoride, mg/l					
Aluminum, mg/l					
Alkalinity (CaCO ₃), mg/l					

Section 8. Facility Operator (Instructions Page 50)

Facility Operator Name: The facility operator will be chosen by competitive bidding among professional plant operation firms.

Facility Operator's License Classification and Level: Click to enter text.

Facility Operator's License Number: Click to enter text.

Section 9. Sludge and Biosolids Management and Disposal (Instructions Page 51)

A. WWTP's Biosolids Management Facility Type

Check all that apply. See instructions for guidance

- ☐ Design flow \geq 1 MGD
- ☐ Serves \geq 10,000 people
- ☐ Class I Sludge Management Facility (per 40 CFR § 503.9)
- ☒ Biosolids generator
- ☐ Biosolids end user - land application (onsite)
- ☐ Biosolids end user - surface disposal (onsite)
- ☐ Biosolids end user - incinerator (onsite)

B. WWTP's Biosolids Treatment Process

Check all that apply. See instructions for guidance.

- ☒ Aerobic Digestion
- ☐ Air Drying (or sludge drying beds)
- ☐ Lower Temperature Composting
- ☐ Lime Stabilization
- ☐ Higher Temperature Composting
- ☐ Heat Drying
- ☐ Thermophilic Aerobic Digestion
- ☐ Beta Ray Irradiation
- ☐ Gamma Ray Irradiation
- ☐ Pasteurization
- ☐ Preliminary Operation (e.g. grinding, de-gritting, blending)
- ☐ Thickening (e.g. gravity thickening, centrifugation, filter press, vacuum filter)
- ☐ Sludge Lagoon
- ☐ Temporary Storage (< 2 years)
- ☐ Long Term Storage (≥ 2 years)

- ☐ Methane or Biogas Recovery
- ☐ Other Treatment Process: [Click to enter text.](#)

C. Biosolids Management

Provide information on the *intended* biosolids management practice. Do not enter every management practice that you want authorized in the permit, as the permit will authorize all biosolids management practices listed in the instructions. Rather indicate the management practice the facility plans to use.

Biosolids Management

Management Practice	Handler or Preparer Type	Bulk or Bag Container	Amount (dry metric tons)	Pathogen Reduction Options	Vector Attraction Reduction Option
Disposal in Landfill	Off-site Third-Party Handler or Preparer	Choose an item.		Choose an item.	Choose an item.
Choose an item.	Choose an item.	Choose an item.		Choose an item.	Choose an item.
Choose an item.	Choose an item.	Choose an item.		Choose an item.	Choose an item.

If “Other” is selected for Management Practice, please explain (e.g. monofill or transport to another WWTP): [Click to enter text.](#)

D. Disposal site

Disposal site name: To be determined, disposal at a permitted landfill site will be competitively bid prior to commencement of plant operation.

TCEQ permit or registration number: [Click to enter text.](#)

County where disposal site is located: [Click to enter text.](#)

E. Transportation method

Method of transportation (truck, train, pipe, other): To be determined, liquid hauling will be competitively bid prior to commencement of plant operation.

Name of the hauler: [Click to enter text.](#)

Hauler registration number: [Click to enter text.](#)

Sludge is transported as a:

Liquid ☒ semi-liquid ☐ semi-solid ☐ solid ☐

Section 10. Permit Authorization for Sewage Sludge Disposal (Instructions Page 53)

A. Beneficial use authorization

Does the existing permit include authorization for land application of sewage sludge for beneficial use?

☐ Yes ☒ No

If **yes**, are you requesting to continue this authorization to land apply sewage sludge for beneficial use?

☐ Yes ☐ No

If **yes**, is the completed **Application for Permit for Beneficial Land Use of Sewage Sludge (TCEQ Form No. 10451)** attached to this permit application (see the instructions for details)?

☐ Yes ☐ No

B. Sludge processing authorization

Does the existing permit include authorization for any of the following sludge processing, storage or disposal options?

Sludge Composting ☐ Yes ☒ No

Marketing and Distribution of sludge ☐ Yes ☒ No

Sludge Surface Disposal or Sludge Monofill ☐ Yes ☒ No

Temporary storage in sludge lagoons ☐ Yes ☒ No

If **yes** to any of the above sludge options and the applicant is requesting to continue this authorization, is the completed **Domestic Wastewater Permit Application: Sewage Sludge Technical Report (TCEQ Form No. 10056)** attached to this permit application?

☐ Yes ☐ No

Section 11. Sewage Sludge Lagoons (Instructions Page 53)

Does this facility include sewage sludge lagoons?

☐ Yes ☒ No

If yes, complete the remainder of this section. If no, proceed to Section 12.

A. Location information

The following maps are required to be submitted as part of the application. For each map, provide the Attachment Number.

- Original General Highway (County) Map:

Attachment: [Click to enter text.](#)

- USDA Natural Resources Conservation Service Soil Map:

Attachment: [Click to enter text.](#)

- Federal Emergency Management Map:

Attachment: [Click to enter text.](#)

- Site map:

Attachment: [Click to enter text.](#)

Discuss in a description if any of the following exist within the lagoon area. Check all that apply.

☐ Overlap a designated 100-year frequency flood plain

- ☐ Soils with flooding classification
- ☐ Overlap an unstable area
- ☐ Wetlands
- ☐ Located less than 60 meters from a fault
- ☐ None of the above

Attachment: [Click to enter text.](#)

If a portion of the lagoon(s) is located within the 100-year frequency flood plain, provide the protective measures to be utilized including type and size of protective structures:

[Click to enter text.](#)

B. Temporary storage information

Provide the results for the pollutant screening of sludge lagoons. These results are in addition to pollutant results in *Section 7 of Technical Report 1.0*.

Nitrate Nitrogen, mg/kg: [Click to enter text.](#)

Total Kjeldahl Nitrogen, mg/kg: [Click to enter text.](#)

Total Nitrogen (=nitrate nitrogen + TKN), mg/kg: [Click to enter text.](#)

Phosphorus, mg/kg: [Click to enter text.](#)

Potassium, mg/kg: [Click to enter text.](#)

pH, standard units: [Click to enter text.](#)

Ammonia Nitrogen mg/kg: [Click to enter text.](#)

Arsenic: [Click to enter text.](#)

Cadmium: [Click to enter text.](#)

Chromium: [Click to enter text.](#)

Copper: [Click to enter text.](#)

Lead: [Click to enter text.](#)

Mercury: [Click to enter text.](#)

Molybdenum: [Click to enter text.](#)

Nickel: [Click to enter text.](#)

Selenium: [Click to enter text.](#)

Zinc: [Click to enter text.](#)

Total PCBs: [Click to enter text.](#)

Provide the following information:

Volume and frequency of sludge to the lagoon(s): [Click to enter text.](#)

Total dry tons stored in the lagoons(s) per 365-day period: [Click to enter text.](#)

Total dry tons stored in the lagoons(s) over the life of the unit: [Click to enter text.](#)

C. Liner information

Does the active/proposed sludge lagoon(s) have a liner with a maximum hydraulic conductivity of 1×10^{-7} cm/sec?

☐ Yes ☐ No

If yes, describe the liner below. Please note that a liner is required.

[Click to enter text.](#)

D. Site development plan

Provide a detailed description of the methods used to deposit sludge in the lagoon(s):

[Click to enter text.](#)

Attach the following documents to the application.

- Plan view and cross-section of the sludge lagoon(s)
Attachment: [Click to enter text.](#)
- Copy of the closure plan
Attachment: [Click to enter text.](#)
- Copy of deed recordation for the site
Attachment: [Click to enter text.](#)
- Size of the sludge lagoon(s) in surface acres and capacity in cubic feet and gallons
Attachment: [Click to enter text.](#)
- Description of the method of controlling infiltration of groundwater and surface water from entering the site
Attachment: [Click to enter text.](#)
- Procedures to prevent the occurrence of nuisance conditions
Attachment: [Click to enter text.](#)

E. Groundwater monitoring

Is groundwater monitoring currently conducted at this site, or are any wells available for groundwater monitoring, or are groundwater monitoring data otherwise available for the sludge lagoon(s)?

☐ Yes ☐ No

If groundwater monitoring data are available, provide a copy. Provide a profile of soil types encountered down to the groundwater table and the depth to the shallowest groundwater as a separate attachment.

Attachment: [Click to enter text.](#)

Section 12. Authorizations/Compliance/Enforcement (Instructions Page 55)

A. Additional authorizations

Does the permittee have additional authorizations for this facility, such as reuse authorization, sludge permit, etc?

☐ Yes ☒ No

If yes, provide the TCEQ authorization number and description of the authorization:

[Click to enter text.](#)

B. Permittee enforcement status

Is the permittee currently under enforcement for this facility?

☐ Yes ☒ No

Is the permittee required to meet an implementation schedule for compliance or enforcement?

☐ Yes ☒ No

If yes to either question, provide a brief summary of the enforcement, the implementation schedule, and the current status:

[Click to enter text.](#)

Section 13. RCRA/CERCLA Wastes (Instructions Page 55)

A. RCRA hazardous wastes

Has the facility received in the past three years, does it currently receive, or will it receive RCRA hazardous waste?

☐ Yes ☒ No

B. Remediation activity wastewater

Has the facility received in the past three years, does it currently receive, or will it receive CERCLA wastewater, RCRA remediation/corrective action wastewater or other remediation activity wastewater?

☐ Yes ☒ No

C. Details about wastes received

If **yes** to either Subsection A or B above, provide detailed information concerning these wastes with the application.

Attachment: [Click to enter text.](#)

Section 14. Laboratory Accreditation (Instructions Page 56)

All laboratory tests performed must meet the requirements of *30 TAC Chapter 25, Environmental Testing Laboratory Accreditation and Certification*, which includes the following general exemptions from National Environmental Laboratory Accreditation Program (NELAP) certification requirements:

- The laboratory is an in-house laboratory and is:
 - periodically inspected by the TCEQ; or
 - located in another state and is accredited or inspected by that state; or
 - performing work for another company with a unit located in the same site; or
 - performing pro bono work for a governmental agency or charitable organization.
- The laboratory is accredited under federal law.
- The data are needed for emergency-response activities, and a laboratory accredited under the Texas Laboratory Accreditation Program is not available.
- The laboratory supplies data for which the TCEQ does not offer accreditation.

The applicant should review 30 TAC Chapter 25 for specific requirements.

The following certification statement shall be signed and submitted with every application. See the Signature Page section in the Instructions, for a list of designated representatives who may sign the certification.

CERTIFICATION:

I certify that all laboratory tests submitted with this application meet the requirements of *30 TAC Chapter 25, Environmental Testing Laboratory Accreditation and Certification*.

Printed Name: Bill Foulds, Jr.

Title: Mayor

Signature: Bill Foulds

Date: _____

DOMESTIC WASTEWATER PERMIT APPLICATION WORKSHEET 3.0: LAND DISPOSAL OF EFFLUENT

The following is required for renewal, new, and amendment permit applications.

Section 1. Type of Disposal System (Instructions Page 68)

Identify the method of land disposal:

- | | |
|---|---|
| <input type="checkbox"/> Surface application | <input type="checkbox"/> Subsurface application |
| <input type="checkbox"/> Irrigation | <input type="checkbox"/> Subsurface soils absorption |
| <input type="checkbox"/> Drip irrigation system | <input checked="" type="checkbox"/> Subsurface area drip dispersal system |
| <input type="checkbox"/> Evaporation | <input type="checkbox"/> Evapotranspiration beds |
| <input type="checkbox"/> Other (describe in detail): Click to enter text. | |

NOTE: All applicants without authorization or proposing new/amended subsurface disposal MUST complete and submit Worksheet 7.0.

For existing authorizations, provide Registration Number: [Click to enter text.](#)

Section 2. Land Application Site(s) (Instructions Page 68)

In table 3.0(1), provide the requested information for the land application sites. Include the agricultural or cover crop type (wheat, cotton, alfalfa, bermuda grass, native grasses, etc.), land use (golf course, hayland, pastureland, park, row crop, etc.), irrigation area, amount of effluent applied, and whether or not the public has access to the area. Specify the amount of land area and the amount of effluent that will be allotted to each agricultural or cover crop, if more than one crop will be used.

Table 3.0(1) – Land Application Site Crops

Crop Type & Land Use	Irrigation Area (acres)	Effluent Application (GPD)	Public Access? Y/N
Green Space, Bermuda & Winter Rye	14.35	62,500	Y
Green Space, Bermuda & Winter Rye	28.70	125,000	Y
Green Space, Bermuda & Winter Rye	57.39	250,000	Y

Section 3. Storage and Evaporation Lagoons/Ponds (Instructions Page 68)

Table 3.0(2) – Storage and Evaporation Ponds

Pond Number	Surface Area (acres)	Storage Volume (acre-feet)	Dimensions	Liner Type
1	To Be Designed	2.3	To Be Designed	Bolted Steel Tanks

Attach a copy of a liner certification that was prepared, signed, and sealed by a Texas licensed professional engineer for each pond.

Attachment: APPENDIX M

Section 4. Flood and Runoff Protection (Instructions Page 68)

Is the land application site within the 100-year frequency flood level?

☐ Yes ☒ No

If yes, describe how the site will be protected from inundation.

[Click to enter text.](#)

Provide the source used to determine the 100-year frequency flood level:

FEMA FIRM No. 48209C0085F, Dated September 2, 2005

Provide a description of tailwater controls and rainfall run-on controls used for the land application site.

N/A

Section 5. Annual Cropping Plan (Instructions Page 68)

Attach an Annual Cropping Plan which includes a discussion of each of the following items. If not applicable, provide a detailed explanation indicating why. **Attachment:** APPENDIX G

- Soils map with crops
- Cool and warm season plant species
- Crop yield goals
- Crop growing season
- Crop nutrient requirements
- Additional fertilizer requirements
- Minimum/maximum harvest height (for grass crops)
- Supplemental watering requirements
- Crop salt tolerances
- Harvesting method/number of harvests
- Justification for not removing existing vegetation to be irrigated

Section 6. Well and Map Information (Instructions Page 69)

Attach a USGS map with the following information shown and labeled. If not applicable, provide a detailed explanation indicating why. **Attachment:** APPENDIX J

- The boundaries of the land application site(s)
- Waste disposal or treatment facility site(s)
- On-site buildings
- Buffer zones
- Effluent storage and tailwater control facilities
- All water wells within 1-mile radius of the disposal site or property boundaries
- All springs and seeps onsite and within 500 feet of the property boundaries
- All surface waters in the state onsite and within 500 feet of the property boundaries
- All faults and sinkholes onsite and within 500 feet of the property

List and cross reference all water wells located within a half-mile radius of the disposal site or property boundaries shown on the USGS map in the following table. Attach additional pages as necessary to include all of the wells.

Table 3.0(3) – Water Well Data

Well ID	Well Use	Producing? Y/N	Open, cased, capped, or plugged?	Proposed Best Management Practice
			Choose an item.	

Well ID	Well Use	Producing? Y/N	Open, cased, capped, or plugged?	Proposed Best Management Practice
			Choose an item.	
			Choose an item.	
			Choose an item.	
			Choose an item.	

If water quality data or well log information is available please include the information in an attachment listed by Well ID.

Attachment: [APPENDIX J](#)

Section 7. Groundwater Quality (Instructions Page 69)

Attach a Groundwater Quality Technical Report which assesses the impact of the wastewater disposal system on groundwater. This report shall include an evaluation of the water wells (including the information in the well table provided in Item 6. above), the wastewater application rate, and pond liners. Indicate by a check mark that this report is provided.

Attachment: [APPENDIX K](#)

Are groundwater monitoring wells available onsite? ☐ Yes ☒ No

Do you plan to install ground water monitoring wells or lysimeters around the land application site? ☐ Yes ☒ No

If yes, provide the proposed location of the monitoring wells or lysimeters on a site map.

Attachment: [Click to enter text.](#)

Section 8. Soil Map and Soil Analyses (Instructions Page 70)

A. Soil map

Attach a USDA Soil Survey map that shows the area to be used for effluent disposal.

Attachment: [APPENDIX L](#)

B. Soil analyses

Attach the laboratory results sheets from the soil analyses. **Note:** for renewal applications, the current annual soil analyses required by the permit are acceptable as long as the test date is less than one year prior to the submission of the application.

Attachment: [APPENDIX L](#)

List all USDA designated soil series on the proposed land application site. Attach additional pages as necessary.

Table 3.0(4) – Soil Data

Soil Series	Depth from Surface	Permeability	Available Water Capacity	Curve Number

Section 9. Effluent Monitoring Data (Instructions Page 71)

Is the facility in operation?

☐ Yes ☒ No

If **no**, this section is not applicable and the worksheet is complete.

If **yes**, provide the effluent monitoring data for the parameters regulated in the existing permit. If a parameter is not regulated in the existing permit, enter N/A.

Table 3.0(5) – Effluent Monitoring Data

Date	30 Day Avg Flow MGD	BOD5 mg/l	TSS mg/l	pH	Chlorine Residual mg/l	Acres irrigated

Date	30 Day Avg Flow MGD	BOD5 mg/l	TSS mg/l	pH	Chlorine Residual mg/l	Acres irrigated

Provide a discussion of all persistent excursions above the permitted limits and any corrective actions taken.

Click to enter text.

DOMESTIC WASTEWATER PERMIT APPLICATION

WORKSHEET 6.0: INDUSTRIAL WASTE CONTRIBUTION

The following is required for all publicly owned treatment works.

Section 1. All POTWs (Instructions Page 89)

A. Industrial users (IUs)

Provide the number of each of the following types of industrial users (IUs) that discharge to your POTW and the daily flows from each user. See the Instructions for definitions of Categorical IUs, Significant IUs - non-categorical, and Other IUs.

If there are no users, enter 0 (zero).

Categorical IUs:

Number of IUs: 0

Average Daily Flows, in MGD: [Click to enter text.](#)

Significant IUs - non-categorical:

Number of IUs: 0

Average Daily Flows, in MGD: [Click to enter text.](#)

Other IUs:

Number of IUs: 0

Average Daily Flows, in MGD: [Click to enter text.](#)

B. Treatment plant interference

In the past three years, has your POTW experienced treatment plant interference (see instructions)?

☐ Yes ☒ No

If yes, identify the dates, duration, description of interference, and probable cause(s) and possible source(s) of each interference event. Include the names of the IUs that may have caused the interference.

[Click to enter text.](#)

C. Treatment plant pass through

In the past three years, has your POTW experienced pass through (see instructions)?

☐ Yes ☒ No

If **yes**, identify the dates, duration, a description of the pollutants passing through the treatment plant, and probable cause(s) and possible source(s) of each pass through event. Include the names of the IUs that may have caused pass through.

Click to enter text.

D. Pretreatment program

Does your POTW have an approved pretreatment program?

☐ Yes ☒ No

If **yes**, complete Section 2 only of this Worksheet.

Is your POTW required to develop an approved pretreatment program?

☐ Yes ☒ No

If **yes**, complete Section 2.c. and 2.d. only, and skip Section 3.

If **no to either question above**, skip Section 2 and complete Section 3 for each significant industrial user and categorical industrial user.

Section 2. POTWs with Approved Programs or Those Required to Develop a Program (Instructions Page 90)

A. Substantial modifications

Have there been any **substantial modifications** to the approved pretreatment program that have not been submitted to the TCEQ for approval according to *40 CFR §403.18*?

☐ Yes ☐ No

If **yes**, identify the modifications that have not been submitted to TCEQ, including the purpose of the modification.

Click to enter text.

B. Non-substantial modifications

Have there been any **non-substantial modifications** to the approved pretreatment program that have not been submitted to TCEQ for review and acceptance?

☐ Yes ☐ No

If yes, identify all non-substantial modifications that have not been submitted to TCEQ, including the purpose of the modification.

Click to enter text.

C. Effluent parameters above the MAL

In Table 6.0(1), list all parameters measured above the MAL in the POTW's effluent monitoring during the last three years. Submit an attachment if necessary.

Table 6.0(1) – Parameters Above the MAL

Pollutant	Concentration	MAL	Units	Date

D. Industrial user interruptions

Has any SIU, CIU, or other IU caused or contributed to any problems (excluding interferences or pass throughs) at your POTW in the past three years?

☐ Yes ☐ No

If **yes**, identify the industry, describe each episode, including dates, duration, description of the problems, and probable pollutants.

Click to enter text.

Section 3. Significant Industrial User (SIU) Information and Categorical Industrial User (CIU) (Instructions Page 90)

A. General information

Company Name: None

SIC Code: Click to enter text.

Contact name: Click to enter text.

Address: Click to enter text.

City, State, and Zip Code: Click to enter text.

Telephone number: Click to enter text.

Email address: Click to enter text.

B. Process information

Describe the industrial processes or other activities that affect or contribute to the SIU(s) or CIU(s) discharge (i.e., process and non-process wastewater).

Click to enter text.

C. Product and service information

Provide a description of the principal product(s) or services performed.

Click to enter text.

D. Flow rate information

See the Instructions for definitions of “process” and “non-process wastewater.”

Process Wastewater:

Discharge, in gallons/day: N/A

Discharge Type: ☐ Continuous ☐ Batch ☐ Intermittent

Non-Process Wastewater:

Discharge, in gallons/day: N/A

Discharge Type: ☐ Continuous ☐ Batch ☐ Intermittent

E. Pretreatment standards

Is the SIU or CIU subject to technically based local limits as defined in the instructions?

☐ Yes ☒ No

Is the SIU or CIU subject to categorical pretreatment standards found in *40 CFR Parts 405-471*?

☐ Yes ☒ No

If subject to categorical pretreatment standards, indicate the applicable category and subcategory for each categorical process.

Category: Subcategories: [Click to enter text.](#)

[Click or tap here to enter text.](#) [Click to enter text.](#)

Category: [Click to enter text.](#)

Subcategories: [Click to enter text.](#)

Category: [Click to enter text.](#)

Subcategories: [Click to enter text.](#)

Category: [Click to enter text.](#)

Subcategories: [Click to enter text.](#)

Category: [Click to enter text.](#)

Subcategories: [Click to enter text.](#)

F. Industrial user interruptions

Has the SIU or CIU caused or contributed to any problems (e.g., interferences, pass through, odors, corrosion, blockages) at your POTW in the past three years?

☐ Yes ☒ No

If yes, identify the SIU, describe each episode, including dates, duration, description of problems, and probable pollutants.

[Click to enter text.](#)

WORKSHEET 7.0

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

CLASS V INJECTION WELL INVENTORY/AUTHORIZATION FORM

Submit the completed form to:

TCEQ
IUC Permits Team
Radioactive Materials Division
MC-233
PO Box 13087
Austin, Texas 78711-3087
512-239-6466

For TCEQ Use Only

Reg. No. _____

Date Received _____

Date Authorized _____

Section 1. General Information (Instructions Page 92)

1. TCEQ Program Area

Program Area (PST, VCP, IHW, etc.): Water Quality Division; Wastewater Permitting

Program ID: Click to enter text.

Contact Name: Click to enter text.

Phone Number: Click to enter text.

2. Agent/Consultant Contact Information

Contact Name: Lauren Crone, P.E.

Address: 7500 Rialto Boulevard Building II, Suite 100

City, State, and Zip Code: Austin, Texas 78735

Phone Number: 512-439-4700

3. Owner/Operator Contact Information

☒ Owner ☐ Operator

Owner/Operator Name: City of Dripping Springs

Contact Name: Michelle Fischer

Address: PO Box 384

City, State, and Zip Code: Dripping Springs, TX 78620

Phone Number: 512-858-4725

4. Facility Contact Information

Facility Name: Scenic Greens Wastewater Plant

Address: Click to enter text.

City, State, and Zip Code: Click to enter text.

Location description (if no address is available): Located approximately 4.4 miles west of Dripping Springs in the Scenic Greens subdivision.

Facility Contact Person: Ginger Faught

Phone Number: 512-858-4725

5. **Latitude and Longitude, in degrees-minutes-seconds**

Latitude: 30°12'15.092"

Longitude: -98°10'18.763"

Method of determination (GPS, TOPO, etc.): Based on State Plane Coordinates

Attach topographic quadrangle map as attachment A.

6. **Well Information**

Type of Well Construction, select one:

- ☐ Vertical Injection
- ☐ Subsurface Fluid Distribution System
- ☐ Infiltration Gallery
- ☐ Temporary Injection Points
- ☒ Other, Specify: SADDS

Number of Injection Wells: Click to enter text.

7. **Purpose**

Detailed Description regarding purpose of Injection System:

Disposal of treated domestic wastewater from the Scenic Greens WWTP via drip irrigation areas (SADDS)

Attach a Site Map as Attachment B (Attach the Approved Remediation Plan, if appropriate.)

8. **Water Well Driller/Installer**

Water Well Driller/Installer Name: N/A

City, State, and Zip Code: Click to enter text.

Phone Number: Click to enter text.

License Number: Click to enter text.

Section 2. Proposed Down Hole Design

Attach a diagram signed and sealed by a licensed engineer as Attachment C.

Table 7.0(1) – Down Hole Design Table

Name of String	Size	Setting Depth	Sacks Cement/Grout – Slurry Volume – Top of Cement	Hole Size	Weight (lbs/ft) PVC/Steel
Casing	N/A	N/A	N/A	N/A	N/A
Tubing	N/A	N/A	N/A	N/A	N/A
Screen	N/A	N/A	N/A	N/A	N/A

Section 3. Proposed Trench System, Subsurface Fluid Distribution System, or Infiltration Gallery

Attach a diagram signed and sealed by a licensed engineer as Attachment D.

System(s) Dimensions: [Click to enter text.](#)

System(s) Construction: [Click to enter text.](#)

Section 4. Site Hydrogeological and Injection Zone Data

1. Name of Contaminated Aquifer: N/A
2. Receiving Formation Name of Injection Zone: Above the Glen Rose
3. Well/Trench Total Depth: 18 inches
4. Surface Elevation: 1280-1400 MSL
5. Depth to Ground Water: [Click to enter text.](#)
6. Injection Zone Depth: 6 inches
7. Injection Zone vertically isolated geologically? ☐ Yes ☐ No
Impervious Strata between Injection Zone and nearest Underground Source of Drinking Water:
Name: N/A
Thickness: N/A
8. Provide a list of contaminants and the levels (ppm) in contaminated aquifer
Attach as Attachment E.
9. Horizontal and Vertical extent of contamination and injection plume
Attach as Attachment F.
10. Formation (Injection Zone) Water Chemistry (Background levels) TDS, etc.
Attach as Attachment G.
11. Injection Fluid Chemistry in PPM at point of injection
Attach as Attachment H.
12. Lowest Known Depth of Ground Water with < 10,000 PPM TDS: N/A
13. Maximum injection Rate/Volume/Pressure: 0.1 gpd/sf/day
14. Water wells within 1/4 mile radius (attach map as Attachment I): [Click to enter text.](#)
15. Injection wells within 1/4 mile radius (attach map as Attachment J): N/A
16. Monitor wells within 1/4 mile radius (attach drillers logs and map as Attachment K): N/A
17. Sampling frequency: N/A
18. Known hazardous components in injection fluid: N/A

Section 5. Site History

1. Type of Facility: N/A
2. Contamination Dates: N/A
3. Original Contamination (VOCs, TPH, BTEX, etc.) and Concentrations (attach as Attachment L): N/A
4. Previous Remediation (attach results of any previous remediation as attachment M): N/A

NOTE: Authorization Form should be completed in detail and authorization given by the TCEQ before construction, operation, and/or conversion can begin. Attach additional pages as necessary.

Class V Injection Well Designations

- 5A07 Heat Pump/AC return (IW used for groundwater to heat and/or cool buildings)
- 5A19 Industrial Cooling Water Return Flow (IW used to cool industrial process equipment)
- 5B22 Salt Water Intrusion Barrier (IW used to inject fluids to prevent the intrusion of salt water into an aquifer)
- 5D02 Storm Water Drainage (IW designed for the disposal of rain water)
- 5D04 Industrial Stormwater Drainage Wells (IW designed for the disposal of rain water associated with industrial facilities)
- 5F01 Agricultural Drainage (IW that receive agricultural runoff)
- 5R21 Aquifer Recharge (IW used to inject fluids to recharge an aquifer)
- 5S23 Subsidence Control Wells (IW used to control land subsidence caused by ground water withdrawal)
- 5W09 Untreated Sewage
- 5W10 Large Capacity Cesspools (Cesspools that are designed for 5,000 gpd or greater)
- 5W11 Large Capacity Septic systems (Septic systems designed for 5,000 gpd or greater)
- 5W12 WTP disposal
- 5W20 Industrial Process Waste Disposal Wells
- 5W31 Septic System (Well Disposal method)
- 5W32 Septic System Drainfield Disposal
- 5X13 Mine Backfill (IW used to control subsidence, dispose of mining byproducts, and/or fill sections of a mine)
- 5X25 Experimental Wells (Pilot Test) (IW used to test new technologies or tracer dye studies)
- 5X26 Aquifer Remediation (IW used to clean up, treat, or prevent contamination of a USDW)
- 5X27 Other Wells
- 5X28 Motor Vehicle Waste Disposal Wells (IW used to dispose of waste from a motor vehicle site - These are currently banned)
- 5X29 Abandoned Drinking Water Wells (waste disposal)

APPENDIX A

CORE DATA FORM



TCEQ Core Data Form

For detailed instructions on completing this form, please read the Core Data Form Instructions or call 512-239-5175.

SECTION I: General Information

1. Reason for Submission (If other is checked please describe in space provided.)		
<input type="checkbox"/> New Permit, Registration or Authorization (Core Data Form should be submitted with the program application.)		
<input checked="" type="checkbox"/> Renewal (Core Data Form should be submitted with the renewal form)		<input type="checkbox"/> Other
2. Customer Reference Number (if issued)	Follow this link to search for CN or RN numbers in Central Registry**	3. Regulated Entity Reference Number (if issued)
CN 602491284		RN 105330948

SECTION II: Customer Information

4. General Customer Information		5. Effective Date for Customer Information Updates (mm/dd/yyyy)		8/1/2013	
<input type="checkbox"/> New Customer <input type="checkbox"/> Update to Customer Information <input type="checkbox"/> Change in Regulated Entity Ownership					
<input type="checkbox"/> Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)					
<i>The Customer Name submitted here may be updated automatically based on what is current and active with the Texas Secretary of State (SOS) or Texas Comptroller of Public Accounts (CPA).</i>					
6. Customer Legal Name (If an individual, print last name first: eg: Doe, John)				<i>If new Customer, enter previous Customer below:</i>	
City of Dripping Springs					
7. TX SOS/CPA Filing Number		8. TX State Tax ID (11 digits)		9. Federal Tax ID (9 digits)	10. DUNS Number (if applicable)
11. Type of Customer:		<input type="checkbox"/> Corporation		<input type="checkbox"/> Individual	Partnership: <input type="checkbox"/> General <input type="checkbox"/> Limited
Government: <input checked="" type="checkbox"/> City <input type="checkbox"/> County <input type="checkbox"/> Federal <input type="checkbox"/> Local <input type="checkbox"/> State <input type="checkbox"/> Other		<input type="checkbox"/> Sole Proprietorship		<input type="checkbox"/> Other:	
12. Number of Employees				13. Independently Owned and Operated?	
<input type="checkbox"/> 0-20 <input type="checkbox"/> 21-100 <input type="checkbox"/> 101-250 <input type="checkbox"/> 251-500 <input type="checkbox"/> 501 and higher				<input type="checkbox"/> Yes <input type="checkbox"/> No	
14. Customer Role (Proposed or Actual) – as it relates to the Regulated Entity listed on this form. Please check one of the following					
<input type="checkbox"/> Owner <input type="checkbox"/> Operator <input type="checkbox"/> Owner & Operator <input type="checkbox"/> Other:					
<input type="checkbox"/> Occupational Licensee <input type="checkbox"/> Responsible Party <input type="checkbox"/> VCP/BSA Applicant					
15. Mailing Address:	P.O. Box 384				
	City	Dripping Springs	State	TX	ZIP 78260 ZIP + 4
16. Country Mailing Information (if outside USA)				17. E-Mail Address (if applicable)	
				mfischer@cityofdrippingsprings.com	
18. Telephone Number		19. Extension or Code		20. Fax Number (if applicable)	

SECTION III: Regulated Entity Information

21. General Regulated Entity Information <i>(If 'New Regulated Entity' is selected, a new permit application is also required.)</i>							
<input type="checkbox"/> New Regulated Entity <input type="checkbox"/> Update to Regulated Entity Name <input type="checkbox"/> Update to Regulated Entity Information							
<i>The Regulated Entity Name submitted may be updated, in order to meet TCEQ Core Data Standards (removal of organizational endings such as Inc, LP, or LLC).</i>							
22. Regulated Entity Name <i>(Enter name of the site where the regulated action is taking place.)</i>							
Scenic Greens Wastewater Plant							
23. Street Address of the Regulated Entity: <i>(No PO Boxes)</i>							
	City		State		ZIP		ZIP + 4
24. County	Hays						

If no Street Address is provided, fields 25-28 are required.

25. Description to Physical Location:	Approximately 2,600 feet west of the intersection of McGregor Lane and U.S. Highway 290 West, in Hays County, Texas 78620							
26. Nearest City					State	Nearest ZIP Code		
Dripping Springs					TX	78260		
<i>Latitude/Longitude are required and may be added/updated to meet TCEQ Core Data Standards. (Geocoding of the Physical Address may be used to supply coordinates where none have been provided or to gain accuracy).</i>								
27. Latitude (N) In Decimal:					28. Longitude (W) In Decimal:			
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds			
30	12	15.092	-98	10	18.763			
29. Primary SIC Code (4 digits)	30. Secondary SIC Code (4 digits)		31. Primary NAICS Code (5 or 6 digits)		32. Secondary NAICS Code (5 or 6 digits)			
4952			221320					
33. What is the Primary Business of this entity? <i>(Do not repeat the SIC or NAICS description.)</i>								
Wastewater Treatment Facility								
34. Mailing Address:	P.O. Box 384							
	City	Dripping Springs	State	TX	ZIP	78620	ZIP + 4	
35. E-Mail Address:	mfischer@cityofdrippingsprings.gov							
36. Telephone Number	37. Extension or Code		38. Fax Number <i>(if applicable)</i>					
(512) 858-4725			() -					

39. TCEQ Programs and ID Numbers Check all Programs and write in the permits/registration numbers that will be affected by the updates submitted on this form. See the Core Data Form instructions for additional guidance.


<input type="checkbox"/> Dam Safety	<input type="checkbox"/> Districts	<input type="checkbox"/> Edwards Aquifer	<input type="checkbox"/> Emissions Inventory Air	<input type="checkbox"/> Industrial Hazardous Waste
<input type="checkbox"/> Municipal Solid Waste	<input type="checkbox"/> New Source Review Air	<input type="checkbox"/> OSSF	<input type="checkbox"/> Petroleum Storage Tank	<input type="checkbox"/> PWS
<input type="checkbox"/> Sludge	<input type="checkbox"/> Storm Water	<input type="checkbox"/> Title V Air	<input type="checkbox"/> Tires	<input type="checkbox"/> Used Oil
<input type="checkbox"/> Voluntary Cleanup	<input checked="" type="checkbox"/> Wastewater	<input type="checkbox"/> Wastewater Agriculture	<input type="checkbox"/> Water Rights	<input type="checkbox"/> Other:

SECTION IV: Preparer Information

40. Name:	Lauren Crone, P.E.	41. Title:	Senior Project Manager
42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(512) 439-4700		() -	lcrone@lja.com

SECTION V: Authorized Signature

46. By my signature below, I certify, to the best of my knowledge, that the information provided in this form is true and complete, and that I have signature authority to submit this form on behalf of the entity specified in Section II, Field 6 and/or as required for the updates to the ID numbers identified in field 39.

Company:	City of Dripping Springs	Job Title:	Mayor
Name (In Print):	Bill Foulds, Jr.	Phone:	() -
Signature:		Date:	

APPENDIX B

PLAIN LANGUAGE SUMMARY



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

PLAIN LANGUAGE SUMMARY FOR TPDES OR TLAP PERMIT APPLICATIONS

ENGLISH TEMPLATE FOR TPDES or TLAP NEW/RENEWAL/AMENDMENT APPLICATIONS DOMESTIC WASTEWATER/STORMWATER

The following summary is provided for this pending water quality permit application being reviewed by the Texas Commission on Environmental Quality as required by 30 TAC Chapter 39. The information provided in this summary may change during the technical review of the application and is not a federal enforceable representation of the permit application.

City of Dripping Springs (CN602491284) proposes to operate Scenic Greens WWTP (RN105330948), a 0.25MGD wastewater treatment plant. The facility will be located at approximately 2,600 feet West from the intersection of McGregor Lane and US 290 West, in Dripping Springs, Hays County, Texas 78620. This is a renewal application to discharge 250,000 gallons per day of processed wastewater on an intermittent and flow-variable basis.

Discharges from the facility are expected to contain five-day carbonaceous biochemical oxygen demand (CBOD₅), total suspended solids (TSS), ammonia nitrogen (NH₃-N), total phosphorus (P), and Escherichia Coli. Domestic wastewater will be treated by a future WWTP consisting of a packaged single stage nitrification plant, including headworks (bar screening), aeration, clarification, chlorination, chlorine contact & aerobic digestion. Treated effluent will be stored in a holding tank for six days in the initial phase, three days in the interim phase and three days in the final phase prior to disposal using subsurface drip irrigation near the treatment plant on land owned by the applicant. Sludge will be disposed of by hauling off-site by a licensed hauler, to a permitted landfill.

PLANTILLA EN INGLÉS PARA SOLICITUDES DE NUEVA/RENOVACIÓN/ENMIENDA TPDES o TLAP

AGUAS RESIDUALES DOMÉSTICAS/AGUAS PLUVIALES

El siguiente resumen se proporciona para esta solicitud de permiso de calidad del agua pendiente que está siendo revisada por la Comisión de Calidad Ambiental de Texas según lo exige el Capítulo 39 del 30 TAC. La información proporcionada en este resumen puede cambiar durante la revisión técnica de la solicitud y no es un documento federal ejecutable. representación de la solicitud de permiso.

La ciudad de Dripping Springs (CN602491284) propone operar la PTAR de Scenic Greens (RN105330948), una planta de tratamiento de aguas residuales de 0,25 MGD. La instalación estará ubicada aproximadamente a 2,600 pies al oeste de la intersección de McGregor Lane y US 290 West, en Dripping Springs, condado de Hays, Texas 78620. Esta es una solicitud de renovación para descargar 250,000 galones por día de aguas residuales procesadas de manera intermitente y de flujo. -base variable.

Se espera que las descargas de la instalación contengan demanda bioquímica de oxígeno carbonoso (CBOD5) de cinco días, sólidos suspendidos totales (SST), nitrógeno amoniacal (NH3-N), fósforo total (P) y Escherichia coli. Las aguas residuales domésticas serán tratadas por una futura EDAR que consistirá en una planta de nitrificación de una sola etapa, que incluye obras de captación (cribado de barras), aireación, clarificación, cloración, contacto con cloro y digestión aeróbica. El efluente tratado se almacenará en un tanque de retención durante seis días en la fase inicial, tres días en la fase intermedia y tres días en la fase final antes de su eliminación mediante riego por goteo subterráneo cerca de la planta de tratamiento en un terreno propiedad del solicitante. Los lodos se eliminarán mediante transporte fuera del sitio por parte de un transportista autorizado, a un vertedero autorizado.

APPENDIX C

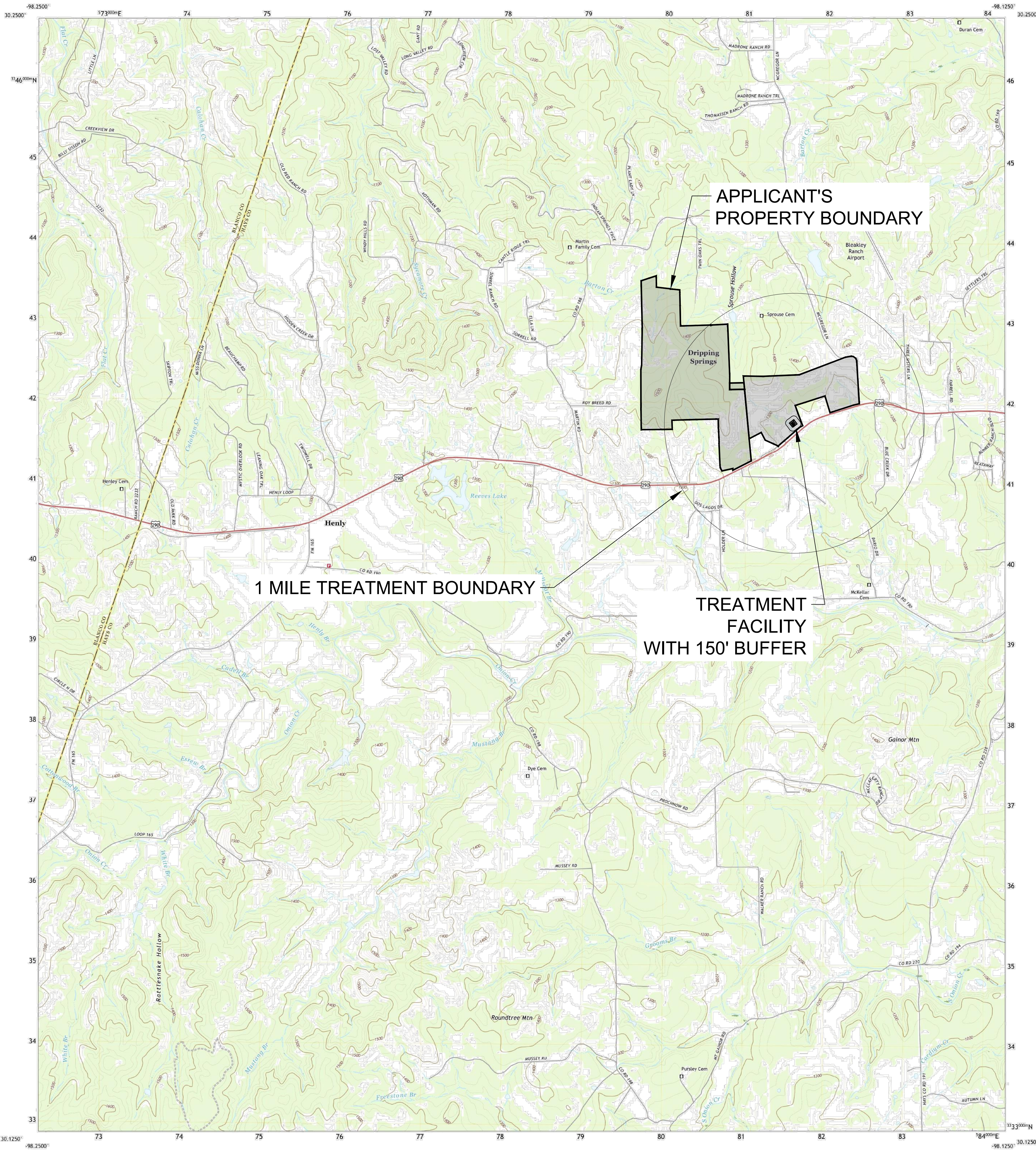
USGS MAP



U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY



HENLY QUADRANGLE
TEXAS
7.5-MINUTE SERIES



Produced by the United States Geological Survey

North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84), Projection and
1000-meter grid/Universal Transverse Mercator, Zone 14R

This map is not a legal document. Boundaries may be
generalized for this map scale. Private lands within government
reservations may not be shown. Obtain permission before
entering private lands.

Imagery.....NAP, September 2016 - November 2016

Roads.....U.S. Census Bureau, 2015 - 2019

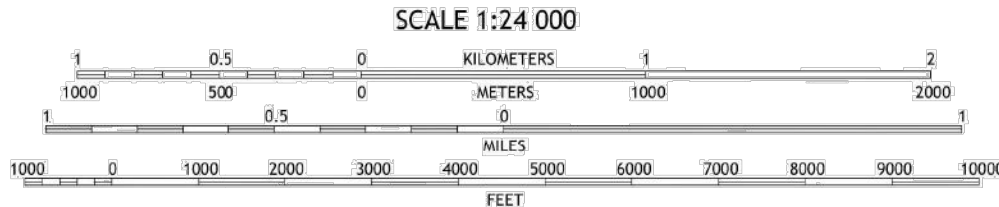
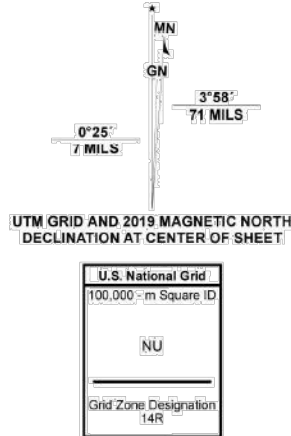
Name.....GNIS, 1979 - 2022

Hydrography.....National Hydrography Dataset, 2002 - 2018

Contours.....National Elevation Dataset, 2021

Boundaries.....Multiple sources; see metadata file 2019 - 2021

Wetlands.....FWS National Wetlands Inventory Not Available



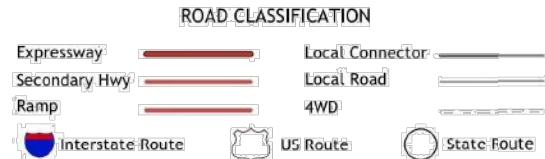
CONTOUR INTERVAL 20 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the
National Geospatial Program US Topo Product Standard.

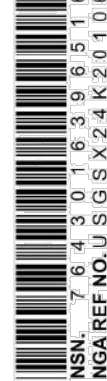


1	2	3
4	5	6
7	8	9

1 Pedernales Falls
2 Hammer's Crossing
3 Shingle Hills
4 Yeager Creek
5 Dripping Springs
6 Payton
7 Rough Hollow
8 Driftwood



HENLY, TX
2022



APPENDIX D
LEASE AGREEMENT

WATER AND WASTEWATER UTILITY AGREEMENT

This Water and Wastewater Utility Agreement ("Utility Agreement") is between the City of Dripping Springs, a Type A General Law City located in Hays County, Texas (the "City"), and Paintbrush 290 GP LLC, a Texas Limited Liability Corporation, whose address is 11610 FM 2244, Suite 210, Austin, Texas, 78738-5457, attn: Ted L. Stewart ("Owner").

RECITALS:

WHEREAS, Owner owns, or has contracted to purchase, approximately 681.5088 acres of land (the "Land") as shown on **Exhibit A** and more particularly described on **Exhibit B**, which Land is located wholly or partially within the extraterritorial jurisdiction (ETJ) of the City and in Hays County, Texas (the "County"); and

WHEREAS, Owner intends to develop the Land as a master-planned, mixed-use community;

WHEREAS, the City and Owner are entering into that certain "Scenic Greens Development Agreement" simultaneously with this Utility Agreement and containing terms and agreements regarding the development of the Land;

WHEREAS, no sewer collection treatment and disposal system presently exists to serve the Land;

WHEREAS the Owner wishes to design and construct a wastewater collection, treatment and disposal system and related wastewater improvements (the "Wastewater Improvements") in order to serve its proposed development of the Land;

WHEREAS Owner has proposed, and the City agrees, that the Owner will construct and the City will then own and operate certain wastewater improvements to provide retail wastewater service to the Development;

WHEREAS, Owner and City wish to enter into this Utility Agreement regarding the terms and conditions pursuant to which the Owner will construct and the City will own and operate the Wastewater Improvements, and pursuant to which Owner will receive reimbursement for certain of its costs of the Wastewater Infrastructure; and

WHEREAS this Utility Agreement is necessary to protect the health, safety, and general welfare of the community, to limit the harmful effects of substandard subdivisions and to facilitate construction and operation of the Wastewater Improvements;

NOW THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, including the agreements set forth below, the City and Owner agree as follows:

ARTICLE 1 DEFINITIONS

- 1.1. **Assignee:** The assignee of the Owner, as permitted by this Utility Agreement and defined in **Section 7.5**.

RECEIVED

FEB 20 2019

- 1.2. **Certificate of Convenience and Necessity:** A Certificate of Convenience and Necessity issued by the TCEQ designating areas to be served with retail water or sewer service.
- 1.3. **Chapter 395:** Chapter 395 of the Texas Local Government Code, as such may be amended from time to time.
- 1.4. **CIP:** Capital Improvements Plan as that term is used in Chapter 395..
- 1.5. **City:** The City of Dripping Springs, an incorporated Type A, general law municipality located in Hays County, Texas.
- 1.6. **City Administrator:** The chief administrative officer of the City of Dripping Springs, Texas. The term also includes the Deputy City Administrator, and the City Administrator's designee.
- 1.7. **City Council:** The governing body of the City of Dripping Springs, Texas.
- 1.8. **City Engineer:** The person or firm designated by the City Council as engineer for the City of Dripping Springs, Texas.
- 1.9. **City Inspection Fees:** The fees applicable to the inspection and testing of Infrastructure according to the fee schedule adopted by the City Council and in effect on the date of the inspection.
- 1.10. **City Utility Standards:** all City standards for planning, design, location, construction, operation and maintenance of water, and wastewater and drainage utility Infrastructure as they may be amended from time to time, and expressly including without limitation the following:
 - (a) Subdivision Ordinance and Regulations;
 - (b) Utility Extension Policies;
 - (c) Development Ordinance and Regulations; and
 - (d) Water Quality Protection Ordinance
 - (e) Technical Construction Standards and Specifications
- 1.11. **City Review Fees:** The fees set out in the City's Fees Schedule Ordinance as may be amended from time to time.
- 1.12. **Contractor:** A person or entity that constructs, alters or repairs utility Infrastructure required to serve the Development , whether located on or outside the Land.
- 1.13. **Development:** The master-planned, mixed-use community that Owner intends to Develop on the Land pursuant to the Development Agreement and this Utility Agreement.
- 1.14. **Development Agreement:** That certain Scenic Greens Development Agreement executed contemporaneously with this Utility Agreement.
- 1.15. **Effective Date:** The date upon which this Utility Agreement is executed by all Parties.

- 1.16. **Impact Fees:** City wastewater impact fees for new or enlarged connections adopted by one or more City ordinances in accordance with Chapter 395.
- 1.17. **Infrastructure:** All water and wastewater (unless expressly identified as only water or only wastewater) facilities, equipment or related improvements necessary to serve the Development, whether located on or outside the Land.
- 1.18. **Infrastructure Standards:** The standards for planning, design, construction, operation and maintenance defined as the Infrastructure Standards as set forth in Article 2.
- 1.19. **Land:** That certain 681.5088 acres of land in Hays County, Texas, as shown on Exhibit A and more particularly described in Exhibit B.
- 1.20. **LCRA:** Lower Colorado River Authority.
- 1.21. **Notice:** Notice as defined in Section 7.3 of this Utility Agreement.
- 1.22. **Owner:** Paintbrush 290 GP LLC, a Texas Limited Liability Corporation.
- 1.23. **Party:** Individually, the City or the Owner and any successors and assigns, as permitted by this Utility Agreement.
- 1.24. **TCEQ:** Texas Commission on Environmental Quality, or its successor agencies.
- 1.25. **Utility Agreement:** This contract between the City of Dripping Springs, Texas and Owner, including all Exhibits, which are incorporated herein for all intents and purposes.
- 1.26. **Water Infrastructure:** All water facilities, equipment or related improvements necessary to serve the Land, whether located on or outside the Land.
- 1.27. **Wastewater Infrastructure:** All wastewater facilities, equipment or related improvements necessary to serve the Land, whether located on or outside the Land.

Unless indicated otherwise herein, other capitalized terms in this Utility Agreement shall have the same respective meanings as are ascribed to them in the Development Agreement.

ARTICLE 2 DESIGN AND CONSTRUCTION OF INFRASTRUCTURE

- 2.1 General Provisions. The Owner is responsible for construction of all water, wastewater and drainage Infrastructure within the Land. The City will have the right to review and approve all plans and specifications for such Infrastructure, to inspect all such Infrastructure during construction and prior to commencement of operation of such Infrastructure, and to impose the applicable City Review Fees and City Inspection Fees in connection therewith, if any. A copy of each set of approved plans and specifications and a copy of all inspection certificates will be filed with the City for review and approval. City agrees to provide comments to plans and specifications within thirty days of receipt. All water, wastewater and drainage infrastructure within the Land shall be subject to City inspections and compliance with City Utility Standards in effect at the time of inspection as they may be amended from time to time and TCEQ rules.

- 2.2 Infrastructure Standards. All Infrastructure shall be planned, designed, constructed, operated and maintained in compliance with (a) this Article 2; (b) the City Utility Standards; (c) rules and regulations of the TCEQ; and (d) for Water Infrastructure, the rules and regulations of the LCRA that apply to the Land (collectively "Infrastructure Standards").
- 2.3 Design, Bid and Construction of Wastewater Infrastructure. Owner agrees to engage a professional engineer registered in the State of Texas to provide design phase, bid phase and construction phase services necessary for the design, bidding and construction and installation of the Wastewater Infrastructure. Owner shall competitively bid the project in accordance with all applicable City procedures and the Laws of the State of Texas.
- 2.4 Engagement of Contractor. Owner shall engage a licensed contractor to construct the Wastewater Infrastructure in accordance with the terms and conditions of this Utility Agreement and with the approved construction plans and specifications. The Contract shall require that any and all change orders in excess of \$5,000.00 shall be jointly agreed to in writing by the City and the Owner, shall incorporate the requirements of this Article 2, and shall provide that the City is a third-party beneficiary of the contract and may enforce such contracts against the Contractor. Change orders must represent an individual change to the contracted work such that large change orders are not subdivided for the sole purpose of arriving at a cost less than \$5,000 for any of the subdivided changes.
- 2.5 Plan Review, Payment of Fees and Pre-Construction Conference. Construction of Wastewater Infrastructure shall not commence until the plans and specifications have been reviewed and accepted by the City for compliance with the Infrastructure Standards; a pre-construction conference has been held by the Contractor, the Owner's Engineer and the City Engineer; and the applicable City Review Fees have been paid. At such pre-construction conference, the City's Engineer shall designate the individual who will serve as the City's project manager and inspector (the "City Inspector").
- 2.6 Inspection by City. The City has the right, but not the obligation, to inspect and test the Wastewater Infrastructure at any time. Further, the City has the right to participate in a final inspection of all Wastewater Infrastructure. The Owner, or its Engineer or Contractor shall notify the City Inspector when Wastewater Infrastructure is ready for final inspection. If the City Inspector concurs that construction of the Wastewater Infrastructure is substantially complete, then the City Inspector will schedule a final inspection by the City within 30 days. Upon such final inspection and correction of any punch list items, the Owner shall request that City finally accept the improvements, subject to the provisions of this Utility Agreement. The City, in its sole discretion, may defer acceptance of the Wastewater Improvements so long as less than 25 percent of the rated capacity of the first phase of the permitted wastewater treatment plant is being utilized. Subject to that right to defer acceptance, the City will not unreasonably refuse to accept all improvements that comply with the terms of this Utility Agreement. However, if the City does not accept the Wastewater Infrastructure, it will not object to the Owner's operation and maintenance of the Wastewater Infrastructure as follows. The City will facilitate the Owner's operation by choosing, in the City's sole discretion, to either enter into an operating agreement with Owners unless or until the Wastewater Infrastructure is transferred to the City, or to apply to the TCEQ to transfer to Owners any CCN or other authorizations that the City has received for the Wastewater Infrastructure. The Owner

agrees that the form of operating agreement will include a requirement that the Owner operate in compliance with all laws, that it be responsible for all costs of operating the Wastewater Infrastructure, and that it indemnify the City, in a form substantially similar to Article 7 below, for liabilities arising out of, caused by or resulting from the Owner's operations. To the extent that cost of operating the Wastewater Infrastructure exceeds the revenue from wastewater rates, the City will credit the cost difference borne by the Owner against the wastewater impact fees due to the City.

- 2.7 Delivery of Drawings. The Owner shall be responsible for the delivery to the City Inspector within 30 days after final inspection of mylar as-built drawings and electronic files for all Infrastructure.
- 2.8 Easements and Rights-of-Way. Owner will grant or acquire, at no cost to the City, all onsite easements or rights-of-way on or over the Land that are required for the installation and operation of the Wastewater Infrastructure. Owner shall diligently attempt to obtain all offsite easements necessary for the construction of the Wastewater Infrastructure, if any, at Owner's expense, except that the City will make available, at no cost to Owner, the right to use any rights of way or easements held by the City. If Owner is unable to obtain all required off-site easements, then the City shall attempt to acquire the easements, using its powers of eminent domain if necessary, at Owner's sole expense; provided specifically that such expenses shall include City staff time for oversight, legal advice and project management; attorneys' fees; survey fees and expenses; appraisal fees and expenses; expert fees and expenses, and all other fees, costs and expenses associated with the acquisition. Unless otherwise approved by the City, all such easements shall be conveyed to the City in the form attached as **Exhibit C**.
- 2.9 Water Utility Service. The Parties acknowledge that a portion of the Land is within the area of the water CCN issued to the Dripping Springs Water Supply Corporation ("WSC"). Subject to the City's obligations to third parties pursuant to certain agreements between (a) the City and the WSC; (b) the City and the Lower Colorado River Authority ("LCRA"); and (c) the LCRA and the WSC (including but not limited to the "Settlement Agreement and Water and Wastewater Service Agreement Between the City of Dripping Springs and the Dripping Springs Water Supply Corporation" (May 28, 2002) and the "Wholesale Water Supply Agreement between Lower Colorado River Authority and the City of Dripping Springs" (March 11, 2003), each as amended now or in the future), the City agrees that the WSC may provide retail water service to that portion of the Development within the WSC's CCN. Further, the City hereby acknowledges that the Owner intends to build the Water Infrastructure receiving WSC water service so that it will be reimbursed by the WSC out of fees collected by the WSC; this Utility Agreement shall create no obligations of the Parties with respect to the cost of or reimbursement for that Water Infrastructures. The Owner agrees that the City may, in its sole discretion, provide retail water service to areas outside the WSC's water service area or to areas inside the WSC's service area that will not be served by the WSC (all subject to the utility agreements cited above in this subsection), and that Owner will cooperate with the City in applications necessary to provide such service; however, if the City is unable or chooses not to provide such water service, or if water service will require any offsite improvements, then it shall timely notify Owner, in writing, so that Owner may pursue other options for water service.
- 2.10 LCRA MOU. Owners shall require all water system improvements to serve the Land to

be constructed and operated in a manner that complies with that certain Memorandum of Understanding between LCRA and the United States Fish and Wildlife Service dated May 2000, to the extent applicable to the Property, and with City fire protection requirements for water line sizing, number of connections, minimum water pressure and number of fire hydrants.

- 2.11 Joint Billing Agreement. Owner covenants and agrees to use its best efforts to obtain and assign for the City's benefit a joint billing agreement with the WSC that requires the WSC to include the City's charges for retail wastewater service in its monthly water bill, to promptly transfer to the City all retail wastewater fees and charges collected on the City's behalf, and for the WSC to terminate water service for customer non-payment of the wastewater bill. A normal and reasonable charge may be made for such services to be deducted from the sums due the City from collections.
- 2.12 Water Wells. No water wells will be drilled or used to provide potable water to the Land. All restrictive covenants established for the development of the Land shall reinforce this prohibition.

ARTICLE 3 WASTEWATER PERMITS AND TREATMENT STANDARDS

- 3.1 CCN. The Owner will send to the City a written request for wastewater service for the Development. The City will then prepare, file with the TCEQ, and diligently prosecute an application for a wastewater CCN for the Land in order to serve the Development, and Owner will support the application. Owner shall reimburse the City for all necessary and reasonable costs for the preparation, filing, negotiation and issuance of the CCN, provided specifically that such expenses shall include engineering costs, attorneys' fees and costs; and expert fees and expenses. Such reimbursement shall not include City staff time for oversight and project management, except for City Attorney time. All sums will be subject to budget approved by all parties.
- 3.2 Wastewater Treatment Permit and Facility Standards. The Owner will grant to the City in writing a firm, enforceable option to acquire, at no cost to the City, land of sufficient size and quality for the disposal by subsurface drip dispersal of all domestic and commercial treated wastewater to be generated by the Development at full build-out. The City will then prepare, file with the TCEQ and diligently prosecute, an application for a Texas Pollutant Discharge Elimination System ("TPDES") permit to treat and dispose of such wastewater. The application will comply with all TCEQ requirements for such permit applications pursuant to Chapter 222 of Title 30 of the Texas Administrative Code ("Subsurface Area Drip Dispersal Systems"), as it may be amended from time to time, and shall include the specifications set forth in the attached **Exhibit D**. Owner shall reimburse the City for all necessary and reasonable costs for the preparation, filing, and prosecution of the TPDES permit, provided specifically that such expenses shall include but not be limited to engineering costs, attorneys' fees and costs; and expert fees and expenses. Such reimbursement shall not include City staff time for oversight and project management, except for City Attorney time. All sums will be subject to budget approved by all parties. Notwithstanding the effluent limitation requirements in Exhibit D or the effluent limitations required by the final permit, "Owner shall construct a treatment system that is capable of consistently achieving a daily average concentration of no more than 5 mg/l CBOD and 5 mg/l TSS in the wastewater that is discharged from the dispersal system."

- 3.3 Reimbursement to the City. Each quarter of the year, commencing on September 30, 2006, the City shall invoice the Owner, and the Owner shall reimburse the City, for reimbursements due to the City pursuant to Sections 3.1 and 3.2. No sums in excess of the agreed budget shall be payable, however, in the event the budget is exceeded, the City (a) may terminate its activities under Sections 3.1 and 3.2 and (b) may also terminate its obligations under Article 5, unless the Owner agrees to pay any overage. Amounts due shall be paid within 30 days.
- 3.4 Cooperation. The Owner agrees that it will cooperate in the proceedings at the TCEQ for the CCN and the TPDES Permit and that it will provide such other and further assurances, instruments and documents as are or may become needed to support the issuance of the CCN and TPDES permits to the City and to effectuate the intent of this Utility Agreement..
- 3.5 Reimbursement of Owner. Pursuant to Chapter 395, §§ 395.018 and 395.019(2) and (3), and to reimburse the Owner for amounts paid to the City pursuant to Section 3.3 above, the City will credit such amounts paid to the City against the wastewater impact fees due to the City; however the amounts due to the City under Sections 3.2 and 3.3 above and payments obligations pursuant to Section 4.3 below are independent of, and not limited to, the amount of the Owner's uncredited impact fees.

ARTICLE 4 IMPACT FEES AND CONSTRUCTION COST REIMBURSEMENT

- 4.1 Capital Improvements Plan. The City shall prepare a CIP and Impact Fee study pursuant to Chapter 395 of the Local Government Code that includes the Wastewater Infrastructure and/or the acquisition by the City of those Wastewater Infrastructure from Owner. In addition, the City shall diligently pursue approval of such CIP and Impact Fee study, and adoption of the Impact Fees pursuant to Chapter 395. The Impact Fees for the Development currently are estimated to be no more than \$4,500 per home.
- 4.2 Payment of Impact Fees. Owner shall be responsible for paying to the City all Impact Fees for each new or enlarged water and wastewater connection within the Development, based upon the size of the retail water meter. Impact Fees for each lot shall be due and payable to the City at the earlier of: (1) such time as a final plat for the lot and all construction drawings and site development plans for such phase are approved by the City or (2) WSC's water meter is installed to provide water service to the lot pursuant to this Utility Agreement or (3) such other time as may be required by Chapter 395. Payment of all Impact Fees due to the City under this Article 4 shall be remitted to the City within 30 days of the close of each quarter of the year after such fees become due pursuant to this Utility Agreement.
- 4.3 Reimbursement of Owner. Owner will pay all costs associated with the design and construction of the Wastewater Infrastructure, subject to the reimbursement rights provided herein. As reimbursement to the Owner, the City will credit the costs paid by Owner pursuant to this Article 4 against the wastewater impact fees due to the City pursuant to Chapter 395, §§ 395.018 and 395.019(2) and (3), to the extent that those impact fees are not already subject to credits pursuant to Article 3.
- 4.4 Estimated Cost of Wastewater Infrastructure. The Owner has estimated the actual design

and construction costs for the Wastewater Infrastructure (excluding items that shall include financing, interest, fiscal security, accounting, project management, inspections, permits, and legal services) to be \$14.8 million. The Parties acknowledge that the actual costs may be greater or less than \$14.8 million and further agree that such cost underages or overages shall be addressed as provided for herein. If the costs of the Wastewater Infrastructure exceed the estimated amount, the cost overages are subject to the City's review and approval. In addition to the other requirements of this Utility Agreement, no reimbursement shall be required unless and until the Owner submits a change order describing the need for the expenditure of such funds, and the City's Engineer issues its written approval of the actual expenses shown on the change order. If Owner allows work to commence on any change order before receiving City approval as required under this **Paragraph 4.4 and Article 2**, then any costs incurred on that change order that are not approved by the City are not eligible for reimbursement. Owner is not required to make any changes for which the cost is not approved by the City.

- 4.5 **Information from Owner.** The City's obligation to reimburse the Owner is subject to the Owner's providing to the City, within one hundred and eighty days of final acceptance by the City of the Wastewater Infrastructure, a report of the total costs of the project that shall include the supporting information in sufficient detail to allow the City to verify the nature and the amount of the reimbursable expenditures pursuant to this **Article 2**.
- 4.6 **City Obligation.** The obligations of the City under this Utility Agreement to reimburse Owner shall constitute a current expense payable solely from the revenues of the Wastewater Impact Fees for the Development, and subject to Chapter 395. The obligation of the City to make reimbursements does not constitute a general obligation or indebtedness of the City for which the City is obligated to levy or pledge any form of taxation.

ARTICLE 5

OWNERHIP AND OPERATION OF WASTEWATER INFRASTRUCTURE

- 5.1 Within 60 days after the City's final approval and acceptance of the Wastewater Infrastructure, the Owner shall convey to the City, and the City will accept, the Wastewater Infrastructure as follows. Owner shall execute and deliver to the City such properly executed bills of sale, assignments, or other instruments of transfer as may be reasonably necessary to convey the Wastewater Infrastructure; deeds in the form provided as **Exhibit E** conveying the treatment plant site required to operate in compliance with the TPDES permit, and an easement or other property rights as necessary to comply with the TPDES permit for the subsurface drip irrigation areas and other operational areas; all warranties secured for construction of the Wastewater Infrastructure; and all bonds, warranties, guarantees, an other assurances of performance, record drawings, easements, project manuals, and all other documentation related to the Wastewater Infrastructure. Owner agrees that the City will not accept any Wastewater Infrastructure burdened by any lien or any other encumbrance.
- 5.2 Prior to the City's final approval and acceptance of the Wastewater Infrastructure, Owner, at owner's cost, shall provide to City a title commitment for the issuance of an owner policy of title insurance by a title company selected by Owner stating the condition of title to the treatment plant site being conveyed to City. Prior to conveyance of the treatment plant site, Owner shall resolve the items that are listed on Schedule C of the

title commitment and remove all liquidated liens. Owner shall deliver to City an owner policy of title insurance for the treatment plant site along with the deed conveying the site.

- 5.3 The effective date of the transfer shall be the date that the last of the foregoing instruments and documents listed in Section 5.1 is delivered to the City. Upon the effective date of the transfer, Owner will have no further obligations or responsibility for the Wastewater Infrastructure.
- 5.4 After the effective date of the transfer pursuant to Section 5.1, the City will operate and maintain the Wastewater Infrastructure and will provide wastewater utility service to customers within the Development subject to the conditions stated in this Utility Agreement and according to the City's policies and ordinances, as amended from time to time. Nothing in this Utility Agreement will be construed to limit, restrict, modify, or abrogate the City's governmental authority or ordinances respecting the operation and maintenance of its wastewater systems nor its duty to provide for the public health, safety, and welfare in the operation and maintenance of the same.
- 5.5 After the effective date of the transfer pursuant to Section 5.1, the City agrees that Owner will have a continuing right on available capacity of the Wastewater Infrastructure for retail wastewater service to all homes within the Development; however this Utility Agreement does not create or confer upon Owner, or its successors and assigns, any total or partial ownership rights associated with, or treatment and disposal capacity in, the Wastewater Infrastructure. This Utility Agreement will not be construed to create or confer upon Owner, or its successors or assigns, any manner of legal title to, equitable interest in or other claim of joint Ownership with respect to property, whether real, personal or mixed, comprising the Wastewater Infrastructure, after the effective date of their transfer to the City.

ARTICLE 6 INDEMNIFICATION

- 6.1 **Indemnity.** TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, OWNER AGREES TO INDEMNIFY AND DEFEND THE CITY, ITS OFFICERS, ELECTED OFFICIALS, EMPLOYEES, AGENTS, ATTORNEYS, SUCCESSORS AND ASSIGNS (COLLECTIVELY, "INDEMNITEES") WITH REGARD TO ANY AND ALL CLAIMS, LOSSES, DAMAGES, LIABILITIES, LIENS, FINES, SUITS, JUDGMENTS, ADMINISTRATIVE PROCEEDINGS, REMEDIATION OR CORRECTIVE ACTION REQUIREMENTS, ENFORCEMENT ACTIONS, AND ALL COSTS AND EXPENSES INCURRED IN CONNECTION THEREWITH (INCLUDING, BUT NOT LIMITED TO, ATTORNEYS' FEES, COSTS OF INVESTIGATION AND EXPENSES, INCLUDING THOSE INCURRED BY CITY IN ENFORCING THIS INDEMNITY), DIRECTLY OR INDIRECTLY ARISING OUT OF, CAUSED BY OR RESULTING FROM (IN WHOLE OR IN PART) (i) ANY BREACH OF THIS UTILITY AGREEMENT OR (ii) ANY DESIGN, CONSTRUCTION, OPERATION, OR MAINTENANCE OF THE INFRASTRUCTURE PRIOR TO ITS TRANSFER TO THE CITY PURSUANT TO ARTICLE 5, (COLLECTIVELY, "LIABILITIES"), EVEN IF SUCH LIABILITIES ARISE FROM OR ARE ATTRIBUTED TO STRICT LIABILITY OR TO THE CONCURRENT NEGLIGENCE OF ANY INDEMNITEE.
- 6.2 **Insurance and Indemnity by Contractors:** If any Party engages a Contractor to construct, reconstruct, repair or maintain Infrastructure, such Party shall include in the contract

requirements that the Contractor must provide adequate insurance protecting the City as an additional insured. SUCH CONTRACT MUST ALSO PROVIDE THAT THE CONTRACTOR COVENANT TO INDEMNIFY, HOLD HARMLESS AND DEFEND THE CITY AGAINST ANY AND ALL SUITS OR CLAIMS FOR DAMAGES OF ANY NATURE ARISING OUT OF THE PERFORMANCE OF SUCH CONTRACT, EVEN IF SUCH LIABILITIES ARISE FROM OR ARE ATTRIBUTED TO STRICT LIABILITY OR TO THE CONCURRENT NEGLIGENCE OF ANY INDEMNITEE.

ARTICLE 7 MISCELLANEOUS

- 7.1 **Governing Law; Jurisdiction and Venue:** THIS UTILITY AGREEMENT MUST BE CONSTRUED AND ENFORCED IN ACCORDANCE WITH THE LAWS OF THE STATE OF TEXAS, AS THEY APPLY TO CONTRACTS PERFORMED WITHIN THE STATE OF TEXAS AND WITHOUT REGARD TO ANY CHOICE OF LAW RULES OR PRINCIPLES TO THE CONTRARY. THE PARTIES ACKNOWLEDGE THAT THIS UTILITY AGREEMENT IS PERFORMABLE IN HAYS COUNTY, TEXAS AND HEREBY SUBMIT TO THE JURISDICTION OF THE COURTS OF HAYS COUNTY, AND HEREBY AGREE THAT ANY SUCH COURT SHALL BE A PROPER FORUM FOR THE DETERMINATION OF ANY DISPUTE ARISING HEREUNDER.
- 7.2 **Conspicuous Provisions:** The City and Owner acknowledge that the provisions of this Utility Agreement set out in bold, CAPITALS (or any combination thereof) satisfy the requirements for the express negligence rule and/or are conspicuous.
- 7.3 **Notice:** Any notices, approvals, or other communications required to be given by one Party to another under this Utility Agreement (a "Notice") shall be given in writing addressed to the Party to be notified at the address set forth below and shall be deemed given: (a) when the Notice is delivered in person to the person to whose attention the Notice is addressed; (b) when received if the Notice is deposited in the United States Mail, certified or registered mail, return receipt requested, postage prepaid; (c) when the Notice is delivered by Federal Express, UPS, or another nationally recognized courier service with evidence of delivery signed by any person at the delivery address; or (d) five business days after the Notice is sent by FAX (with electronic confirmation by the sending FAX machine) with a confirming copy sent by United States mail within 48 hours after the FAX is sent. If any date or period provided in this Utility Agreement ends on a Saturday, Sunday, or legal holiday, the applicable period for calculating the Notice shall be extended to the first business day following the Saturday, Sunday, or legal holiday. For the purpose of giving any Notice, the addresses of the Parties are set forth below. The Parties may change the information set forth below by sending Notice of such changes to the other Party as provided in this section.

To the City:

City of Dripping Springs, Texas
Attn: City Secretary
P. O. Box 384
Dripping Springs, Texas 78620
FAX: (512) 858-5646

City of Dripping Springs, Texas
Attn: City Administrator

P. O. Box 384
Dripping Springs, Texas 78620
FAX: (512) 858-5646

To Owner:

Painbrush 290 GP LLC,
11610 FM 2244, Suite 210
Austin, Texas, 78738-5457
Attn: Ted L. Stewart

7.4 **City Consent and Approval:** In any provision of this Utility Agreement that provides for the consent or approval of the City staff or City Council, such consent or approval must be granted in writing, and unless otherwise specified in this Utility Agreement may be withheld or conditioned by the staff or City Council based on compliance with the terms of this Utility Agreement and applicable laws and ordinances.

7.5 **Assignment:**

- (a) Neither the Owner nor the City may assign this Utility Agreement without the written consent of the other Party; provided, Owner may assign the rights hereunder to any entity which purchases the Property or any part thereof for development, and may assign rights to capacity to builders, all subject to and in compliance with Section 7.5(b) below.
- (b) Owner has the right, from time to time, to assign this Utility Agreement, in whole or in part, and including any obligation, right, title, or interest of Owner under this Utility Agreement, to any person or entity (an "Assignee") without the consent of the City, provided that the following conditions are satisfied: (i) Assignee is a successor owner of all or any part of the Development or is a lender to a successor owner of all or any part of the Development; (ii) the assignment is in writing executed by Owner and Assignee in the form of assignment attached as **Exhibit F**; (iii) Assignee expressly assumes in the assignment any assigned obligations and expressly agrees in the assignment to observe, perform, and be bound by this Utility Agreement to the extent this Utility Agreement relates to the obligations, rights, titles, or interests assigned; and (iv) a copy of the executed assignment is provided to the City within 15 days after execution. Owner shall maintain written records of all assignments made by Owner (including, for each Assignee, the Notice information required by this Utility Agreement, and including a copy of each executed assignment) and, upon written request from the City or any Assignee, shall provide a copy of such records to the requesting person or entity. It is specifically intended that this Utility Agreement, and all terms, conditions and covenants herein, shall survive a transfer, conveyance, or assignment occasioned by the exercise of foreclosure of lien rights by a creditor or a Party, whether judicial or non-judicial. This Utility Agreement shall be binding upon and inure to the benefit of the Parties and their respective successors and Assignees.

7.6 **No Third Party Beneficiary:** This Utility Agreement is solely for the benefit of the Parties, and neither the City nor Owner intends by any provision of this Utility

Agreement to create any rights in any third-party beneficiaries or to confer any benefit upon or enforceable rights under this Utility Agreement or otherwise upon anyone other than the City and Owner.

- 7.7 **Amendment:** This Utility Agreement may be amended only with the written consent of the Owner and with approval of the governing body of the City.
- 7.8 **No Waiver:** Any failure by a Party to insist upon strict performance by the other Party of any material provision of this Utility Agreement shall not be deemed a waiver thereof, and the Party shall have the right at any time thereafter to insist upon strict performance of any and all provisions of this Utility Agreement. No provision of this Utility Agreement may be waived except by writing signed by the Party waiving such provision. Any waiver shall be limited to the specific purposes for which it is given. No waiver by any Party hereto of any term or condition of this Utility Agreement shall be deemed or construed to be a waiver of any other term or condition or subsequent waiver of the same term or condition.
- 7.9 **Severability:** The provisions of this Utility Agreement are severable and, in the event any word, phrase, clause, sentence, paragraph, section, or other provision of this Utility Agreement, or the application thereof to any person or circumstance, shall ever be held or determined to be invalid, illegal, or unenforceable for any reason, and the extent of such invalidity or unenforceability does not cause substantial deviation from the underlying intent of the Parties as expressed in this Utility Agreement, then such provision shall be deemed severed from this Utility Agreement with respect to such person, entity or circumstance, without invalidating the remainder of this Utility Agreement or the application of such provision to other persons, entities or circumstances, and a new provision shall be deemed substituted in lieu of the provision so severed which new provision shall, to the extent possible, accomplish the intent of the Parties as evidenced by the provision so severed.
- 7.10 **Captions:** Captions and headings used in this Utility Agreement are for reference purposes only and shall not be deemed a part of the agreement.
- 7.11 **Interpretation:** The Parties acknowledge that each party and, if it so chooses, its counsel have reviewed and revised this Utility Agreement and that the normal rule of construction to the effect that any ambiguities are to be resolved against the drafting party shall not be employed in the interpretation of this Utility Agreement or any amendments or exhibits hereto. As used in this Utility Agreement, the term "shall include" means "shall include without limitation."
- 7.12 **Section 13.248 Agreement:** The Parties agree that the designation under this Utility Agreement of areas and customers to be served by water and wastewater utility providers is valid and enforceable and may be submitted to the TCEQ for approval at the appropriate time pursuant to Section 13.248 of the Texas Water Code regarding contracts designating areas to be served by retail public utilities.
- 7.13 **Counterpart Originals:** This Utility Agreement may be executed in multiple counterparts, each of which shall be deemed to be an original.
- 7.14 **Incorporation of Exhibits by Reference:** All exhibits attached to this Utility Agreement

are incorporated into this Utility Agreement by reference for the purposes set forth herein, as follows:

Exhibit A	Map showing the Development
Exhibit B	Legal Description of the land covered by the Development
Exhibit C	Form of Easement
Exhibit D	TPDES Permit Standards and Specifications
Exhibit E	Form of Warranty Deed
Exhibit F	Form of Assignment and Assumption Agreement

7.15 The Effective Date of this Utility Agreement is July 10, 2007.

ATTEST:

Amanda Cray
City Secretary

CITY OF DRIPPING SPRINGS, TEXAS

By: [Signature]
(print name)
Title: Mayor

APPROVED AS TO FORM AND
LEGALITY:

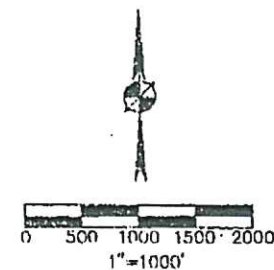
Susan Iszak
City Attorney

ATTEST:

Tom Martine
Corporate Secretary

OWNER
PAINTBRUSH 290 GP, LLC

By: Tom Martine
Tom Martine
(print name)
Title: Manager



- 100 YEAR FLOODPLAIN
- WQAZ
- HILLTOP
- WOODLANDS
- 10-15%
- 15-25%
- 25% & UP
- SETBACKS
- TREELINE



VINCENT GERARD & ASSOCIATES

LAND PLANNING & LANDSCAPE DESIGN
1703 CAPITAL OF TEXAS HWY SOUTH, STE 207
AUSTIN, TEXAS 78744
(512) 318-7693 • FAX: (512) 318-8111 • vgerard@vga.net

EXHIBIT A

EXHIBIT

687.522 acres of land, more or less, in Hays County, Texas, more particularly described as four tracts of land set forth below.

- Tract 1. 78.432 acres of land, more or less, more particularly described by metes and bounds on Exhibit A-1 attached hereto.
- Tract 2. 388.67 acres of land, more or less, more particularly described by metes and bounds on Exhibit A-2 attached hereto.
- Tract 3. 214.42 acres of land, more or less, more particularly described by metes and bounds on Exhibit A-3 attached hereto.
- Tract 4. All of Seller's right, title and interest in 6 acres of land, more or less, more particularly described by metes and bounds on Exhibit A-4 attached hereto.

RECEIVED

FEB 20 2019

Water Quality Division
Application Team

AP

EXHIBIT B

COMMITMENT FOR TITLE INSURANCE

SCHEDULE A

Effective Date: April 7, 2006, 7:00 am

G.F. No. or File No. 20060026

Commitment No. _____ Issued: April 12, 2006, 7:00 am
(if applicable)

1. The policy or policies to be issued are:

- (a) OWNER POLICY OF TITLE INSURANCE (Form T-1)
(Not applicable for improved one-to-four family residential real estate)
Policy Amount: \$10,200,000.00
PROPOSED INSURED: KERBY DEVELOPMENT, LLC
- (b) TEXAS RESIDENTIAL OWNER POLICY OF TITLE INSURANCE - ONE-TO-FOUR FAMILY RESIDENCES (Form T-1R)
Policy Amount:
PROPOSED INSURED:
- (c) MORTGAGEE POLICY OF TITLE INSURANCE (Form T-2)
Policy Amount:
PROPOSED INSURED:
Proposed Borrower:
- (d) TEXAS SHORT FORM RESIDENTIAL MORTGAGEE POLICY OF TITLE INSURANCE (Form T-2R)
Policy Amount:
PROPOSED INSURED:
Proposed Borrower:
- (e) MORTGAGEE TITLE POLICY BINDER ON INTERIM CONSTRUCTION LOAN (Form T-13)
Binder Amount:
PROPOSED INSURED:
Proposed Borrower:
- (f) OTHER
Policy Amount:
PROPOSED INSURED:

2. The interest in the land covered by this Commitment is: Fee Simple

3. Record title to the land on the Effective Date appears to be vested in:
Jor W. Tippet (Tracts I & II)

Paintbrush 290 LP (Tract III)

4. Legal description of the land:

Tract I:

78.432 acres of land, more or less out of the L. W. KINGSLEY, the T.F. MARTIN and the J.E. HUME SURVEYS in Hays County, Texas, being more particularly described by metes and bounds in Exhibit "A", attached.

LBA

Tract II:

388.67 acres of land, more or less, out of the M. M. JUSTICE, the C.W. CROSS, the J.M. HUME and the BRYANT SERMONS SURVEY, in Hays County, Texas, being more particularly described by metes and bounds in Exhibit "B", attached.

LBB

Tract III:

214.4068 acres of land, more or less, out of the ABNER SMALLEY SURVEY, the L. W. KINGSLEY SURVEY, the T.C. RAILWAY COMPANY SURVEY, the T. F. MARTIN SURVEY and the EAST PART OF THE LORETTA D. LOWE AND LARRY K. LOWE SURVEY, in Hays County, Texas, being more particularly described by metes and bounds in Exhibit "C", attached.

LBC

NOTE: The Company is prohibited from insuring the area or quantity of the land described herein. Therefore, the

COMMITMENT SETS 5518C

2. THE INTEREST IN THE LAND COVERED BY THIS COMMITMENT IS: (Fee Simple, Leasehold, Easement, etc., - identify or describe)

Fee Simple

3. RECORD TITLE TO THE LAND ON THE EFFECTIVE DATE APPEARS TO BE VESTED IN:

Weston Apartment Homes, Inc.

4. LEGAL DESCRIPTION OF LAND:

(See Schedule "C" #9).

Field notes of a 78.432 acre tract of land situated in Hays County, Texas, consisting of 40.912 acres out of the L.W. Kingsley Survey No. 414, Abstract 280, 35.37 acres out of the T.F. Martin Survey 656, and 2.15 acres out of the J.B. Hume Survey No. 30, Abstract 614, being part of that same tract called 84.82 acres and recorded in Volume 1005, Page 675 of the Official Public Records and those three tracts called Tracts A, B, C of the Partition of the 84.82 acres and recorded in Volume 1490, Page 713 of the Official Public Records of Hays County, Texas and being more particularly described by metes and bounds as follows: Note: All iron pins set are 1/2" rebar with a yellow plastic cap stamped "Baker Survey".

Beginning at a 3/4" iron pipe found in the northwest line of U.S. Highway 290 at the southernmost southwest corner of this tract and the 84.82 acre tract and the southeast corner of a 1.72 acre tract recorded in Volume 2320, Page 105 of the Official Public Records of Hays County, Texas.

Thence N 02° 27' 14" W, 69.10 feet with a west line of this tract and the 84.82 acre tract and the east line of the 1.72 acre tract to a 1/2" iron pin found for the northeast corner of the 1.72 acre tract and an interior corner of this tract and the 84.82 acre tract.

Thence S 77° 58' 29" W, 452.41 feet with a south line of this tract and the 84.82 acre tract and the north line of the 1.72 acre tract to a 24" Live Oak Tree found in the east line of a 1.28 acre tract recorded in Volume 308, Page 196 of the Official Public Records of Hays County, Texas for the northernmost southwest corner of this tract and the 84.82 acre tract.

Thence N 26° 46' 22" W, 148.28 feet with the west line of this tract and the 84.82 acre tract and the east line of the 1.28 acre tract to a 1/2" iron pin found for an angle in this line and being the northeast corner of the 1.28 acre tract and the southeast corner of a 5.0 acre tract recorded in Volume 883, Page 483 of the Official Public Records of Hays County, Texas.

Thence, generally along a fence, with the west line of this tract and the 84.82 acre tract and the east line of the 5.0 acre tract and a 13.00 acre tract recorded in Volume 268, Page 379 of the Official Public Records of Hays County, Texas as follows:

N 02° 31' 11" W, 978.35 feet to an iron pin found at an angle.

N 02° 24' 50" W, 86.05 feet to an iron pin found at an angle.

N 02° 14' 29" W, 153.07 feet to a 60d nail found at an angle point.

N 02° 57' 25" W, 227.57 feet to a 60d nail found at an angle point.

N 01° 47' 49" E, 18.56 feet to a 60d nail found at an angle point.

N 02° 58' 34" W, 91.00 feet to a 60d nail found at an angle point.

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FEB 20 2019

Water Quality Division
Application Team

EXHIBIT

BA
A-1

COMMASSETCSET55178C

N 03° 35' 21" W. 74.70 feet to a 1/2" pipe found for an angle in this line and being the northeast corner of the 13.00 acre tract and the southernmost southeast corner of the remainder of a 480 acre tract, Mary C. Masterpolis Executor for Virginia C. Masterpolis, Assent to Devise recorded in Volume 816, Page 685 of the Official Public Records of Hays County, Texas.

Thence with the west line of this tract and the 84.82 acre tract and the east line of the remainder of the 480 acre tract as follows:

N 01° 04' 22" W. 613.37 feet to a 60d nail found at corner of fence post for an angle in this line.

N 83° 03' 31" E. 278.16 feet to a 60d nail found at a corner of fence for an angle in this line.

N 14° 58' 32" E. 405.50 feet to an angle point.

N 14° 38' 13" E. 525.00 feet to an iron pin set in the south line of the T. C. RR. Co. Survey No. 2 and a tract of land in the Public School System and the north line of the T.F. Martin Survey No. 656 for the northwest corner of this tract.

Thence N 89° 19' 54" E. 562.40 feet, across the 84.82 acre tract, with the north line of this tract and the south line of the Public School Tract and the south line of the T. C. RR. Co. Survey No. 2 and the north line of the T.F. Martin to an iron pin set in the east line of the 84.82 acre tract for the northeast corner of this tract and being the northwest corner of the remainder of a 233.81 acre tract recorded in Volume 1092, Page 654 of the Official Public Records of Hays County, Texas.

Thence S 05° 15' 36" E. 2016.75 feet with the east line of this tract and the 84.82 acre tract and the west line of the 233.81 acre tract to a 5/8" iron pin with plastic cap stamped RPLS 3984 found for the northwest corner of a 6.01 acre tract recorded in Volume 2337, Page 579 of the Official Public Records of Hays County, Texas out of the 233.81 acre tract.

Thence S 05° 15' 36" E. 904.33 feet with the east line of this tract and the 84.82 acre tract and the west line of the 6.01 acre tract to a 1/2" iron pin with plastic cap stamped "Baker Survey" set in the northwest line of U.S. Highway 290 for the southeast corner of this tract and the 84.82 acre tract and the southwest corner of the 6.01 acre tract.

Thence S 63° 05' 12" W. 837.51 feet with the northwest line of U.S. 290 and the southeast line of this tract and the 84.82 acre tract to the place of beginning and containing 78.432 acres of land according to a survey on the ground on December 3, 2004 by Baker Surveying and Engineering.

SCHEDULE B

EXCEPTIONS FROM COVERAGE

~~IN ADDITION TO THE EXCLUSIONS AND CONDITIONS AND STIPULATIONS, YOUR POLICY WILL NOT COVER LOSS, COSTS, ATTORNEYS' FEES, AND EXPENSES RESULTING FROM:~~

- ~~1. DELETED.~~
- ~~2. ANY DISCREPANCIES, CONFLICTS, OR SHORTAGES IN AREA OR BOUNDARY LINES, OR ANY ENCROACHMENTS, OR PROTRUSIONS, OR ANY OVERLAPPING OF IMPROVEMENTS.~~

BOUNDARY SURVEY
388.67 ACRES
MASTERPOLIS
HAYS COUNTY, TEXAS

EXHIBIT ABB

DESCRIPTION OF A 388.67 ACRE TRACT OF LAND OUT OF THE M. M. JUSTICE SURVEY, C. W. CROSS SURVEY, J. B. HUMB SURVEY AND BRYANT SERMONS PRE-EMPTION SURVEY, HAYS COUNTY, TEXAS SAME BEING A TRACT DESCRIBED IN VOLUME 216, PAGE 319, OF THE REAL PROPERTY RECORDS OF HAYS COUNTY, TEXAS SAID 388.67 ACRE TRACT OF LAND BEING MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

BEGINNING at a 1/4 inch iron rod set in the northerly right-of-way line of U. S. Highway 290, a variable width right-of-way for the southerly corner of a 2.51 acre tract of land in a deed to Julia C. Christy of record in Volume 274, Page 367;

THENCE, with a northerly line of the herein described tract and said U.S. Highway No. 290; North 89°22'00" West, 49.88' to a 1/4 inch iron rod found, same being a southeasterly line of Lot 7, Ladera Subdivision a subdivision of record in Book 7, Page 52 of the Hays County Official Plat Records;

THENCE, with the common line of the herein described tract and said Lot 7 of said Ladera Subdivision North 01°04'16" East, 2186.07' to a 1/4 inch iron rod set for an interior corner of the herein described tract same being a northeast corner of said Ladera Subdivision;

THENCE, with a north line of the herein described tract, same being the north line of said Ladera Subdivision; North 88°35'31" West, 854.13';

THENCE, with the west lines of the herein described tract the following 11 courses:

- 1) North 01°24'29" East, 405.56'
- 2) North 01°37'21" East, 198.22'
- 3) North 01°48'57" East, 255.17'
- 4) North 01°31'03" East, 1615.01'
- 5) North 01°29'05" East, 281.97'
- 6) North 01°23'23" East, 283.18'
- 7) North 01°15'21" East, 332.21'
- 8) North 00°16'07" East, 179.70'
- 9) North 01°57'45" East, 1289.71'
- 10) North 02°18'18" East, 804.58'
- 11) North 05°16'24" East, 414.90' to a point for the northwest corner of the herein described tract;

EXHIBIT

BB

Apr. 12. 2006 1:05PM

Southwestern Tille Co

No. 7344 P. 8/24

THENCE, with the northerly line of the herein described tract, the following 6 courses:

- 1) North 73°40'06" East, 647.87'
- 2) South 01°16'50" West, 462.92'
- 3) South 81°34'45" East, 955.34'
- 4) South 00°19'08" West, 1491.91' to an interior corner of the herein described tract;
- 5) South 89°26'55" East, 1234.60'
- 6) South 89°18'08" East, 721.78'

THENCE, with the east lines of the herein described tract, the following 6 courses:

- 1) South 00°14'51" West, 711.50'
- 2) South 01°06'15" East, 1357.04'
- 3) South 01°32'36" West, 490.66'
- 4) South 16°52'22" West, 977.69'
- 5) South 84°47'13" West, 278.01'
- 6) South 01°17'36" West, 281.21'

THENCE, with the southerly lines of the herein described tract, the following 5 courses:

- 10) North 88°53'58" West, 671.75'
- 11) North 88°53'51" West, 980.09'
- 12) South 00°39'20" West, 387.81'
- 13) North 88°40'19" West, 381.84'
- 14) South 01°05'07" West, 2185.41'

to the POINT OF BEGINNING and containing 338.67 acres of land within these metes and bounds, as shown on the attached plat and made a part of this description.

Dennis McCreach
Dennis McCreach, R.P.L.S. No. 4335



12-07-04
Date

214.42 ACRES
HAYS COUNTY, TEXAS

EXHIBIT

FN-05-3887
MARCH 31, 2005

A DESCRIPTION OF A 214.42 ACRE TRACT OF LAND WHICH COMPRISES PORTIONS OF THE FOLLOWING PATENT SURVEYS SITUATED IN HAYS COUNTY, TEXAS:

- ABNER & ALLEY SURVEY, ABSTRACT NO. 443,
- L. W. KINGSLEY SURVEY, ABSTRACT NO. 414,
- T. F. MARTIN SURVEY, AND
- LORETTA D. & LARRY K. LOWE SURVEY, ABSTRACT NO. 824;

BEING PART OF THAT CERTAIN 67.6198 ACRE TRACT CONVEYED FROM RAYMOND MOORE, ET AL TO HENRI BERNABE, ET UX BY A WARRANTY DEED WITH VENDORS LIEN RECORDED IN VOLUME 889, PAGE 185 ET SEQ. OF THE DEED RECORDS OF SAID COUNTY AND PART OF THAT CERTAIN 95.3142 ACRE TRACT ONE AND PART OF THAT CERTAIN 70.2100 ACRE TRACT TWO CONVEYED FROM THE SAID RAYMOND MOORE, ET AL TO THE SAID HENRI BERNABE, ET UX BY A WARRANTY DEED WITH VENDORS LIEN RECORDED IN VOLUME 858, PAGE 714 ET SEQ. OF THE SAID DEED RECORDS; BEING PART OF THAT CERTAIN 233.18 ACRE TRACT OF LAND CONVEYED FROM THE SAID HENRI BERNABE AND CALISTA BERNABE TO LORETTA D. LOWE AND LARRY K. LOWE BY A GENERAL WARRANTY DEED DATED JULY 27, 1994 AND RECORDED IN VOLUME 1092, PAGE 654 ET SEQ. OF THE OFFICIAL PUBLIC RECORDS OF SAID COUNTY AND BEING ALL OF THAT CERTAIN 214.42 ACRE TRACT OF LAND CONVEYED FROM THE SAID LORETTA D. LOWE AND LARRY K. LOWE TO DOUBLE L PROPERTIES, L.L.C. BY A CORRECTION WARRANTY DEED DATED FEBRUARY 4, 2004 AND RECORDED IN VOLUME 2426, PAGE 397 ET SEQ. OF THE SAID OFFICIAL PUBLIC RECORDS; SAID 214.42 ACRE TRACT BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING at a 1/4 inch iron rod found at the northwest corner of the said 70.2100 acre tract, being at the northeast corner of that certain 94.82 acre tract described in Volume 1005, Page 675 et seq. of the said Official Public Records and being on the south line of that certain 1960 acre tract described in Volume 169, Page 147 et seq. of the said Deed Records, for the northwest corner of the said 233.18 acre tract, the said 214.42 acre tract and hereof:

THENCE with the north line of the said 70.2100 acre tract and continuing with the north line of the said 67.6198 acre tract and the said 95.3142 acre tract, same being the north line of the said 233.18 acre tract and the north line hereof, the following five (5) courses:

1. N 89° 05' 43" E, a distance of 782.12 feet to a 1/4 inch iron rod found at the northeast corner of the said 70.2100 acre tract and northwest corner of the said 67.6198 acre tract,
2. N 89° 06' 42" E, a distance of 1501.18 feet to a 60d nail found at a fence post,
3. N 69° 38' 50" E, a distance of 1977.97 feet to a 60d nail found at a fence post, being on the south line of Hays County Road No. 187,
4. N 82° 08' 57" E, a distance of 235.29 feet along the south line of said Hays County Road No. 187, as fenced, to a 60d nail found at a fence post, and
5. S 60° 11' 36" E, a distance of 271.76 feet along the said south line of Hays County Road No. 187, as fenced, to a 60d nail found at a fence post at the northeast corner of the said 95.3142 acre tract, for the northeast corner of the said 233.18 acre tract, the said 214.42 acre tract and the northeast corner hereof;

THENCE with the east line of the said 95.3142 acre tract and west line of said Hays County Road No. 187, and generally along an existing fence line, the following five (5) courses:

1. S 28° 54' 51" E, a distance of 97.08 feet to a 60d nail found at a fence post,
2. S 00° 06' 19" E, a distance of 390.44 feet to a 60d nail found at a fence post,
3. S 01° 03' 38" E, a distance of 447.56 feet to a 60d nail found at a fence post,
4. S 07° 23' 23" E, a distance of 441.93 feet to a 60d nail found in a fence line, and

S 5° 01' 20' 38" E, a distance of 460.59 feet to a concrete R.O.W. monument found on the north R.O.W. (Right-of-way) line of U. S. Highway No. 290 at the southeast corner of the said 95.3142 acre tract, for the southeast corner of the said 233.18 acre tract, the southeast corner of the said 214.42 acre tract and the southeast corner hereof;

THENCE with the said north R.O.W. line of U. S. Highway No. 290 the following four (4) courses:

1. S 58° 13' 58" W, a distance of 164.83 feet to a concrete R.O.W. monument found,
2. S 72° 39' 30" W, a distance of 159.84 feet to a concrete R.O.W. monument found,
3. S 88° 48' 34" W, a distance of 200.08 feet to a concrete R.O.W. monument found, and
4. S 72° 34' 03" W, a distance of 705.04 feet to a 1/4 inch iron rod set at the southwest corner of Lot 8 in Arrowhead Ranch Subdivision, a plat of record in Book 4, Page 349 of the Plat Records of said County, being at the southerly southwest corner of the said 95.3142 acre tract, for a southwest corner of the said 233.18 acre tract and a southwest corner hereof;

214.42 ACRES: CONTINUED

FN-05-369:

THENCE with the east and north line of said Lot 2, the following two (2) courses:

1. N 16° 45' 51" W, a distance of 721.36 feet to a 1/2 inch iron rod found at the northeast corner of said Lot 8, being at a reentrant corner of the said 95.3142 acre tract, for a reentrant corner of the said 233.18 acre tract, the said 214.42 acre tract and parcel, and
2. S 72° 25' 42" W, a distance of 304.72 feet to a 1/2 inch iron rod found at the northwest corner of said Lot 8, being at the northeast corner of that certain 12.77 acre tract described in Volume 1240, Page 170 et seq. of the said Official Public Records, for a corner on a westerly line hereof;

THENCE with the north and west line of the said 12.77 acre tract, the following two (2) courses:

1. S 72° 04' 31" W, a distance of 955.61 feet to a 1/2 inch iron rod found at the northwest corner of the said 12.77 acre tract, for a reentrant corner hereof, and
2. S 18° 30' 56" E, a distance of 324.95 feet to an 8 inch diameter Cedar fence post found at the westerly southwest corner of the said 12.77 acre tract, being at the northwest corner of that certain 4.12 acre tract described in Volume 1918, Page 468 et seq. of the said Official Public Records and at a reentrant corner of the said 67.6198 acre tract, for a corner on an easterly line hereof;

THENCE with the west line of the said 4.12 acre tract, S 18° 44' 21" E, a distance of 545.05 feet to a 12 inch diameter Cedar fence post found on the said north R.O.W. line of U. S. Highway No. 290, being at the southwest corner of the said 4.12 acre tract, for a southeast corner hereof;

THENCE continuing with the said north R.O.W. line of U. S. Highway No. 290, the following three (3) courses:

1. a distance of 417.18 feet along the arc of a curve to the left having a central angle of 10° 12' 20", a radius of 2342.01 feet and a chord bearing of S 53° 26' 12" W, a distance of 416.61 feet to a concrete R.O.W. monument found,
2. S 48° 25' 46" W, a distance of 595.34 feet to a concrete R.O.W. monument found at a point of curvature, and
3. a distance of 277.86 feet along the arc of a curve to the right having a radius of 2719.12 feet and a chord bearing of S 51° 05' 41" W, a distance of 277.73 feet to a 1/2 inch iron rod found at the southeast corner of Lot 1 in the Penn Subdivision, a plat of record in Book 6, Page 209 of the said Hays County Plat Records, being at a southwest corner of the said 70.2100 acre tract, for the southerly southwest corner hereof;

THENCE with the east line of said Lot 1, N 65° 01' 50" W, a distance of 680.85 feet to a 1/2 inch iron rod found at the northeast corner thereof, being at the southeast corner of that certain 6.01 acre tract described in Document No. 9227701 of the said Official Public Records, for a southwesterly corner hereof;

THENCE with the east and north line of the said 6.01 acre tract, the following two (2) courses:

1. N 26° 55' 48" W, a distance of 350.00 feet to a 1/2 inch iron rod found at the northeast corner of the said 6.01 acre tract, for a reentrant corner hereof, and
2. S 63° 04' 53" W, a distance of 552.67 feet to a 1/2 inch iron rod found on the west line of the said 70.2100 acre tract and east line of the said 84.82 acre tract, being at the northwest corner of the said 6.01 acre tract, for the westerly southwest corner hereof;

THENCE with the said west line of the said 70.2100 acre tract, being the said east line of the 84.82 acre tract, N 04° 50' 53" W, a distance of 2558.94 feet to the POINT OF BEGINNING, containing 214.42 acres of land, more or less.

I, Dale Allen Sultemier, a Registered Professional Land Surveyor, do hereby certify that this description and accompanying plat was prepared from an on the ground survey made under my direction and supervision.

SULTEMIER SURVEYING
304 East Main
Johnson City, TX 76836
(830) 868-7300



Dale Allen Sultemier
Registered Professional Land
Surveyor
No. 4542 - State of Texas

Exhibit C
Form of Easement

STATE OF TEXAS
COUNTY OF HAYS

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§
§

KNOW ALL PEOPLE BY THESE PRESENTS:

CITY OF DRIPPING SPRINGS
SANITARY SEWER EASEMENT

THAT Paintbrush 290 GP, LLC, a Texas Limited Liability Corporation, ("Grantor") of _____ County, Texas, for and in consideration of Ten Dollars (\$10.00) and other valuable consideration paid by The City of Dripping Springs, a general law city of Hays County, Texas ("City"), the receipt of which is hereby acknowledged, does grant, bargain and convey to the City, its successors and assigns, a permanent easement for use and passage in, over, across, beneath, and along that certain parcel of land situated in Hays County, Texas, as described in the legal description attached hereto as Exhibit A and as depicted in the plat attached hereto as Exhibit B ("Easement Area"), for the purposes of installing, constructing, operating, maintaining, upgrading, repairing, and replacing underground sanitary sewer lines (which may include collection lines, force mains, and treated effluent lines) and all attendant facilities thereto as the City may from time to time deem necessary or advisable, including but not limited to incidental underground and aboveground attachments, equipment, manholes, manhole vents, lateral line connections, pipelines, junction boxes, and other appurtenant facilities ("Sanitary Sewer Easement"). It is intended by these presents to grant and convey the Sanitary Sewer Easement to the City as described above, with the usual rights of ingress and egress as the City may deem necessary in the use of such Sanitary Sewer Easement, at any time, in, over, across, upon, beneath, and along the Easement Area.

Grantor agrees that it shall not place, construct, or allow any buildings, structures, or other improvements of any kind over, under, or upon the Easement Area, other than a fence, without the City's prior written consent, which the City may grant or withhold in its sole discretion.

TO HAVE AND TO HOLD the above described Sanitary Sewer Easement, together with, all and singular, the rights and appurtenances thereto in anywise belonging unto the City, its successors and assigns, forever. And Grantor does hereby bind itself, its successors and assigns, to warrant and forever defend, all and singular, the Sanitary Sewer Easement unto the City, its successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof.

EXECUTED this the _____ day of _____, 200_____.

GRANTOR:

By: _____
Name: _____
Title: _____

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FEB 20 2019

Water Quality Division
Application Team

THE STATE OF TEXAS §
 §
COUNTY OF HAYS §

BEFORE ME, the undersigned authority, on this day personally appeared _____,
known to me, or proved to me to be, the person whose name is subscribed to the foregoing instrument,
and acknowledged to me that [he or she] executed it as _____ of
_____, a _____, for the purposes and
consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this the ____ day of _____, 200__.

Notary Public, State of Texas

My commission expires: _____.

EXHIBIT "A"

Legal Description of Easement Area

*****[page break]*****

EXHIBIT "B"

Surveyor's Drawing of Easement Area

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FEB 20 2019

Exhibit D
TPDES Permit Standards and Specifications
Water Quality Division
Application Team

The TPDES permit application shall provide for disposal via subsurface irrigation or via surface drip irrigation utilizing mulch cover, and contain proposed permit conditions that comply with all applicable TCEQ statutes that shall include Texas Administrative Code Chapters 210, 222, 305, 307, 309, 312, 317 and 319. No surface spray irrigation shall be authorized. The permitted treatment capacity (in thousand gallons per day) shall be determined by the TCEQ and approved by the City. Among other requirements, the permit application shall include the following standards and specifications:

A. Effluent Limitations, Treatment and Storage

1. Effluent limitations shall be based on a daily average of no more than 20 mg/l CBOD₅, 20 mg/l TSS, and a pH of not be less than 6.0 standard units nor greater than 9.0 standard units.
2. For subsurface drip irrigation, treated effluent shall be applied to rangeland consisting of five types of native grasses and trees. For subsurface drip dispersal system utilizing mulch cover, the effluent shall be applied to areas covered with a suitable thickness of mulch as determined by the TCEQ, and woody species of vegetation with high evapotranspiration rates for the uptake of treated effluent, such as *Juniperus ashei*, and with upslope surface drainage diverted from the application areas. The permitted application rate shall be determined by the TCEQ and approved by the City.
3. Treated effluent shall be chlorinated in a chlorine contact chamber to a residual of 1.0 mg/l with a minimum detention time of 20 minutes based on peak flow. Effluent transferred to a holding pond or tank shall be re-chlorinated as needed prior to delivery into the irrigation system. A trace chlorine residual shall be maintained in the effluent at the point of irrigation application.
4. Any earthen holding ponds shall be double-lined with a leak detection system. Above-ground tanks shall be constructed of steel and coated in accordance with American Water Works Association requirements and applicable standards. The permitted holding tank volume shall be determined by the TCEQ and approved by the City.
5. The permit application shall provide for a total average daily treatment capacity of up to 250 thousand gallons per day, in one or more phases.

B. Siting, Operation and Management

1. The siting of the treatment, storage and disposal facilities shall meet the applicable site characteristics and location requirements of the TCEQ, as set forth in 30 Tex. Admin Code part 309. In particular, the proposed site shall comply with 30 Tex.

Admin. Code § TAC Section 309.13.(a) through (d). In addition, Owners shall grant and convey in a form acceptable to the City, fee simple title to, or other property interests, as needed to comply with the requirements of 30 TAC Section 309.13(e) and any other permit requirements.

2. The permit shall provide for an operations building to protect and secure maintenance supplies and equipment; computers and other essential record-keeping items; and pumps and plant machinery.
3. The plant will be required to have an automated programmable control system to monitor flows and field dosing, to provide for automatic emergency shut down and to perform other operational and safety functions and data gathering. The control system shall include an auto-dialer to provide notification of certain WWTP and drip irrigation and system alarm conditions.

C. Sludge Use, Disposal and Transportation

1. Sludge shall be used, disposed and transported in compliance with the applicable requirements of 30 TAC Chapter 312, regarding Sludge Use, Disposal and Transportation.
2. Sludge may be disposed at a TCEQ authorized land application site, or co-disposal landfill. In addition, subject to the applicable authorizations, sludge may be hauled by a registered transporter to City of Austin Wastewater Treatment Facility, Permit No. 10543-001 to be digested, dewatered and then disposed of with the bulk of the sludge from the plant accepting the sludge.
3. Onsite sludge disposal shall not be permitted.

Exhibit E
Form of Warranty Deed

NOTICE OF CONFIDENTIALITY RIGHTS: IF YOU ARE A NATURAL PERSON, YOU MAY REMOVE OR STRIKE ANY OR ALL OF THE FOLLOWING INFORMATION FROM THIS INSTRUMENT BEFORE IT IS FILED FOR RECORD IN THE PUBLIC RECORDS: YOUR SOCIAL SECURITY NUMBER OR YOUR DRIVER'S LICENSE NUMBER.

Special Warranty Deed

Date: _____, 2007

Grantor: PAINTBRUSH 290 GP LLC, a Texas limited liability corporation

Grantor's Mailing Address:

Paintbrush 290 GP LLC
11610 FM 2244, Suite 210
Austin, Texas, 78738-5457
_____ County

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FEB 20 2019

Water Quality Division
Application Team

Grantee: CITY OF DRIPPING SPRINGS, a Texas general law municipality

Grantee's Mailing Address:

City of Dripping Springs
P.O. Box 384
Dripping Springs, TX 78620
Hays County

Consideration:

TEN AND NO/100 DOLLARS (\$10.00) and other good and valuable consideration to Grantor in hand paid by Grantee, of which the receipt and sufficiency are hereby acknowledged.

Property (including any improvements):

A _____ acre tract of land out of the _____ survey and more particularly described by metes and bounds in Exhibit "A", attached hereto and incorporated herein as if fully set forth.

Reservations from Conveyance:

None

Exceptions to Conveyance and Warranty:

Easements and rights-of-way of record; all presently recorded restrictions, reservations, covenants, conditions, oil, gas or other mineral leases, mineral severances, and other instruments, other than liens and conveyances, that affect the property; rights of adjoining owners in any walls and fences situated on a common boundary; and any encroachments or overlapping of improvements.

This conveyance is expressly made and accepted subject to the obligations of Grantor or Grantee pursuant to the terms of the Water and Wastewater Utility Agreement, City Secretary Contract No. _____, including but not limited to those terms governing the design and construction of utility infrastructure.

Notwithstanding any provisions herein to the contrary, Grantor makes this conveyance and Grantee agrees that Grantee is taking the Property "AS IS" Grantee acknowledges that there is no warranty by Grantor that the Property has a particular financial value or is fit for a particular purpose. Grantee further acknowledges and stipulates that Grantee is not relying on any representation, statement, or other assertion with respect to the Property condition but is relying on Grantee's examination of the Property. Grantee takes the Property with the express understanding and stipulation that there are no express or implied warranties, including but not limited to, any warranty of condition, title (other than the warranty of title with respect to the real property), habitability or merchantability.

Grantor, for the Consideration and subject to the Reservations from Conveyance and the Exceptions to Conveyance and Warranty, grants, sells, and conveys to Grantee the Property, together with all and singular the rights and appurtenances thereto in any way belonging, to have and to hold it to Grantee and Grantee's heirs, successors, and assigns forever. Grantor binds Grantor and Grantor's heirs and successors to warrant and forever defend all and singular the Property to Grantee and Grantee's heirs, successors, and assigns against every person whomsoever lawfully claiming or to claim the same or any part thereof when the claim is by, through, or under Grantor but not otherwise, except as to the Reservations from Conveyance and the Exceptions to Conveyance and Warranty.

When the context requires, singular nouns and pronouns include the plural.

IN WITNESS WHEREOF, this instrument is executed on this the ____ day of _____, 2007.

GRANTOR:
PAINTBRUSH 290 GP, LLC

By: _____

Name: _____
Title: _____

APPROVED AS TO FORM:

Alan J. Bojorquez, City Attorney

CITY OF DRIPPING SPRINGS, Grantee, accepts this special warranty deed and consents to its form and substance.

CITY OF DRIPPING SPINGS, TEXAS,
a Texas general law municipality

Todd Purcell, Mayor

ACKNOWLEDGMENT

STATE OF TEXAS

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COUNTY OF HAYS

This instrument was acknowledged before me on this the ____ day of _____, 2007
by _____, as _____ for Paintbrush 290GP, LLC for the
purposes and consideration recited herein.

Notary Public, State of Texas

STATE OF TEXAS

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§

COUNTY OF HAYS

This instrument was acknowledged before me on this the ____ day of _____, 2007
by Todd Purcell, as Mayor of the City of Dripping Springs for the purposes and consideration
recited herein.

Notary Public, State of Texas

PREPARED IN THE OFFICE OF:

Bovey & Bojorquez, LLP
12325 Hymeadow Drive, Suite 2-100
Austin, Texas 78750

AFTER RECORDING RETURN TO:

Exhibit F
ASSIGNMENT AND ASSUMPTION AGREEMENT

THIS ASSIGNMENT AND ASSUMPTION AGREEMENT ("Assignment") is made and entered into as of the ____ day of _____, between _____, a _____ ("Assignor"), and _____, a _____ ("Assignee") (Assignor and Assignee are hereinafter sometimes collectively referred to as the "Parties" and singularly as a "Party").

RECITALS:

A. Assignor is the owner of the rights of the Owner under that certain "Utility Agreement" (City Secretary Contract No. _____) (the "Agreement") effective as of _____, between Paintbrush 290 GP, LLC as the Owner, and the City of Dripping Springs, Texas, as the City, relating to the construction and operation of the Wastewater Infrastructure, to the extent that the Agreement covers, affects, and relates to the lands described on Exhibit A attached to and made a part hereof of this Assignment for all purposes (the "Transferred Premises").

B. Assignor desires to assign certain of its rights under the Agreement as it relates to the Transferred Premises to Assignee, and Assignee desires to acquire such rights, on and subject to the terms and conditions of this Assignment.

NOW, THEREFORE, in consideration of the premises, the mutual covenants and obligations set forth herein, and other good and valuable consideration, the receipt and legal sufficiency of which are hereby acknowledged, the Parties hereby agree and act as follows:

1. **Certain Defined Terms.** Unless indicated otherwise herein, capitalized terms in this Assignment shall have the same respective meanings as are ascribed to them in the Agreement.

2. **Assignment.** Subject to all of the terms and conditions of this Assignment, Assignor hereby assigns all [or describe specifically assigned rights if partial] of its rights under the Agreement, insofar as the Agreement covers, affects, and relates to the Transferred Premises.

3. **Assumption.** Assignee hereby assumes all obligations of Assignor and any liability that may result from acts or omissions by Assignee under the Agreement as it relates to the Transferred Premises that may arise or accrue from and after the effective date of this Assignment, and Assignor is hereby released from all such obligations and liabilities from and after the effective date of this Assignment; provided, however this Assignment does not release Assignor from any liability that resulted from an act or omission by Assignor that occurred prior to the effective date of this Assignment unless the City approves the release in writing.

4. Governing Law. THIS ASSIGNMENT MUST BE CONSTRUED AND ENFORCED IN ACCORDANCE WITH THE LAWS OF THE STATE OF TEXAS, AS THEY APPLY TO CONTRACTS PERFORMED WITHIN THE STATE OF TEXAS AND WITHOUT REGARD TO ANY CHOICE OF LAW RULES OR PRINCIPLES TO THE CONTRARY.

5. Counterpart/Facsimile Execution. This Assignment has been prepared in multiple counterparts, each of which shall constitute an original hereof, and the execution of any one of such counterparts by any signatory shall have the same force and effect and shall be binding upon such signatory to the same extent as if the same counterpart were executed by all of the signatories. Facsimile copies of signatures may be appended hereto with the same force and effect as legally delivered original signatures.

6. Notice to City. A copy of this Assignment shall be provided to the City within fifteen (15) days after execution.

7. Binding Effect. This Assignment shall be binding upon and shall inure to the benefit of Assignor and Assignees and their respective heirs, personal representatives, successors, and assigns.

EXECUTED as of the day and year first above written.

ASSIGNOR:

[_____]

By: _____

Printed Name: _____

Title: _____

ASSIGNEE:

[_____]

By: _____

Printed Name: _____

Title: _____

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FEB 20 2019

Water Quality Division
Application Team

STATE OF TEXAS

COUNTY OF _____

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§
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SWORN TO AND SUBSCRIBED before me on the _____ day of _____,
2005, by _____.

Notary Public, State of Texas

STATE OF TEXAS

COUNTY OF _____

§
§
§

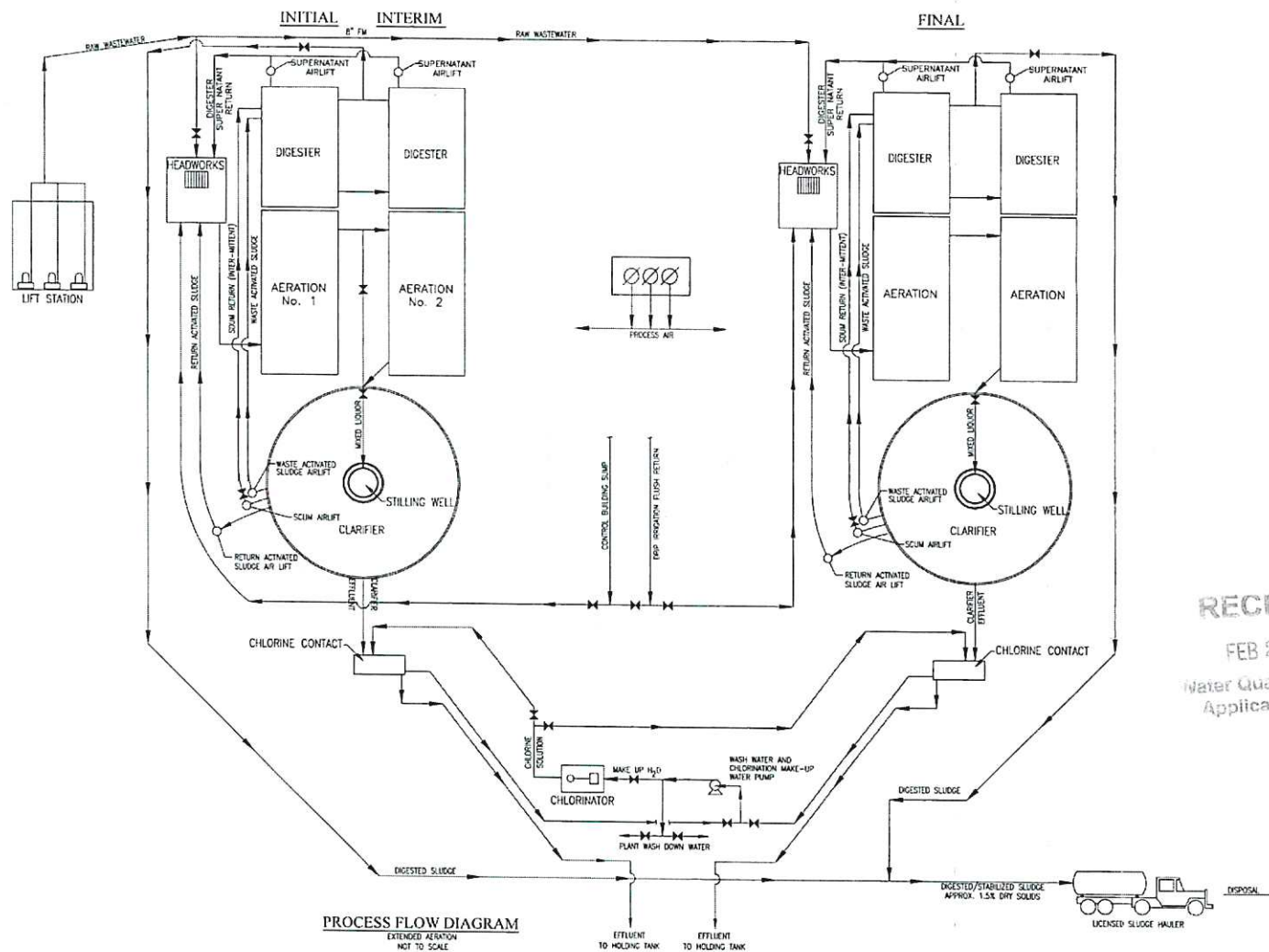
SWORN TO AND SUBSCRIBED before me on the _____ day of _____,
2005, by _____.

Notary Public, State of Texas

[Add Acknowledgments as needed]

APPENDIX E

PROCESS FLOW DIAGRAM



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FEB 20 2019
Water Quality Division
Application Team

JOB NO.: 1922-001

CMA ENGINEERING, INC.
235 LEDGE STONE DRIVE
AUSTIN, TEXAS 78737
(512) 432-1000 Fax: (512) 432-1015
Registration # F-3053

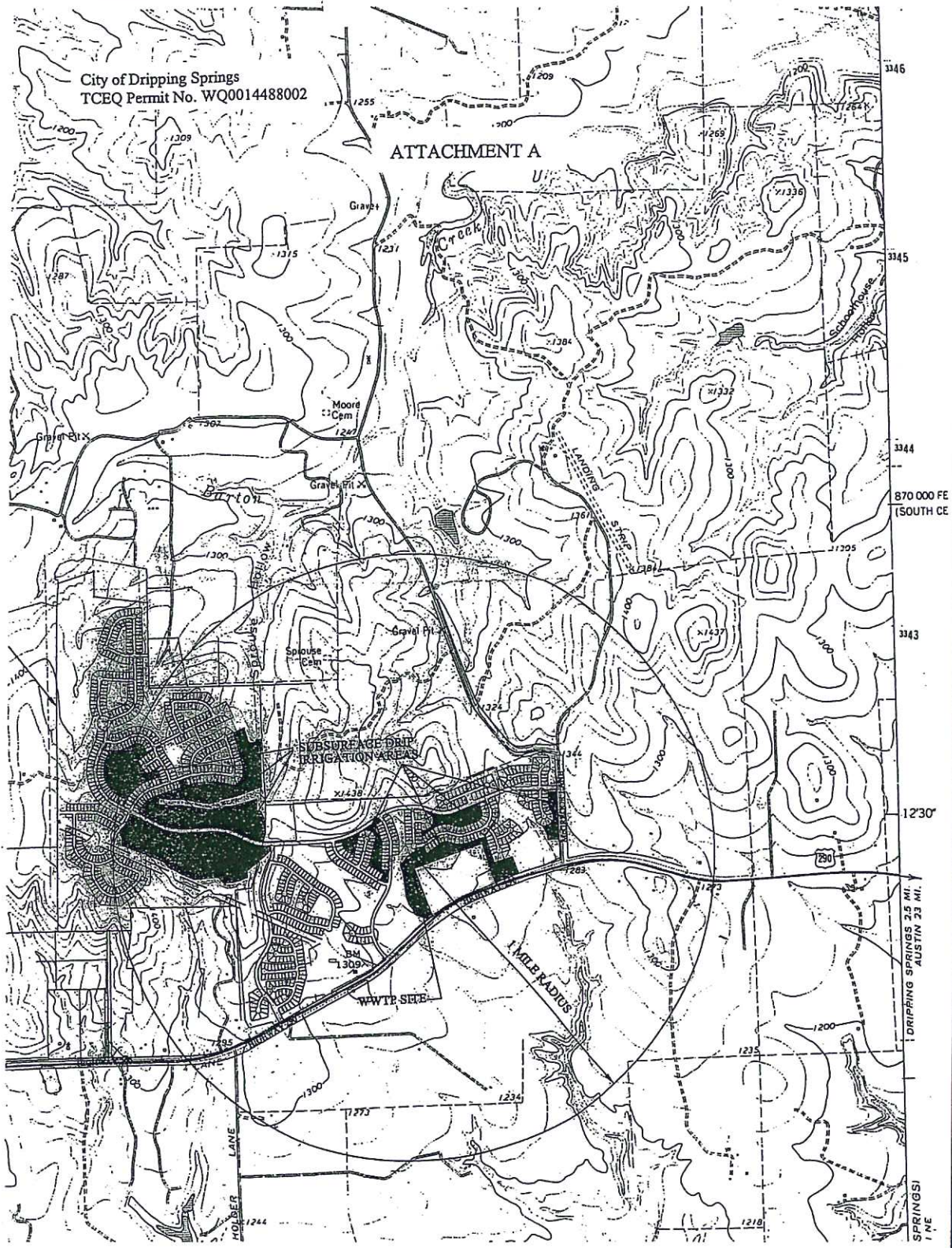
CITY OF DRIPPING SPRINGS
SCENIC GREENS WWTP
ATTACHMENT B: FLOW DIAGRAM

ATT
4

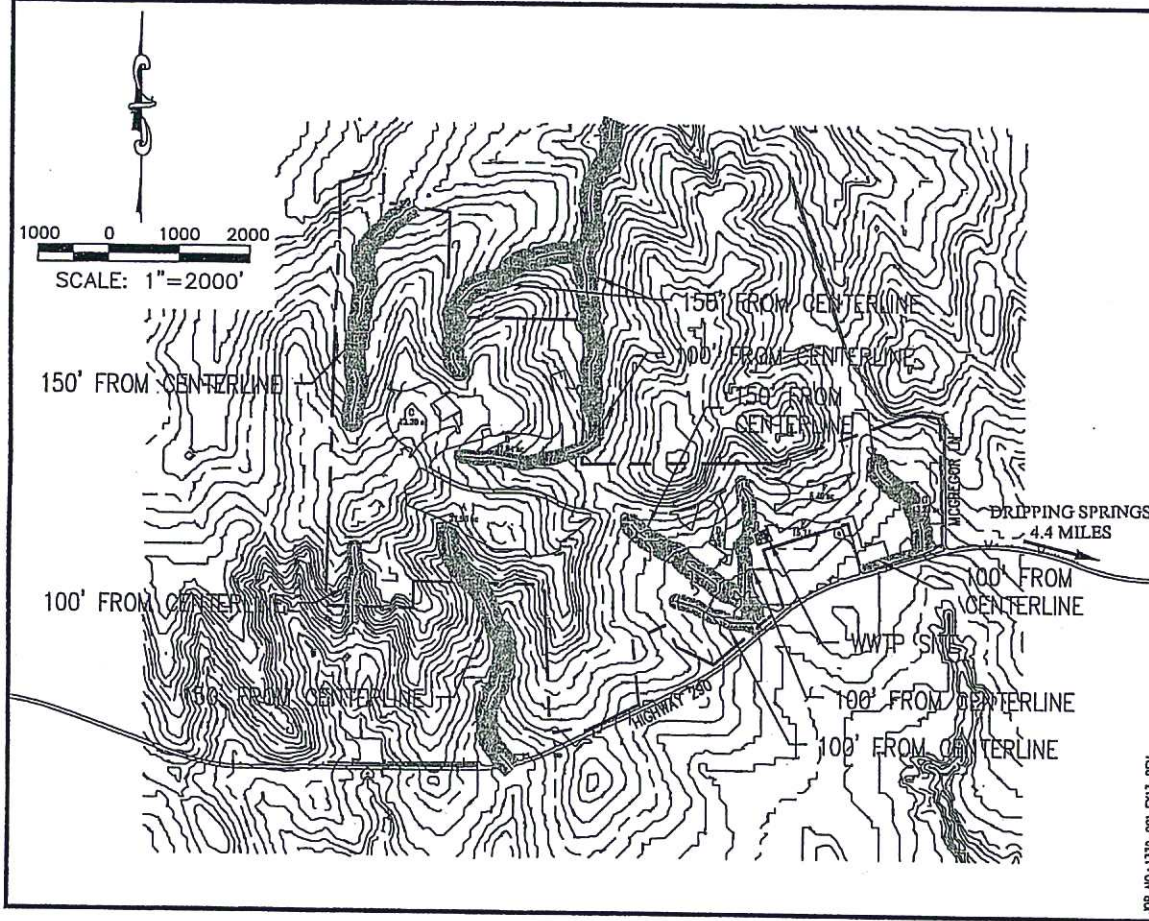
APPENDIX F
SITE DRAWING

City of Dripping Springs
TCEQ Permit No. WQ0014488002

ATTACHMENT A



City of Dripping Springs
TCEQ Permit No. WQ0014488002



JOB NO.: 1319-001 EX13-REV

CMA ENGINEERING, INC.
235 LEDGE STONE DRIVE
AUSTIN, TEXAS 78727
(512) 432-1000 Fax: (512) 432-1015
Registration # F-3053

SCENIC GREENS
BUFFER ZONE MAP
FOR SUBSURFACE DRIP IRRIGATION FIELDS

ATTACHMENT
B

APPENDIX G
ANNUAL CROPPING PLAN

CROPPING PLAN

FOR

**SCENIC GREENS WASTEWATER TREATMENT PLANT
DOMESTIC WASTEWATER PERMIT APPLICATION
FOR A
TEXAS LAND APPLICATION PERMIT**

July 2024

PREPARED BY

**LJA ENGINEERING, INC.
7500 RIALTO BLVD, BUILDING II, SUITE 100
AUSTIN, TEXAS 78735
(512) 439-4700**

CROPPING PLAN

The proposal for the wastewater application areas is to remove the smaller ashe juniper trees, import soil, construct grading, install the spray lines and overseed with Bermuda and Winter Rye Grass. The irrigation areas will be over seeded with turf grasses year-round to ensure consistent uptake of water and nutrients. The irrigation areas will be mowed regularly, and maintain a height of approximately 0-2 inches, to ensure that the grasses will be actively growing at all times. No supplemental irrigation will be needed.

There are no plans to fertilize the grasses other than germination. Fertility recommendations for the grasses to be used at this site are generally 100-150 lbs/acre of N. The grasses will be fertilized for germination and it is not anticipated to fertilize in the future.

Bermuda and Winter Rye grasses are very salt tolerant, and this site is not expected to develop any salinity problems.

Site Preparation

Preparing the site involves removing trees and debris, planning for drainage, and grading the site.

1. Remove debris. Insist that the builder not use the site as a dumping ground for paint, concrete, and other materials.
2. Remove trees and surface rocks and debris from the site.
3. Soil depth of 19 inches minimum is required. Measure soil depths and import as necessary.
4. Plan for easy maintenance and a pleasing appearance. Avoid terraces, steep grades, poorly drained areas, and heavily shaded spots. Grading shall not exceed 8% on areas to be irrigated.
5. Shape the underlying subsoil to the desired contour and redistribute topsoil uniformly above the subsoil. A percent slope minimum is needed for proper drainage away from buildings. Make certain the soil is firmed after shaping. There should be no visible footprints after walking on it.
6. Water the area to enhance settling. Fill areas that settle unevenly to avoid standing water.

Soil Preparation

Well-prepared soil with adequate nutrients for growing grass encourages the development of a healthy field.

1. Take soil samples from the irrigation areas to determine soil pH and nutrient requirements. A single soil test may be all that is necessary if there are no obvious differences in soil texture, terrain, or troubled areas of the front yard and backyard. If the soils seem different, collect soil samples to a depth of 3 to 4 inches from several (10-15) locations and mix them together to produce a composite sample.
2. Based on the soil test report recommendations of the fertilization guidelines presented below, incorporate lime and fertilizer into the top 6 to 8 inches of the soil using a disk or rototiller. Regardless of the region, a deeper root system is able to extract more moisture and nutrients from the soil, improving drought tolerance and overall health of the plant.
3. Rake or harrow the site to establish a smooth and level final grade. Soil particles should be no larger than marble size, and pea gravel size is even better. Hand raking is the best way to level the soil and work out hills and hollows. Allow time for rain or irrigation to settle the soil and roll or cultipack lightly to firm the soil before planting seed. Hand rake again to break up the crusty surface before planting.
4. Prior to irrigation, a minimum of 19 inches of soil must be present in all proposed irrigation areas.

Winter Rye and Bermuda

Winter Rye grass is mainly used as a permanent lawn grass in cooler northern climates and as winter grass for dormant Bermuda grass or to overseed Bermuda grass lawns in southern climates. It is highly resistant to foot traffic so it is popular for residential and commercial lawns and turfs.

Common Bermudagrass, which is the most coarsely textured, can be seeded. Several newer cultivars, however, can also be seeded that have a medium texture. Bermudagrass should be seeded at 1 to 2 pounds per 1,000 sq ft.

Establishing a healthy, attractive field means planting the best grass for your site at the right time and in a careful manner. Grass can be seeded or established using vegetation in the form of sprigs, plugs, or sod. The type of grass and the planting method you select will determine the best time of year to plant. Site and soil preparation, including fertilization, are especially important.

Mowing

Use a rotary (centrifugal) mower.

1. Keep the mower blades sharp and balanced. The leanest cut and best mowing are obtained when the mower blades are sharp. Dull mower blades reduce field quality by tearing instead of cleanly cutting the grass. Tearing creates many ragged leaf ends that quickly wither and bleach and are easy ports of entry for disease. Using a sharp mower is especially important for difficult-to-mow grasses, such as Bermudagrass. A properly sharpened and balanced mower blade will also reduce mower vibration, lengthen mower life, and reduce fuel consumption by as much as 22 percent.
2. Mow at the proper height. The frequency of mowing is governed by the desired grass height and by the amount of growth, which depends on temperature, fertility, moisture conditions, season, and the natural growth rate of the grass. In most instances, this may amount to biweekly and weekly mowing. To maintain a high-quality field, turfgrass should be cut often enough that less than 50 percent of the leaf surface is removed with each mowing. If the field gets too high during wet seasons, rise the mower and cut off a fourth to a half of the present growth. Then lower the mower to its proper height and mow again in a day or two.
3. Rake, bag, and remove the clippings when harvesting is required. If prolonged periods of rainfall prevent mowing, clippings may be long enough to shade or smother the grass. In this case, rake, bag, and remove clippings. Collected clippings can be used as mulch around trees and shrubs or added to compost.

Fertilization

As recommended above, it's best to submit a soil sample for testing when establishing a new field to determine how much lime fertilizer should be added to your soil. Fertilize before planting. Apply fertilizer and lime when soil is prepared based on these guidelines:

If you obtained a soil test: Apply the amount of lime and fertilizer recommended for your soil by the soil testing laboratory.

1. Apply 75 pounds of ground limestone per 1,000 sq ft.
2. Apply a starter type fertilizer (one that is high in phosphorous based on the type of grass and the planting method. Fertilizer bags have a three-number system indicating the primary nutrients, such as 8-8-8 or 5-10-10. These numbers denote the N-P0K ratio – the percentage of each nutrient in a fertilizer. The percentages are always noted in the following order:
 - a. N Nitrogen for green color and growth
 - b. P2O5 Phosphorous for good establishment and rooting
 - c. K2O Potassium to enhance past and environmental stress tolerance.

Some common examples of starter type fertilizers required for a 1,000 sq ft area include 40 pounds of 5-10-10, 20 pounds of 10-20-20, or 16 pounds of 18-24-6. For sandy soils, fertilizer rates should be increased by 20 percent.

APPENDIX H
DESIGN CALCULATIONS

Scenic Greens - WWTP FLOW PHASES

Phase 1		Phase 2		Phase 3	
<u>Assumptions</u>		<u>Assumptions</u>		<u>Assumptions</u>	
Average Flow per LUE =	245 gpd	Average Flow per LUE =	245 gpd	Average Flow per LUE =	245 gpd
Average Density	3 LUEs/Ac	Average Density	3 LUEs/Ac	Average Density	3 LUEs/Ac
I/I for Wet Peak	750 gpd/Ac	I/I for Wet Peak	750 gpd/Ac	I/I for Wet Peak	750 gpd/Ac
LUEs	255	LUEs	510	LUEs	1,020
Average Daily Flow	62,475 gpd	Average Daily Flow	124,950 gpd	Average Daily Flow	249,900 gpd
	43 gpm	Average Daily Flow	87 gpm	Average Daily Flow	174 gpm
Dry Peaking Factor	3.83	Dry Peaking Factor	3.62	Dry Peaking Factor	3.38
Peak Dry Flow	166 gpm	Peak Dry Flow	314 gpm	Peak Dry Flow	586 gpm
Service Area	676 acres	Service Area	676 acres	Service Area	676 acres
I/I for Peak Wet	507,000 gpd	I/I for Peak Wet	507,000 gpd	I/I for Peak Wet	507,000 gpd
	352 gpm		352 gpm		352 gpm
Total Peak Wet Flow	518 gpm	Total Peak Wet Flow	666 gpm	Total Peak Wet Flow	938 gpm
Minimum Flow Factor	0.18	Minimum Flow Factor	0.21	Minimum Flow Factor	0.24
Minimum Flow	8 gpm	Minimum Flow	18 gpm	Minimum Flow	42 gpm

Scenic Greens WWTP Extended Air Process Design (TCEQ Checklist)

Phase 1	
Design Flow (from Summary Sheet)	0.063 mgd
Peak Flow (from Summary Sheet)	0.250 mgd
Design Organic Load	400 lb BOD / day

Clarifier Design
(Criteria)

Maximum Surface Loading @ Peak Flow	900 gpd/ft ²
Minimum Detention Time @ Peak Flow	2 hrs
Maximum Surface Loading @ Design Flow	450 gpd/ft ²
Minimum Detention Time @ Design Flow	4 hrs
Surface Area Required (Peak Flow)	277.8 ft ²
Surface Area Required (Design Flow)	138.9 ft ²
Volume Required (Peak Flow)	2,785 ft ³
Volume Required (Design Flow)	1,393 ft ³
Depth Required (Peak Flow)	10.0 ft
Depth Required (Design Flow)	10.0 ft
Maximum Return Sludge Underflow Rate	400.0 gpd/ft ²
Minimum Return Sludge Underflow Rate	200.0 gpd/ft ²

(Calculations)

Proposed Sidewater Depth	10 ft
Proposed Clarifier Diameter	30 ft
Clarifier Surface Area	707 ft ²
Clarifier Volume	7,069 ft ³
Maximum Return Sludge Underflow Rate	196 gpm
Minimum Return Sludge Underflow Rate	98 gpm
RAS Line Size (min 3 ft/sec velocity)	4 inches

Note - Min SWD is
8 ft, 10 ft if area >
1250 ft²

Aeration System Design
(Criteria)

Organic Loading	15 lb BOD/day/1000 ft ³	
Actual Design Load	400	
Required Volume	<input type="text" value="26667"/>	ft ³
Required Air Flow	3200 scf / lb BOD	(assumes 4.0% transfer efficiency)

(Calculations)

Proposed Sidewater Depth	<input type="text" value="12"/>	ft	Note - Min SWD is 8 ft
Surface Area	<input type="text" value="2,222"/>	ft ²	
Air Flow	<input type="text" value="889"/>	scfm	

Aerobic Digester Design
(Criteria)

Volume Required	20 ft ³ / lb BOD
or	15 days SRT
Air Required	30 scfm/ 1000 ft ³ volume

(Calculations)

Proposed Volume	<input type="text" value="8,000"/>	ft ³
Proposed Sidewater Depth	<input type="text" value="12"/>	ft
Surface Area	<input type="text" value="667"/>	ft ²
Required Air Flow	<input type="text" value="240"/>	scfm

Chlorine Contact Design
(Criteria)

Minimum Contact Time	20 minutes @ Peak Flow
----------------------	------------------------

(Calculations)

Proposed Volume	<input type="text" value="464"/>	ft ³
Proposed Sidewater Depth	<input type="text" value="12"/>	ft
Surface Area	<input type="text" value="39"/>	ft ²

Scenic Greens WWTP Extended Air Process Design (TCEQ Checklist)

Phase 2

Design Flow (from Summary Sheet)	0.125 mgd
Peak Flow (from Summary Sheet)	0.500 mgd
Design Organic Load	400 lb BOD / day

Clarifier Design

(Criteria)

Maximum Surface Loading @ Peak Flow	900 gpd/ft ²
Minimum Detention Time @ Peak Flow	2 hrs
Maximum Surface Loading @ Design Flow	450 gpd/ft ²
Minimum Detention Time @ Design Flow	4 hrs
Surface Area Required (Peak Flow)	555.6 ft ²
Surface Area Required (Design Flow)	277.8 ft ²
Volume Required (Peak Flow)	5,570 ft ³
Volume Required (Design Flow)	2,785 ft ³
Depth Required (Peak Flow)	10.0 ft
Depth Required (Design Flow)	10.0 ft
Maximum Return Sludge Underflow Rate	400.0 gpd/ft ²
Minimum Return Sludge Underflow Rate	200.0 gpd/ft ²

(Calculations)

Proposed Sidewater Depth	<input type="text" value="10"/> ft
Proposed Clarifier Diameter	<input type="text" value="30"/> ft
Clarifier Surface Area	<input type="text" value="707"/> ft ²
Clarifier Volume	<input type="text" value="7,069"/> ft ³
Maximum Return Sludge Underflow Rate	196 gpm
Minimum Return Sludge Underflow Rate	98 gpm
RAS Line Size (min 3 ft/sec velocity)	4 inches

Note - Min SWD is
8 ft, 10 ft if area >
1250 ft²

Aeration System Design
(Criteria)

Organic Loading	15 lb BOD/day/1000 ft ³
Actual Design Load	400 lb BOD/day
Required Volume	<input type="text" value="26667"/> ft ³
	scf / lb BOD (assumes 4.0% transfer efficiency)
Required Air Flow	3200

(Calculations)

Proposed Sidewater Depth	<input type="text" value="12"/> ft	Note - Min SWD is 8 ft
Surface Area	<input type="text" value="2,222"/> ft ²	
Air Flow	<input type="text" value="889"/> scfm	

Aerobic Digester Design
(Criteria)

Volume Required or	20 ft ³ / lb BOD 15 days SRT
Air Required	30 scfm/ 1000 ft ³ volume

(Calculations)

Proposed Volume	<input type="text" value="8,000"/> ft ³
Proposed Sidewater Depth	<input type="text" value="12"/> ft
Surface Area	<input type="text" value="667"/> ft ²
Required Air Flow	<input type="text" value="240"/> scfm

Chlorine Contact Design
(Criteria)

Minimum Contact Time	20 minutes @ Peak Flow
----------------------	------------------------

(Calculations)

Proposed Volume	<input type="text" value="928"/> ft ³
Proposed Sidewater Depth	<input type="text" value="12"/> ft
Surface Area	<input type="text" value="77"/> ft ²

Scenic Greens WWTP Extended Air Process Design (TCEQ Checklist)

Phase 3

Design Flow (from Summary Sheet)	0.250 mgd
Peak Flow (from Summary Sheet)	1.000 mgd
Design Organic Load	400 lb BOD / day

Clarifier Design

(Criteria)

Maximum Surface Loading @ Peak Flow	900 gpd/ft ²
Minimum Detention Time @ Peak Flow	2 hrs
Maximum Surface Loading @ Design Flow	450 gpd/ft ²
Minimum Detention Time @ Design Flow	4 hrs
Surface Area Required (Peak Flow)	1111.1 ft ²
Surface Area Required (Design Flow)	555.56 ft ²
Volume Required (Peak Flow)	11,141 ft ³
Volume Required (Design Flow)	5,570 ft ³
Depth Required (Peak Flow)	10.0 ft
Depth Required (Design Flow)	10.0 ft
Maximum Return Sludge Underflow Rate	400.0 gpd/ft ²
Minimum Return Sludge Underflow Rate	200.0 gpd/ft ²

(Calculations)

Proposed Sidewater Depth	<input type="text" value="10"/> ft
Proposed Clarifier Diameter	<input type="text" value="30"/> ft
Clarifier Surface Area	<input type="text" value="707"/> ft ²
Clarifier Volume	<input type="text" value="7,069"/> ft ³
Maximum Return Sludge Underflow Rate	196 gpm
Minimum Return Sludge Underflow Rate	98 gpm
RAS Line Size (min 3 ft/sec velocity)	4 inches

Note - Min SWD is
8 ft, 10 ft if area >
1250 ft²

Aeration System Design

(Criteria)

Organic Loading	15 lb BOD/day/1000 ft ³
Actual Design Load	400 lb BOD/day
Required Volume	<input type="text" value="26667"/> ft ³
	scf / lb BOD (assumes 4.0% transfer efficiency)
Required Air Flow	3200

(Calculations)

Proposed Sidewater Depth	<input type="text" value="12"/> ft
Surface Area	<input type="text" value="2,222"/> ft ²
Air Flow	<input type="text" value="889"/> scfm

Note - Min SWD is
8 ft

Aerobic Digester Design

(Criteria)

Volume Required	20 ft ³ / lb BOD
or	15 days SRT
Air Required	30 scfm/ 1000 ft ³ volume

(Calculations)

Proposed Volume	8,000	ft ³
Proposed Sidewater Depth	12	ft
Surface Area	667	ft ²
Required Air Flow	240	scfm

Chlorine Contact Design

(Criteria)

Minimum Contact Time	20 minutes @ Peak Flow
----------------------	------------------------

(Calculations)

Proposed Volume	1,857	ft ³
Proposed Sidewater Depth	12	ft
Surface Area	155	ft ²

APPENDIX I

FEMA MAPS AND WIND ROSE

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations (BFEs)** and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures in this jurisdiction.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) zone 14. The **horizontal datum** was NAD 83, GRS80 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

Spatial Reference System Division
National Geodetic Survey, NOAA
Silver Spring Metro Center
1315 East-West Highway
Silver Spring, Maryland 20910
(301) 713-3191

To obtain current elevation, description, and/or location information about the **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit their website at www.ngs.noaa.gov.

Base map information shown on this FIRM was derived from Texas Natural Resources Information System Digital Orthophoto Quadrangles (DOQs) produced at a scale of 1:12,000 from photography dated 1995.

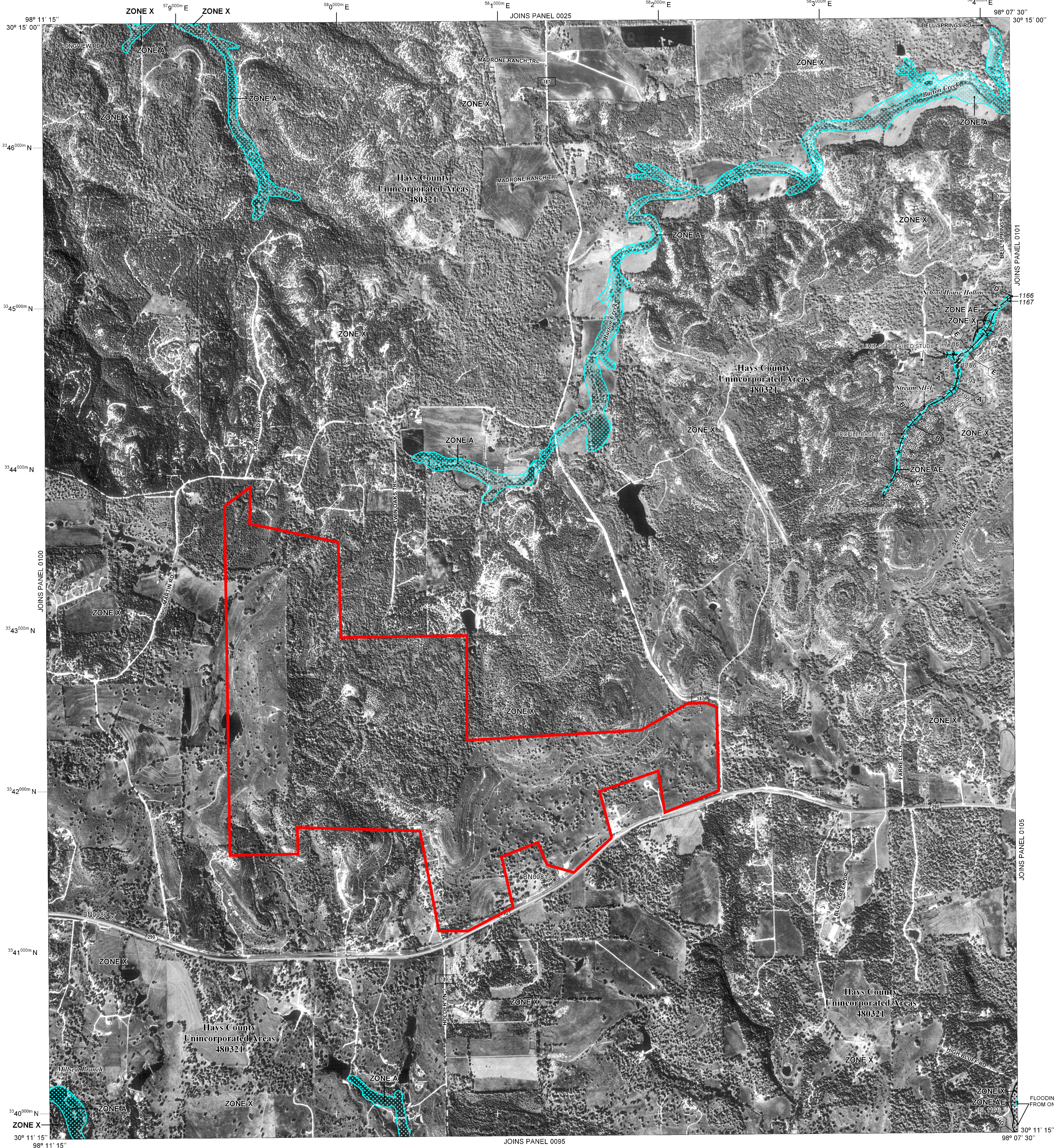
This map reflects more detailed up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FEMA Map Service Center** at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-6620 and their website at www.fema.gov/mssc.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1-877-FEMA MAP** (1-877-336-2627) or visit the FEMA website at www.fema.gov.



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD
The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equalled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A No Base Flood Elevations determined.
ZONE AE Base Flood Elevations determined.
ZONE AH Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR Special Flood Hazard Areas formerly protected from the 1% annual chance flood by a flood control system that was subsequently identified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99 Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE
The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS
ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile, and areas protected by levees from 1% annual chance flood.

OTHER AREAS
ZONE X Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS
OTHERWISE PROTECTED AREAS (OPAs)
CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

1% annual chance floodplain boundary
0.2% annual chance floodplain boundary
Floodway boundary
Zone D boundary
CBRS and OPA boundary
Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
Base Flood Elevation line and value; elevation in feet*
(EL 987)
Base Flood Elevation value where uniform within zone; elevation in feet*

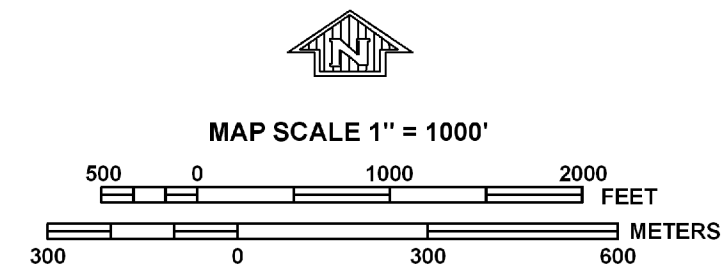
*Referenced to the North American Vertical Datum 1988
Cross section line
Transect line
Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
1000-meter Universal Transverse Mercator grid values, zone 14
Bench mark (see explanation in Notes to Users section of this FIRM panel)
M1.5
River Mile

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index.
EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
FEBRUARY 18, 1998

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL
September 2, 2005 - to update corporate limits and map format; to add roads and road names; and to incorporate previously issued Letters of Map Revision.

For Community map revision history prior to countywide mapping, refer to the community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.



NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0085F

FIRM
FLOOD INSURANCE RATE MAP
HAYS COUNTY,
TEXAS
AND INCORPORATED AREAS

PANEL 85 OF 495
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:
COMMUNITY HAYS COUNTY
NUMBER 480321
PANEL 0085
SUFFIX F

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

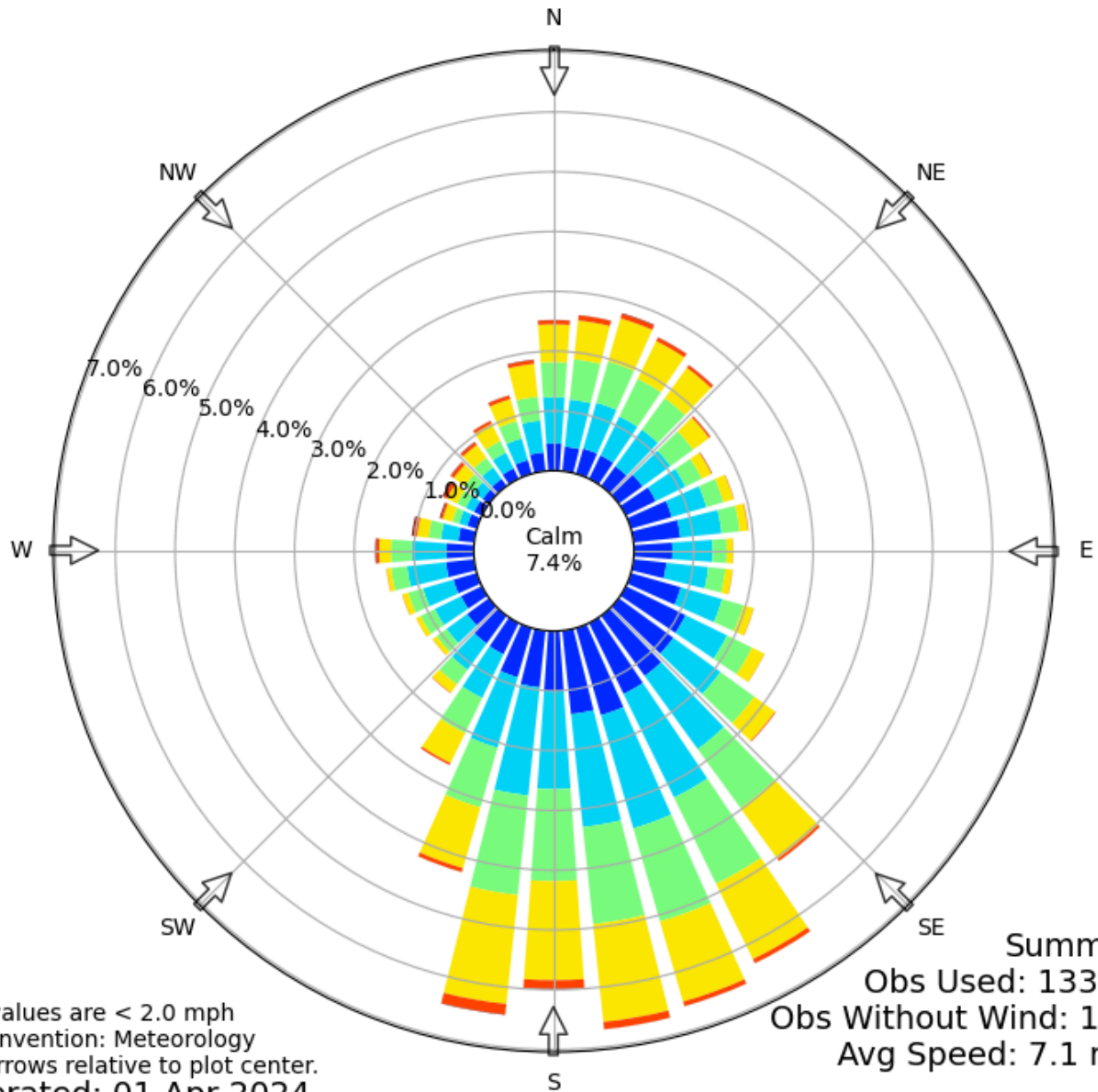
MAP NUMBER
48209C0085F
MAP REVISED
SEPTEMBER 2, 2005

Federal Emergency Management Agency

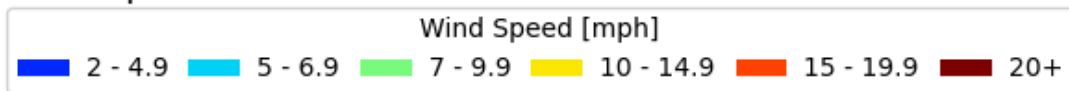


Windrose Plot for [RYW] Lago Vista

Obs Between: 13 Apr 2008 03:25 AM - 01 Apr 2024 03:55 AM America/Chicago



Calm values are < 2.0 mph
Bar Convention: Meteorology
Flow arrows relative to plot center.
Generated: 01 Apr 2024



APPENDIX J

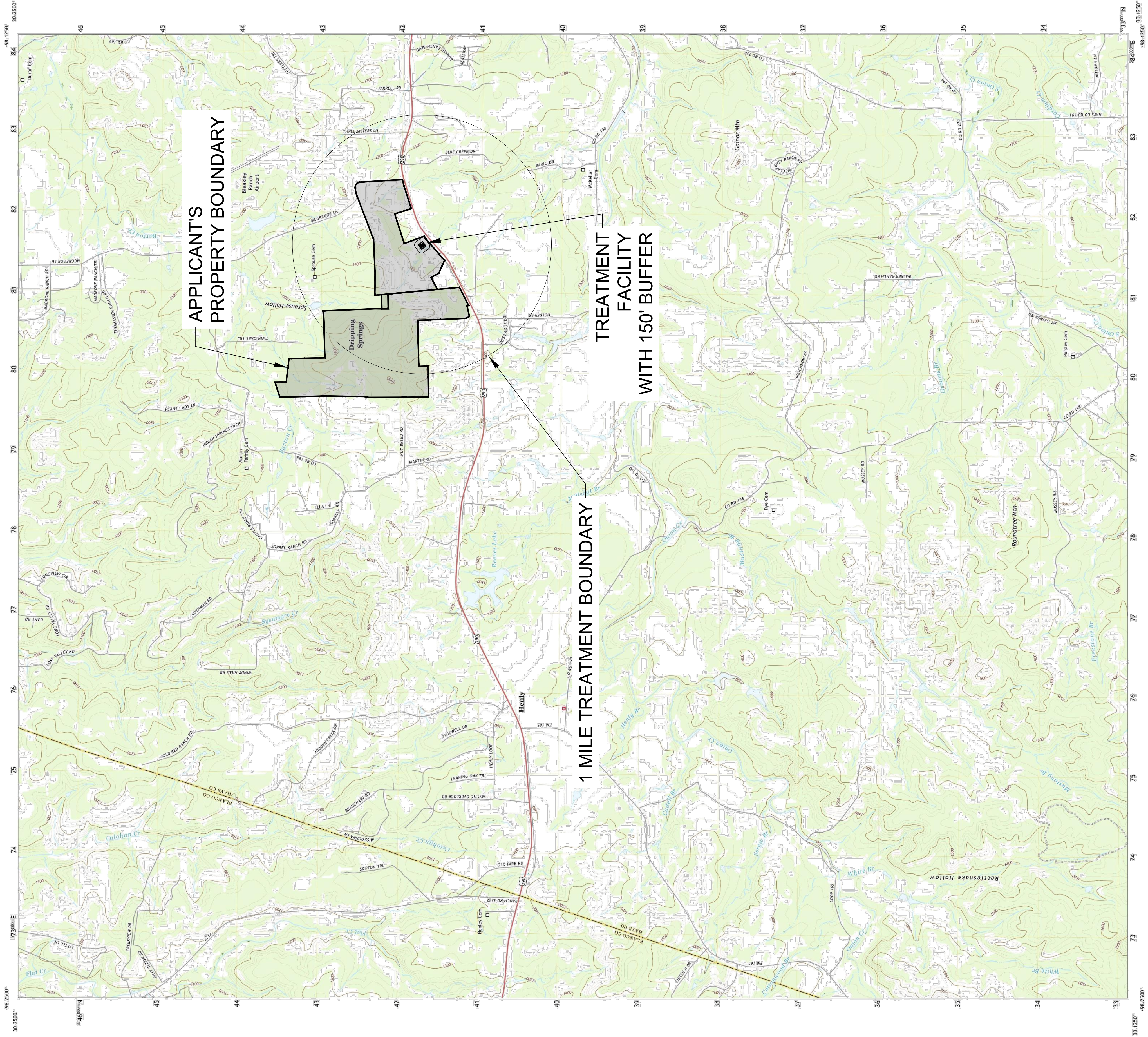
USGS WELL MAP AND SOIL ANALYSES



U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY



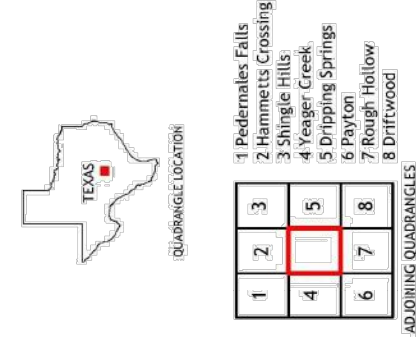
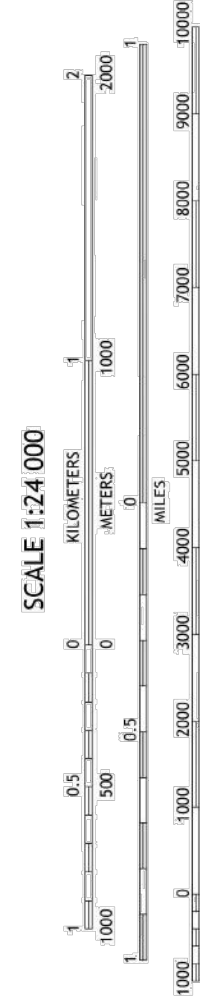
HENLY QUADRANGLE
TEXAS
7.5-MINUTE SERIES



Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
1:000-meter grid Universal Transverse Mercator, Zone 14R
Generalized for this map scale. Printed lands with government
surveying private lands.

Image: U.S. Map, September 2016, November 2016
Data: U.S. Census Bureau, 2010 Census
Names: U.S. Census Bureau, 2010 Census
Boundaries: U.S. Census Bureau, 2010 Census
Contours: U.S. Census Bureau, 2010 Census
Wetlands: U.S. Census Bureau, 2010 Census

U.S. National Data
1:000-meter grid
UTM Zone 14R
NAD83



HENLY, TX
2022

LJA Engineering, Inc.
7500 Rialto Boulevard
Building II, Suite 100
Austin, Texas 78735
Phone 512.439.4700
Fax 512.439.4716
FRN - F-1386

SCENIC GREENS WWTP

HAYS COUNTY, TX

USGS MAP
HENLY, TX

Well Number	Well ID	Well use	Producing (Y/N)	Open, Cased, Capped, or Plugged?	Proposed Best Management Practice
1	5755603	Domestic	Y	Open	500' Buffer Zone
2	5755609	Unused	N	Open	150' Buffer Zone
3	5755301	Domestic	Y	Open	150' Buffer Zone
4	5755605	Domestic	Y	open	150' Buffer Zone
5	5755602	Public Supply	Y	Open	500' Buffer Zone
6	5755608	Unknown	N	Open	150' Buffer Zone
7	5755604	Domestic	Y	Open	150' Buffer Zone
8	5755504	Domestic	Y	Unknown	150' Buffer Zone

[GWDB Reports and Downloads](#)
[Well Basic Details](#)
[Scanned Documents](#)

State Well Number	5755602
County	Hays
River Basin	Colorado
Groundwater Management Area	9
Regional Water Planning Area	K - Lower Colorado
Groundwater Conservation District	Hays Trinity GCD
Latitude (decimal degrees)	30.206945
Latitude (degrees minutes seconds)	30° 12' 25" N
Longitude (decimal degrees)	-98.129167
Longitude (degrees minutes seconds)	098° 07' 45" W
Coordinate Source	+/- 5 Seconds
Aquifer Code	218GLRS - Glen Rose Limestone
Aquifer	Trinity
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	1260
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	470
Well Depth Source	Driller's Log
Drilling Start Date	
Drilling End Date	5/9/1972
Drilling Method	Mud (Hydraulic) Rotary
Borehole Completion	Open Hole

Well Type	Withdrawal of Water
Well Use	Public Supply
Water Level Observation	Miscellaneous Measurements
Water Quality Available	No
Pump	Submersible
Pump Depth (feet below land surface)	
Power Type	Electric Motor
Annular Seal Method	
Surface Completion	
Owner	John R. Martindale, Estate
Driller	Glass and Tucker, Inc
Other Data Available	
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	Texas Water Development Board
Created Date	8/2/1990
Last Update Date	4/19/1994

Remarks Estimated yield 60-70 GPM in 1972. Cemented from 0 to 22 feet.

Casing

Diameter (in.)	Casing Type	Casing Material	Schedule	Gauge	Top Depth (ft.)	Bottom Depth (ft.)
7	Blank	Steel			0	22
6	Open Hole				22	470

Well Tests - No Data

Lithology - No Data

Annular Seal Range - No Data

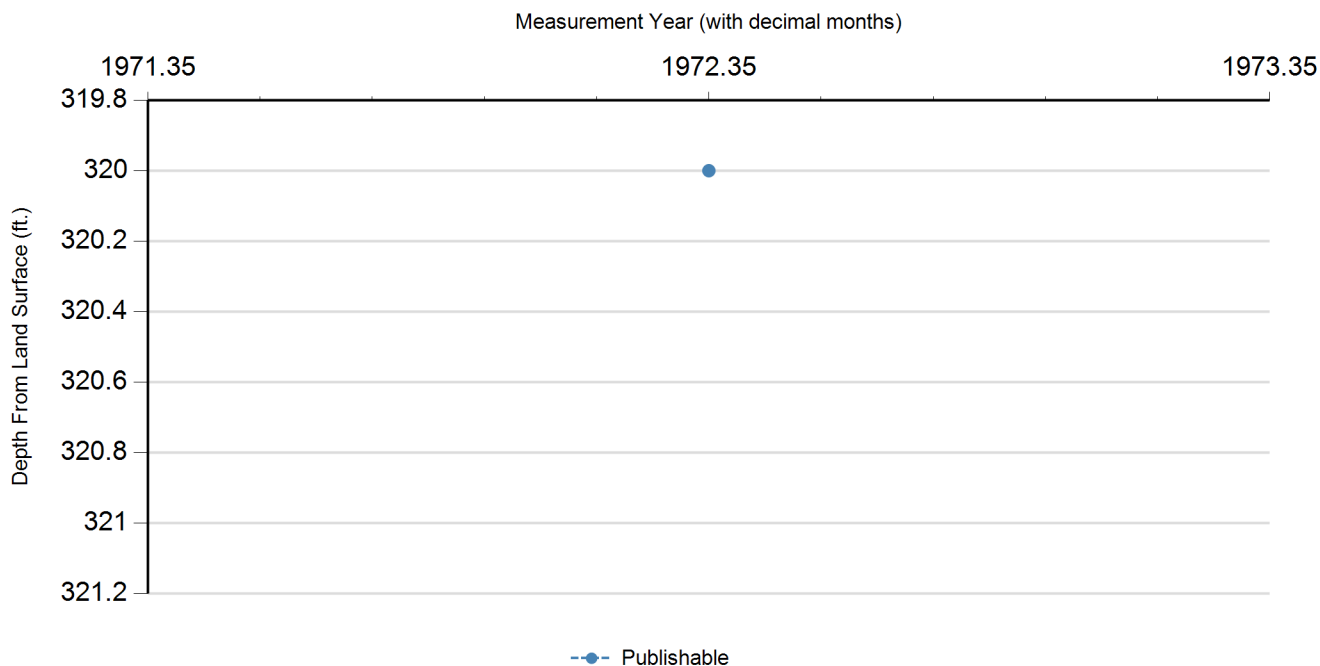
Borehole - No Data

Plugged Back - No Data

Filter Pack - No Data

Packers - No Data

Water Level Measurements



Status Code	Date	Time	Water Level (ft. below land surface)	Change value in () indicates rise in level	Water Elevation (ft. above sea level)	Meas #	Measuring Agency	Method	Remark ID	Comments
P	5/9/1972		320		940	1	Texas Water Development Board	Steel Tape		

Code Descriptions

Status Code	Status Description
P	Publishable

Water Quality Analysis - No Data Available

GWDB DISCLAIMER: Except where noted, all of the information provided in the Texas Water Development Board (TWDB) Groundwater Database (<https://www.twdb.texas.gov/groundwater/data/gwdb rpt.asp>) is believed to be accurate and reliable; however, the TWDB assumes no responsibility for any errors appearing in rules or otherwise. Further, TWDB assumes no responsibility for the use of the information provided. PLEASE NOTE that users of these data are responsible for checking the accuracy, completeness, currency and/or suitability of all information themselves. TWDB makes no guarantees or warranties as to the accuracy, completeness, currency, or suitability of the information provided via the Groundwater Database (GWDB). TWDB specifically disclaims any and all liability for any claims or damages that may result from providing GWDB data or the information it contains. For additional information or answers to questions concerning the TWDB GWDB, contact the Groundwater Data Team at GroundwaterData@twdb.texas.gov.

TEXAS WATER DEVELOPMENT BOARD

WELL SCHEDULE

Aquifer Lower Glen Rose
Cow Creek ?

Field No. _____

State Well No. 52-55-602

Owner's Well No. _____

County Hayes1. Location: 1/4, 1/4 Sec. _____, Block _____, Survey _____2. Owner: John R. Martindale (deceased) Address: Dripping Springs

Tenant: _____ Address: _____

Driller: Glass and Tucker Inc. Address: Dripping Springs3. Elevation of LSD is 1260 ft. above sea level, determined by _____4. Drilled: 5-9 19 72; Dug, Cable Tool, Rotary5. Depth: Rept. 470 ft. Meas. _____ ft.6. Completion: Open Hole, Straight Wall, Underreamed, Gravel Packed7. Pump: Mfg. _____ Type Submersible

No. Stages _____, Borehole Diam. _____ in., Setting _____ ft.

Column Diam. _____ in., Length Tailpipe _____ ft.

8. Motor: Fuel _____ Make & Model _____ HP. 1

9. Yield: Flow _____ gpm, Pump _____ gpm, Meas., Rept., Est. _____

10. Performance Test: Date 5-9-72 Length of Test _____ Made by _____Static Level 320 ft. Pumping Level _____ ft. Drawdown _____ ft.Production 60 gpm Specific Capacity _____ gpm/ft.

Water Level		19		which is		ft. above surface.	
ft. rept.	meas.	ft. rept.	meas.	ft. rept.	meas.	ft. rept.	meas.
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

12. Use: Dom., Stock, Public Supply, Ind., Irr., Waterflooding, Observation, Not Used, _____

13. Quality: (Remarks on taste, odor, color, etc.) _____

Temp. _____ °F, Date sampled for analysis _____ Laboratory _____

Temp. _____ °F, Date sampled for analysis _____ Laboratory _____

Temp. _____ °F, Date sampled for analysis _____ Laboratory _____

14. Other data available as circled: Driller's Log, Radioactivity Log, Electric Log, _____

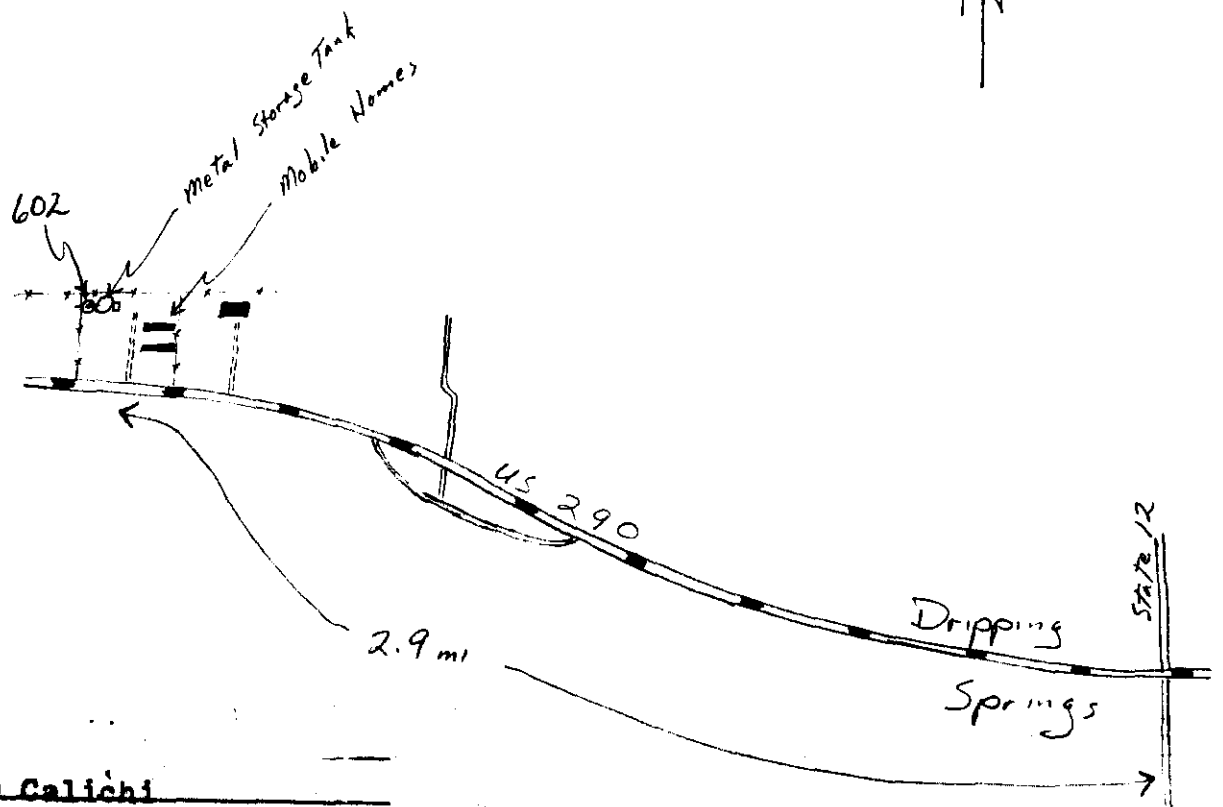
Formation Samples, Pumping Test, _____

15. Record by: John Ashworth Date 11-30 1976Source of Data DL, Field Visit

16. Remarks: _____

CASING & BLANK PIPE			
Cemented From _____ ft. to _____ ft.		Setting, ft.	
Diam. (in.)	Type	from	to
7	Steel	+1	22

WELL SCREEN			
Screen Openings		Setting, ft.	
Diam. (in.)	Type	from	to
open hole		22	470



0-10	Caliche
10-15	Blue clay
15-35	Grey
35-60	Brown
60-70	grey
70-100	brown
100-115	Grey
115-220	Shale
220-225	Grey
225-255	Shale
255-265	Brown
265-270	Water
270-360	Lt. Brown
360-370	Broken Formation
370-415	Gave
415-470	Broken Formation if necessary

original copy by
ified mail to the
as Water Development Board
Box 12386
in, Texas 78711

State of Texas

WATER WELL REPORT

For TWDB use only
Well No. 55-55-602
Located on map 12-12-9
Received: 5-9-72

OWNER: Person having well drilled MR. JOHN R. MARTINDALE Address DRIPPING SPRINGS, TEXAS
(Name) (Street or RFD) (City) (State)

Landowner Address
(Name) (Street or RFD) (City) (State)

LOCATION OF WELL: County HAYS miles in WEST direction from DRIPPING SPRINGS, TX
(N.E., S.W., etc.) (Town)

Locate by sketch map showing landmarks, roads, creeks,
highway number, etc.*

North
↑

(Use reverse side if necessary)

or Give legal location with distances and directions from
adjacent sections or survey lines.

Labor _____ League _____

Block _____ Survey _____

Abstract No. _____

(NW¼ NE¼ SW¼ SE¼) of Section _____

TYPE OF WORK (Check): New Well _____ Deepening _____ Reconditioning _____ Plugging _____	4) PROPOSED USE (Check): Domestic _____ Industrial _____ X Municipal _____ Irrigation _____ Test Well _____ Other _____	5) TYPE OF WELL (Check): Rotary X Driven _____ Dug _____ Cable _____ Jetted _____ Bored _____
--	---	---

WELL LOG: Diameter of hole 6 1/4 in. Depth drilled 470 ft. Depth of completed well 470 ft. Date drilled 5-9-72

All measurements made from 0 ft. above ground level.

From (ft.)	To (ft.)	Description and color of formation material
0-10		Caliche
10-15		Blue clay
15-35		Grey
35-60		Brown
60-70		grey
70-100		brown
10-115		Grey
15-220		Shale
20-225		Grey
25-255		Shale
25-265		Brown
25-270		Water
70-360		Lt. Brown
30-370		Broken Formation
40-415		Cave
15-470		Broken Formation (if necessary) 60-70 GPM.

9) CASING:
Type: Old _____ New X Steel _____ Plastic _____ Other _____
Cemented from 0 ft. to 23 ft.

Diameter (inches)	Setting		Gage
	From (ft.)	To (ft.)	
7"	0	22	

10) SCREEN:
Type _____
Perforated _____ Slotted _____

Diameter (inches)	Setting		Slot Size
	From (ft.)	To (ft.)	

COMPLETION (Check):

Straight wall X Gravel packed _____ Other _____
Under reamed _____ Open Hole _____

WATER LEVEL:
Static level 320 ft. below land surface Date 5-9-72
Artesian pressure _____ lbs. per square inch Date _____
Depth to pump bowls, cylinder, jet, etc., _____ ft.
below land surface.

11) WELL TESTS:
Was a pump test made? Yes _____ No X If yes, by whom? _____

Yield: _____ gpm with _____ ft. drawdown after _____ hrs.

Bailer test _____ gpm with _____ ft. drawdown after _____ hrs.

Artesian flow _____ gpm

Temperature of water _____

12) WATER QUALITY:
Was a chemical analysis made? Yes _____ No _____
Did any strata contain undesirable water? Yes _____ No _____
Type of water? _____ depth of strata _____

I hereby certify that this well was drilled by me (or under my supervision) and that each and all of the statements herein are true to the best of my knowledge and belief.

ME John W. Glass Water Well Drillers Registration No. 1175
(Type or Print)

ADDRESS Rt. 1A Box 52A Dripping Springs, Texas
(Street or RFD) (City) (State)

Signed John W. Glass Glass & Tucker Inc.
(Water Well Driller) (Company Name)

Please attach electric log, chemical analysis, and other pertinent information, if available. LR57-55-602

Additional instructions on reverse side.

[GWDB Reports and Downloads](#)
[Well Basic Details](#)
[Scanned Documents](#)

State Well Number	5755605
County	Hays
River Basin	Colorado
Groundwater Management Area	9
Regional Water Planning Area	K - Lower Colorado
Groundwater Conservation District	Hays Trinity GCD
Latitude (decimal degrees)	30.207223
Latitude (degrees minutes seconds)	30° 12' 26" N
Longitude (decimal degrees)	-98.131389
Longitude (degrees minutes seconds)	098° 07' 53" W
Coordinate Source	+/- 5 Seconds
Aquifer Code	218GRHC - Glen Rose LS and Hensell SH and Cow Creek LS Members of Pearsall FM
Aquifer	Trinity
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	1255
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	480
Well Depth Source	Geophysical Log
Drilling Start Date	
Drilling End Date	0/0/1977
Drilling Method	
Borehole Completion	

Well Type	Withdrawal of Water
Well Use	Domestic
Water Level Observation	Miscellaneous Measurements
Water Quality Available	Yes
Pump	Submersible
Pump Depth (feet below land surface)	
Power Type	Electric Motor
Annular Seal Method	
Surface Completion	
Owner	Artis Wilkerson
Driller	Glass and Tucker, Inc
Other Data Available	Caliper; Electric Log; Gamma Ray; Gamma-Gamma; Neutron
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	Texas Water Development Board
Created Date	8/2/1990
Last Update Date	6/24/2008

Remarks	Open hole from 41 to 480 ft.
---------	------------------------------

Casing - No Data

Well Tests - No Data

Lithology - No Data

Annular Seal Range - No Data

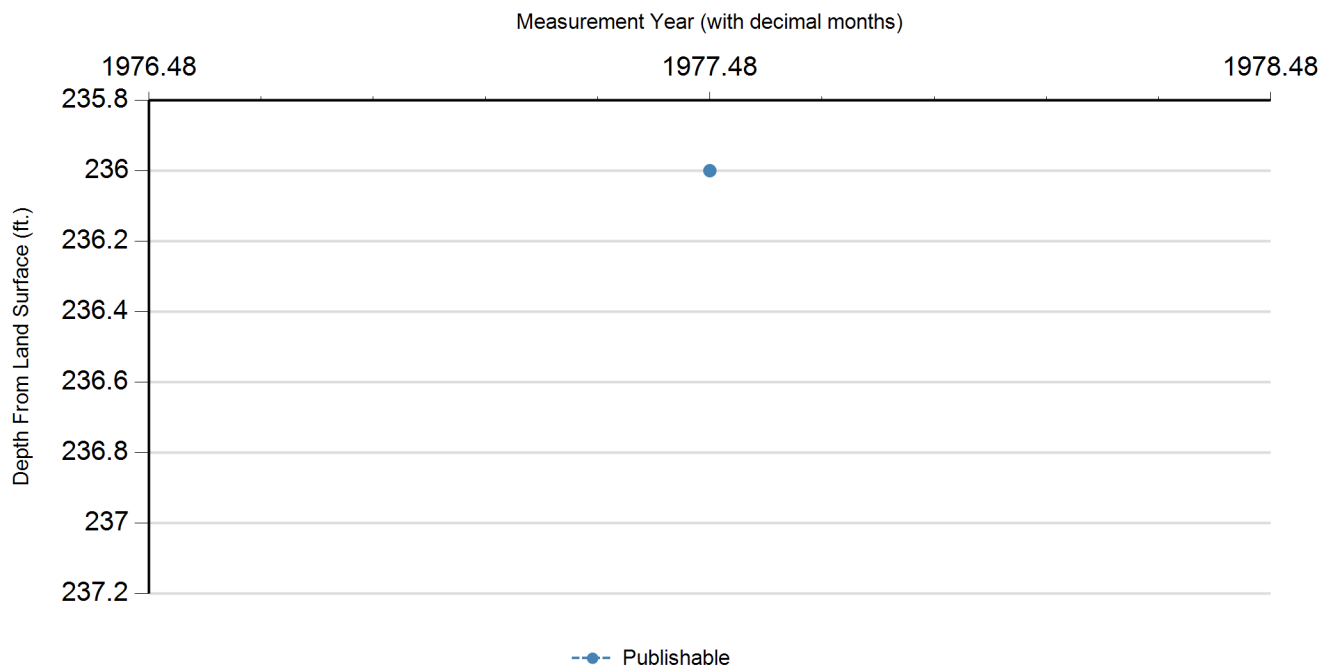
Borehole - No Data

Plugged Back - No Data

Filter Pack - No Data

Packers - No Data

Water Level Measurements



Status Code	Date	Time	Water Level (ft. below land surface)	Change value in () indicates rise in level	Water Elevation (ft. above sea level)	Meas #	Measuring Agency	Method	Remark ID	Comments
P	6/27/1977		236		1019	1	Texas Water Development Board	Steel Tape		

Code Descriptions

Status Code	Status Description
P	Publishable

Water Quality Analysis

Sample Date: 6/27/1977 **Sample Time:** 0000 **Sample Number:** 1 **Collection Entity:** Texas Water Development Board

Sampled Aquifer: Glen Rose LS and Hensell SH and Cow Creek LS **Sampled Interval:** Top: Bottom: 420
Members of Pearsall FM

Analyzed Lab: Texas Department of Health

Reliability: Not indicative of aquifer quality.

Collection Remarks: sampler

Parameter Code	Parameter Description	Flag	Value*	Units	Plus/Minus
00415	ALKALINITY, PHENOLPHTHALEIN (MG/L)		0	mg/L	
00410	ALKALINITY, TOTAL (MG/L AS CaCO ₃)		373	mg/L as CaCO ₃	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO ₃)		455.19	mg/L	
00910	CALCIUM (MG/L)		96	mg/L	
00445	CARBONATE ION, CALCULATED (MG/L AS CO ₃)		0	mg/L	
00940	CHLORIDE, TOTAL (MG/L AS CL)		30	mg/L	
00950	FLUORIDE, DISSOLVED (MG/L AS F)		3.6	mg/L	
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CaCO ₃)		593	mg/L as CaCO ₃	
00920	MAGNESIUM (MG/L)		86	mg/L	
71851	NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO ₃)		1.4	mg/L as NO ₃	
00400	PH (STANDARD UNITS), FIELD		7.8	SU	
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		0		
00955	SILICA, DISSOLVED (MG/L AS SiO ₂)		10	mg/L as SiO ₂	
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		0.48		
00932	SODIUM, CALCULATED, PERCENT		9	PCT	
00929	SODIUM, TOTAL (MG/L AS Na)		27	mg/L	
00094	SPECIFIC CONDUCTANCE, FIELD (UMHOS/CM AT 25C)		1350	MICR	
00945	SULFATE, TOTAL (MG/L AS SO ₄)		216	mg/L as SO ₄	
00010	TEMPERATURE, WATER (CELSIUS)		22	C	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		693	mg/L	

Water Quality Analysis

Sample Date: 6/27/1977 **Sample Time:** 0000 **Sample Number:** 2 **Collection Entity:** Texas Water Development Board

Sampled Aquifer: Glen Rose LS and Hensell SH and Cow Creek LS **Sampled Interval:** Top: Bottom: 460
Members of Pearsall FM

Analyzed Lab: Texas Department of Health **Reliability:** Not indicative of aquifer quality.

Collection Remarks: sampler

Parameter Code	Parameter Description	Flag	Value*	Units	Plus/Minus
00415	ALKALINITY, PHENOLPHTHALEIN (MG/L)		0	mg/L	
00410	ALKALINITY, TOTAL (MG/L AS CaCO3)		288	mg/L as CaCO 3	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO3)		351.46	mg/L	
00910	CALCIUM (MG/L)		261	mg/L	
00445	CARBONATE ION, CALCULATED (MG/L AS CO3)		0	mg/L	
00940	CHLORIDE, TOTAL (MG/L AS CL)		52	mg/L	
00950	FLUORIDE, DISSOLVED (MG/L AS F)		2.3	mg/L	
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CaCO3)		1334	mg/L as CaCO 3	
00920	MAGNESIUM (MG/L)		166	mg/L	
71851	NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO3)		0.8	mg/L as NO3	
00400	PH (STANDARD UNITS), FIELD		7.8	SU	
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		0		
00955	SILICA, DISSOLVED (MG/L AS SiO2)		12	mg/L as SiO2	
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		0.76		
00932	SODIUM, CALCULATED, PERCENT		9	PCT	
00929	SODIUM, TOTAL (MG/L AS Na)		64	mg/L	
00094	SPECIFIC CONDUCTANCE, FIELD (UMHOS/CM AT 25C)		3360	MICR	
00945	SULFATE, TOTAL (MG/L AS SO4)		1060	mg/L as SO4	
00010	TEMPERATURE, WATER (CELSIUS)		23	C	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		1790	mg/L	

* Value may not display all significant digits for parameter in results, check Scanned Documents for laboratory paperwork..

GWDB DISCLAIMER: Except where noted, all of the information provided in the Texas Water Development Board (TWDB) Groundwater Database (<https://www.twdb.texas.gov/groundwater/data/gwdb.rpt.asp>) is believed to be accurate and reliable; however, the TWDB assumes no responsibility for any errors appearing in rules or otherwise. Further, TWDB assumes no responsibility for the use of the information provided. PLEASE NOTE that users of these data are responsible for checking the accuracy, completeness, currency and/or suitability of all information themselves. TWDB makes no guarantees or warranties as to the accuracy, completeness, currency, or suitability of the information provided via the Groundwater Database (GWDB). TWDB specifically disclaims any and all liability for any claims or damages that may result from providing GWDB data or the information it contains. For additional information or answers to questions concerning the TWDB GWDB, contact the Groundwater Data Team at GroundwaterData@twdb.texas.gov.

TEXAS WATER DEVELOPMENT BOARD

WELL SCHEDULE

Aquifer Wlen Rose lower
Cow Creek

Field No. _____

Owner's Well No. _____

State Well No. 57-55-605

County HAYS

1. Location: 1/4, 1/4 Sec., Block _____ Survey _____

NL 2.95 EL 0.35

* 2. Owner: Artis Wilkenson

Address: Austin, Tex

Tenant: _____

Address: _____

Driller: GLASS & TUCKER

Address: DRIPPING SPRINGS, TX.

3. Elevation of _____ is 1255 ft. above sea, determined by _____

4. Drilled: _____ 19 77; Dug, Cable Tool, Rotary

5. Depth: Rept. _____ ft. Meas. 480 ft.

6. Completion: Open Hole Straight Wall, Underreamed, Gravel Packed

7. Pump: Mfr. _____ Type Sub

No. Stages _____, Bowls Diam. _____ in., Setting _____ ft.

Column Diam. _____ in., Length Tailpipe _____ ft.

8. Motor: Fuel elec Make & Model _____ HP _____

9. Yield: Flow _____ gpm, Pump _____ gpm, Meas., Rept., Est. _____

10. Performance Test: Date _____ Length of Test _____ Made by _____

Static Level _____ ft. Pumping Level _____ ft. Drawdown _____ ft.

Production _____ gpm Specific Capacity _____ gpm/ft.

11. Water Level: 236 ft. rept. 6-27 19 77 above 450

_____ ft. rept. _____ 19 _____ above

_____ ft. rept. _____ 19 _____ below

_____ ft. rept. _____ 19 _____ below

_____ ft. rept. _____ 19 _____ below

12. Use: Dam Stock, Public Supply, Ind., Irr., Waterflooding, Observation, Not Used,

13. Quality: (Remarks on taste, odor, color, etc.) _____

Temp. _____ °F, Date sampled for analysis _____ Laboratory _____

Temp. _____ °F, Date sampled for analysis _____ Laboratory _____

Temp. _____ °F, Date sampled for analysis _____ Laboratory _____

14. Other data available as circled: Driller's Log Radioactivity Log, Electric Log,

Formation Samples, Pumping Test,

15. Record by: J. Moore Date 6-27 19 77

Source of Data DRILLER & LOGS

16. Remarks:

* Well was originally owned by Jimmy Tucker

CASING & BLANK PIPE			
Cemented From _____ ft. to _____ ft.		Setting, ft.	
Diam. (in.)	Type	from	to
<u>6 1/2</u>	<u>STEEL</u>	<u>0</u>	<u>41</u>

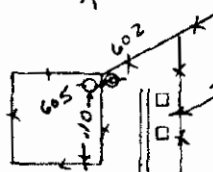
which is _____ ft. above surface.
which is _____ ft. below surface.
which is _____ ft. above surface.
which is _____ ft. below surface.

WELL SCREEN			
Screen Openings		Setting, ft.	
Diam. (in.)	Type	from	to
<u>open hole</u>		<u>41</u>	<u>480</u>

well on side of h. 11
[604]
[102]

50'

75' between wells



Trailer park

110'

10'

Road side park

Hwy 290
2.95

FM 12



Typewrite (Black ribbon) or Print Plainly
(soft pencil or black ink)
Do not use ball point pen

Texas Department of Health Resources Laboratories
1100 West 49th Street
Austin, Texas 78756

TWDBE ONLY

Program No. _____

Work No. 6042

CHEMICAL WATER ANALYSIS REPORT

Send report to:

Ground Water Division
Texas Water Development Board
P.O. Box 13087
Austin, Texas 78711

County 105 HAYS

State Well No. 52-55-605

Well No. _____
Date Collected 06-27-77

Location _____ Sample No. 1 By Moore

Source (type of well) _____ Owner Jimmy Tucker

Date Drilled 1977 Depth 480' ft. WBF GLEN ROSE

Producing intervals _____ Water level 236 ft. Sample depth 0420 ft.

Sampled after pumping _____ hrs. Yield _____ GPM mass Temperature 072 °F _____ °C

Point of collection SAMPLER Appearance ☒ clear ☐ turbid ☐ colored ☐ other

Use Dom. Remarks _____

(FOR LABORATORY USE ONLY)

CHEMICAL ANALYSIS

Laboratory No. 232926

Date Received JUL 25 1977

Date Reported JUL 28 1977

	MG/L		ME/L	
Silica		10		
Calcium		96	4	80
Magnesium		86	7	05
Sodium		27	1	17
			13	02

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☐ (other) _____ MG/L

Specific Conductance (micromhos/cm³) 1065

Diluted Conductance (micromhos/cm³) 9 x 150

☐ " " items will be analyzed if checked.

☒ The bicarbonate reported in this analysis is converted by computation (multiplying by 0.4917) to an equivalent amount of carbonate, and the carbonate figure is used in the computation of this sum.

☒ Nitrogen cycle requires separate sample.

☒ Total Iron requires separate sample.

TWDBE-WD-1 (Rev. 8-30-76)

	MG/L	ME/L																									
Carbonate	<table><tr><td></td><td></td><td>0</td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr></table>			0										<table><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr></table>													
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Sulfate	<table><tr><td></td><td>216</td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>		216							<table><tr><td></td><td>4</td><td>50</td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr></table>		4	50														
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pH	<table><tr><td></td><td>7.8</td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>		7.8							Total	<table><tr><td></td><td>13</td><td>00</td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr></table>		13	00													
	7.8																										
	13	00																									

☒ Dissolved Solids (sum in MG/L) 690

Phenolphthalein Alkalinity as CaCO₃ 0

Total Alkalinity as CaCO₃ (7.46) 373

Total Hardness as CaCO₃ (11.85) 590

☒ Nitrogen Cycle

Ammonia - N

Nitrite - N

Nitrate - N

Organic Nitrogen

Analyst _____ Checked By _____

Typewrite (Black ribbon) or Print Plainly
(soft pencil or black ink)
Do not use ball point pen

Texas Department of Health Resources Laboratories
1100 West 49th Street
Austin, Texas 78756

TWDBE ONLY

Program No. _____

Work No. 6042

CHEMICAL WATER ANALYSIS REPORT

Send report to:

Ground Water Division
Texas Water Development Board
P.O. Box 13087
Austin, Texas 78711

County 105 HAYS
State Well No. 57-55-805
Well No. _____
Date Collected 06-27-77

Location _____ Sample No. 2 By meore
Source (type of well) _____ Owner JIMMY TUCKER
Date Drilled 1977 Depth 480 ft. WBF GLEN ROSE
Producing intervals _____ Water level 236 ft. Sample depth 0460 ft.
Sampled after pumping _____ hrs. Yield _____ GPM max Temperature 073 °F _____ °C
Point of collection SAMPLER Appearance ☒ clear ☐ turbid ☐ colored ☐ other
Use Dom. Remarks _____

(FOR LABORATORY USE ONLY)

CHEMICAL ANALYSIS

NET FUNDED

Laboratory No. 332925

Date Received JUL 25 1977

Date Reported JUL 26 1977

	MG/L	ME/L
Silica	<u>12</u>	
Calcium	<u>261</u>	<u>13.04</u>
Magnesium	<u>166</u>	<u>13.68</u>
Sodium	<u>64</u>	<u>2.78</u>
Total		<u>29.50</u>

	MG/L	%Na	SAR	RSC
<input type="checkbox"/> Potassium				
<input type="checkbox"/> Manganese				
<input type="checkbox"/> Boron				
<input checked="" type="checkbox"/> Total Iron				

☐ (other) _____ MG/L

Specific Conductance (micromhos/cm³) 2030

Diluted Conductance (micromhos/cm³) 21 x 160
3360

☐ " " items will be analyzed if checked.

☒ The bicarbonate reported in this analysis is converted by computation (multiplying by 0.4917) to an equivalent amount of carbonate, and the carbonate figure is used in the computation of this sum.

☒ Nitrogen cycle requires separate sample.

☒ Total Iron requires separate sample.

TWDBE-WD-1 (Rev. 8-30-76)

	MG/L	ME/L
Carbonate	<u>0</u>	
Bicarbonate <u>173</u>	<u>351</u>	<u>5.76</u>
Sulfate	<u>1060</u>	<u>22.17</u>
Chloride	<u>52</u>	<u>1.46</u>
Fluoride	<u>2.3</u>	<u>0.12</u>
Nitrate	<u>0.8</u>	
pH	<u>7.8</u>	
Total		<u>29.51</u>

☒ Dissolved Solids (sum in MG/L) 1790

Phenolphthalein Alkalinity as CaCO₃ 0

Total Alkalinity as CaCO₃ (5.76) 288

Total Hardness as CaCO₃ (26.72) 1340

☒ Nitrogen Cycle

Ammonia - N

Nitrite - N

Nitrate - N

Organic Nitrogen

Analyst _____ Checked By _____

[GWDB Reports and Downloads](#)
[Well Basic Details](#)
[Scanned Documents](#)

State Well Number	5755604
County	Hays
River Basin	Colorado
Groundwater Management Area	9
Regional Water Planning Area	K - Lower Colorado
Groundwater Conservation District	Hays Trinity GCD
Latitude (decimal degrees)	30.192778
Latitude (degrees minutes seconds)	30° 11' 34" N
Longitude (decimal degrees)	-98.165001
Longitude (degrees minutes seconds)	098° 09' 54" W
Coordinate Source	+/- 1 Second
Aquifer Code	218HSCC - Hensell Sand and Cow Creek Limestone
Aquifer	Trinity
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	1254
Land Surface Elevation Method	Digital Elevation Model -DEM
Well Depth (feet below land surface)	460
Well Depth Source	Driller's Log
Drilling Start Date	
Drilling End Date	1/13/1997
Drilling Method	Air Rotary
Borehole Completion	Open Hole

Well Type	Withdrawal of Water
Well Use	Domestic
Water Level Observation	Miscellaneous Measurements
Water Quality Available	Yes
Pump	Submersible
Pump Depth (feet below land surface)	
Power Type	Electric Motor
Annular Seal Method	
Surface Completion	
Owner	Randy Robinson
Driller	James Tucker Drilling, Inc.
Other Data Available	Aquifer Test; Drillers Log
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	Texas Water Development Board
Created Date	9/7/2010
Last Update Date	4/30/2014

Remarks Site 65 in BSEACD Report 2010-0701. Reported yield 75 GPM with 16.3 feet drawdown after 16.5 hours in 2004. Specific capacity 4.6 GPM/ft. Aquifer test data and results in TWDB files.

Casing

Diameter (in.)	Casing Type	Casing Material	Schedule	Gauge	Top Depth (ft.)	Bottom Depth (ft.)
8	Blank	Plastic (PVC)			0	383
10	Open Hole				383	460

Well Tests - No Data

Lithology - No Data

Annular Seal Range - No Data

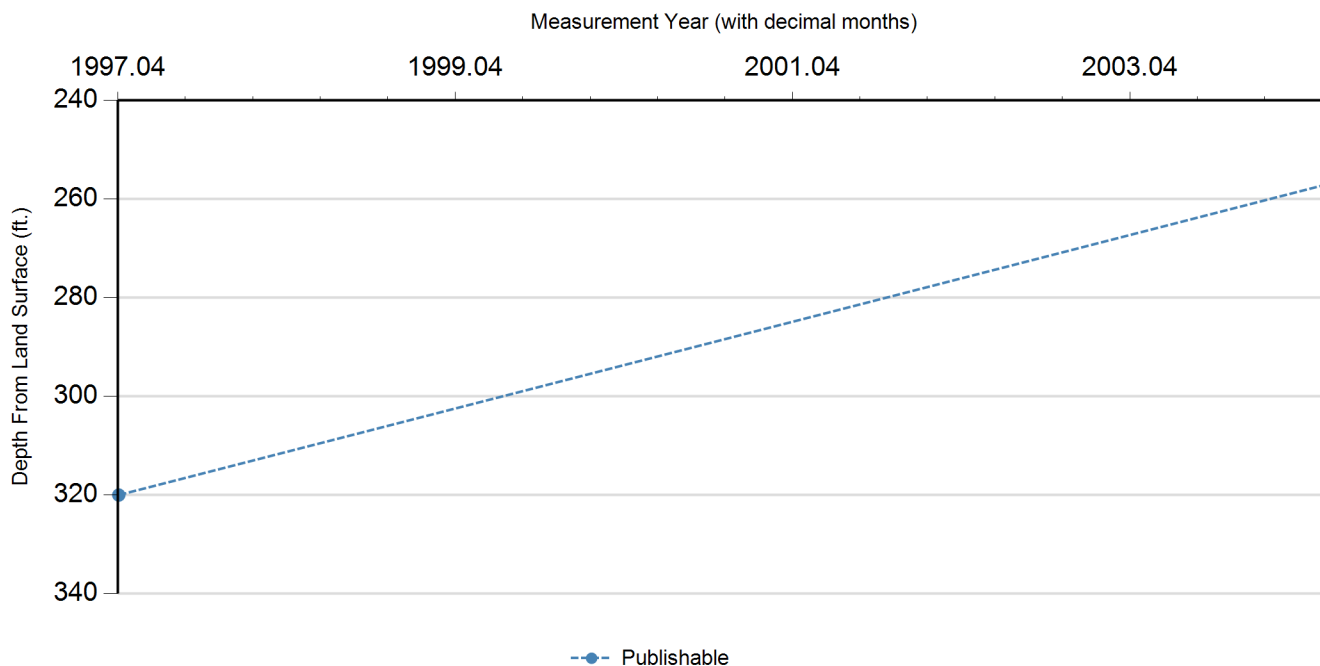
Borehole - No Data

Plugged Back - No Data

Filter Pack - No Data

Packers - No Data

Water Level Measurements



Status Code	Date	Time	Water Level (ft. below land surface)	Change value in () indicates rise in level	Water Elevation (ft. above sea level)	Meas #	Measuring Agency	Method	Remark ID	Comments
P	1/15/1997		320		934	1	Registered Water Well Driller	Unknown		
P	3/17/2004		257	(63.00)	997	1	Groundwater Consultant	Transducer		
P	3/19/2004		258.01	1.01	995.99	1	Groundwater Consultant	Transducer		

Code Descriptions

Status Code	Status Description
P	Publishable

Water Quality Analysis

Sample Date: 3/18/2004 **Sample Time:** 1000 **Sample Number:** 1 **Collection Entity:** Groundwater Consultant

Sampled Aquifer: Hensell Sand and Cow Creek Limestone

Analyzed Lab: LCRA - Lower Colorado River Authority

Reliability: Collected from pumped well, but not filtered or preserved

Collection Remarks: during aquifer test

Parameter Code	Parameter Description	Flag	Value*	Units	Plus/Minus
00415	ALKALINITY, PHENOLPHTHALEIN (MG/L)		0	mg/L	
00410	ALKALINITY, TOTAL (MG/L AS CaCO ₃)		277	mg/L as CaCO ₃	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO ₃)		338.03	mg/L	
00910	CALCIUM (MG/L)		230	mg/L	
00445	CARBONATE ION, CALCULATED (MG/L AS CO ₃)		0	mg/L	
00940	CHLORIDE, TOTAL (MG/L AS CL)		53.3	mg/L	
00950	FLUORIDE, DISSOLVED (MG/L AS F)		2.31	mg/L	
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CaCO ₃)		1209	mg/L as CaCO ₃	
00920	MAGNESIUM (MG/L)		154	mg/L	
71851	NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO ₃)		0.04	mg/L as NO ₃	
00400	PH (STANDARD UNITS), FIELD		7.38	SU	
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		0		
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		0.69		
00932	SODIUM, CALCULATED, PERCENT		9	PCT	
00929	SODIUM, TOTAL (MG/L AS Na)		55.5	mg/L	
00094	SPECIFIC CONDUCTANCE, FIELD (UMHOS/CM AT 25C)		2080	MICR	
00945	SULFATE, TOTAL (MG/L AS SO ₄)		958	mg/L as SO ₄	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		1619	mg/L	

* Value may not display all significant digits for parameter in results, check Scanned Documents for laboratory paperwork..

GWDB DISCLAIMER: Except where noted, all of the information provided in the Texas Water Development Board (TWDB) Groundwater Database (<https://www.twdb.texas.gov/groundwater/data/gwdb.rpt.asp>) is believed to be accurate and reliable; however, the TWDB assumes no responsibility for any errors appearing in rules or otherwise. Further, TWDB assumes no responsibility for the use of the information provided. PLEASE NOTE that users of these data are responsible for checking the accuracy, completeness, currency and/or suitability of all information themselves. TWDB makes no guarantees or warranties as to the accuracy, completeness, currency, or suitability of the information provided via the Groundwater Database (GWDB). TWDB specifically disclaims any and all liability for any claims or damages that may result from providing GWDB data or the information it contains. For additional information or answers to questions concerning the TWDB GWDB, contact the Groundwater Data Team at GroundwaterData@twdb.texas.gov.

**Texas Water Development Board
Well Schedule**

new ✓

State Well Number 5755604 Prev. Well No. _____ County Hays County Code 209
Basin 14 GMA 9 RWPA K GCD Hays Trinity Aquifer 218 H SCC
Latitude 30 11 34 Longitude 098 09 54 Coord Accuracy 1 Aquifer ID1 _____ Aquifer ID2 _____ Aquifer ID3 _____
Owner Randy Robinson Driller James Tucker
Well No. Dos Lagos PW
Address _____ Tenant/Oper. _____

Well Depth 460 Source of Depth D Altitude 1254 Source of Alt. Datum D

Date Drilled 01/3/1997 Well Type W User Code _____

Lift Data Pump Mtr. _____ Type of Ltr. Subm S Pump Depth Setting (ft) _____ ft.
Motor Mfg. _____ Type of Power elec E Horsepower _____

Water Use Primary Dom H Secondary _____ Tertiary _____

Other Data Available Water Level M Water Quality L Well Logs D Other Data A

Well Construction Const. Method Air Rotary A Casing Material PVC P
Completion Method open hole X Screen Material _____

Water Levels
Date 1/15/1997 Meas. 320 Remarks 07/7 M.P. +
Date 3/17/2004 Meas. 257 Remarks 09/9
Date 3/19/2004 Meas. 258.01 Remarks 07/9

Water Quality (Remarks: _____)

Field Flow Rate _____ Pump Rate _____ GPM Meas. Rept. Est. Date of Test _____

Performance Test Length of test 16.5 hr Production Rate 75 GPM Meas. Rept. Est. Date of Test 3/12-19/04
Static Level 257 ft. Pumping Level _____ ft. Amount of Drawdown 16.3 ft. Specific Capacity 4.6 GPM/ft.

Date Record Collected or Information Updated 9/7/2010 Reporting Agency 01 Recorded by D. Coker

Other Remarks
1 Site G5 in BSEACD Report 2010-0701c Reported
2 yield 75 GPM with 16.3 feet drawdown after
3 16.5 hours in 2004. Specific capacity 4.6
4 GPM/ft. Aquifer test data and results in
5 TWDB files.
6

Casing Records:

Casing or Blank Pipe (C)			
Well Screen or Slotted Zone (S)			
Open Hole (O)			
Commented from _____ to _____			
Diam. (in.)	Interval of C, S, or O. From	To	
1	C 8	O 383	
2	O 10	383 460	
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			

Aquifer

57.55.604

Well Number

Send original copy by certified mail to: TNRCC, P.O. Box 13087, Austin, TX 78711-3087

Please use black ink.

ATTENTION OWNER: Confidentiality
Privilege Notice on Reverse SideState of Texas
WELL REPORTTexas Water Well Drillers Advisory Council
P.O. Box 13087
Austin, TX 78711-3087
512-238-05391) OWNER Randy Robinson ADDRESS _____
(Name) (Street or RFD) (City) (State) (Zip)2) ADDRESS OF WELL: _____
County Kays (Street, RFD or other) (City) (State) (Zip) GRD # 57-55-6043) TYPE OF WORK (Check):
☒ New Well ☐ Deepening
☐ Reconditioning ☐ Plugging4) PROPOSED USE (Check): ☐ Monitor ☐ Environmental/Soil Boring ☒ Domestic
☐ Industrial ☐ Irrigation ☐ Injection ☐ Public Supply ☐ De-watering ☐ Testwell
If Public Supply well, were plans submitted to the TNRCC? ☐ Yes ☐ No6) WELL LOG:
Date Drilling: _____
Started 1-13-1997
Completed 19DIAMETER OF HOLE
Dia. (in.) From (ft.) To (ft.)
6 3/4 Surface 460
10" 0 4607) DRILLING METHOD (Check): ☐ Driven
☐ Air Rotary ☐ Mud Rotary ☐ Bored
☐ Air Hammer ☐ Cable Tool ☐ Jetted
☐ Other _____

From (ft.) To (ft.) Description and color of formation material

0	1	Surface
1	12	Caliche & Rock
12	14	Blue Lime
14	17	Med. Gray
17	22	Shale
22	30	Lt. Gray
30	32	Shale
32	50	Lt. Gray
50	57	Soft Shaley Gumbo
57	60	Lt. Gray
60	83	Soft Shaly Gumbo
83	91	Lt. Gray
91	92	Seep
92	100	Lt. Gray
100	105	Soft Med. Gray

8) Borehole Completion (Check): ☐ Open Hole ☐ Straight Wall
☐ Underreamed ☐ Gravel Packed ☐ Other _____
If Gravel Packed give interval ... from _____ ft. to _____ ft.

CASING, BLANK PIPE, AND WELL SCREEN DATA:

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mtg., if commercial	Setting (ft.)		Gage Casing Screen
			From	To	
8"	DN	Sch 40 PVC	2	383	

13) TYPE PUMP:
☐ Turbine ☐ Jet ☒ Submersible ☐ Cylinder
☐ Other _____
Depth to pump bowls, cylinder, jet, etc. 420 ft.14) WELL TESTS: 3/17-19/04
Type test ☐ Pump ☐ Baker ☒ Jetted ☒ Estimated 4.6
Yield: 100 gpm with 16.3 ft. drawdown after 16.5 hrs.
7515) WATER QUALITY:
Did you knowingly penetrate any strata which contained undesirable constituents?
☐ Yes ☐ No If yes, submit "REPORT OF UNDESIRABLE WATER"
Type of water? _____ Depth of strata _____
Was a chemical analysis made? ☐ Yes ☐ No9) CEMENTING DATA (Rule 338.44(1))
Cemented from 0 ft. to 40 ft. No. of sacks used _____
_____ ft. to _____ ft. No. of sacks used _____
Method used Gravity
Cemented by Tucker Drilling
Distance to septic system field lines or other concentrated contamination _____ ft.
Method of verification of above distance _____10) SURFACE COMPLETION
☒ Specified Surface Slab Installed (Rule 338.44(2)(A))
☒ Specified Steel Sleeve Installed (Rule 338.44(3)(A))
☐ Pileless Adapter Used (Rule 338.44(3)(b))
☐ Approved Alternative Procedure Used (Rule 338.71)11) WATER LEVEL:
Static level 320 ft. below land surface Date 1-15-97
Artesian flow _____ gpm Date _____12) PACKERS: _____ Type _____ Depth _____
_____ Rubber _____ 40

I hereby certify that this well was drilled by me (or under my supervision) and that each and all of the statements herein are true to the best of my knowledge and belief. I understand that failure to complete Items 1 thru 15 will result in the log(s) being returned for completion and resubmission.

COMPANY NAME James Tucker Drilling, Inc. WELL DRILLER'S LICENSE NO. 1488
(Type or print)ADDRESS P.O. Box 308 Dripping Springs, Tx, 78620
(Street or RFD) (City) (State) (Zip)(Signed) _____ (Signed) _____
(Licensed Well Driller) (Registered Driller Trainee)

Please attach electric log, chemical analysis, and other pertinent information.

57-55-604

**IMPORTANT NOTICE FOR PERSONS
HAVING WELLS DRILLED CONCERNING
PRIVILEGE OF CONFIDENTIALITY**

The Water Well Drillers Advisory Council and the Texas Natural Resource Conservation Commission are concerned that some persons having wells drilled may not be aware of the confidentiality privilege provisions of Section 32.005 of the Texas Water Code, the Reporting of Well Logs, reads as follows:

"Every licensee after drilling, deepening or otherwise altering a water well within this State shall make and keep a legible and accurate well log in accordance with the department rule on forms prescribed by the department. Not later than the 60th day after the completion or cessation of drilling, deepening, or otherwise altering the well, the licensed driller shall deliver or transmit by certified mail a copy of the well log to the department and to the owner of the well or the person for whom the well was drilled. Each copy of a well log, other than a department copy must include the name, mailing address, and telephone number of the department. The well log shall be recorded at the time of drilling, and must show the depth, thickness, and character of the strata penetrated, the location of water-bearing strata, the depth, size and character of casing installed, and any other information required by department rule. The department shall hold the contents of the well log confidential and not a matter of public record if it receives, by certified mail, a written request to do so from the owner or person for whom the well was drilled."

The last sentence specifies the means whereby you can, if you wish, assure that logs of your wells will be kept confidential.

From (ft.)	To (ft.)	Description and color of formation material			
105	110	Lt. Gray	405	413	Hard Broken
110	115	Med. Gray			Brownstone
115	120	Lt. Gray	413	415	Crevice
120	190	Med. Gray			50+
190	195	Brown	415	420	Hard Brown
195	210	Med.	420	430	Broken
210	215	Brown			Water
215	220	Med.	430	455	Med
220	240	Brown	455	460	Base on We.
240	245	Med.			
245	273	Lt. Gray			
273	280	Broken Brown seepy			
280	293	Lt. Brown			
293	297	Med.			
297	300	Lt. Brown			
300	303	Hard Lt. Brown			
303	333	Broken Sandstone			
333	335	Hard			
335	340	Broken Water 30			
340	360	Hard Broken White			
360	380	Hard broken Brown			
370	373	Brown Sandstone w/green clay			
373	385	White sandstone			

Final Analysis Report

LCRA Environmental Laboratory Services

Date: 26-Mar-04

CLIENT: The Wellspec Company Client Sample ID: RRE #1
 Lab Order: 0403332 File No: 28899
 Project: Collection Date: 3/18/2004 10:00:00 AM ✓
 Lab ID: 0403332-001 Matrix: DRINKING WATER

Analyses	Result	PQL	Qual Units	DF	Batch ID	Date Analyzed
ICP DRINKING WATER						
		E200.7				Analyst: TH
Calcium	230 ✓	0.200	mg/L	1	3/25/2004 10:32:51 PM	
Magnesium	154 ✓	0.200	mg/L	1	3/25/2004 10:32:51 PM	
Sodium	55.5 ✓	0.500	mg/L	1	3/25/2004 10:32:51 PM	
ICPMS DRINKING WATER						
		E200.8				Analyst: SW
Arsenic	ND	0.0020	mg/L	1	3/26/2004	
BACTERIA						
		SM9223B				Analyst: WM
Total Coliform	Absent	0	P/A	1	3/18/2004 2:10:00 PM	
ANIONS BY ION CHROMATOGRAPHY						
		E300				Analyst: WR
Chloride	53.3 ✓	1.00	mg/L	1	3/18/2004 6:54:00 PM	
Fluoride	2.31 ✓	0.01	mg/L	1	3/18/2004 6:54:00 PM	
Nitrogen, Nitrate & Nitrite	0.04 ✓	0.02	mg/L	1	3/18/2004 6:54:00 PM	
Sulfate	958 ✓	20.0	mg/L	20	3/24/2004 7:14:00 PM	
ALKALINITY						
		M2320 B				Analyst: LW
Alkalinity, Bicarbonate (As CaCO3)	277 ✓	2	mg/L CaCO3	1	3/24/2004	
Alkalinity, Total (As CaCO3)	277	2	mg/L CaCO3	1	3/24/2004	
CONDUCTANCE						
		E120.1				Analyst: LO
Specific Conductance @ 25°C	2080 ✓	0	µmhos/cm	1	3/24/2004	
PH						
		E150.1				Analyst: LW
pH	7.38 ✓	0	pH units	1	3/18/2004	
TOTAL DISSOLVED SOLIDS						
		SM2540C				Analyst: LO
Total Dissolved Solids	1720 ✓	5	mg/L	1	3/19/2004	

Qualifiers: * Value exceeds Maximum Contaminant Level B Analyte detected in the associated Method Blank
 E Value above quantitation range H Holding times for preparation or analysis exceeded
 J Analyte detected below quantitation limits ND Not Detected at the Reporting Limit
 S Spike Recovery outside accepted recovery limits

57-55-604

TABLE 2 - GROUNDWATER CHEMISTRY
Dos Lagos Subdivision, Hays County, Texas

CONSTITUENT	CONCENTRATION	COMMENTS
Alkalinity as CaCO_3	277 mg/L	
Total Bicarbonate	286 mg/L	
Chloride	53.3 mg/L	
Specific Conductance	2080 uMhos/cm	
Fluoride	2.31 mg/L	USEPA SMCL = 2.0 mg/L
Nitrogen, Nitrate, and Nitrite	0.04 mg/L	
pH	7.38	
Total Dissolved Solids	1,720 mg/L	TCEQ SMCL = 1,000 mg/L
Sulfate	958 mg/L	USEPA SMCL = 250 mg/L
Calcium	230 mg/L	
Magnesium	154 mg/L	
Sodium	55.5 mg/L	
Arsenic	ND	USEPA MCL = 0.010 mg/L
Total Coliform	Absent	

Analysis performed by Lower Colorado River Authority Environmental Laboratory Services

ND = not detected

USEPA = United States Environmental Protection Agency

TCEQ = Texas Commission for Environmental Quality

MCL = maximum Contaminant Level

SMCL = secondary maximum contaminant level

3/18/04

57-55-604

Pumping Well Drawdown and Recovery Data **Dos Lagos Subdivision**

Date	Time	Elapsed Time (minutes)	Drawdown (feet)	Water Level (ft. bgs)	Recovery Data		Comments
					Elapsed time since end of pumping (minutes)	Residual Drawdown (feet)	
3/17/2004	10:44	0	0	-257 ✓			Pumping Rate 75 gpm ✓
3/17/2004	10:45	1	5.22	-262.22			
3/17/2004	10:46	2	9.65	-266.65			
3/17/2004	10:47	3	11.22	-268.22			
3/17/2004	10:48	4	11.93	-268.93			
3/17/2004	10:49	5	12.33	-269.33			
3/17/2004	10:50	6	12.56	-269.56			
3/17/2004	10:51	7	12.7	-269.7			
3/17/2004	10:52	8	12.84	-269.84			
3/17/2004	10:53	9	12.93	-269.93			
3/17/2004	10:54	10	13.03	-270.03			
3/17/2004	10:55	11	13.09	-270.09			
3/17/2004	10:56	12	13.13	-270.13			
3/17/2004	10:57	13	13.2	-270.2			
3/17/2004	10:58	14	13.27	-270.27			
3/17/2004	10:59	15	13.31	-270.31			
3/17/2004	11:00	16	13.33	-270.33			
3/17/2004	11:01	17	13.37	-270.37			
3/17/2004	11:02	18	13.39	-270.39			
3/17/2004	11:03	19	13.42	-270.42			
3/17/2004	11:04	20	13.49	-270.49			
3/17/2004	11:05	21	13.52	-270.52			
3/17/2004	11:06	22	13.53	-270.53			
3/17/2004	11:07	23	13.56	-270.56			
3/17/2004	11:08	24	13.62	-270.62			
3/17/2004	11:09	25	13.63	-270.63			
3/17/2004	11:10	26	13.66	-270.66			
3/17/2004	11:11	27	13.68	-270.68			
3/17/2004	11:12	28	13.71	-270.71			
3/17/2004	11:13	29	13.7	-270.7			
3/17/2004	11:14	30	13.72	-270.72			
3/17/2004	11:15	31	13.74	-270.74			
3/17/2004	11:16	32	13.79	-270.79			
3/17/2004	11:17	33	13.79	-270.79			
3/17/2004	11:18	34	13.79	-270.79			
3/17/2004	11:19	35	13.82	-270.82			
3/17/2004	11:20	36	13.82	-270.82			
3/17/2004	11:21	37	13.85	-270.85			
3/17/2004	11:22	38	13.88	-270.88			
3/17/2004	11:23	39	13.85	-270.85			
3/17/2004	11:24	40	13.88	-270.88			
3/17/2004	11:25	41	13.9	-270.9			

57-55-604

Pumping Well Drawdown and Recovery Data **Dos Lagos Subdivision**

Date	Time	Elapsed Time (minutes)	Drawdown (feet)	Water Level (ft. bgs)	Recovery Data		Comments
					Elapsed time since end of pumping (minutes)	Residual Drawdown (feet)	
3/17/2004	14:44	240	14.9	-271.9			
3/17/2004	15:14	270	15.01	-272.01			
3/17/2004	15:44	300	15.08	-272.08			
3/17/2004	16:14	330	15.14	-272.14			
3/17/2004	16:44	360	15.19	-272.19			
3/17/2004	17:14	390	15.29	-272.29			
3/17/2004	17:44	420	15.35	-272.35			
3/17/2004	18:14	450	15.39	-272.39			
3/17/2004	18:44	480	15.45	-272.45			
3/17/2004	19:14	510	15.5	-272.5			
3/17/2004	19:44	540	15.61	-272.61			
3/17/2004	20:14	570	15.7	-272.7			
3/17/2004	20:44	600	15.77	-272.77			
3/17/2004	21:44	660	15.92	-272.92			
3/17/2004	22:44	720	16.04	-273.04			
3/17/2004	23:44	780	16.1	-273.1			
3/18/2004	0:44	840	16.2	-273.2			
3/18/2004	1:44	900	16.26	-273.26			
3/18/2004	2:44	960	16.33	-273.33			
3/18/2004	3:26	1002	16.28	-273.28	0.0	0.00	pump stopped
3/18/2004	3:27	1003	11.26	-268.26	1.0	5.02	
3/18/2004	3:28	1004	4.93	-261.93	2.0	11.35	
3/18/2004	3:29	1005	3.77	-260.77	3.0	12.51	
3/18/2004	3:30	1006	3.48	-260.48	4.0	12.80	
3/18/2004	3:31	1007	3.35	-260.35	5.0	12.93	
3/18/2004	3:32	1008	3.28	-260.28	6.0	13.00	
3/18/2004	3:33	1009	3.2	-260.2	7.0	13.08	
3/18/2004	3:34	1010	3.15	-260.15	8.0	13.13	
3/18/2004	3:35	1011	3.11	-260.11	9.0	13.17	
3/18/2004	3:36	1012	3.08	-260.08	10.0	13.20	
3/18/2004	3:37	1013	3.04	-260.04	11.0	13.24	
3/18/2004	3:38	1014	3.01	-260.01	12.0	13.27	
3/18/2004	3:39	1015	2.98	-259.98	13.0	13.30	
3/18/2004	3:40	1016	2.96	-259.96	14.0	13.32	
3/18/2004	3:41	1017	2.93	-259.93	15.0	13.35	
3/18/2004	3:42	1018	2.91	-259.91	16.0	13.37	
3/18/2004	3:43	1019	2.88	-259.88	17.0	13.40	
3/18/2004	3:44	1020	2.86	-259.86	18.0	13.42	
3/18/2004	3:45	1021	2.84	-259.84	19.0	13.44	
3/18/2004	3:46	1022	2.83	-259.83	20.0	13.45	
3/18/2004	3:47	1023	2.81	-259.81	21.0	13.47	
3/18/2004	3:48	1024	2.79	-259.79	22.0	13.49	

Pumping Well Drawdown and Recovery Data Dos Lagos Subdivision

Date	Time	Elapsed Time (minutes)	Drawdown (feet)	Water Level (ft. bgs)	Recovery Data		Comments
					Elapsed time since end of pumping (minutes)	Residual Drawdown (feet)	
3/18/2004	4:51	1087	2.2	-259.2	85.0	14.08	
3/18/2004	4:56	1092	2.17	-259.17	90.0	14.11	
3/18/2004	5:01	1097	2.14	-259.14	95.0	14.14	
3/18/2004	5:06	1102	2.12	-259.12	100.0	14.16	
3/18/2004	5:11	1107	2.09	-259.09	105.0	14.19	
3/18/2004	5:16	1112	2.07	-259.07	110.0	14.21	
3/18/2004	5:21	1117	2.04	-259.04	115.0	14.24	
3/18/2004	5:26	1122	2.02	-259.02	120.0	14.26	
3/18/2004	5:36	1132	1.97	-258.97	130.0	14.31	
3/18/2004	5:46	1142	1.93	-258.93	140.0	14.35	
3/18/2004	5:56	1152	1.9	-258.9	150.0	14.38	
3/18/2004	6:06	1162	1.86	-258.86	160.0	14.42	
3/18/2004	6:16	1172	1.83	-258.83	170.0	14.45	
3/18/2004	6:26	1182	1.79	-258.79	180.0	14.49	
3/18/2004	6:36	1192	1.77	-258.77	190.0	14.51	
3/18/2004	6:46	1202	1.73	-258.73	200.0	14.55	
3/18/2004	6:56	1212	1.72	-258.72	210.0	14.56	
3/18/2004	7:06	1222	1.69	-258.69	220.0	14.59	
3/18/2004	7:16	1232	1.68	-258.68	230.0	14.60	
3/18/2004	7:26	1242	1.66	-258.66	240.0	14.62	
3/18/2004	7:36	1272	1.61	-258.61	270.0	14.67	
3/18/2004	7:57	1273	1.61	-258.61	271.0	14.67	
3/18/2004	7:58	1274	6.54	-263.54			pump re-started 75 gpm
3/18/2004	7:59	1275	11.08	-268.08			
3/18/2004	8:00	1276	12.43	-269.43			
3/18/2004	8:01	1277	13.03	-270.03			
3/18/2004	8:02	1278	13.32	-270.32			
3/18/2004	8:03	1279	13.56	-270.56			
3/18/2004	8:04	1280	13.72	-270.72			
3/18/2004	8:05	1281	13.83	-270.83			
3/18/2004	8:06	1282	13.92	-270.92			
3/18/2004	8:07	1283	14	-271			
3/18/2004	8:08	1284	14.08	-271.08			
3/18/2004	8:09	1285	14.11	-271.11			
3/18/2004	8:10	1286	14.19	-271.19			
3/18/2004	8:11	1287	14.23	-271.23			
3/18/2004	8:12	1288	14.27	-271.27			
3/18/2004	8:13	1289	14.31	-271.31			
3/18/2004	8:14	1290	14.32	-271.32			
3/18/2004	8:15	1291	14.4	-271.4			
3/18/2004	8:16	1292	14.43	-271.43			
3/18/2004	8:17	1293	14.47	-271.47			

Pumping Well Drawdown and Recovery Data **Dos Lagos Subdivision**

Date	Time	Elapsed Time (minutes)	Drawdown (feet)	Water Level (ft. bgs)	Recovery Data		Comments
					Elapsed time since end of pumping (minutes)	Residual Drawdown (feet)	
3/18/2004	9:08	1344	15.3	-272.3			
3/18/2004	9:13	1349	15.34	-272.34			
3/18/2004	9:18	1354	15.4	-272.4			
3/18/2004	9:23	1359	15.45	-272.45			
3/18/2004	9:28	1364	15.49	-272.49			
3/18/2004	9:33	1369	15.49	-272.49			
3/18/2004	9:38	1374	15.55	-272.55			
3/18/2004	9:43	1379	15.58	-272.58			
3/18/2004	9:48	1384	15.64	-272.64			
3/18/2004	9:53	1389	15.67	-272.67			
3/18/2004	9:58	1394	15.68	-272.68			
3/18/2004	10:08	1404	15.73	-272.73			
3/18/2004	10:18	1414	15.79	-272.79			
3/18/2004	10:28	1424	15.86	-272.86			
3/18/2004	10:38	1434	15.88	-272.88			
3/18/2004	10:48	1444	15.92	-272.92			
3/18/2004	10:58	1454	15.94	-272.94			
3/18/2004	11:08	1464	15.97	-272.97			
3/18/2004	11:18	1474	16.05	-273.05			
3/18/2004	11:28	1484	16.07	-273.07			
3/18/2004	11:38	1494	16.1	-273.1			
3/18/2004	11:48	1504	16.15	-273.15			
3/18/2004	11:58	1514	16.18	-273.18			
3/18/2004	12:28	1544	16.23	-273.23			
3/18/2004	12:58	1574	16.25	-273.25			
3/18/2004	13:28	1604	16.3	-273.3			
3/18/2004	13:58	1634	16.37	-273.37			
3/18/2004	14:28	1664	16.4	-273.4			
3/18/2004	14:52	1688	16.27	-273.27			
3/18/2004	14:53	1689	16.22	-273.22	0.0	0.00	Pump off
3/18/2004	14:54	1690	14.73	-271.73	1.0	1.49	Start recovery test
3/18/2004	14:55	1691	6.61	-263.61	2.0	9.61	
3/18/2004	14:56	1692	4.27	-261.27	3.0	11.95	
3/18/2004	14:57	1693	3.81	-260.81	4.0	12.41	
3/18/2004	14:58	1694	3.65	-260.65	5.0	12.57	
3/18/2004	14:59	1695	3.56	-260.56	6.0	12.66	
3/18/2004	15:00	1696	3.49	-260.49	7.0	12.73	
3/18/2004	15:01	1697	3.43	-260.43	8.0	12.79	
3/18/2004	15:02	1698	3.38	-260.38	9.0	12.84	
3/18/2004	15:03	1699	3.35	-260.35	10.0	12.87	
3/18/2004	15:04	1700	3.32	-260.32	11.0	12.90	
3/18/2004	15:05	1701	3.28	-260.28	12.0	12.94	

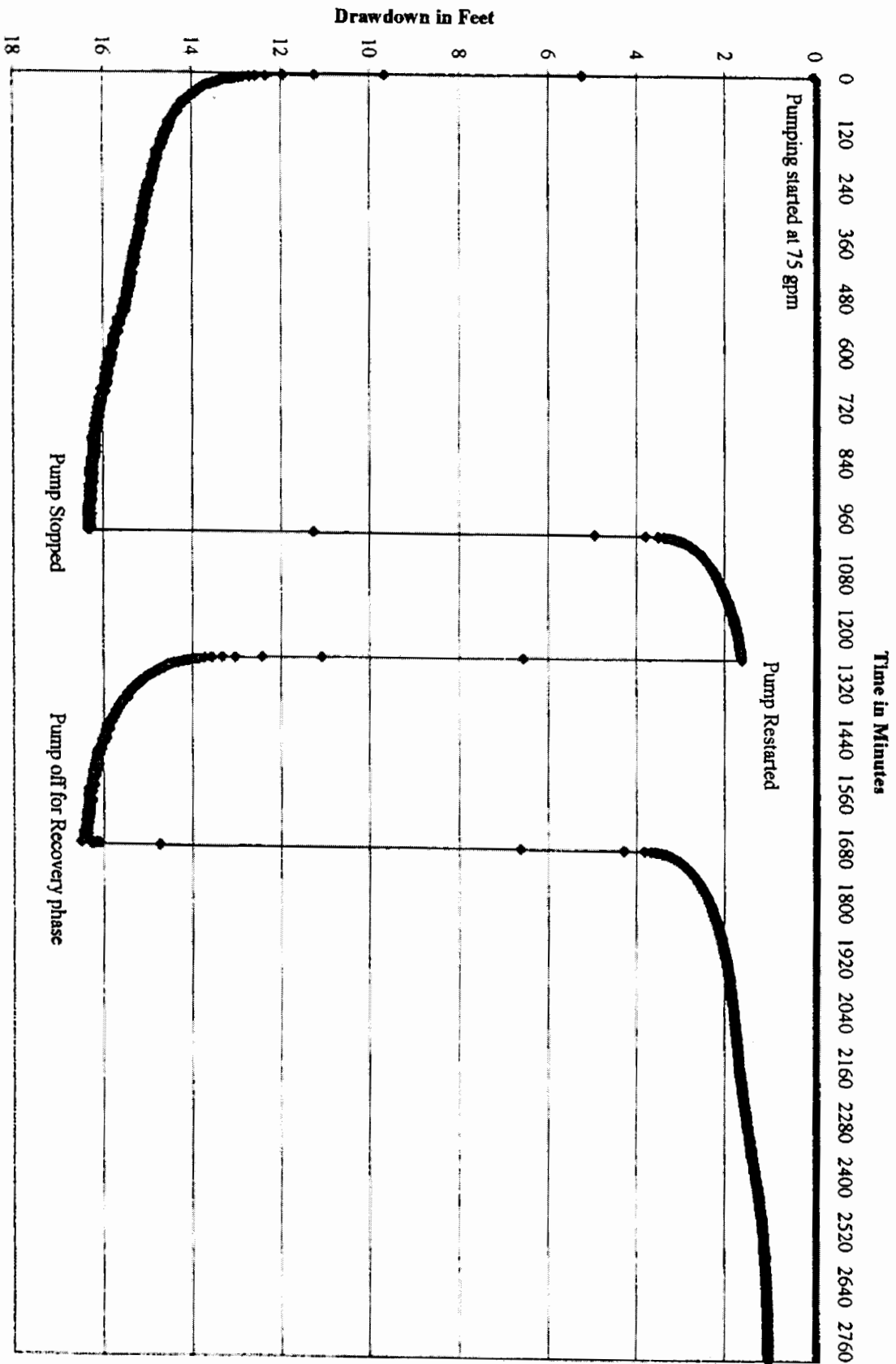
Pumping Well Drawdown and Recovery Data Dos Lagos Subdivision

Date	Time	Elapsed Time (minutes)	Drawdown (feet)	Water Level (ft. bgs)	Recovery Data		Comments
					Elapsed time since end of pumping (minutes)	Residual Drawdown (feet)	
3/18/2004	15:06	1702	3.25	-260.25	13.0	12.97	
3/18/2004	15:07	1703	3.23	-260.23	14.0	12.99	
3/18/2004	15:08	1704	3.21	-260.21	15.0	13.01	
3/18/2004	15:09	1705	3.18	-260.18	16.0	13.04	
3/18/2004	15:10	1706	3.16	-260.16	17.0	13.06	
3/18/2004	15:11	1707	3.14	-260.14	18.0	13.08	
3/18/2004	15:12	1708	3.13	-260.13	19.0	13.09	
3/18/2004	15:13	1709	3.1	-260.1	20.0	13.12	
3/18/2004	15:14	1710	3.09	-260.09	21.0	13.13	
3/18/2004	15:15	1711	3.07	-260.07	22.0	13.15	
3/18/2004	15:16	1712	3.05	-260.05	23.0	13.17	
3/18/2004	15:17	1713	3.04	-260.04	24.0	13.18	
3/18/2004	15:18	1714	3.02	-260.02	25.0	13.20	
3/18/2004	15:19	1715	3.01	-260.01	26.0	13.21	
3/18/2004	15:20	1716	2.99	-259.99	27.0	13.23	
3/18/2004	15:21	1717	2.98	-259.98	28.0	13.24	
3/18/2004	15:22	1718	2.96	-259.96	29.0	13.26	
3/18/2004	15:23	1719	2.95	-259.95	30.0	13.27	
3/18/2004	15:24	1720	2.94	-259.94	31.0	13.28	
3/18/2004	15:25	1721	2.92	-259.92	32.0	13.30	
3/18/2004	15:26	1722	2.92	-259.92	33.0	13.30	
3/18/2004	15:27	1723	2.89	-259.89	34.0	13.33	
3/18/2004	15:28	1724	2.89	-259.89	35.0	13.33	
3/18/2004	15:29	1725	2.87	-259.87	36.0	13.35	
3/18/2004	15:30	1726	2.87	-259.87	37.0	13.35	
3/18/2004	15:31	1727	2.85	-259.85	38.0	13.37	
3/18/2004	15:32	1728	2.85	-259.85	39.0	13.37	
3/18/2004	15:33	1729	2.83	-259.83	40.0	13.39	
3/18/2004	15:34	1730	2.82	-259.82	41.0	13.40	
3/18/2004	15:35	1731	2.81	-259.81	42.0	13.41	
3/18/2004	15:36	1732	2.8	-259.8	43.0	13.42	
3/18/2004	15:37	1733	2.8	-259.8	44.0	13.42	
3/18/2004	15:38	1734	2.77	-259.77	45.0	13.45	
3/18/2004	15:39	1735	2.77	-259.77	46.0	13.45	
3/18/2004	15:40	1736	2.77	-259.77	47.0	13.45	
3/18/2004	15:41	1737	2.76	-259.76	48.0	13.46	
3/18/2004	15:42	1738	2.74	-259.74	49.0	13.48	
3/18/2004	15:43	1739	2.74	-259.74	50.0	13.48	
3/18/2004	15:44	1740	2.73	-259.73	51.0	13.49	
3/18/2004	15:45	1741	2.72	-259.72	52.0	13.50	
3/18/2004	15:46	1742	2.71	-259.71	53.0	13.51	
3/18/2004	15:47	1743	2.69	-259.69	54.0	13.53	

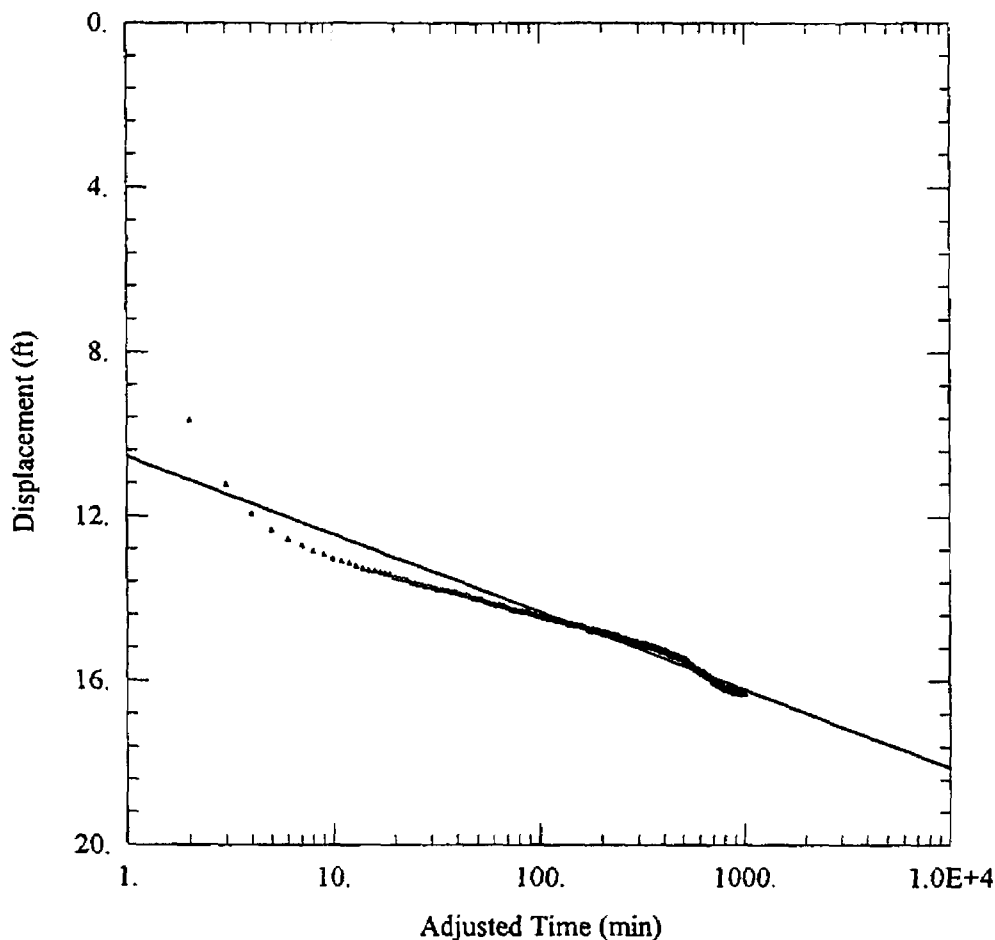
**Pumping Well Drawdown and Recovery Data
Dos Lagos Subdivision**

Date	Time	Elapsed Time (minutes)	Drawdown (feet)	Water Level (ft. bgs)	Recovery Data		Comments
					Elapsed time since end of pumping (minutes)	Residual Drawdown (feet)	
3/19/2004	1:53	2349	1.38	-258.38	660.0	14.84	
3/19/2004	2:53	2409	1.28	-258.28	720.0	14.94	
3/19/2004	3:53	2469	1.19	-258.19	780.0	15.03	
3/19/2004	4:53	2529	1.11	-258.11	840.0	15.11	
3/19/2004	5:53	2589	1.07	-258.07	900.0	15.15	
3/19/2004	6:53	2649	1.05	-258.05	960.0	15.17	
3/19/2004	7:53	2709	1.02	-258.02	1020.0	15.20	
3/19/2004	8:53	2769	1.02	-258.02	1080.0	15.20	
3/19/2004	9:30	2806	1.01	-258.01 ✓	1117.0	15.21	

FIGURE 3
Pumping Well Drawdown and Recovery Curve
Dos Lagos Subdivision, Hays County, Texas



57-55-604



PUMPING WELL DRAWDOWN

Data Set: C:\BGS\WellSpec\Robinson\PWDD.agt

Date: 04/07/04

Time: 16:10:31

PROJECT INFORMATION

Company: The WellSpec Company

Client: R. Robinson

Project: Dos Lagos Subdivision

Location: Hays County

Test Well: PW

Test Date: 17 - 19 March, 2004

AQUIFER DATA

Saturated Thickness: 80. ft

Anisotropy Ratio (K_z/K_r): 1.

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
PW 1	0	0

Observation Wells

Well Name	X (ft)	Y (ft)
• PW 1	0	0

SOLUTION

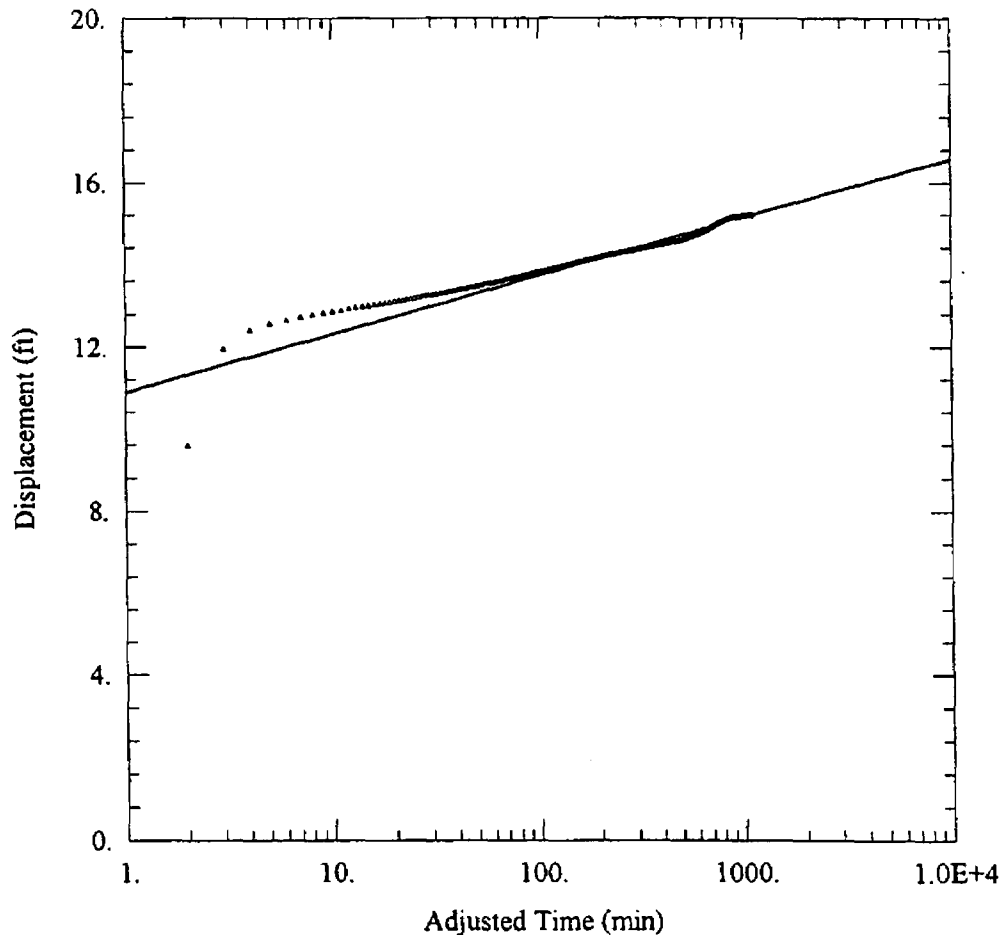
Aquifer Model: Confined

Solution Method: Cooper-Jacob

T = 1.049E+4 gal/day/ft

S = 8.59E-6

57-55-604



PUMPING WELL RECOVERY

Data Set: C:\BGS\WellSpec\Robinson\PWREC.aqt

Date: 04/07/04

Time: 16:09:35

PROJECT INFORMATION

Company: The WellSpec Company

Client: R. Robinson

Project: Dos Lagos Subdivision

Location: Hays County

Test Well: PW

Test Date: 17 - 19 March, 2004

AQUIFER DATA

Saturated Thickness: 80. ft

Anisotropy Ratio (K_z/K_r): 1.

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
PW 1	0	0

Observation Wells

Well Name	X (ft)	Y (ft)
PW 1	0	0

SOLUTION

Aquifer Model: Confined

Solution Method: Cooper-Jacob

$T = 1.395E+4$ gal/day/ft

$S = 9.634E-8$

ND

57-55-604

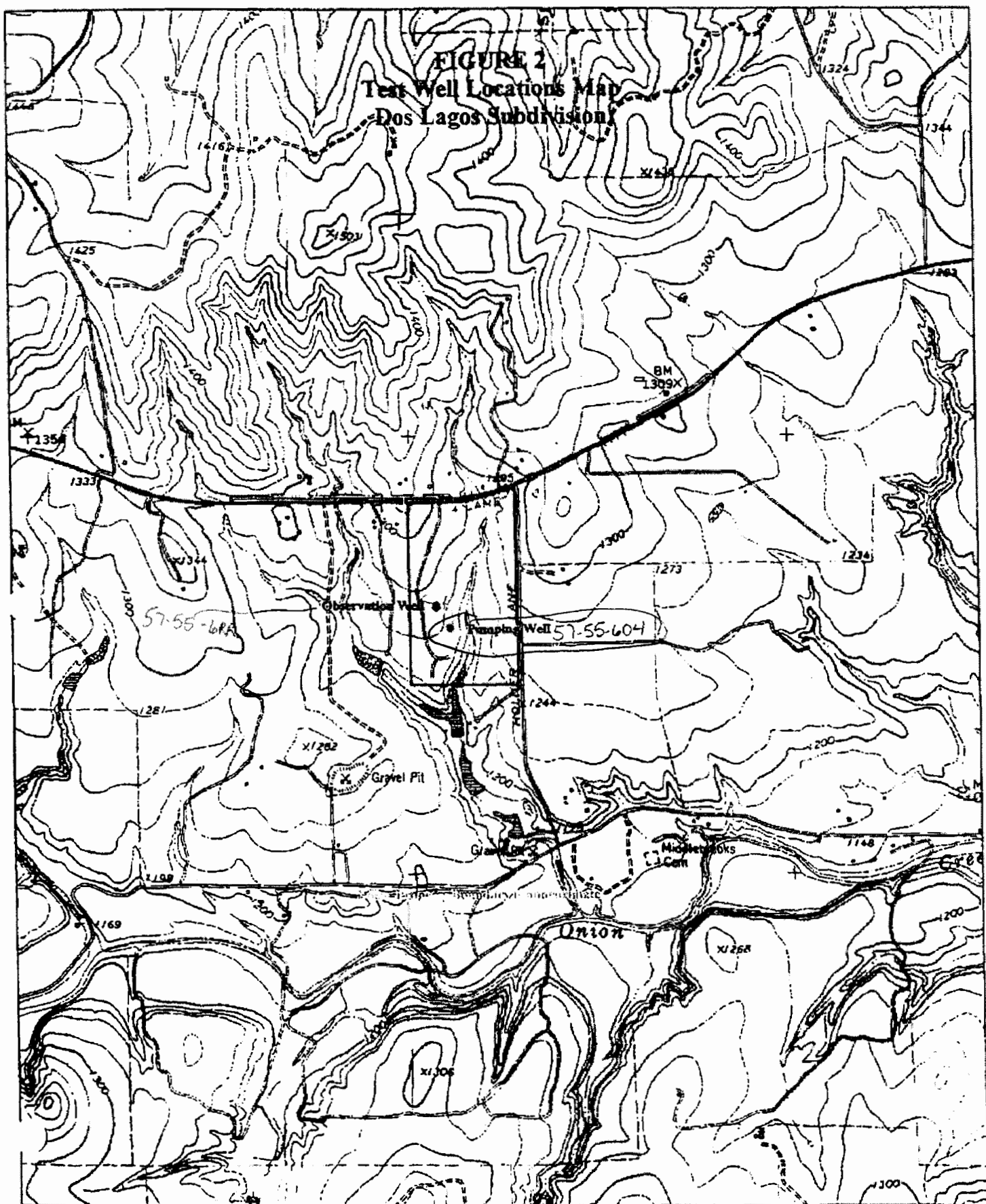
TABLE 1
SUMMARY OF PUMPING TEST RESULTS
Dos Lagos Subdivision, Hays County, Texas

Well	Max. Drawdown at 75 gpm (feet)	TRANSMISSIVITY (T) (gallons/day/foot)		STORATIVITY (S) (unitless)	
		Estimate from Drawdown	Estimate from Recovery	Estimate from Drawdown	Estimate from Recovery
PW	16.3	10,500	13,950	0.00000008	0.00000009
OW	3.3	9,600	14,400	0.0002	0.0003

57-55-604

606

FIGURE 2
Test Well Locations Map
Dos Lagos Subdivision



3-D Topographic map right 800 x 800 feet horizontal at 1400' Source data 1/8/82 1:250 ft Scale 1:20,000 Detail 1:2,000 1/8/82

57-55-604

1.0 EXECUTIVE SUMMARY

The proposed Dos Lagos Subdivision is located in western Hays County off of U.S. Highway 290 about 5 miles west of Dripping Springs (Figure 1). The proposed subdivision of 32 residential lots and 3 commercial lots will use water wells as the primary source for water supply.

Two existing wells at the proposed subdivision were used to evaluate the aquifer characteristics for estimating groundwater availability to the Subdivision as required in Section 3.12 of the Hays County Subdivision and Development Rules. One well served as the pumping well (PW) and the second well served as the observation well (OW). The pumping well (PW) was completed through the entire section of the Middle Trinity Aquifer. The observation well (OW) did not fully penetrate the aquifer.

Results of the investigation indicate the following:

- Based on a laboratory analysis, groundwater at this location exceeds the USEPA and TCEQ secondary maximum contaminant level (SMCL) for fluoride, sulfate, and total dissolved solids (TDS). The SMCL is based on the esthetic quality of water rather than health-based risk.
- * • Aquifer transmissivity (T) at the proposed Dos Lagos Subdivision is estimated 12,000 gallons/day/foot. The storativity (S) of the aquifer at this location is estimated 0.0003. Estimated aquifer conductivity at the location of the test (K) is about 150 gallons/day/ft².
- An estimate of the time-distance drawdown from pumping at the Dos Lagos Subdivision after full build-out was calculated using the Cooper-Jacobs modification of the Theis non-equilibrium equation (Figure 5).
- Based on aquifer characteristics estimated from the pumping test conducted at the proposed Dos Lagos Subdivision, drawdown in the aquifer after 10 years of continuous pumping ranges from about 1.25 feet at a distance of 1,000 feet to about 0.85 feet at a distance of 6,000 feet. Drawdown in the aquifer after 30 years of continuous pumping ranges from about 1.4 feet at a distance of 1,000 feet, and about 1.0 foot at a distance of 6,000 feet.

The analyses of the time drawdown effects assume a full build-out of the subdivision with each residence using 450 gpd totaling 14,400 gpd for the residential portion of the subdivision. It is assumed that each of the three commercial tracts at the subdivision will consume 1,200 gpd each totaling of 3,600 gpd. This rate of water consumption for the residential and commercial tracts is equivalent 12.5 gpm for the subdivision. The calculation of the time-drawdown effects assume aquifer homogeneity, and do not take into consideration pumping from wells outside of the subdivision nor effects of recharge to the aquifer.

$$\Sigma Q = 18,000 \text{ gpd} = 12.5 \text{ gpm}$$

3.0 TEST WELL CONSTRUCTION

57-55-604

The pumping well (PW) was drilled by Tucker Drilling Company and completed to a depth of 460 feet. Although the driller of the observation well (OW) is not known, the well was completed to a depth of about 390 feet below ground level (BGL). Both wells were completed open hole with surface casing to a depth of approximately 20 feet.

NO → A geophysical log for well PW and OW are included in Appendix A. The drillers' log for well PW is also included in Appendix A.

The latitude, longitude, and elevation of the pumping well are 30° 01' 33.8" N, 98° 09' 53.6" W, and approximate elevation 1,066 feet. The latitude, longitude, and elevation of the observation well are 30° 11' 36.7" N, 98° 09' 56.4" W, and elevation approximately 1,068 feet.

4.0 GEOLOGY AND HYDROGEOLOGY

4.1 SURFACE AND BOREHOLE GEOLOGY

The Dos Lagos Property in Hays County lies on the outcrop of the Cretaceous Age, upper member of the Glen Rose Formation (upper Glen Rose). The upper Glen Rose is composed of resistant limestone and dolomite layers interbedded with less resistant argillaceous limestone and marl layers. The alternating soft and hard layers create the stair-step topography common in the Central Texas region.

Based on the geophysical logs, the test wells penetrate the basal portion of the upper Glen Rose and a complete section of the lower member of the Glen Rose Formation (lower Glen Rose). The boring at well PW also penetrates a complete section about (35 feet) of the Hensell Sand member of the Travis Peak Formation (Hensell), and the total thickness of the Cow Creek Limestone member of the Travis Peak Formation (Cow Creek). The boring at OW does not fully penetrate the Hensell. A geophysical log of both wells is included in Appendix A.

The total thickness of the Glen Rose Formation, upper and lower members, is approximately 350 feet at the Dos Lagos Subdivision. The upper Glen Rose is characterized by light to dark gray, resistant beds of limestone and dolomite alternating with softer clayey or marl layers. The contact between the upper and lower Glen Rose is identified as the "Corbula bed". The Corbula bed is a thin zone, approximately 5 feet thick, containing abundant fossils of the small clam Corbula. The contact between the upper and lower members of the Glen Rose Formation is in the subsurface. Based on the geophysical log and other borings in the area, the contact is estimated to be at about 165 feet BGL.

The lower Glen Rose is generally more massive and fossiliferous than the upper Glen Rose. It is composed of pale brown to buff, massive, fossiliferous limestone with some interbedded marl layers. The lower Glen Rose tends to be more fractured and has dissolution features containing secondary calcite along fracture or dissolution planes. The lower Glen Rose is approximately 185 feet thick in the subsurface at the proposed Dos Lagos Subdivision.

The lower Glen Rose unconformably overlies the Hensell and Cow Creek members of the Travis Peak Formation. The contact is approximately 350 feet BGL. At Dos Lagos, the Hensell is about 35 feet thick. In general, the Hensell is composed of gray-green calcareous shale and sand. The Hensell overlies Cow Creek. At Dos Lagos, the contact is at about 385 feet BGL.

The Cow Creek in this part of Hays County is generally composed of limestone at the top of the unit grading into sandy limestone interbedded with shale. At Dos Lagos, the Cow Creek appears to be about 60 feet thick.

The Cow Creek overlies the Hammett Shale member of the Travis Peak Formation (Hammett). The Hammett consists of dark green shale usually 30 feet thick. Based on the geophysical log at PW, the Cow Creek grades into the Hammett at about 435 feet BGL.

4.2 HYDROGEOLOGY

The source of groundwater at the Dos Lagos Subdivision is the Trinity Aquifer. The Trinity Aquifer is subdivided into three water-bearing units; the Upper Trinity, the Middle Trinity and the Lower Trinity.

The upper Glen Rose represents the Upper Trinity Aquifer in Hays County. The lower Glen Rose, Hensell and Cow Creek represent the Middle Trinity Aquifer. The Hammett is the confining unit that separates the Middle Trinity Aquifer from the Lower Trinity Aquifer. The Lower Trinity Aquifer was not penetrated for this study.

The upper Glen Rose does not appear to be saturated at this location. Therefore, the Upper Trinity Aquifer is not a source of groundwater at this location. In general, the Upper Trinity Aquifer is not a reliable source for groundwater production in Hays County.

In the Middle Trinity Aquifer, the primary source of groundwater is in the base of the lower Glen Rose and the Cow Creek. The Hensell is also saturated at this location, but likely contributes small amounts of water to production. Based on the geophysical log at PW, the lower Glen Rose provides the greatest contribution to the Middle Trinity Aquifer at this location. The saturated thickness of the primary water-bearing zones in the Middle Trinity Aquifer is estimated 80 feet.

5.0 PUMPING TEST

5.1 TEST METHODS

The pumping test was conducted over a three-day period from March 17 through March 19. Water levels were measured in the pumping well using an OmniData® data logger.

This data logger uses a pressure transducer to measure water levels in the well during the test. The transducer is lowered into the well through a 1-inch conductor pipe placed in the well. The conductor pipe extends from the top of the pump to the surface.

Water levels in the observation well were measured using a Solinst Levellogger®. This unit is a small, self-contained pressure transducer and data recorder.

After engaging the submersible pump, flow rate was measured using a mechanical flow meter. Pumping rate during the test was about 75 gallons per minute. Pumping rates were monitored and recorded throughout the test period. The data logger collected water level measurements in the pumping well at one-minute intervals during the pumping test. Water levels in the observation well were collected and recorded at one-minute intervals during the test.

After pumping for about 16.5 hours, the pump ceased functioning and recovery in the wells continued for about 4.5 hours. The pump was re-engaged and production continued at 75 gpm for another 7 hours. At the end of this period, the pump was turned off and water levels measured for the recovery phase of the test for about 18 hours.

5.2 ANALYSIS OF TEST DATA

Data from the pumping test conducted on March 17 through 19 were analyzed using AQTESOLV™ developed by HydroSOLVE, Inc. AQTESOLV™ is computer software that uses statistical analyses to match drawdown and recovery curves. The curves from the data analyses are included in Appendix C. Figures 3 and 4 illustrate the drawdown and recovery data for PW and OW, respectively.

Data from the 16.5 hours of continuous pumping were used to evaluate aquifer hydraulic characteristics for this investigation. Data from the final recovery phase (18.5 hours) were also used for the evaluation. Although the test was not completed for a full 24-hour continuous pumping, the drawdown and recovery curves for both the PW and OW wells are sufficiently complete for analysis.

The data for both the pumping well and observation well were evaluated using the Cooper Jacobs solution for a confined aquifer. The drawdown and recovery data from both the pumping well and the observation well at the Dos Lagos Subdivision indicate aquifer transmissivity (T) 12,000 gallons per day per foot (gpd/ft). This T value is the approximate average of the values estimated for drawdown and recovery at both PW and

OW. The storativity value (S) estimated at PW and OW were very different. This is common since the action of the pump and efficiency of the well affect the estimate of storativity. It is more likely that the estimate derived from the observation well is more representative of the aquifer than that from the pumping well. Therefore, S is about 0.0003 (dimensionless). A summary of the results of the pumping test is included in Table 1.

5.3 WATER QUALITY

A water sample was collected for laboratory analysis from the pumping well at the end of the test. The Lower Colorado River Environmental Laboratory Services conducted the analysis of the groundwater sample. The analysis included general chemistry (major anions and cations) and total coliform.

Groundwater in the Middle Trinity Aquifer at the proposed Dos Lagos subdivision exceeds the U.S. Environmental Protection Agency (USEPA) and the Texas Commission on Environmental Quality (TCEQ) Secondary Maximum Contaminant Level (SMCL) for total dissolved solids (TDS), fluoride, and sulfate. The SMCL is based on the esthetic quality of the water (taste, smell, appearance) and is not necessarily based on health risks.

The USEPA SMCL for TDS is 500 mg/L, and TCEQ SMCL for TDS is 1,000mg/L. Analysis of the groundwater at the proposed subdivision indicates a TDS of 1,720 mg/L. The USEPA and TCEQ SMCL for fluoride are 2.00 mg/L and 250 mg/L for sulfate.

No coliforms were detected in the sample.

A summary of water chemistry is included in Table 2. The laboratory report is included in Appendix D.

6.0 ESTIMATING AQUIFER DRAWDOWN EFFECTS

Based on the estimate of transmissivity and storativity of the aquifer from analysis of the pumping test data at the proposed Dos Lagos Subdivision, a theoretical time-distance drawdown effect on the aquifer was estimated using the Cooper-Jacobs modification of the Theis non-equilibrium equation. The equation is as follows:

$$s = (264Q/T)\log(0.3Tt/r^2S), \text{ where}$$

s = drawdown at a specified time and distance

Q = pumping rate

T = transmissivity (gpd/ft)

t = time since pumping started (days)

r = distance from pumping well (feet), and

S = Storativity (dimensionless)

**WATER AVAILABILITY INVESTIGATION
DOS LAGOS SUBDIVISION
HAYS COUNTY, TEXAS**

RECEIVED

AUG 10 2004
ASB

AUG - 6 2004

April 2004

Prepared for:

Randall Robinson Enterprises

Dripping Springs, Texas 78620

Prepared by:

The Wellspec Company
P.O. Box 1156
Dripping Springs, Texas 78620

and,

BOND GEOLOGICAL SERVICES
1501 N. Rainbow Ranch Rd.
Wimberley, Texas 78676

#65 in BSEACD
Report 2010-0701.

Dos Lagos - 04.pdf.

57-55-604

[GWDB Reports and Downloads](#)
[Well Basic Details](#)
[Scanned Documents](#)

State Well Number	5755608
County	Hays
River Basin	Colorado
Groundwater Management Area	9
Regional Water Planning Area	K - Lower Colorado
Groundwater Conservation District	Hays Trinity GCD
Latitude (decimal degrees)	30.193611
Latitude (degrees minutes seconds)	30° 11' 37" N
Longitude (decimal degrees)	-98.165556
Longitude (degrees minutes seconds)	098° 09' 56" W
Coordinate Source	+/- 1 Second
Aquifer Code	218HSCC - Hensell Sand and Cow Creek Limestone
Aquifer	Trinity
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	1268
Land Surface Elevation Method	Digital Elevation Model -DEM
Well Depth (feet below land surface)	390
Well Depth Source	Person Other than Owner
Drilling Start Date	
Drilling End Date	
Drilling Method	
Borehole Completion	Open Hole

Well Type	Withdrawal of Water
Well Use	
Water Level Observation	Miscellaneous Measurements
Water Quality Available	No
Pump	
Pump Depth (feet below land surface)	
Power Type	
Annular Seal Method	
Surface Completion	
Owner	Unknown Dos Lagos OW
Driller	Unknown
Other Data Available	Aquifer Test
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	Texas Water Development Board
Created Date	9/7/2010
Last Update Date	10/21/2010

Remarks Observation well for aquifer test of 604. Test data and results in TWDB files.

Casing

Diameter (in.)	Casing Type	Casing Material	Schedule	Gauge	Top Depth (ft.)	Bottom Depth (ft.)
	Blank				0	20
	Open Hole				20	390

Well Tests - No Data

Lithology - No Data

Annular Seal Range - No Data

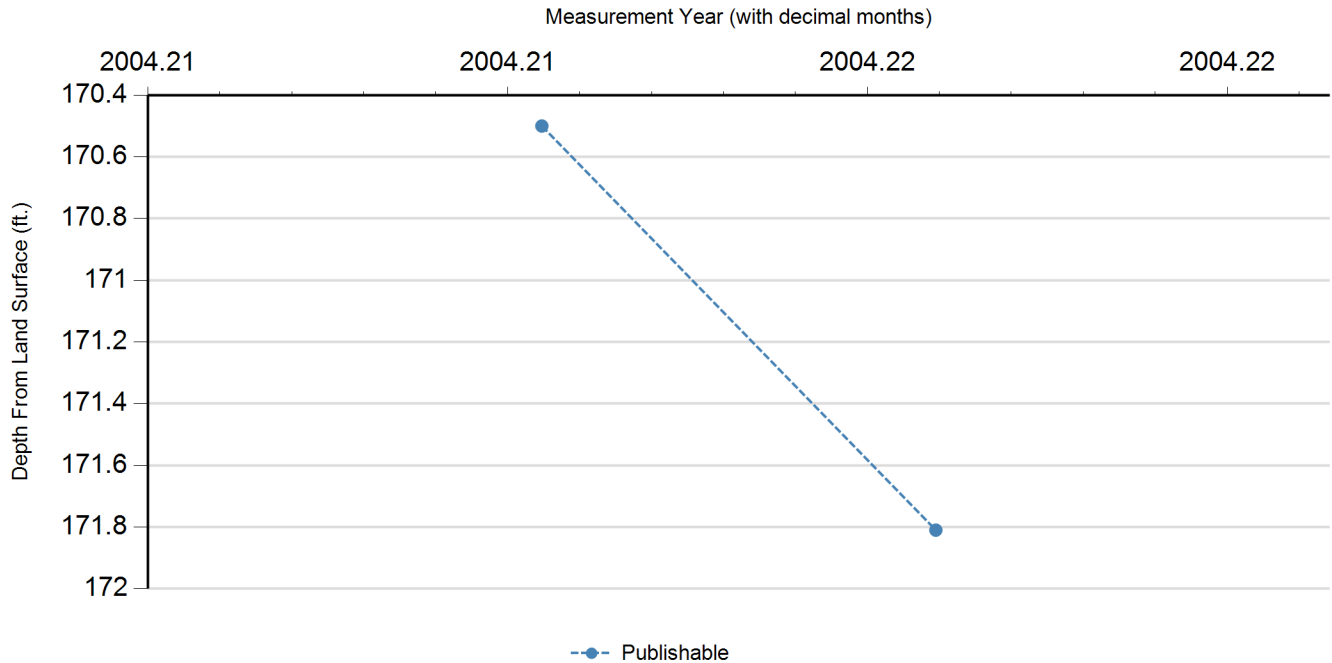
Borehole - No Data

Plugged Back - No Data

Filter Pack - No Data

Packers - No Data

Water Level Measurements



Status Code	Date	Time	Water Level (ft. below land surface)	Change value in () indicates rise in level	Water Elevation (ft. above sea level)	Meas #	Measuring Agency	Method	Remark ID	Comments
P	3/17/2004		170.5		1097.5	1	Groundwater Consultant	Transducer		
P	3/19/2004		171.81	1.31	1096.19	1	Groundwater Consultant	Transducer		

Code Descriptions

Status Code	Status Description
P	Publishable

Water Quality Analysis - No Data Available

GWDB DISCLAIMER: Except where noted, all of the information provided in the Texas Water Development Board (TWDB) Groundwater Database (<https://www.twdb.texas.gov/groundwater/data/gwdb rpt.asp>) is believed to be accurate and reliable; however, the TWDB assumes no responsibility for any errors appearing in rules or otherwise. Further, TWDB assumes no responsibility for the use of the information provided. PLEASE NOTE that users of these data are responsible for checking the accuracy, completeness, currency and/or suitability of all information themselves. TWDB makes no guarantees or warranties as to the accuracy, completeness, currency, or suitability of the information provided via the Groundwater Database (GWDB). TWDB specifically disclaims any and all liability for any claims or damages that may result from providing GWDB data or the information it contains. For additional information or answers to questions concerning the TWDB GWDB, contact the Groundwater Data Team at GroundwaterData@twdb.texas.gov.

**Texas Water Development Board
Well Schedule**

new ✓

State Well Number 57 55 608 Prev. Well No. _____ County Hays County Code 209
 Basin 14 GMA 9 RWPA K GCD Hays-Tan. Aquifer 218 HSCC
 Latitude 30 11 37 Longitude 098 09 56 Coord Accuracy 1 Aquifer ID1 2E Aquifer ID2 _____ Aquifer ID3 _____
 Owner Unknown Driller Unknown
 Well No. Dos Lagos CW
 Address _____ Tenant/Oper. _____

Well Depth 390 Source of Depth _____ Altitude 1268 Source of Alt. Datum D

Date Drilled _____ Well Type W User Code _____

Lift Data Pump Mfr. _____ Type of Lift _____ Pump Depth Setting (ft) _____ ft.
 Motor Mfg _____ Type of Power _____ Horsepower _____

Water Use Primary _____ Secondary _____ Tertiary _____

Other Data Available Water Level M Water Quality N Well Logs _____ Other Data A

Well Construction Casing Method _____ Casing Material _____
 Completion Method open hole X Screen Material _____

Date 3 17 2004 Mess. 170.5 Remarks 09/9 M.P. +

Date 3 19 2004 Mess. 171.81 Remarks 09/9

Date _____ Mess. _____ Remarks _____

Water Quality (Remarks: _____)

Field Flow Rate _____ Pump Rate _____ GPM Casing hole rate was determined
 Mass Rept Est Date of Test _____

Performance Test Length of test _____ hr Production Rate _____ GPM Casing hole rate was determined
 Mass Rept Est Date of Test _____

Static Level _____ ft. Pumping Level _____ ft. Amount of Drawdown _____ ft. Specific Capacity _____ GPM/ft.

Date Record Collected 9 7 2010 Reporting Agency OL Recorded by D. Loker

Other Remarks
 1 Observation well for aquifer test of 609.
 2 Test data and results in TWDB files.
 3 _____
 4 _____
 5 _____
 6 _____

Casing Records:			
Casing or Blank Pipe (C)			
Well Screen or Slotted Zone (S)			
Open Hole (O)			
Converted from	to		
Diem. (in.)	Interval of C, S, or O.		
	From	To	
1	C	0	20
2	0	20	390
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			

Aquifer

57 . 55 . 608

Well Number

3.0 TEST WELL CONSTRUCTION

The pumping well (PW) was drilled by Tucker Drilling Company and completed to a depth of 460 feet. Although the driller of the observation well (OW) is not known, the well was completed to a depth of about 390 feet below ground level (BGL). Both wells were completed open hole with surface casing to a depth of approximately 20 feet.

→ A geophysical log for well PW and OW are included in Appendix A. The drillers' log for well PW is also included in Appendix A.

The latitude, longitude, and elevation of the pumping well are 30° 01' 33.8" N, 98° 09' 53.6" W, and approximate elevation 1,066 feet. The latitude, longitude, and elevation of the observation well are 30° 11' 36.7" N, 98° 09' 56.4" W, and elevation approximately 1,068 feet.

4.0 GEOLOGY AND HYDROGEOLOGY

4.1 SURFACE AND BOREHOLE GEOLOGY

The Dos Lagos Property in Hays County lies on the outcrop of the Cretaceous Age, upper member of the Glen Rose Formation (upper Glen Rose). The upper Glen Rose is composed of resistant limestone and dolomite layers interbedded with less resistant argillaceous limestone and marl layers. The alternating soft and hard layers create the stair-step topography common in the Central Texas region.

Based on the geophysical logs, the test wells penetrate the basal portion of the upper Glen Rose and a complete section of the lower member of the Glen Rose Formation (lower Glen Rose). The boring at well PW also penetrates a complete section about (35 feet) of the Hensell Sand member of the Travis Peak Formation (Hensell), and the total thickness of the Cow Creek Limestone member of the Travis Peak Formation (Cow Creek). The boring at OW does not fully penetrate the Hensell. A geophysical log of both wells is included in Appendix A.

The total thickness of the Glen Rose Formation, upper and lower members, is approximately 350 feet at the Dos Lagos Subdivision. The upper Glen Rose is characterized by light to dark gray, resistant beds of limestone and dolomite alternating with softer clayey or marl layers. The contact between the upper and lower Glen Rose is identified as the "Corbula bed". The Corbula bed is a thin zone, approximately 5 feet thick, containing abundant fossils of the small clam Corbula. The contact between the upper and lower members of the Glen Rose Formation is in the subsurface. Based on the geophysical log and other borings in the area, the contact is estimated to be at about 165 feet BGL.

Observation Well Drawdown and Recovery Data **Dos Lagos Subdivision**

Date	Time	Elapsed Time (minutes)	Drawdown (feet)	Water Level (ft. bgs)	Recovery Data		Comments
					Elapsed time since end of pumping (minutes)	Residual Drawdown (feet)	
3/17/2004	10:44	0	0	-170.5			PW pumping rate 75 gpm
3/17/2004	10:45	1	0	-170.5			
3/17/2004	10:46	2	0.01	-170.51			
3/17/2004	10:47	3	0.01	-170.51			
3/17/2004	10:48	4	0.03	-170.53			
3/17/2004	10:49	5	0.05	-170.55			
3/17/2004	10:50	6	0.03	-170.53			
3/17/2004	10:51	7	0.04	-170.54			
3/17/2004	10:52	8	0.07	-170.57			
3/17/2004	10:53	9	0.07	-170.57			
3/17/2004	10:54	10	0.05	-170.55			
3/17/2004	10:55	11	0.08	-170.58			
3/17/2004	10:56	12	0.07	-170.57			
3/17/2004	10:57	13	0.1	-170.6			
3/17/2004	10:58	14	0.05	-170.55			
3/17/2004	10:59	15	0.1	-170.6			
3/17/2004	11:00	16	0.08	-170.58			
3/17/2004	11:01	17	0.1	-170.6			
3/17/2004	11:02	18	0.1	-170.6			
3/17/2004	11:03	19	0.12	-170.62			
3/17/2004	11:04	20	0.13	-170.63			
3/17/2004	11:05	21	0.13	-170.63			
3/17/2004	11:06	22	0.12	-170.62			
3/17/2004	11:07	23	0.14	-170.64			
3/17/2004	11:08	24	0.17	-170.67			
3/17/2004	11:09	25	0.18	-170.68			
3/17/2004	11:10	26	0.17	-170.67			
3/17/2004	11:11	27	0.2	-170.7			
3/17/2004	11:12	28	0.2	-170.7			
3/17/2004	11:13	29	0.21	-170.71			
3/17/2004	11:14	30	0.22	-170.72			
3/17/2004	11:15	31	0.24	-170.74			
3/17/2004	11:16	32	0.26	-170.76			
3/17/2004	11:17	33	0.25	-170.75			
3/17/2004	11:18	34	0.26	-170.76			
3/17/2004	11:19	35	0.28	-170.78			
3/17/2004	11:20	36	0.29	-170.79			
3/17/2004	11:21	37	0.3	-170.8			
3/17/2004	11:22	38	0.3	-170.8			
3/17/2004	11:23	39	0.31	-170.81			
3/17/2004	11:24	40	0.33	-170.83			

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Observation Well Drawdown and Recovery Data Dos Lagos Subdivision

Date	Time	Elapsed Time (minutes)	Drawdown (feet)	Water Level (ft. bgs)	Recovery Data		Comments
					Elapsed time since end of pumping (minutes)	Residual Drawdown (feet)	
3/17/2004	11:25	41	0.35	-170.85			
3/17/2004	11:26	42	0.35	-170.85			
3/17/2004	11:27	43	0.37	-170.87			
3/17/2004	11:28	44	0.35	-170.85			
3/17/2004	11:29	45	0.37	-170.87			
3/17/2004	11:30	46	0.38	-170.88			
3/17/2004	11:31	47	0.41	-170.91			
3/17/2004	11:32	48	0.41	-170.91			
3/17/2004	11:33	49	0.42	-170.92			
3/17/2004	11:34	50	0.43	-170.93			
3/17/2004	11:35	51	0.45	-170.95			
3/17/2004	11:36	52	0.48	-170.98			
3/17/2004	11:37	53	0.46	-170.96			
3/17/2004	11:38	54	0.47	-170.97			
3/17/2004	11:39	55	0.5	-171			
3/17/2004	11:40	56	0.5	-171			
3/17/2004	11:41	57	0.51	-171.01			
3/17/2004	11:42	58	0.51	-171.01			
3/17/2004	11:43	59	0.55	-171.05			
3/17/2004	11:44	60	0.54	-171.04			
3/17/2004	11:49	65	0.59	-171.09			
3/17/2004	11:54	70	0.63	-171.13			
3/17/2004	11:59	75	0.72	-171.22			
3/17/2004	12:04	80	0.77	-171.27			
3/17/2004	12:09	85	0.8	-171.3			
3/17/2004	12:14	90	0.85	-171.35			
3/17/2004	12:19	95	0.88	-171.38			
3/17/2004	12:24	100	0.92	-171.42			
3/17/2004	12:29	105	0.98	-171.48			
3/17/2004	12:34	110	1	-171.5			
3/17/2004	12:39	115	1.06	-171.56			
3/17/2004	12:44	120	1.13	-171.63			
3/17/2004	12:54	130	1.18	-171.68			
3/17/2004	13:04	140	1.27	-171.77			
3/17/2004	13:14	150	1.32	-171.82			
3/17/2004	13:24	160	1.39	-171.89			
3/17/2004	13:34	170	1.43	-171.93			
3/17/2004	13:44	180	1.47	-171.97			
3/17/2004	13:54	190	1.53	-172.03			
3/17/2004	14:04	200	1.56	-172.06			
3/17/2004	14:14	210	1.63	-172.13			

Observation Well Drawdown and Recovery Data **Dos Lagos Subdivision**

Date	Time	Elapsed Time (minutes)	Drawdown (feet)	Water Level (ft. bgs)	Recovery Data		Comments
					Elapsed time since end of pumping (minutes)	Residual Drawdown (feet)	
3/17/2004	14:24	220	1.69	-172.19			
3/17/2004	14:34	230	1.72	-172.22			
3/17/2004	14:44	240	1.77	-172.27			
3/17/2004	15:14	270	1.89	-172.39			
3/17/2004	15:44	300	1.99	-172.49			
3/17/2004	16:14	330	2.07	-172.57			
3/17/2004	16:44	360	2.16	-172.66			
3/17/2004	17:14	390	2.24	-172.74			
3/17/2004	17:44	420	2.33	-172.83			
3/17/2004	18:14	450	2.44	-172.94			
3/17/2004	18:44	480	2.49	-172.99			
3/17/2004	19:14	510	2.57	-173.07			
3/17/2004	19:44	540	2.64	-173.14			
3/17/2004	20:14	570	2.75	-173.25			
3/17/2004	20:44	600	2.81	-173.31			
3/17/2004	21:44	660	2.93	-173.43			
3/17/2004	22:44	720	3.07	-173.57			
3/17/2004	23:44	780	3.25	-173.75			
3/18/2004	0:44	840	3.29	-173.79			
3/18/2004	1:44	900	3.38	-173.88			
3/18/2004	2:44	960	3.44	-173.94			
3/18/2004	3:26	1002	3.49	-173.99	0.0	0.00	pump stopped
3/18/2004	3:27	1003	3.5	-174	1.0	-0.01	
3/18/2004	3:28	1004	3.49	-173.99	2.0	0.00	
3/18/2004	3:29	1005	3.46	-173.96	3.0	0.03	
3/18/2004	3:30	1006	3.49	-173.99	4.0	0.00	
3/18/2004	3:31	1007	3.45	-173.95	5.0	0.04	
3/18/2004	3:32	1008	3.48	-173.98	6.0	0.01	
3/18/2004	3:33	1009	3.48	-173.98	7.0	0.01	
3/18/2004	3:34	1010	3.46	-173.96	8.0	0.03	
3/18/2004	3:35	1011	3.48	-173.98	9.0	0.01	
3/18/2004	3:36	1012	3.45	-173.95	10.0	0.04	
3/18/2004	3:37	1013	3.45	-173.95	11.0	0.04	
3/18/2004	3:38	1014	3.46	-173.96	12.0	0.03	
3/18/2004	3:39	1015	3.45	-173.95	13.0	0.04	
3/18/2004	3:40	1016	3.44	-173.94	14.0	0.05	
3/18/2004	3:41	1017	3.44	-173.94	15.0	0.05	
3/18/2004	3:42	1018	3.44	-173.94	16.0	0.05	
3/18/2004	3:43	1019	3.44	-173.94	17.0	0.05	
3/18/2004	3:44	1020	3.44	-173.94	18.0	0.05	
3/18/2004	3:45	1021	3.42	-173.92	19.0	0.07	

Observation Well Drawdown and Recovery Data **Dos Lagos Subdivision**

Date	Time	Elapsed Time (minutes)	Drawdown (feet)	Water Level (ft. bgs)	Recovery Data		Comments
					Elapsed time since end of pumping (minutes)	Residual Drawdown (feet)	
3/18/2004	3:46	1022	3.41	-173.91	20.0	0.08	
3/18/2004	3:47	1023	3.37	-173.87	21.0	0.12	
3/18/2004	3:48	1024	3.38	-173.88	22.0	0.11	
3/18/2004	3:49	1025	3.41	-173.91	23.0	0.08	
3/18/2004	3:50	1026	3.38	-173.88	24.0	0.11	
3/18/2004	3:51	1027	3.38	-173.88	25.0	0.11	
3/18/2004	3:52	1028	3.37	-173.87	26.0	0.12	
3/18/2004	3:53	1029	3.36	-173.86	27.0	0.13	
3/18/2004	3:54	1030	3.33	-173.83	28.0	0.16	
3/18/2004	3:55	1031	3.33	-173.83	29.0	0.16	
3/18/2004	3:56	1032	3.33	-173.83	30.0	0.16	
3/18/2004	3:57	1033	3.31	-173.81	31.0	0.18	
3/18/2004	3:58	1034	3.31	-173.81	32.0	0.18	
3/18/2004	3:59	1035	3.31	-173.81	33.0	0.18	
3/18/2004	4:00	1036	3.29	-173.79	34.0	0.20	
3/18/2004	4:01	1037	3.28	-173.78	35.0	0.21	
3/18/2004	4:02	1038	3.29	-173.79	36.0	0.20	
3/18/2004	4:03	1039	3.28	-173.78	37.0	0.21	
3/18/2004	4:04	1040	3.27	-173.77	38.0	0.22	
3/18/2004	4:05	1041	3.27	-173.77	39.0	0.22	
3/18/2004	4:06	1042	3.23	-173.73	40.0	0.26	
3/18/2004	4:07	1043	3.21	-173.71	41.0	0.28	
3/18/2004	4:08	1044	3.23	-173.73	42.0	0.26	
3/18/2004	4:09	1045	3.21	-173.71	43.0	0.28	
3/18/2004	4:10	1046	3.21	-173.71	44.0	0.28	
3/18/2004	4:11	1047	3.2	-173.7	45.0	0.29	
3/18/2004	4:12	1048	3.17	-173.67	46.0	0.32	
3/18/2004	4:13	1049	3.17	-173.67	47.0	0.32	
3/18/2004	4:14	1050	3.2	-173.7	48.0	0.29	
3/18/2004	4:15	1051	3.17	-173.67	49.0	0.32	
3/18/2004	4:16	1052	3.19	-173.69	50.0	0.30	
3/18/2004	4:17	1053	3.14	-173.64	51.0	0.35	
3/18/2004	4:18	1054	3.12	-173.62	52.0	0.37	
3/18/2004	4:19	1055	3.14	-173.64	53.0	0.35	
3/18/2004	4:20	1056	3.12	-173.62	54.0	0.37	
3/18/2004	4:21	1057	3.08	-173.58	55.0	0.41	
3/18/2004	4:22	1058	3.08	-173.58	56.0	0.41	
3/18/2004	4:23	1059	3.08	-173.58	57.0	0.41	
3/18/2004	4:24	1060	3.08	-173.58	58.0	0.41	
3/18/2004	4:25	1061	3.06	-173.56	59.0	0.43	
3/18/2004	4:26	1062	3.06	-173.56	60.0	0.43	

Observation Well Drawdown and Recovery Data **Dos Lagos Subdivision**

Date	Time	Elapsed Time (minutes)	Drawdown (feet)	Water Level (ft. bgs)	Recovery Data		Comments
					Elapsed time since end of pumping (minutes)	Residual Drawdown (feet)	
3/18/2004	4:31	1067	3	-173.5	65.0	0.49	
3/18/2004	4:36	1072	2.96	-173.46	70.0	0.53	
3/18/2004	4:41	1077	2.89	-173.39	75.0	0.60	
3/18/2004	4:46	1082	2.87	-173.37	80.0	0.62	
3/18/2004	4:51	1087	2.82	-173.32	85.0	0.67	
3/18/2004	4:56	1092	2.78	-173.28	90.0	0.71	
3/18/2004	5:01	1097	2.77	-173.27	95.0	0.72	
3/18/2004	5:06	1102	2.73	-173.23	100.0	0.76	
3/18/2004	5:11	1107	2.66	-173.16	105.0	0.83	
3/18/2004	5:16	1112	2.64	-173.14	110.0	0.85	
3/18/2004	5:21	1117	2.62	-173.12	115.0	0.87	
3/18/2004	5:26	1122	2.6	-173.1	120.0	0.89	
3/18/2004	5:36	1132	2.56	-173.06	130.0	0.93	
3/18/2004	5:46	1142	2.48	-172.98	140.0	1.01	
3/18/2004	5:56	1152	2.44	-172.94	150.0	1.05	
3/18/2004	6:06	1162	2.35	-172.85	160.0	1.14	
3/18/2004	6:16	1172	2.33	-172.83	170.0	1.16	
3/18/2004	6:26	1182	2.28	-172.78	180.0	1.21	
3/18/2004	6:36	1192	2.26	-172.76	190.0	1.23	
3/18/2004	6:46	1202	2.2	-172.7	200.0	1.29	
3/18/2004	6:56	1212	2.18	-172.68	210.0	1.31	
3/18/2004	7:06	1222	2.14	-172.64	220.0	1.35	
3/18/2004	7:16	1232	2.11	-172.61	230.0	1.38	
3/18/2004	7:26	1242	2.09	-172.59	240.0	1.40	
3/18/2004	7:56	1272	1.99	-172.49	270.0	1.50	
3/18/2004	7:57	1273	2.01	-172.51	271.0	1.48	
3/18/2004	7:58	1274	2.01	-172.51			pump re-started 75 gpm
3/18/2004	7:59	1275	2.01	-172.51			
3/18/2004	8:00	1276	2.01	-172.51			
3/18/2004	8:01	1277	1.97	-172.47			
3/18/2004	8:02	1278	1.99	-172.49			
3/18/2004	8:03	1279	2.01	-172.51			
3/18/2004	8:04	1280	2.01	-172.51			
3/18/2004	8:05	1281	2.01	-172.51			
3/18/2004	8:06	1282	2.02	-172.52			
3/18/2004	8:07	1283	2.02	-172.52			
3/18/2004	8:08	1284	2.01	-172.51			
3/18/2004	8:09	1285	2.01	-172.51			
3/18/2004	8:10	1286	1.99	-172.49			
3/18/2004	8:11	1287	2.03	-172.53			
3/18/2004	8:12	1288	2.02	-172.52			

Observation Well Drawdown and Recovery Data **Dos Lagos Subdivision**

Date	Time	Elapsed Time (minutes)	Drawdown (feet)	Water Level (ft. bgs)	Recovery Data		Comments
					Elapsed time since end of pumping (minutes)	Residual Drawdown (feet)	
3/18/2004	8:13	1289	2.03	-172.53			
3/18/2004	8:14	1290	2.05	-172.55			
3/18/2004	8:15	1291	2.05	-172.55			
3/18/2004	8:16	1292	2.05	-172.55			
3/18/2004	8:17	1293	2.07	-172.57			
3/18/2004	8:18	1294	2.06	-172.56			
3/18/2004	8:19	1295	2.07	-172.57			
3/18/2004	8:20	1296	2.06	-172.56			
3/18/2004	8:21	1297	2.09	-172.59			
3/18/2004	8:22	1298	2.1	-172.6			
3/18/2004	8:23	1299	2.1	-172.6			
3/18/2004	8:24	1300	2.09	-172.59			
3/18/2004	8:25	1301	2.1	-172.6			
3/18/2004	8:26	1302	2.09	-172.59			
3/18/2004	8:27	1303	2.1	-172.6			
3/18/2004	8:28	1304	2.1	-172.6			
3/18/2004	8:29	1305	2.12	-172.62			
3/18/2004	8:30	1306	2.12	-172.62			
3/18/2004	8:31	1307	2.14	-172.64			
3/18/2004	8:32	1308	2.14	-172.64			
3/18/2004	8:33	1309	2.16	-172.66			
3/18/2004	8:34	1310	2.16	-172.66			
3/18/2004	8:35	1311	2.18	-172.68			
3/18/2004	8:36	1312	2.16	-172.66			
3/18/2004	8:37	1313	2.2	-172.7			
3/18/2004	8:38	1314	2.2	-172.7			
3/18/2004	8:39	1315	2.2	-172.7			
3/18/2004	8:40	1316	2.2	-172.7			
3/18/2004	8:41	1317	2.2	-172.7			
3/18/2004	8:42	1318	2.24	-172.74			
3/18/2004	8:43	1319	2.23	-172.73			
3/18/2004	8:44	1320	2.24	-172.74			
3/18/2004	8:45	1321	2.3	-172.8			
3/18/2004	8:46	1322	2.27	-172.77			
3/18/2004	8:47	1323	2.31	-172.81			
3/18/2004	8:48	1324	2.3	-172.8			
3/18/2004	8:49	1325	2.3	-172.8			
3/18/2004	8:50	1326	2.3	-172.8			
3/18/2004	8:51	1327	2.32	-172.82			
3/18/2004	8:52	1328	2.31	-172.81			
3/18/2004	8:53	1329	2.33	-172.83			

Observation Well Drawdown and Recovery Data Dos Lagos Subdivision

Date	Time	Elapsed Time (minutes)	Drawdown (feet)	Water Level (ft. bgs)	Recovery Data		Comments
					Elapsed time since end of pumping (minutes)	Residual Drawdown (feet)	
3/18/2004	8:54	1330	2.33	-172.83			
3/18/2004	8:55	1331	2.36	-172.86			
3/18/2004	8:56	1332	2.36	-172.86			
3/18/2004	8:57	1333	2.4	-172.9			
3/18/2004	8:58	1334	2.4	-172.9			
3/18/2004	9:03	1339	2.43	-172.93			
3/18/2004	9:08	1344	2.45	-172.95			
3/18/2004	9:13	1349	2.53	-173.03			
3/18/2004	9:18	1354	2.54	-173.04			
3/18/2004	9:23	1359	2.58	-173.08			
3/18/2004	9:28	1364	2.61	-173.11			
3/18/2004	9:33	1369	2.62	-173.12			
3/18/2004	9:38	1374	2.66	-173.16			
3/18/2004	9:43	1379	2.72	-173.22			
3/18/2004	9:48	1384	2.74	-173.24			
3/18/2004	9:53	1389	2.77	-173.27			
3/18/2004	9:58	1394	2.79	-173.29			
3/18/2004	10:08	1404	2.87	-173.37			
3/18/2004	10:18	1414	2.91	-173.41			
3/18/2004	10:28	1424	2.98	-173.48			
3/18/2004	10:38	1434	3.03	-173.53			
3/18/2004	10:48	1444	3.08	-173.58			
3/18/2004	10:58	1454	3.11	-173.61			
3/18/2004	11:08	1464	3.15	-173.65			
3/18/2004	11:18	1474	3.17	-173.67			
3/18/2004	11:28	1484	3.21	-173.71			
3/18/2004	11:38	1494	3.25	-173.75			
3/18/2004	11:48	1504	3.31	-173.81			
3/18/2004	11:58	1514	3.32	-173.82			
3/18/2004	12:08	1524	3.35	-173.85			
3/18/2004	12:38	1554	3.44	-173.94			
3/18/2004	13:08	1584	3.5	-174			
3/18/2004	13:38	1614	3.57	-174.07			
3/18/2004	14:08	1644	3.65	-174.15			
3/18/2004	14:38	1674	3.69	-174.19			
3/18/2004	14:52	1688	3.71	-174.21			
3/18/2004	14:53	1689	3.69	-174.19	0.0	0.00	pump off
3/18/2004	14:54	1690	3.7	-174.2	1.0	-0.01	start recovery
3/18/2004	14:55	1691	3.7	-174.2	2.0	-0.01	
3/18/2004	14:56	1692	3.7	-174.2	3.0	-0.01	
3/18/2004	14:57	1693	3.73	-174.23	4.0	-0.04	

Observation Well Drawdown and Recovery Data **Dos Lagos Subdivision**

Date	Time	Elapsed Time (minutes)	Drawdown (feet)	Water Level (ft. bgs)	Recovery Data		Comments
					Elapsed time since end of pumping (minutes)	Residual Drawdown (feet)	
3/18/2004	14:58	1694	3.73	-174.23	5.0	-0.04	
3/18/2004	14:59	1695	3.73	-174.23	6.0	-0.04	
3/18/2004	15:00	1696	3.7	-174.2	7.0	-0.01	
3/18/2004	15:01	1697	3.7	-174.2	8.0	-0.01	
3/18/2004	15:02	1698	3.69	-174.19	9.0	0.00	
3/18/2004	15:03	1699	3.69	-174.19	10.0	0.00	
3/18/2004	15:04	1700	3.67	-174.17	11.0	0.02	
3/18/2004	15:05	1701	3.69	-174.19	12.0	0.00	
3/18/2004	15:06	1702	3.7	-174.2	13.0	-0.01	
3/18/2004	15:07	1703	3.65	-174.15	14.0	0.04	
3/18/2004	15:08	1704	3.67	-174.17	15.0	0.02	
3/18/2004	15:09	1705	3.69	-174.19	16.0	0.00	
3/18/2004	15:10	1706	3.66	-174.16	17.0	0.03	
3/18/2004	15:11	1707	3.65	-174.15	18.0	0.04	
3/18/2004	15:12	1708	3.66	-174.16	19.0	0.03	
3/18/2004	15:13	1709	3.65	-174.15	20.0	0.04	
3/18/2004	15:14	1710	3.62	-174.12	21.0	0.07	
3/18/2004	15:15	1711	3.65	-174.15	22.0	0.04	
3/18/2004	15:16	1712	3.63	-174.13	23.0	0.06	
3/18/2004	15:17	1713	3.63	-174.13	24.0	0.06	
3/18/2004	15:18	1714	3.61	-174.11	25.0	0.08	
3/18/2004	15:19	1715	3.61	-174.11	26.0	0.08	
3/18/2004	15:20	1716	3.61	-174.11	27.0	0.08	
3/18/2004	15:21	1717	3.59	-174.09	28.0	0.10	
3/18/2004	15:22	1718	3.59	-174.09	29.0	0.10	
3/18/2004	15:23	1719	3.59	-174.09	30.0	0.10	
3/18/2004	15:24	1720	3.56	-174.06	31.0	0.13	
3/18/2004	15:25	1721	3.56	-174.06	32.0	0.13	
3/18/2004	15:26	1722	3.57	-174.07	33.0	0.12	
3/18/2004	15:27	1723	3.54	-174.04	34.0	0.15	
3/18/2004	15:28	1724	3.53	-174.03	35.0	0.16	
3/18/2004	15:29	1725	3.53	-174.03	36.0	0.16	
3/18/2004	15:30	1726	3.52	-174.02	37.0	0.17	
3/18/2004	15:31	1727	3.49	-173.99	38.0	0.20	
3/18/2004	15:32	1728	3.53	-174.03	39.0	0.16	
3/18/2004	15:33	1729	3.48	-173.98	40.0	0.21	
3/18/2004	15:34	1730	3.49	-173.99	41.0	0.20	
3/18/2004	15:35	1731	3.48	-173.98	42.0	0.21	
3/18/2004	15:36	1732	3.48	-173.98	43.0	0.21	
3/18/2004	15:37	1733	3.45	-173.95	44.0	0.24	
3/18/2004	15:38	1734	3.45	-173.95	45.0	0.24	

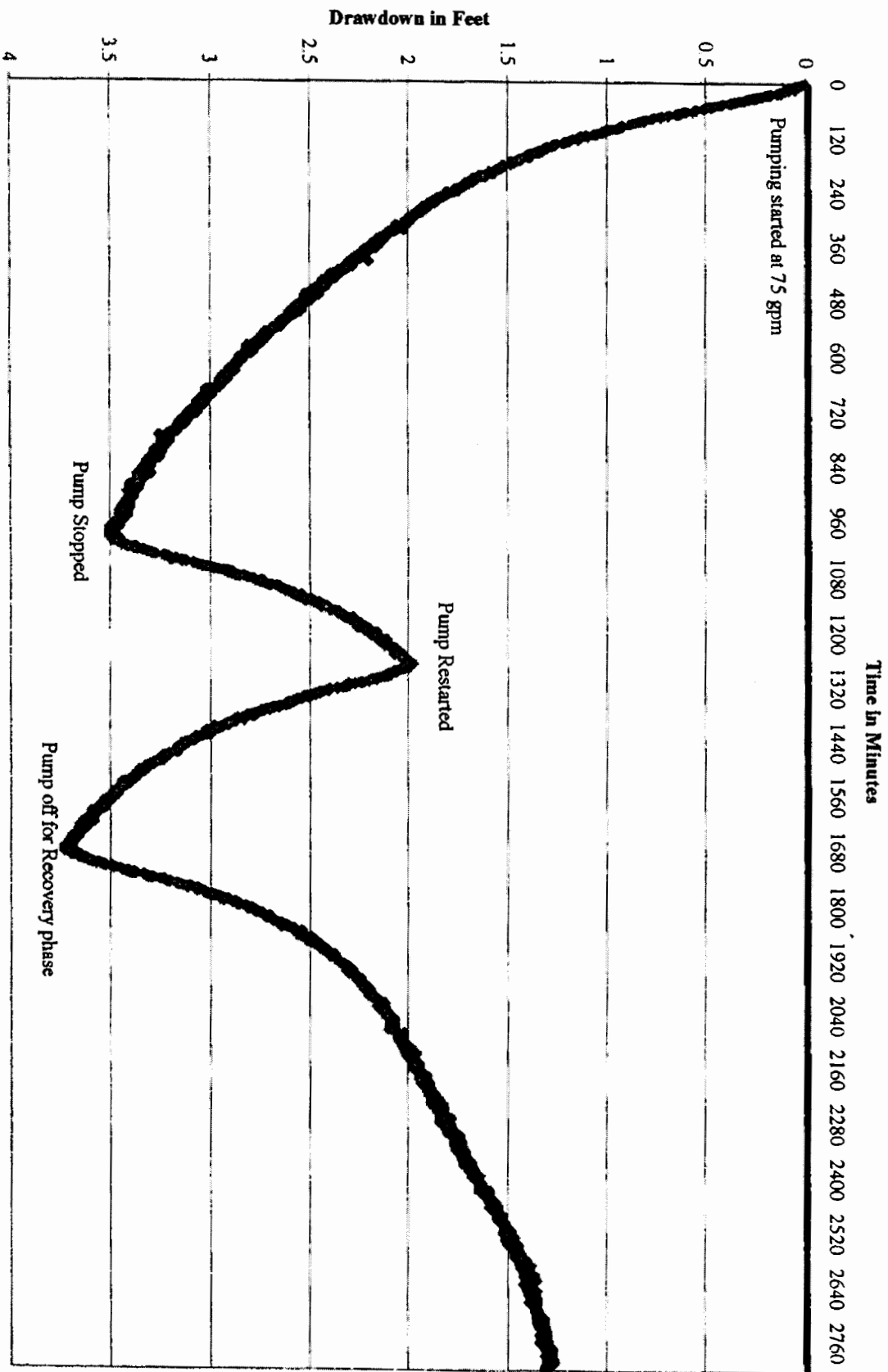
Observation Well Drawdown and Recovery Data **Dos Lagos Subdivision**

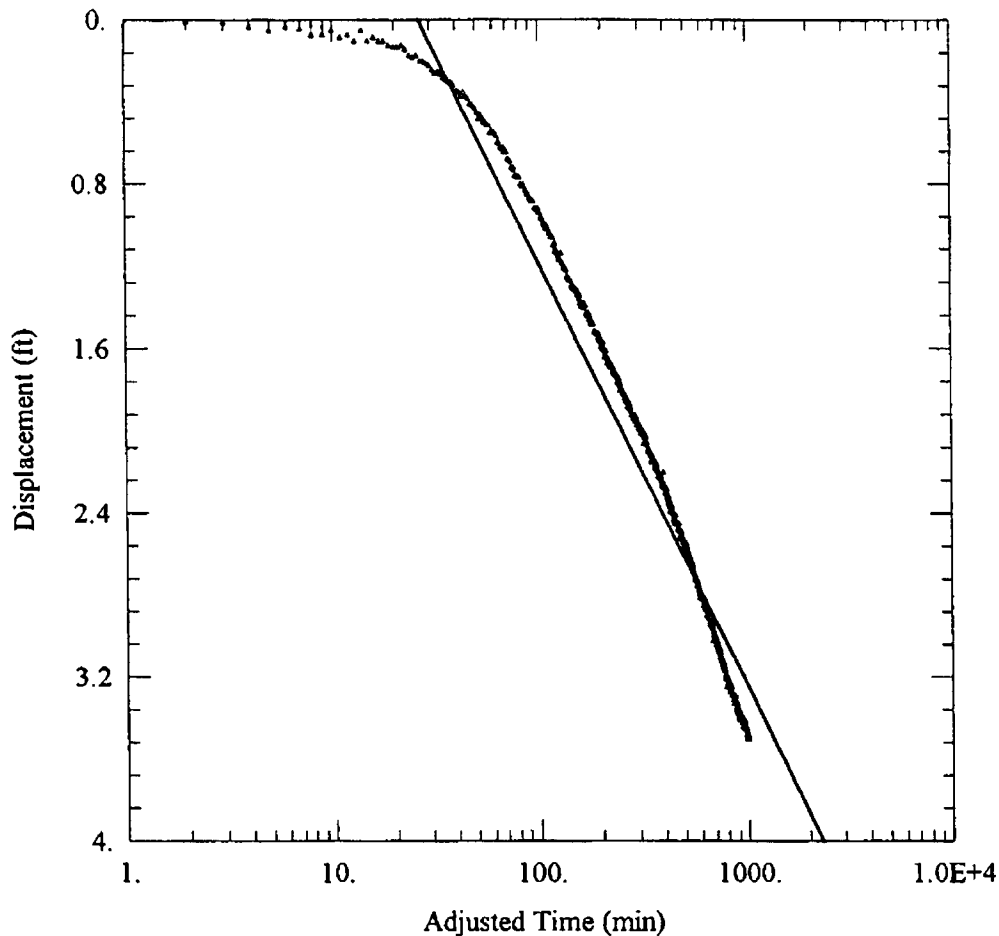
Date	Time	Elapsed Time (minutes)	Drawdown (feet)	Water Level (ft. bgs)	Recovery Data		Comments
					Elapsed time since end of pumping (minutes)	Residual Drawdown (feet)	
3/18/2004	15:39	1735	3.44	-173.94	46.0	0.25	
3/18/2004	15:40	1736	3.44	-173.94	47.0	0.25	
3/18/2004	15:41	1737	3.41	-173.91	48.0	0.28	
3/18/2004	15:42	1738	3.42	-173.92	49.0	0.27	
3/18/2004	15:43	1739	3.38	-173.88	50.0	0.31	
3/18/2004	15:44	1740	3.4	-173.9	51.0	0.29	
3/18/2004	15:45	1741	3.38	-173.88	52.0	0.31	
3/18/2004	15:46	1742	3.37	-173.87	53.0	0.32	
3/18/2004	15:47	1743	3.4	-173.9	54.0	0.29	
3/18/2004	15:48	1744	3.38	-173.88	55.0	0.31	
3/18/2004	15:49	1745	3.33	-173.83	56.0	0.36	
3/18/2004	15:50	1746	3.33	-173.83	57.0	0.36	
3/18/2004	15:51	1747	3.33	-173.83	58.0	0.36	
3/18/2004	15:52	1748	3.32	-173.82	59.0	0.37	
3/18/2004	15:53	1749	3.31	-173.81	60.0	0.38	
3/18/2004	15:58	1754	3.25	-173.75	65.0	0.44	
3/18/2004	16:03	1759	3.2	-173.7	70.0	0.49	
3/18/2004	16:08	1764	3.16	-173.66	75.0	0.53	
3/18/2004	16:13	1769	3.1	-173.6	80.0	0.59	
3/18/2004	16:18	1774	3.07	-173.57	85.0	0.62	
3/18/2004	16:23	1779	3.06	-173.56	90.0	0.63	
3/18/2004	16:28	1784	3.02	-173.52	95.0	0.67	
3/18/2004	16:33	1789	2.99	-173.49	100.0	0.70	
3/18/2004	16:38	1794	2.95	-173.45	105.0	0.74	
3/18/2004	16:43	1799	2.93	-173.43	110.0	0.76	
3/18/2004	16:48	1804	2.89	-173.39	115.0	0.80	
3/18/2004	16:53	1809	2.86	-173.36	120.0	0.83	
3/18/2004	17:03	1819	2.77	-173.27	130.0	0.92	
3/18/2004	17:13	1829	2.74	-173.24	140.0	0.95	
3/18/2004	17:23	1839	2.69	-173.19	150.0	1.00	
3/18/2004	17:33	1849	2.66	-173.16	160.0	1.03	
3/18/2004	17:43	1859	2.58	-173.08	170.0	1.11	
3/18/2004	17:53	1869	2.57	-173.07	180.0	1.12	
3/18/2004	18:03	1879	2.53	-173.03	190.0	1.16	
3/18/2004	18:13	1889	2.48	-172.98	200.0	1.21	
3/18/2004	18:23	1899	2.45	-172.95	210.0	1.24	
3/18/2004	18:33	1909	2.41	-172.91	220.0	1.28	
3/18/2004	18:43	1919	2.4	-172.9	230.0	1.29	
3/18/2004	18:53	1929	2.35	-172.85	240.0	1.34	
3/18/2004	19:23	1959	2.3	-172.8	270.0	1.39	
3/18/2004	19:53	1989	2.2	-172.7	300.0	1.49	

Observation Well Drawdown and Recovery Data **Dos Lagos Subdivision**

Date	Time	Elapsed Time (minutes)	Drawdown (feet)	Water Level (ft. bgs)	Recovery Data		Comments
					Elapsed time since end of pumping (minutes)	Residual Drawdown (feet)	
3/18/2004	20:23	2019	2.15	-172.65	330.0	1.54	
3/18/2004	20:53	2049	2.09	-172.59	360.0	1.60	
3/18/2004	21:23	2079	2.07	-172.57	390.0	1.62	
3/18/2004	21:53	2109	2.02	-172.52	420.0	1.67	
3/18/2004	22:23	2139	2.01	-172.51	450.0	1.68	
3/18/2004	22:53	2169	1.94	-172.44	480.0	1.75	
3/18/2004	23:23	2199	1.92	-172.42	510.0	1.77	
3/18/2004	23:53	2229	1.86	-172.36	540.0	1.83	
3/19/2004	0:23	2259	1.84	-172.34	570.0	1.85	
3/19/2004	0:53	2289	1.8	-172.3	600.0	1.89	
3/19/2004	1:53	2349	1.71	-172.21	660.0	1.98	
3/19/2004	2:53	2409	1.65	-172.15	720.0	2.04	
3/19/2004	3:53	2469	1.55	-172.05	780.0	2.14	
3/19/2004	4:53	2529	1.5	-172	840.0	2.19	
3/19/2004	5:53	2589	1.42	-171.92	900.0	2.27	
3/19/2004	6:53	2649	1.38	-171.88	960.0	2.31	
3/19/2004	7:53	2709	1.32	-171.82	1020.0	2.37	
3/19/2004	8:53	2769	1.32	-171.82	1080.0	2.37	
3/19/2004	9:53	2829	1.27	-171.77	1140.0	2.42	
3/19/2004	10:09	2845	1.31	-171.81	1156.0	2.38	

FIGURE 4
Observation Well Drawdown and Recovery Curve
Dos Lagos Subdivision, Hays County, Texas





OBSERVATION WELL DRAWDOWN

Data Set: C:\BGS\WellSpec\Robinson\OWDD.aqt

Date: 04/07/04

Time: 16:17:17

PROJECT INFORMATION

Company: The Wellspec Company

Client: R. Robinson

Project: Dos Lagos Subdivision

Location: Hays County

Test Well: PW

Test Date: 17 - 19 March, 2004

AQUIFER DATA

Saturated Thickness: 80. ft

Anisotropy Ratio (K_z/K_r): 1.

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
PW 1	0	0

Observation Wells

Well Name	X (ft)	Y (ft)
OW 1	475	0

SOLUTION

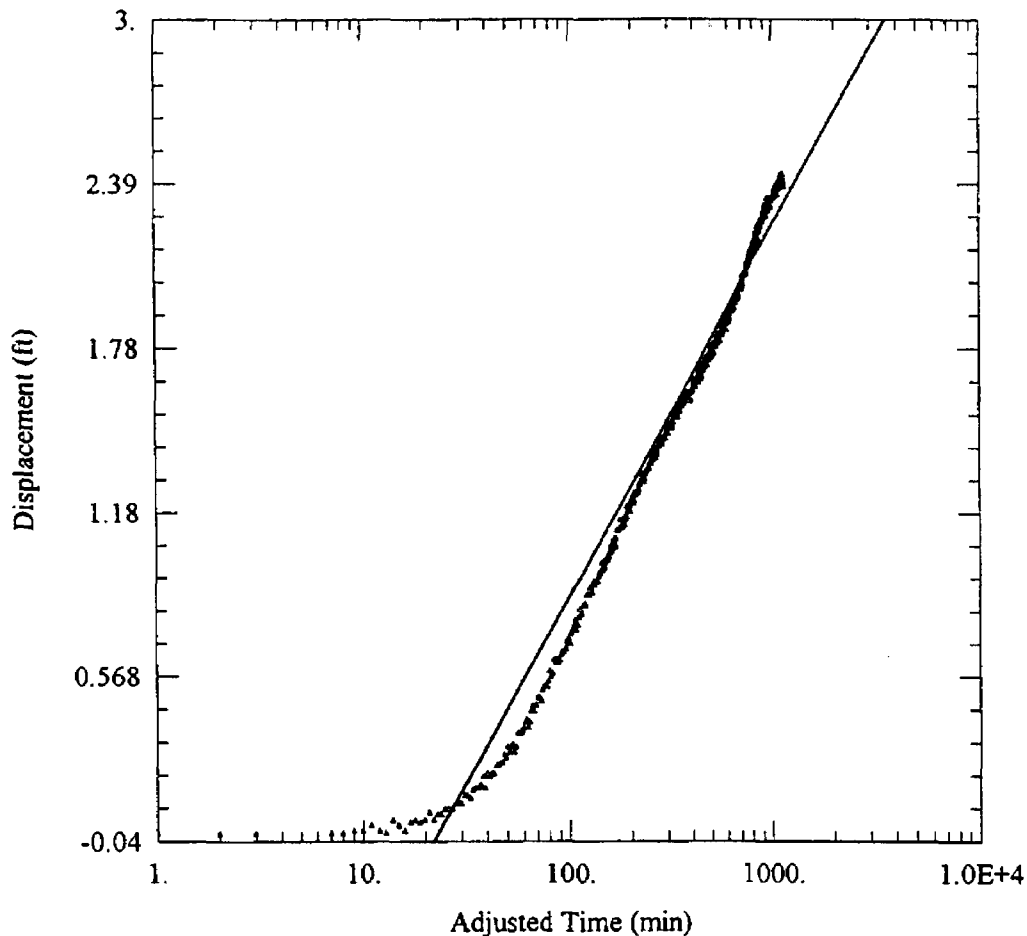
Aquifer Model: Confined

Solution Method: Cooper-Jacob

T = 9605.2 gal/day/ft

S = 0.0002347

57-55-608



OBSERVATION WELL RECOVERY

Data Set: C:\BGS\WellSpec\Robinson\OWREC.aqt

Date: 04/07/04

Time: 16:20:55

PROJECT INFORMATION

Company: The WellSpec Company

Client: R. Robinson

Project: Dos Lagos Subdivision

Location: Hays County

Test Well: PW

Test Date: 17 - 19 March 2004

AQUIFER DATA

Saturated Thickness: 80. ft

Anisotropy Ratio (K_z/K_r): 1.

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
PW 1	0	0

Observation Wells

Well Name	X (ft)	Y (ft)
OW 1	475	0

SOLUTION

Aquifer Model: Confined

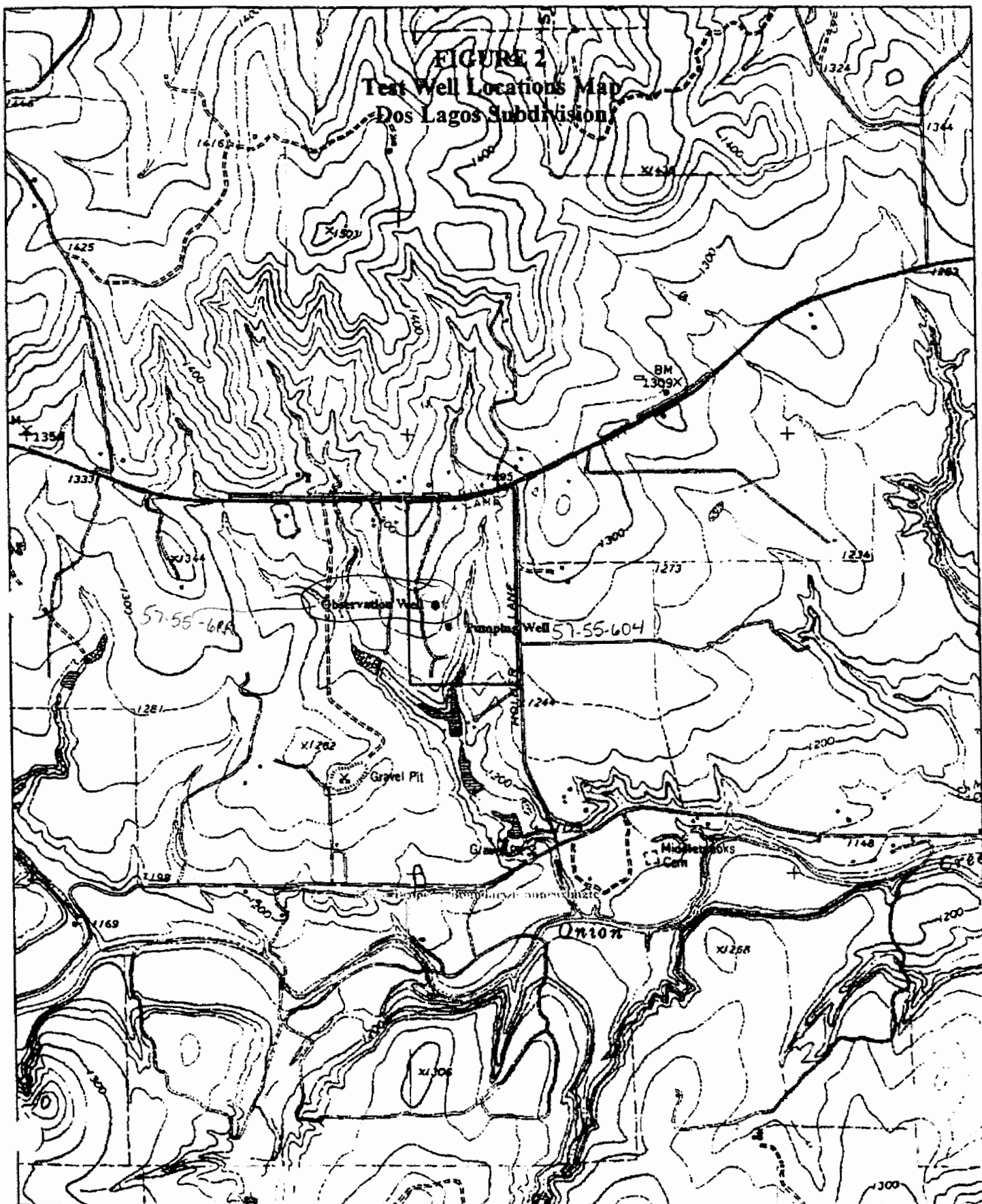
Solution Method: Cooper-Jacob

$T = 1.438E+4$ gal/day/ft

$S = 0.0003138$

57-55-608

FIGURE 2
Test Well Locations Map
Dos Lagos Subdivision



3-D Topographic map of the Dos Lagos Subdivision. Source: Data from the U.S. Geological Survey. Scale: 1 inch = 1 mile. Contour interval: 20 feet.

57-55-608

**WATER AVAILABILITY INVESTIGATION
DOS LAGOS SUBDIVISION
HAYS COUNTY, TEXAS**

RECEIVED

AUG 10 2004
ASB

AUG - 6 2004

April 2004

Prepared for:

Randall Robinson Enterprises
Dripping Springs, Texas 78620

Prepared by:

The Wellspec Company
P.O. Box 1156
Dripping Springs, Texas 78620

and,

BOND GEOLOGICAL SERVICES
1501 N. Rainbow Ranch Rd.
Wimberley, Texas 78676

57-55-608

[GWDB Reports and Downloads](#)
[Well Basic Details](#)
[Scanned Documents](#)

State Well Number	5755609
County	Hays
River Basin	Colorado
Groundwater Management Area	9
Regional Water Planning Area	K - Lower Colorado
Groundwater Conservation District	Hays Trinity GCD
Latitude (decimal degrees)	30.196667
Latitude (degrees minutes seconds)	30° 11' 48" N
Longitude (decimal degrees)	-98.143889
Longitude (degrees minutes seconds)	098° 08' 38" W
Coordinate Source	Global Positioning System - GPS
Aquifer Code	218GLRSU - Glen Rose Limestone, Upper Member
Aquifer	Trinity
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	1186
Land Surface Elevation Method	Digital Elevation Model -DEM
Well Depth (feet below land surface)	
Well Depth Source	
Drilling Start Date	
Drilling End Date	
Drilling Method	
Borehole Completion	

Well Type	Spring
Well Use	Unused
Water Level Observation	None
Water Quality Available	Yes
Pump	
Pump Depth (feet below land surface)	
Power Type	
Annular Seal Method	
Surface Completion	
Owner	Blue Creek Spring
Driller	
Other Data Available	
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	Blue Creek
Other Well Number	
Previous State Well Number	
Reporting Agency	Groundwater Conservation District
Created Date	10/22/2015
Last Update Date	10/22/2015

Remarks	Blue Creek 0.4 cfs Spring about 20 gpm. 7/20/2015.
---------	--

Casing - No Data

Well Tests - No Data

Lithology - No Data

Annular Seal Range - No Data

Borehole - No Data

Plugged Back - No Data

Filter Pack - No Data

Packers - No Data

Water Level Measurements

No Data Available

Water Quality Analysis

Sample Date: 7/20/2015 **Sample Time:** 1600 **Sample Number:** 1 **Collection Entity:** Barton Springs/Edwards Aquifer CD

Sampled Aquifer: Glen Rose Limestone, Upper Member

Analyzed Lab: LCRA - Lower Colorado River Authority **Reliability:** Sampled using TWDB protocols

Collection Remarks: Lab Calculated Anion/Cation Chg Bal set to TWDB Calculated Value due to an error in the lab calculated formula

Parameter Code	Parameter Description	Flag	Value*	Units	Plus/Minus
00415	ALKALINITY, PHENOLPHTHALEIN (MG/L)	<	20	mg/L	
00410	ALKALINITY, TOTAL (MG/L AS CaCO ₃)		283	mg/L as CaCO ₃	
01106	ALUMINUM, DISSOLVED (UG/L AS AL)	<	4	ug/L	
50938	ANION/CATION CHG BAL, PERCENT		-0.2913	PCT	
01095	ANTIMONY, DISSOLVED (UG/L AS SB)	<	1	ug/L	
01000	ARSENIC, DISSOLVED (UG/L AS AS)	<	2	ug/L	
01005	BARIUM, DISSOLVED (UG/L AS BA)		44.5	ug/L	
01010	BERYLLIUM, DISSOLVED (UG/L AS BE)	<	1	ug/L	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO ₃)		345.358	mg/L	
01020	BORON, DISSOLVED (UG/L AS B)	<	50	ug/L	
71870	BROMIDE, DISSOLVED, (MG/L AS BR)		0.161	mg/L	
01025	CADMIUM, DISSOLVED (UG/L AS CD)	<	1	ug/L	
00915	CALCIUM, DISSOLVED (MG/L AS CA)		106	mg/L	
28004	CARBON-14 DISS APPARENT AGE (YEARS BP)	<	65	Y-BP	
82172	CARBON-14 FRACTION MODERN		1.0419		0.0025
00445	CARBONATE ION, CALCULATED (MG/L AS CO ₃)		0	mg/L	
00941	CHLORIDE, DISSOLVED (MG/L AS CL)		33.9	mg/L	
01030	CHROMIUM, DISSOLVED (UG/L AS CR)		1.21	ug/L	
01035	COBALT, DISSOLVED (UG/L AS CO)	<	1	ug/L	
01040	COPPER, DISSOLVED (UG/L AS CU)	<	1	ug/L	
82081	DELTA CARBON 13 C13/C12 PER MIL		-11.8	0/00	
50791	DEUTERIUM, EXPRESSED AS PERMIL VSMOW		-24.2	0/00	
00950	FLUORIDE, DISSOLVED (MG/L AS F)		0.23	mg/L	
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CaCO ₃)		347.301	mg/L as CaCO ₃	
01046	IRON, DISSOLVED (UG/L AS FE)	<	50	ug/L	
01049	LEAD, DISSOLVED (UG/L AS PB)	<	1	ug/L	
01130	LITHIUM, DISSOLVED (UG/L AS LI)		3.38	ug/L	
00925	MAGNESIUM, DISSOLVED (MG/L AS MG)		20	mg/L	
01056	MANGANESE, DISSOLVED (UG/L AS MN)	<	1	ug/L	
71890	MERCURY, DISSOLVED (UG/L AS HG)	<	0.2	ug/L	
01060	MOLYBDENUM, DISSOLVED (UG/L AS MO)	<	1	ug/L	

**Texas Water Development Board (TWDB)
Groundwater Database (GWDB)
Well Information Report for State Well Number
57-55-609**

Parameter Code	Parameter Description	Flag	Value*	Units	Plus/Minus
71851	NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO3)		0.12	mg/L as NO3	
00631	NITRITE PLUS NITRATE, DISSOLVED (MG/L AS N)		0.027	mg/L as N	
50790	OXYGEN-18, EXPRESSED AS PERMIL VSMOW		-4.35	0/00	
00400	PH (STANDARD UNITS), FIELD		7.54	SU	
00666	PHOSPHORUS, DISSOLVED (MG/L AS P)	<	0.02	mg/L as P	
00935	POTASSIUM, DISSOLVED (MG/L AS K)		1.1	mg/L	
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		0		
01145	SELENIUM, DISSOLVED (UG/L AS SE)	<	4	ug/L	
00955	SILICA, DISSOLVED (MG/L AS SiO2)		10.5	mg/L as SiO2	
01075	SILVER, DISSOLVED (UG/L AS AG)	<	1	ug/L	
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		0.388		
00932	SODIUM, CALCULATED, PERCENT		9.43	PCT	
00930	SODIUM, DISSOLVED (MG/L AS NA)		16.6	mg/L	
00094	SPECIFIC CONDUCTANCE, FIELD (UMHOS/CM AT 25C)		718	MICR	
01080	STRONTIUM, DISSOLVED (UG/L AS SR)		170	ug/L	
48297	STRONTIUM, ISOTOPE OF MASS 86 AND 87 RATIO		0.708179	N/A	
00946	SULFATE, DISSOLVED (MG/L AS SO4)		53	mg/L as SO4	
00010	TEMPERATURE, WATER (CELSIUS)		23.27	C	
01057	THALLIUM, DISSOLVED (UG/L AS TL)	<	1	ug/L	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		411.432	mg/L	
22703	URANIUM, NATURAL, DISSOLVED (UG/L AS U)	<	1	ug/L	
01085	VANADIUM, DISSOLVED (UG/L AS V)		1.43	ug/L	
01090	ZINC, DISSOLVED (UG/L AS ZN)	<	4	ug/L	

* Value may not display all significant digits for parameter in results, check Scanned Documents for laboratory paperwork..

GWDB DISCLAIMER: Except where noted, all of the information provided in the Texas Water Development Board (TWDB) Groundwater Database (<https://www.twdb.texas.gov/groundwater/data/gwdb.rpt.asp>) is believed to be accurate and reliable; however, the TWDB assumes no responsibility for any errors appearing in rules or otherwise. Further, TWDB assumes no responsibility for the use of the information provided. PLEASE NOTE that users of these data are responsible for checking the accuracy, completeness, currency and/or suitability of all information themselves. TWDB makes no guarantees or warranties as to the accuracy, completeness, currency, or suitability of the information provided via the Groundwater Database (GWDB). TWDB specifically disclaims any and all liability for any claims or damages that may result from providing GWDB data or the information it contains. For additional information or answers to questions concerning the TWDB GWDB, contact the Groundwater Data Team at GroundwaterData@twdb.texas.gov.

TWDB Water Quality Field Data Sheet

SWN: 57-55-608 Site Name: Blue Creek Spring
 County: Hays Address or Location: _____
 County Code: 209 _____
 Aquifer Code: 218 GLASH _____
 Aquifer Id: 28 _____

Project TWDB
 Newly Invented Well Yes
 ID Number: 1023
 Date: 7/20/2015
 Sampler(s): JC, BH, DW BSEACD

Standard TWDB suite			Isotopes				Other	
1	2	3	4	5	6	7		10
1 L unfiltered								
500 ml filtered	500ml filtered	250 ml filtered	1 L unfiltered	250 ml unfiltered	250 ml unfiltered	1 L unfiltered		
Cation	Anion	Nitrate	C14/C13 corr	O-18	Sr-87/Sr-86	Tritium		
	Total Alk.			Deuterium		2nd Enrichment		
HNO3 by lab	Ice	Ice + H2SO4	*NaOH by lab	None	None	None		

All acidified samples pH < 2.0. (*) If natural pH is < 7, then add NaOH until pH is between 7 and 8. If natural pH is ≥ 7, no NaOH required.

Time In: 15:30 Time Out: 16:05
 Water Level: - M.P. = - ft W.L. remark: -
 Pumping time: - Sampling Point: Spring out flow
 Well Use: Spring FIELD G.P.S. readings
 Lift: - Latitude: 30.196614 30° 11' 47.864"
 Power: - Longitude: -98.143855 98° 8' 37.878"
 Casing Type: - Casing Size: -
 Sample Time: 16:00 Filtered: Yes ☒ No

Filter pressure: hand pump / line / spring

Water Quality Stabilization Parameters Table (At least 3 readings @ 5 min. intervals)

Time	15:30	16:00						
pH	<u>7.55</u>	<u>7.54</u>						
Celsius Temp.	<u>23.87</u>	<u>23.27</u>						
D.O.	<u>5.6</u>	<u>6.1</u>						
Conductivity	<u>708</u>	<u>718</u>						

Comments

Calibration Verification Readings		
	Pre Sample	Post Sample
PH	4 = <u>4.02</u>	<u>4.09</u>
	7 = _____	
	10 = _____	
Cond	0 (air) <u>0</u>	<u>0</u>
	500 = <u>4.49</u>	<u>4.55</u>
	1000 = _____	

Field Alkalinity Titration:		
	Start pH	End pH
50 mL Sample Size		
mL Acid Total (to pH 4.5)		
mL acid added x 20 = Alkalinity		

Total Alkalinity (20000): _____ mg/L

Items Below Calculated Later From Results:	
Dissolved Solids (mg/L):	_____
Hardness (as CaCO3):	_____
Balanced:	_____

Notes: Blue Creek 0.4 cfs
20 gpm out spring
 Field Data entered into TWDB GWDB: yes / no

State Well Number 5755609 Previous Well Number County Hays 209

River Basin Zone Latitude 301147.85 Longitude 0980837.89 Coordinates Accuracy 0

Owner's well No. Location: 1/4, 1/4, Section Block Survey

Address _____ Tenant/Oper. _____

Date Drilled Depth Source of Depth Altitude Source of Alt. Data

Aquifer Upper Glen Rose Aquifer ID Well Type User

[illegible]

Yield Flow 20 Pump
Rate ~~100~~ Rate GPM ~~100~~ Repl Est Date of Test 7/20/15

Performance Length Production
Test of test hr Rate GPM Date of Test

Static Level _____ ft.	Pumping Level _____ ft.	Amount of Drawdown _____ ft.	Specific Capacity _____ GPM/ft.	7
Water Use Primary _____	Secondary _____	Tertiary _____		8
				9

[illegible]

Water Levels															
Date	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	Meas.	<div></div>	<div></div>	Remarks	<div></div>	M.P.	<div></div>	<div></div>	13
Date	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	Meas.	<div></div>	<div></div>	Remarks	<div></div>				14
Date	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	Meas.	<div></div>	<div></div>	Remarks	<div></div>				15
Date	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	Meas.	<div></div>	<div></div>	Remarks	<div></div>				16

Recorded by Justin Camp Date Record Collected or Information Updated 07202015 Reporting Agency 05

Remarks	1	Blue Creek Spring flow measured at	
	2	0.4 cubic feet per second in creek.	
	3	Site Name is Blue Creek Spring	
	4	Name	
	5		
6			

Aquifer

Well Number

ANALYTICAL RESULTS

Workorder: Q1527860

Lab ID: Q1527860004

Sample ID: BLUE CREEK SPRING

Project ID:

Date Received: 7/21/2015 12:08

Matrix: Aqueous

Date Collected: 7/20/2015 16:00

Sample Type: SAMPLE

Parameters	Results Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS										
Analysis Desc: E200.7 Metals, Trace Elements		Preparation Method: E200.7 Prep								
		Analytical Method: E200.7 Metals, Trace Elements								
Boron Dissolved	<50.0 ug/L	20.0	50.0	1		07/28/15 17:30	MM	08/03/15 12:35	MV	
Calcium Dissolved	106 mg/L	0.0700	0.200	1		07/28/15 17:30	MM	08/03/15 12:35	MV	
Strontium Dissolved	174 ug/L	4.00	10.0	1		07/28/15 17:30	MM	08/03/15 12:35	MV	
Iron Dissolved	<50.0 ug/L	20.0	50.0	1		07/28/15 17:30	MM	08/03/15 12:35	MV	
Magnesium Dissolved	20.0 mg/L	0.0700	0.200	1		07/28/15 17:30	MM	08/03/15 12:35	MV	
Potassium Dissolved	1.10 mg/L	0.0700	0.200	1		07/28/15 17:30	MM	08/03/15 12:35	MV	
Sodium Dissolved	16.6 mg/L	0.200	0.500	1		07/28/15 17:30	MM	08/03/15 12:35	MV	
Analysis Desc: E200.8, ICP-MS		Preparation Method: E200.8, ICP-MS Prep								
		Analytical Method: E200.8, ICP-MS								
Aluminum Dissolved	<4.00 ug/L	1.50	4.00	1		07/28/15 17:38	MM	07/29/15 16:02	SLW	
Antimony Dissolved	<1.00 ug/L	0.400	1.00	1		07/28/15 17:38	MM	07/29/15 16:02	SLW	
Arsenic Dissolved	<2.00 ug/L	0.700	2.00	1		07/28/15 17:38	MM	07/29/15 16:02	SLW	
Barium Dissolved	44.5 ug/L	0.400	1.00	1		07/28/15 17:38	MM	07/29/15 16:02	SLW	
Beryllium Dissolved	<1.00 ug/L	0.400	1.00	1		07/28/15 17:38	MM	07/29/15 16:02	SLW	
Cadmium Dissolved	<1.00 ug/L	0.400	1.00	1		07/28/15 17:38	MM	07/29/15 16:02	SLW	
Chromium Dissolved	1.21 ug/L	0.400	1.00	1		07/28/15 17:38	MM	07/29/15 16:02	SLW	
Cobalt Dissolved	<1.00 ug/L	0.400	1.00	1		07/28/15 17:38	MM	07/29/15 16:02	SLW	
Copper Dissolved	<1.00 ug/L	0.400	1.00	1		07/28/15 17:38	MM	07/29/15 16:02	SLW	
Lithium Dissolved	3.38 ug/L	0.700	2.00	1		07/28/15 17:38	MM	07/29/15 16:02	SLW	N
Lead Dissolved	<1.00 ug/L	0.400	1.00	1		07/28/15 17:38	MM	07/29/15 16:02	SLW	
Manganese Dissolved	<1.00 ug/L	0.400	1.00	1		07/28/15 17:38	MM	07/29/15 16:02	SLW	
Molybdenum Dissolved	<1.00 ug/L	0.400	1.00	1		07/28/15 17:38	MM	07/29/15 16:02	SLW	
Selenium Dissolved	<4.00 ug/L	1.50	4.00	1		07/28/15 17:38	MM	07/29/15 16:02	SLW	
Silver Dissolved	<1.00 ug/L	0.400	1.00	1		07/28/15 17:38	MM	07/29/15 16:02	SLW	
Thallium Dissolved	<1.00 ug/L	0.400	1.00	1		07/28/15 17:38	MM	07/29/15 16:02	SLW	
Uranium Dissolved	<1.00 ug/L	0.400	1.00	1		07/28/15 17:38	MM	07/29/15 16:02	SLW	N
Vanadium Dissolved	1.43 ug/L	0.400	1.00	1		07/28/15 17:38	MM	07/29/15 16:02	SLW	
Zinc Dissolved	<4.00 ug/L	1.50	4.00	1		07/28/15 17:38	MM	07/29/15 16:02	SLW	

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ANALYTICAL RESULTS

Workorder: Q1527860

Lab ID: Q1527860004

Sample ID: BLUE CREEK SPRING

Project ID:

Date Received: 7/21/2015 12:08 Matrix: Aqueous

Date Collected: 7/20/2015 16:00 Sample Type: SAMPLE

609
57.55-608

Parameters	Results Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
Analysis Desc: E300.0, Anions										
Preparation Method: E300.0, Anions										
Analytical Method: E300.0, Anions										
Chloride Dissolved	33.9 mg/L	0.400	1.00	1		07/25/15 00:42	ML	07/25/15 00:42	ML	
Bromide Dissolved	0.161 mg/L	0.00800	0.0200	1		07/25/15 00:42	ML	07/25/15 00:42	ML	
Fluoride Dissolved	0.227 mg/L	0.00400	0.0100	1		07/25/15 00:42	ML	07/25/15 00:42	ML	
Sulfate Dissolved	53.0 mg/L	0.400	1.00	1		07/25/15 00:42	ML	07/25/15 00:42	ML	
TOTAL PHOSPHATE AS P										
Analysis Desc: E365.4 Phosphorus, Total										
Preparation Method: E365.4 / E351.2 Water Prep										
Analytical Method: E365.4 Phosphorus, Total										
Phosphorus, Dissolved (As P)	<0.0200 mg/L	0.00800	0.0200	1		07/28/15 13:04	MM	07/30/15	ML	
ALKALINITY										
Analysis Desc: SM2320B, Alkalinity										
Preparation Method: SM2320B, Alkalinity										
Analytical Method: SM2320B, Alkalinity										
Phenolphthalein Alkalinity	<20.0 mg/L	20.0	20.0	1		07/24/15	CM	07/24/15	CM	N
Hydroxide Alkalinity	<20.0 mg/L	20.0	20.0	1		07/24/15	CM	07/24/15	CM	N
Bicarbonate Alkalinity	283 mg/L	20.0	20.0	1		07/24/15	CM	07/24/15	CM	N
Carbonate Alkalinity	<20.0 mg/L	20.0	20.0	1		07/24/15	CM	07/24/15	CM	N
Total Alkalinity	283 mg/L	20.0	20.0	1		07/24/15	CM	07/24/15	CM	
NITRATE AND NITRITE										
Analysis Desc: SM4500-NO3-H, Nitrate/Nitrite										
Preparation Method: SM4500-NO3-H, Nitrate/Nitrite										
Analytical Method: SM4500-NO3-H, Nitrate/Nitrite										
Nitrate/Nitrite	0.0270 mg/L	0.00800	0.0200	1		07/28/15	ML	07/28/15	ML	
SILICA										
Analysis Desc: SM4500-SiO2-C, Silica										
Preparation Method: SM4500-SiO2-C, Silica										
Analytical Method: SM4500-SiO2-C, Silica										
Silica, Dissolved	10.5 mg/L	0.200	0.500	1		08/04/15	ML	08/04/15	ML	
HEAVY METALS										
Analysis Desc: E245.1 Mercury Water										
Preparation Method: E245.1 Mercury Water										
Analytical Method: E245.1 Mercury Water										
Mercury Dissolved	<0.200 ug/L	0.0700	0.200	1		07/28/15 12:38	FM	07/29/15 10:21	FM	

Report ID: 164926 - 1874359

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LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

ANALYTICAL RESULTS

Workorder: Q1527860

Lab ID: Q1527860004

Sample ID: BLUE CREEK SPRING

Project ID:

Date Received: 7/21/2015 12:08 Matrix: Aqueous

Date Collected: 7/20/2015 16:00 Sample Type: SAMPLE

Parameters	Results Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
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INORGANICS

Analysis Desc: SM1030B Cation/Anion Balance

Preparation Method: SM1030B Cation/Anion Balance

Analytical Method: SM1030B Cation/Anion Balance

Cation/Anion Balance	0.2800 %			1	08/03/15 14:39	CW	08/03/15 14:39	CW		
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Results of Isotopic Analysis

MIT TIMS Lab

Date: 09/10/2015

Analysts: Shokofeh Khadivi; Jahan Ramezani

Sample #	Sample Type	$^{87}\text{Sr}/^{86}\text{Sr}$ (1)	% std err (2)	2 σ std err
Q1527862001	Water	0.7078141	0.0007	9.4E-06
Q1527862002	Water	0.707818	0.0008	1.2E-05
Q1527862003	Water	0.7081751	0.0006	7.9E-06
Q1527862004	Water	0.708179	0.0008	1.1E-05

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(1) Corrected for mass-dependant fractionation.

(2) Within-run internal precision of measured ratio.

Long term reproducibility of NBS-987 Sr standard at MIT: 0.7102383 ± 0.0000099 (2 σ s.e.).



ANALYSIS REPORT

Lab #: 524104 Job #: 29649 IS-64056 Co. Job#:
Sample Name: Q1527863004 Co. Lab#:
Company: LCRA Environmental Lab Services
API/Well:
Container: Plastic Bottle
Field/Site Name: 45140468 - HBN 33197
Location:
Formation/Depth:
Sampling Point:
Date Sampled: 7/20/2015 16:00 Date Received: 8/04/2015 Date Reported: 8/25/2015

δD of water ----- -24.2 ‰ relative to VSMOW

$\delta^{18}O$ of water ----- -4.35 ‰ relative to VSMOW

Tritium content of water ----- na

$\delta^{13}C$ of DIC ----- na

^{14}C content of DIC ----- na

$\delta^{15}N$ of nitrate ----- na

$\delta^{18}O$ of nitrate ----- na

$\delta^{34}S$ of sulfate ----- na

$\delta^{18}O$ of sulfate ----- na

Vacuum Distilled? ----- No

Remarks:

57.55 · ⁶⁰⁹~~608~~

**BETA ANALYTIC INC.**

DR. M.A. TAMERS and MR. D.G. HOOD

4985 S.W. 74 COURT
MIAMI, FLORIDA, USA 33155
PH: 305-667-5167 FAX: 305-663-0964
beta@radiocarbon.com

REPORT OF RADIOCARBON DATING ANALYSES

Mr. Dale Jurecka

Report Date: 8/11/2015

Sample Data	pMC	Fmdn	d13C
Beta - 416468 SAMPLE : Q1527864004 ANALYSIS : AMS-Standard delivery MATERIAL/PRETREATMENT : (water DIC): acidify-gas strip COMMENT: The equivalent "Apparent" radiocarbon age to the reported pMC/fMDN values is Post 1950(not adjusted for any hydro-geochemical effects on meteoric water $^{14}\text{CO}_2$). Given the complex nature of groundwater DIC 14 chemistry, duplicate measurements within 1-2 pMC are reasonable for a single water sample. For very low DIC concentration waters (< 20 mg/L HCO_3) DIC 14 and waters with complex organic chemistry, results can vary significantly outside of this expectation.	104.2 +/- 0.3 pMC	1.0419 +/- 0.0025	-11.8 o/oo

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57.55.608

Dates are reported as RCYBP (radiocarbon years before present, "present" = AD 1950). By international convention, the modern reference standard was 95% the ^{14}C activity of the National Institute of Standards and Technology (NIST) Oxalic Acid (SRM 4990C) and calculated using the Libby ^{14}C half-life (5568 years). Quoted errors represent 1 relative standard deviation statistics (68% probability) counting errors based on the combined measurements of the sample, background, and modern reference standards. Measured $^{13}\text{C}/^{12}\text{C}$ ratios (delta 13C) were calculated relative to the PDB-1 standard.

The Conventional Radiocarbon Age represents the Measured Radiocarbon Age corrected for isotopic fractionation, calculated using the delta 13C. On rare occasion where the Conventional Radiocarbon Age was calculated using an assumed delta 13C, the ratio and the Conventional Radiocarbon Age will be followed by "***". The Conventional Radiocarbon Age is not calendar calibrated. When available, the Calendar Calibrated result is calculated from the Conventional Radiocarbon Age and is listed as the "Two Sigma Calibrated Result" for each sample.

[GWDB Reports and Downloads](#)
[Well Basic Details](#)
[Scanned Documents](#)

State Well Number	5755301
County	Hays
River Basin	Colorado
Groundwater Management Area	9
Regional Water Planning Area	K - Lower Colorado
Groundwater Conservation District	Hays Trinity GCD
Latitude (decimal degrees)	30.212778
Latitude (degrees minutes seconds)	30° 12' 46" N
Longitude (decimal degrees)	-98.133055
Longitude (degrees minutes seconds)	098° 07' 59" W
Coordinate Source	Global Positioning System - GPS
Aquifer Code	218GLRS - Glen Rose Limestone
Aquifer	Trinity
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	1309
Land Surface Elevation Method	Global Positioning System-GPS
Well Depth (feet below land surface)	510
Well Depth Source	Driller's Log
Drilling Start Date	
Drilling End Date	6/18/1977
Drilling Method	Mud (Hydraulic) Rotary
Borehole Completion	Open Hole

Well Type	Withdrawal of Water
Well Use	Domestic
Water Level Observation	GCD Current Site Visit
Water Quality Available	No
Pump	
Pump Depth (feet below land surface)	
Power Type	
Annular Seal Method	
Surface Completion	
Owner	Jack Brown
Driller	Glass and Tucker, Inc.
Other Data Available	Caliper; Drillers Log; Electric Log; Gamma Ray; Gamma-Gamma; Neutron
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	Jack Brown
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	Texas Water Development Board
Created Date	8/2/1990
Last Update Date	7/25/2016

Remarks Open hole from 288 to 510 ft. Cemented from 40 ft to surface. Reported yield 50 gpm with 0 ft drawdown.

Casing						
Diameter (in.)	Casing Type	Casing Material	Schedule	Gauge	Top Depth (ft.)	Bottom Depth (ft.)
6	Blank	Plastic (PVC)			0	288
	Open Hole				288	510

Well Tests - No Data

Lithology - No Data

Annular Seal Range - No Data

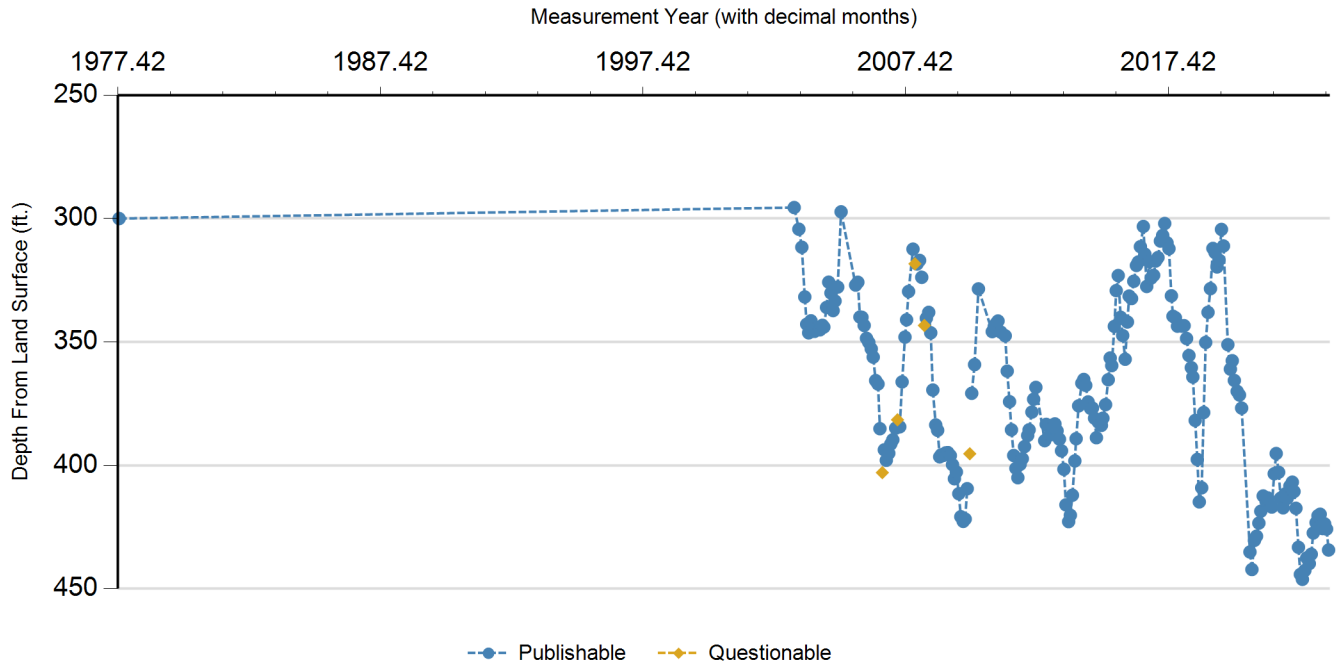
Borehole - No Data

Plugged Back - No Data

Filter Pack - No Data

Packers - No Data

Water Level Measurements



Status Code	Date	Time	Water Level (ft. below land surface)	Change value in () indicates rise in level	Water Elevation (ft. above sea level)	Meas #	Measuring Agency	Method	Remark ID	Comments
P	6/21/1977		300		1009	1	Texas Water Development Board	Logging Sonde		
P	3/4/2003		295.53	(4.47)	1013.47	1	Groundwater Conservation District	Electric Line		
P	5/9/2003		304.3	8.77	1004.7	1	Groundwater Conservation District	Electric Line		
P	6/20/2003		311.61	7.31	997.39	1	Groundwater Conservation District	Electric Line		
P	7/31/2003		331.75	20.14	977.25	1	Groundwater Conservation District	Electric Line		
P	8/28/2003		342.82	11.07	966.18	1	Groundwater Conservation District	Electric Line		
P	9/25/2003		346.31	3.49	962.69	1	Groundwater Conservation District	Electric Line		
P	10/27/2003		341.42	(4.89)	967.58	1	Groundwater Conservation District	Electric Line		
P	12/17/2003		345.71	4.29	963.29	1	Groundwater Conservation District	Electric Line		
P	1/26/2004		344.48	(1.23)	964.52	1	Groundwater Conservation District	Electric Line		
P	2/27/2004		345.07	0.59	963.93	1	Groundwater Conservation District	Electric Line		
P	3/31/2004		343.26	(1.81)	965.74	1	Groundwater Conservation District	Electric Line		
P	4/21/2004		343.98	0.72	965.02	1	Groundwater Conservation District	Electric Line		
P	5/29/2004		336.01	(7.97)	972.99	1	Groundwater Conservation District	Electric Line		

**Texas Water Development Board (TWDB)
Groundwater Database (GWDB)
Well Information Report for State Well Number
57-55-301**

Status Code	Date	Time	Water Level (ft. below land surface)	Change value in () indicates rise in level	Water Elevation (ft. above sea level)	Meas #	Measuring Agency	Method	Remark ID	Comments
P	6/29/2004		325.77	(10.24)	983.23	1	Groundwater Conservation District	Electric Line		
P	7/30/2004		330.17	4.40	978.83	1	Groundwater Conservation District	Electric Line		
P	8/30/2004		337.29	7.12	971.71	1	Groundwater Conservation District	Electric Line		
P	9/27/2004		333.41	(3.88)	975.59	1	Groundwater Conservation District	Electric Line		
P	11/4/2004		327.77	(5.64)	981.23	1	Groundwater Conservation District	Electric Line		
P	12/21/2004		297.26	(30.51)	1011.74	1	Groundwater Conservation District	Electric Line		
P	7/8/2005		326.95	29.69	982.05	1	Groundwater Conservation District	Electric Line		
P	8/9/2005		325.8	(1.15)	983.2	1	Groundwater Conservation District	Electric Line		
P	9/8/2005		339.9	14.10	969.1	1	Groundwater Conservation District	Electric Line		
P	10/6/2005		340.02	0.12	968.98	1	Groundwater Conservation District	Electric Line		
P	11/7/2005		343.31	3.29	965.69	1	Groundwater Conservation District	Electric Line		
P	12/9/2005		348.51	5.20	960.49	1	Groundwater Conservation District	Electric Line		
P	1/6/2006		350.2	1.69	958.8	1	Groundwater Conservation District	Electric Line		
P	2/10/2006		352.8	2.60	956.2	1	Groundwater Conservation District	Electric Line		
P	3/7/2006		356.14	3.34	952.86	1	Groundwater Conservation District	Electric Line		
P	4/11/2006		365.65	9.51	943.35	1	Groundwater Conservation District	Electric Line		
P	5/14/2006		367.04	1.39	941.96	1	Groundwater Conservation District	Electric Line		
P	6/11/2006		385.15	18.11	923.85	1	Groundwater Conservation District	Electric Line		
Q	7/15/2006		402.94	17.79	906.06	1	Groundwater Conservation District	Electric Line	2	
P	8/12/2006		393.71	(9.23)	915.29	1	Groundwater Conservation District	Electric Line		
P	9/9/2006		397.94	4.23	911.06	1	Groundwater Conservation District	Electric Line		
P	10/14/2006		395.11	(2.83)	913.89	1	Groundwater Conservation District	Electric Line		
P	11/11/2006		391.38	(3.73)	917.62	1	Groundwater Conservation District	Electric Line		
P	12/10/2006		389.64	(1.74)	919.36	1	Groundwater Conservation District	Electric Line		
P	1/14/2007		384.93	(4.71)	924.07	1	Groundwater Conservation District	Electric Line		
Q	2/10/2007		381.55	(3.38)	927.45	1	Groundwater Conservation District	Electric Line	4	
P	3/11/2007		384.39	2.84	924.61	1	Groundwater Conservation District	Electric Line		

**Texas Water Development Board (TWDB)
Groundwater Database (GWDB)
Well Information Report for State Well Number
57-55-301**

Status Code	Date	Time	Water Level (ft. below land surface)	Change value in () indicates rise in level	Water Elevation (ft. above sea level)	Meas #	Measuring Agency	Method	Remark ID	Comments
P	4/14/2007		366.18	(18.21)	942.82	1	Groundwater Conservation District	Electric Line		
P	5/24/2007		348.03	(18.15)	960.97	1	Groundwater Conservation District	Electric Line		
P	6/16/2007		341.02	(7.01)	967.98	1	Groundwater Conservation District	Electric Line		
P	7/14/2007		329.55	(11.47)	979.45	1	Groundwater Conservation District	Electric Line		
P	9/15/2007		312.38	(17.17)	996.62	1	Groundwater Conservation District	Electric Line		
Q	10/13/2007		318.34	5.96	990.66	1	Groundwater Conservation District	Electric Line	4	
P	11/12/2007		318.41	0.07	990.59	1	Groundwater Conservation District	Electric Line		
P	12/17/2007		316.95	(1.46)	992.05	1	Groundwater Conservation District	Electric Line		
P	1/12/2008		323.8	6.85	985.2	1	Groundwater Conservation District	Electric Line		
Q	2/18/2008		343.3	19.50	965.7	1	Groundwater Conservation District	Electric Line	2	
P	3/16/2008		340.38	(2.92)	968.62	1	Groundwater Conservation District	Electric Line		
P	4/19/2008		338.01	(2.37)	970.99	1	Groundwater Conservation District	Electric Line		
P	5/17/2008		346.3	8.29	962.7	1	Groundwater Conservation District	Electric Line		
P	6/16/2008		369.47	23.17	939.53	1	Groundwater Conservation District	Electric Line		
P	7/26/2008		383.63	14.16	925.37	1	Groundwater Conservation District	Electric Line		
P	8/23/2008		385.8	2.17	923.2	1	Groundwater Conservation District	Electric Line		
P	9/22/2008		396.55	10.75	912.45	1	Groundwater Conservation District	Electric Line		
P	10/13/2008		395.72	(0.83)	913.28	1	Groundwater Conservation District	Electric Line		
P	11/11/2008		395.97	0.25	913.03	1	Groundwater Conservation District	Electric Line		
P	12/13/2008		394.97	(1.00)	914.03	1	Groundwater Conservation District	Electric Line		
P	1/10/2009		394.84	(0.13)	914.16	1	Groundwater Conservation District	Electric Line		
P	2/14/2009		396.05	1.21	912.95	1	Groundwater Conservation District	Electric Line		
P	3/14/2009		399.72	3.67	909.28	1	Groundwater Conservation District	Electric Line		
P	4/11/2009		405.43	5.71	903.57	1	Groundwater Conservation District	Electric Line		
P	5/8/2009		402.68	(2.75)	906.32	1	Groundwater Conservation District	Electric Line		
P	6/12/2009		411.49	8.81	897.51	1	Groundwater Conservation District	Electric Line		
P	7/10/2009		420.82	9.33	888.18	1	Groundwater Conservation District	Electric Line		

Texas Water Development Board (TWDB)
Groundwater Database (GWDB)
Well Information Report for State Well Number
57-55-301

Status Code	Date	Time	Water Level (ft. below land surface)	Change value in () indicates rise in level	Water Elevation (ft. above sea level)	Meas #	Measuring Agency	Method	Remark ID	Comments
P	8/14/2009		422.7	1.88	886.3	1	Groundwater Conservation District	Electric Line		
P	9/11/2009		421.77	(0.93)	887.23	1	Groundwater Conservation District	Electric Line		
P	10/9/2009		409.45	(12.32)	899.55	1	Groundwater Conservation District	Electric Line		
Q	11/15/2009		395.3	(14.15)	913.7	1	Groundwater Conservation District	Electric Line	2	
P	12/12/2009		370.8	(24.50)	938.2	1	Groundwater Conservation District	Electric Line		
P	1/16/2010		359.18	(11.62)	949.82	1	Groundwater Conservation District	Electric Line		
P	3/10/2010		328.5	(30.68)	980.5	1	Groundwater Conservation District	Electric Line		
P	9/22/2010		345.8	17.30	963.2	1	Groundwater Conservation District	Electric Line		
P	10/20/2010		343.7	(2.10)	965.3	1	Groundwater Conservation District	Electric Line		
P	11/19/2010		342.4	(1.30)	966.6	1	Groundwater Conservation District	Electric Line		
P	12/12/2010		341.5	(0.90)	967.5	1	Groundwater Conservation District	Electric Line		
P	1/16/2011		346	4.50	963	1	Groundwater Conservation District	Electric Line		
P	3/17/2011		347.5	1.50	961.5	1	Groundwater Conservation District	Electric Line		
P	4/15/2011		361.8	14.30	947.2	1	Groundwater Conservation District	Electric Line		
P	5/17/2011		374.2	12.40	934.8	1	Groundwater Conservation District	Electric Line		
P	6/14/2011		385.6	11.40	923.4	1	Groundwater Conservation District	Electric Line		
P	7/15/2011		396	10.40	913	1	Groundwater Conservation District	Electric Line		
P	8/16/2011		401.2	5.20	907.8	1	Groundwater Conservation District	Sonic/Laser Device		
P	9/13/2011		405	3.80	904	1	Groundwater Conservation District	Sonic/Laser Device		
P	10/14/2011		399.6	(5.40)	909.4	1	Groundwater Conservation District	Sonic/Laser Device		
P	11/15/2011		397.3	(2.30)	911.7	1	Groundwater Conservation District	Sonic/Laser Device		
P	12/16/2011		392.4	(4.90)	916.6	1	Groundwater Conservation District	Sonic/Laser Device		
P	1/24/2012		387.9	(4.50)	921.1	1	Groundwater Conservation District	Sonic/Laser Device		
P	2/14/2012		385.6	(2.30)	923.4	1	Groundwater Conservation District	Sonic/Laser Device		
P	3/23/2012		378.4	(7.20)	930.6	1	Groundwater Conservation District	Sonic/Laser Device		
P	4/17/2012		373.2	(5.20)	935.8	1	Groundwater Conservation District	Sonic/Laser Device		
P	5/18/2012		368.4	(4.80)	940.6	1	Groundwater Conservation District	Sonic/Laser Device		

Texas Water Development Board (TWDB)
Groundwater Database (GWDB)
Well Information Report for State Well Number
57-55-301

Status Code	Date	Time	Water Level (ft. below land surface)	Change value in () indicates rise in level	Water Elevation (ft. above sea level)	Meas #	Measuring Agency	Method	Remark ID	Comments
P	9/21/2012		390	21.60	919	1	Groundwater Conservation District	Sonic/Laser Device		
P	10/12/2012		383.4	(6.60)	925.6	1	Groundwater Conservation District	Sonic/Laser Device		
P	11/16/2012		384.2	0.80	924.8	1	Groundwater Conservation District	Sonic/Laser Device		
P	12/14/2012		387.6	3.40	921.4	1	Groundwater Conservation District	Sonic/Laser Device		
P	1/11/2013		383.6	(4.00)	925.4	1	Groundwater Conservation District	Sonic/Laser Device		
P	2/8/2013		383.2	(0.40)	925.8	1	Groundwater Conservation District	Sonic/Laser Device		
P	3/8/2013		386	2.80	923	1	Groundwater Conservation District	Sonic/Laser Device		
P	4/11/2013		389.4	3.40	919.6	1	Groundwater Conservation District	Sonic/Laser Device		
P	5/10/2013		394.1	4.70	914.9	1	Groundwater Conservation District	Sonic/Laser Device		
P	6/13/2013		401.6	7.50	907.4	1	Groundwater Conservation District	Sonic/Laser Device		
P	7/11/2013		416	14.40	893	1	Groundwater Conservation District	Sonic/Laser Device		
P	8/19/2013		422.8	6.80	886.2	1	Groundwater Conservation District	Sonic/Laser Device		
P	9/13/2013		420.2	(2.60)	888.8	1	Groundwater Conservation District	Sonic/Laser Device		
P	10/11/2013		412.1	(8.10)	896.9	1	Groundwater Conservation District	Sonic/Laser Device		
P	11/15/2013		398.2	(13.90)	910.8	1	Groundwater Conservation District	Sonic/Laser Device		
P	12/3/2013		389.2	(9.00)	919.8	1	Groundwater Conservation District	Sonic/Laser Device		
P	1/3/2014		375.9	(13.30)	933.1	1	Groundwater Conservation District	Sonic/Laser Device		
P	2/17/2014		366.7	(9.20)	942.3	1	Groundwater Conservation District	Sonic/Laser Device		
P	3/14/2014		365.2	(1.50)	943.8	1	Groundwater Conservation District	Sonic/Laser Device		
P	4/11/2014		367.6	2.40	941.4	1	Groundwater Conservation District	Sonic/Laser Device		
P	5/14/2014		374.3	6.70	934.7	1	Groundwater Conservation District	Sonic/Laser Device		
P	6/19/2014		376.9	2.60	932.1	1	Groundwater Conservation District	Sonic/Laser Device		
P	7/15/2014		376.8	(0.10)	932.2	1	Groundwater Conservation District	Sonic/Laser Device		
P	8/14/2014		380.9	4.10	928.1	1	Groundwater Conservation District	Sonic/Laser Device		
P	9/10/2014		388.8	7.90	920.2	1	Groundwater Conservation District	Sonic/Laser Device		
P	10/7/2014		382.5	(6.30)	926.5	1	Groundwater Conservation District	Sonic/Laser Device		
P	11/19/2014		383.8	1.30	925.2	1	Groundwater Conservation District	Sonic/Laser Device		

Texas Water Development Board (TWDB)
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57-55-301

Status Code	Date	Time	Water Level (ft. below land surface)	Change value in () indicates rise in level	Water Elevation (ft. above sea level)	Meas #	Measuring Agency	Method	Remark ID	Comments
P	12/10/2014		380.9	(2.90)	928.1	1	Groundwater Conservation District	Sonic/Laser Device		
P	1/12/2015		375.4	(5.50)	933.6	1	Groundwater Conservation District	Sonic/Laser Device		
P	2/19/2015		365.3	(10.10)	943.7	1	Groundwater Conservation District	Sonic/Laser Device		
P	3/16/2015		356.5	(8.80)	952.5	1	Groundwater Conservation District	Sonic/Laser Device		
P	4/8/2015		359.6	3.10	949.4	1	Groundwater Conservation District	Sonic/Laser Device		
P	5/14/2015		343.7	(15.90)	965.3	1	Groundwater Conservation District	Sonic/Laser Device		
P	6/10/2015		329.2	(14.50)	979.8	1	Groundwater Conservation District	Sonic/Laser Device		
P	7/8/2015		323.1	(6.10)	985.9	1	Groundwater Conservation District	Sonic/Laser Device		
P	8/12/2015		340	16.90	969	1	Groundwater Conservation District	Sonic/Laser Device		
P	9/10/2015		347.4	7.40	961.6	1	Groundwater Conservation District	Sonic/Laser Device		
P	10/15/2015		357	9.60	952	1	Groundwater Conservation District	Sonic/Laser Device		
P	11/16/2015		341.9	(15.10)	967.1	1	Groundwater Conservation District	Sonic/Laser Device		
P	12/10/2015		331.4	(10.50)	977.6	1	Groundwater Conservation District	Sonic/Laser Device		
P	1/8/2016		332.4	1.00	976.6	1	Groundwater Conservation District	Sonic/Laser Device		
P	2/9/2016		325.4	(7.00)	983.6	1	Groundwater Conservation District	Sonic/Laser Device		
P	3/16/2016		319	(6.40)	990	1	Groundwater Conservation District	Sonic/Laser Device		
P	4/12/2016		317.6	(1.40)	991.4	1	Groundwater Conservation District	Sonic/Laser Device		
P	5/11/2016		311.4	(6.20)	997.6	1	Groundwater Conservation District	Sonic/Laser Device		
P	6/22/2016		303.2	(8.20)	1005.8	1	Groundwater Conservation District	Sonic/Laser Device		
P	7/13/2016		314.4	11.20	994.6	1	Groundwater Conservation District	Sonic/Laser Device		
P	8/9/2016		327.5	13.10	981.5	1	Groundwater Conservation District	Sonic/Laser Device		
P	9/14/2016		317.5	(10.00)	991.5	1	Groundwater Conservation District	Sonic/Laser Device		
P	10/11/2016		324.1	6.60	984.9	1	Groundwater Conservation District	Sonic/Laser Device		
P	11/15/2016		323	(1.10)	986	1	Groundwater Conservation District	Sonic/Laser Device		
P	12/13/2016		317.2	(5.80)	991.8	1	Groundwater Conservation District	Sonic/Laser Device		
P	1/10/2017		315.8	(1.40)	993.2	1	Groundwater Conservation District	Sonic/Laser Device		
P	2/14/2017		309.1	(6.70)	999.9	1	Groundwater Conservation District	Sonic/Laser Device		

Texas Water Development Board (TWDB)
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57-55-301

Status Code	Date	Time	Water Level (ft. below land surface)	Change value in () indicates rise in level	Water Elevation (ft. above sea level)	Meas #	Measuring Agency	Method	Remark ID	Comments
P	3/16/2017		306.8	(2.30)	1002.2	1	Groundwater Conservation District	Sonic/Laser Device		
P	4/14/2017		302	(4.80)	1007	1	Groundwater Conservation District	Sonic/Laser Device		
P	5/16/2017		309.8	7.80	999.2	1	Groundwater Conservation District	Sonic/Laser Device		
P	6/13/2017		312.2	2.40	996.8	1	Groundwater Conservation District	Sonic/Laser Device		
P	7/17/2017		331.3	19.10	977.7	1	Groundwater Conservation District	Sonic/Laser Device		
P	8/9/2017		339.6	8.30	969.4	1	Groundwater Conservation District	Sonic/Laser Device		
P	9/13/2017		340.2	0.60	968.8	1	Groundwater Conservation District	Sonic/Laser Device		
P	10/12/2017		343.6	3.40	965.4	1	Groundwater Conservation District	Sonic/Laser Device		
P	11/9/2017		343.3	(0.30)	965.7	1	Groundwater Conservation District	Sonic/Laser Device		
P	12/14/2017		343.6	0.30	965.4	1	Groundwater Conservation District	Sonic/Laser Device		
P	1/9/2018		343.4	(0.20)	965.6	1	Groundwater Conservation District	Sonic/Laser Device		
P	2/13/2018		348.6	5.20	960.4	1	Groundwater Conservation District	Sonic/Laser Device		
P	3/16/2018		355.5	6.90	953.5	1	Groundwater Conservation District	Sonic/Laser Device		
P	4/19/2018		360.4	4.90	948.6	1	Groundwater Conservation District	Sonic/Laser Device		
P	5/10/2018		364.2	3.80	944.8	1	Groundwater Conservation District	Sonic/Laser Device		
P	6/13/2018		381.8	17.60	927.2	1	Groundwater Conservation District	Sonic/Laser Device		
P	7/12/2018		397.6	15.80	911.4	1	Groundwater Conservation District	Sonic/Laser Device		
P	8/10/2018		414.8	17.20	894.2	1	Groundwater Conservation District	Sonic/Laser Device		
P	9/13/2018		409.1	(5.70)	899.9	1	Groundwater Conservation District	Sonic/Laser Device		
P	10/11/2018		378.6	(30.50)	930.4	1	Groundwater Conservation District	Sonic/Laser Device		
P	11/9/2018		350.2	(28.40)	958.8	1	Groundwater Conservation District	Sonic/Laser Device		
P	12/11/2018		338	(12.20)	971	1	Groundwater Conservation District	Sonic/Laser Device		
P	1/10/2019		328.4	(9.60)	980.6	1	Groundwater Conservation District	Sonic/Laser Device		
P	2/14/2019		312.1	(16.30)	996.9	1	Groundwater Conservation District	Sonic/Laser Device		
P	3/14/2019		313.8	1.70	995.2	1	Groundwater Conservation District	Sonic/Laser Device		
P	4/11/2019		319.6	5.80	989.4	1	Groundwater Conservation District	Sonic/Laser Device		
P	5/9/2019		316.8	(2.80)	992.2	1	Groundwater Conservation District	Sonic/Laser Device		

**Texas Water Development Board (TWDB)
Groundwater Database (GWDB)
Well Information Report for State Well Number
57-55-301**

Status Code	Date	Time	Water Level (ft. below land surface)	Change value in () indicates rise in level	Water Elevation (ft. above sea level)	Meas #	Measuring Agency	Method	Remark ID	Comments
P	6/13/2019		304.4	(12.40)	1004.6	1	Groundwater Conservation District	Sonic/Laser Device		
P	7/11/2019		311.1	6.70	997.9	1	Groundwater Conservation District	Sonic/Laser Device		
P	9/12/2019		351.1	40.00	957.9	1	Groundwater Conservation District	Sonic/Laser Device		
P	10/17/2019		361	9.90	948	1	Groundwater Conservation District	Sonic/Laser Device		
P	11/13/2019		357.6	(3.40)	951.4	1	Groundwater Conservation District	Sonic/Laser Device		
P	12/12/2019		365.6	8.00	943.4	1	Groundwater Conservation District	Sonic/Laser Device		
P	1/16/2020		370	4.40	939	1	Groundwater Conservation District	Sonic/Laser Device		
P	2/18/2020		371.5	1.50	937.5	1	Groundwater Conservation District	Sonic/Laser Device		
P	3/18/2020		376.8	5.30	932.2	1	Groundwater Conservation District	Sonic/Laser Device		
P	7/14/2020		435.1	58.30	873.9	1	Groundwater Conservation District	Sonic/Laser Device		
P	8/11/2020		442.2	7.10	866.8	1	Groundwater Conservation District	Sonic/Laser Device		
P	9/16/2020		430.4	(11.80)	878.6	1	Groundwater Conservation District	Sonic/Laser Device		
P	10/15/2020		428.7	(1.70)	880.3	1	Groundwater Conservation District	Sonic/Laser Device		
P	11/18/2020		423.4	(5.30)	885.6	1	Groundwater Conservation District	Sonic/Laser Device		
P	12/15/2020		418.6	(4.80)	890.4	1	Groundwater Conservation District	Sonic/Laser Device		
P	1/13/2021		412.4	(6.20)	896.6	1	Groundwater Conservation District	Sonic/Laser Device		
P	2/24/2021		414.7	2.30	894.3	1	Groundwater Conservation District	Sonic/Laser Device		
P	3/17/2021		413.2	(1.50)	895.8	1	Groundwater Conservation District	Sonic/Laser Device		
P	4/14/2021		416	2.80	893	1	Groundwater Conservation District	Sonic/Laser Device		
P	5/12/2021		416.9	0.90	892.1	1	Groundwater Conservation District	Sonic/Laser Device		
P	6/16/2021		403.4	(13.50)	905.6	1	Groundwater Conservation District	Sonic/Laser Device		
P	7/14/2021		395.2	(8.20)	913.8	1	Groundwater Conservation District	Sonic/Laser Device		
P	8/18/2021		402.8	7.60	906.2	1	Groundwater Conservation District	Sonic/Laser Device		
P	9/15/2021		413.3	10.50	895.7	1	Groundwater Conservation District	Sonic/Laser Device		
P	10/20/2021		417.2	3.90	891.8	1	Groundwater Conservation District	Sonic/Laser Device		
P	11/17/2021		411.6	(5.60)	897.4	1	Groundwater Conservation District	Sonic/Laser Device		
P	12/15/2021		413.4	1.80	895.6	1	Groundwater Conservation District	Sonic/Laser Device		

Texas Water Development Board (TWDB)
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57-55-301

Status Code	Date	Time	Water Level (ft. below land surface)	Change value in () indicates rise in level	Water Elevation (ft. above sea level)	Meas #	Measuring Agency	Method	Remark ID	Comments
P	1/19/2022		408.4	(5.00)	900.6	1	Groundwater Conservation District	Sonic/Laser Device		
P	2/23/2022		406.8	(1.60)	902.2	1	Groundwater Conservation District	Sonic/Laser Device		
P	3/16/2022		410.6	3.80	898.4	1	Groundwater Conservation District	Sonic/Laser Device		
P	4/13/2022		417.4	6.80	891.6	1	Groundwater Conservation District	Sonic/Laser Device		
P	5/18/2022		433.2	15.80	875.8	1	Groundwater Conservation District	Sonic/Laser Device		
P	6/15/2022		444.2	11.00	864.8	1	Groundwater Conservation District	Sonic/Laser Device		
P	7/13/2022		446.2	2.00	862.8	1	Groundwater Conservation District	Sonic/Laser Device		
P	8/17/2022		442.6	(3.60)	866.4	1	Groundwater Conservation District	Sonic/Laser Device		
P	9/14/2022		437.5	(5.10)	871.5	1	Groundwater Conservation District	Sonic/Laser Device		
P	10/19/2022		439.8	2.30	869.2	1	Groundwater Conservation District	Sonic/Laser Device		
P	11/16/2022		436	(3.80)	873	1	Groundwater Conservation District	Sonic/Laser Device		
P	12/14/2022		427.4	(8.60)	881.6	1	Groundwater Conservation District	Sonic/Laser Device		
P	1/18/2023		423.2	(4.20)	885.8	1	Groundwater Conservation District	Sonic/Laser Device		
P	2/15/2023		420.4	(2.80)	888.6	1	Groundwater Conservation District	Sonic/Laser Device		
P	3/15/2023		419.8	(0.60)	889.2	1	Groundwater Conservation District	Sonic/Laser Device		
P	4/19/2023		425.6	5.80	883.4	1	Groundwater Conservation District	Sonic/Laser Device		
P	5/17/2023		423.7	(1.90)	885.3	1	Groundwater Conservation District	Sonic/Laser Device		
P	6/14/2023		425.8	2.10	883.2	1	Groundwater Conservation District	Sonic/Laser Device		
P	7/12/2023		434.3	8.50	874.7	1	Groundwater Conservation District	Sonic/Laser Device		

Code Descriptions

Status Code	Status Description
P	Publishable
Q	Questionable

Remark ID	Remark Description
2	Pumping-level measurement
4	Well pumped recently

Water Quality Analysis - No Data Available

GWDB DISCLAIMER: Except where noted, all of the information provided in the Texas Water Development Board (TWDB) Groundwater Database (<https://www.twdb.texas.gov/groundwater/data/gwdb.rpt.asp>) is believed to be accurate and reliable; however, the TWDB assumes no responsibility for any errors appearing in rules or otherwise. Further, TWDB assumes no responsibility for the use of the information provided. PLEASE NOTE that users of these data are responsible for checking the accuracy, completeness, currency and/or suitability of all information themselves. TWDB makes no guarantees or warranties as to the accuracy, completeness, currency, or suitability of the information provided via the Groundwater Database (GWDB). TWDB specifically disclaims any and all liability for any claims or damages that may result from providing GWDB data or the information it contains. For additional information or answers to questions concerning the TWDB GWDB, contact the Groundwater Data Team at GroundwaterData@twdb.texas.gov.

TEXAS WATER DEVELOPMENT BOARD

WELL SCHEDULE

Aquifer Glen Rose Lower
Crow Creek

Field No. _____
Owner's Well No. _____

State Well No. 57-55-301
County HAYS

1. Location: 1/4, 1/4 Sec., Block _____, Survey _____

N 2.55 E L 0.5

2. Owner: JACK BROWN

Address: DRIPPING SPRINGS

Tenant: SAME

Address: _____

Driller: GLASS & TUCKER

Address: DRIPPING SPRINGS

3. Elevation of LSD is 1317 ft. above sea level, determined by Type

4. Drilled: JUNE 18 1977; Dag, Cable Tool, Rotary,

5. Depth: Rept. 510 ft. Meas. 514 ft.

6. Completion: Open Hole Straight Wall, Underreamed, Gravel Packed

7. Pump: Mfr. _____ Type _____

No. Stages _____, Bowls Diam. _____ in., Setting _____ ft.

Column Diam. _____ in., Length Tailpipe _____ ft.

8. Motor: Fuel _____ Make & Model _____ HP.

9. Yield: Flow _____ gpm, Pump _____ gpm, Meas., Rept., Est. _____

10. Performance Test: Date _____ Length of Test _____ Made by _____

Static Level _____ ft. Pumping Level _____ ft. Drawdown 0 ft.

Production 50 gpm Specific Capacity _____ gpm/ft.

11. Water Level: 300 ft. rept. 6-21 1977 above LSD

ft. rept. _____ 19 _____ above

ft. meas. _____ 19 _____ below

ft. rept. _____ 19 _____ above

ft. meas. _____ 19 _____ below

which is _____ ft. above surface.

which is _____ ft. below surface.

which is _____ ft. above surface.

which is _____ ft. below surface.

which is _____ ft. above surface.

12. Use: Dom. Stock, Public Supply, Ind., Irr., Waterflooding, Observation, Not Used,

13. Quality: (Remarks on taste, odor, color, etc.) _____

Temp. _____ °F, Date sampled for analysis _____ Laboratory _____

Temp. _____ °F, Date sampled for analysis _____ Laboratory _____

Temp. _____ °F, Date sampled for analysis _____ Laboratory _____

14. Other data available as circled: Driller's Log, Radioactivity Log, Electric Log,

Formation Samples, Pumping Test,

15. Record by: J. Moore Date 6-21 1977

Source of Data DRILLER & LOGS

16. Remarks: _____

CASING & BLANK PIPE			
Cemented From <u>0</u> ft. to <u>40</u> ft.			
Diam. (in.)	Type	Setting, ft.	
		from	to
<u>6</u>	<u>PVC</u>	<u>0</u>	<u>288</u>

WELL SCREEN			
Screen Openings			
Diam. (in.)	Type	Setting, ft.	
		from	to
	<u>open</u>	<u>288</u>	<u>510</u>

[604]

Original copy by
ified mail to the
s Water Development Board
Box 13087
in, Texas 78711

State of Texas

WATER WELL REPORT

For TWDB use only
Well No. 57-55-3L
Located on map yes
Received: 77
dlb

OWNER:
Person having well drilled Mr. Jack Brown Address Dripping Springs, Texas
(Name) (Street or RFD) (City) (State)
Landowner Same Address Same
(Name) (Street or RFD) (City) (State)

LOCATION OF WELL:
County Hays miles in W. direction from Dripping Springs
(N.E., S.W., etc.) (Town)

Locate by sketch map showing landmarks, roads, creeks, or
highway number, etc.*

WELL
#3
290 WEST
map on 57-55-1C
(Use reverse side if necessary)

Give legal location with distances and directions from
adjacent sections or survey lines.

Labor _____ League _____
Block _____ Survey _____
Abstract No. _____
(NW¼ NE¼ SW¼ SE¼) of Section _____

TYPE OF WORK (Check):
New Well ☒ Deepening _____
Reconditioning _____ Plugging _____
4) PROPOSED USE (Check):
Domestic ☒ Industrial _____ Municipal _____
Irrigation _____ Test Well _____ Other _____
5) TYPE OF WELL (Check):
Rotary ☒ Driven _____ Dug _____
Cable _____ Jetted _____ Bored _____

WELL LOG:
Diameter of hole 6 1/2 in. Depth drilled 510 ft. Depth of completed well 510 ft. Date drilled 6-18-77
All measurements made from 0 ft. above ground level.

From (ft.)	To (ft.)	Description and color of formation material
0	10	Caliche
0	12	Grey Lime
2	13	Shale
3	25	Soft Med. w/shale
5	30	Hard Lt. Gray
0	35	Med.
5	44	Soft Med. w/shale
4	46	Lt. Grey
6	50	Med. w/shale
0	51	Charcoal
1	55	Med. w/shale

(Use reverse side if necessary)

COMPLETION (Check):
Straight wall ☒ Gravel packed _____ Other _____
Under reamed _____ Open Hole _____

WATER LEVEL:
Static level 300 ft. below land surface Date 6/18/77
Artesian pressure _____ lbs. per square inch Date _____
Depth to pump bowls, cylinder, jet, etc., 38 460 ft.
below land surface.

9) CASING:
Type: Old _____ New _____ Steel _____ Plastic ☒ Other _____
Cemented from 0-40 ft. to _____ ft.
Diameter (inches) _____ Setting From (ft.) _____ To (ft.) _____ Casing Size _____

10) SCREEN:
Type NONE
Perforated _____ Slotted _____
Diameter (inches) _____ Setting From (ft.) _____ To (ft.) _____ Slot Size _____

11) WELL TESTS:
Was a pump test made? Yes ☒ No _____ If yes, by whom? _____
Yield: 50 gpm with 0 ft. drawdown after _____ hrs.
Bailer test 1 gpm with _____ ft. drawdown after _____ hrs.
Artesian flow _____ gpm
Temperature of water _____

12) WATER QUALITY:
Was a chemical analysis made? Yes ☒ No _____
Did any strata contain undesirable water? Yes _____ No ☒ _____
Type of water? _____ depth of strata 490-500

I hereby certify that this well was drilled by me (or under my supervision) and that
each and all of the statements herein are true to the best of my knowledge and belief.

NAME Mr. James B. Tucker, Jr. Water Well Drillers Registration No. 1488
(Type or Print)

ADDRESS Rt. 1A Box 52A Dripping Springs, Texas 78620
(Street or RFD) (City) (State)

(Signed) James B Tucker Jr. GLASS & TUCKER DRILLING CO. INC.
(Water Well Driller) (Company Name)

Please attach electric log, chemical analysis, and other pertinent information, if available. LR57-55-301

Additional instructions on reverse side.

2) LOCATION OF WELL:

The sketch showing the well location must be as accurate as possible, showing landmarks, in sufficient detail so that the well may be plotted on a General Highway Map of the county in which the well is located.

Reference points from which distances are measured and directions given should be of a permanent nature (e.g. highway intersections, center of towns, river and creek bridges, railroad crossings). The distance and direction from the nearest town should always be indicated.

When giving a legal description include a sketch showing location of the well within the described area, e.g. survey abstract.

Information furnished in Section 2) of the TWDBE-GW-53 is very important. Unless the well can be accurately located on a map the value of the other data contained in the Report is greatly reduced.

55	60	Lt. Grey
60	70	Med. w/shale
70	75	Broken Lt. Grey & Brown (seep)
75	84	Lt. Brown
84	110	Broken Lt. Grey seep
110	115	Med. (soft)
115	140	Broken Lt. Grey
140	160	Med.
160	175	Lt. Grey
175	210	Lt. Grey Shaly gumbo
210	220	Lt. Grey
220	240	Soft Lt. Grey
240	250	Soft Lt. Grey
250	260	Med. Water 4gpm
260	278	Med.
278	280	Med. Shaly gumbo
280	305	Lt. Grey & Brown
305	307	Soft Med. Shaley
307	315	Lt. Grey
315	340	Lt. Brown Hard
340	375	Lt. Brown
375	382	Lt. Greenish Lime
382	440	Lt. Brown
440	460	Lt. Brown Sandstone
460	475	Hard Lt. Brown
475	482	Broken Lt. Grey & Brown
482	490	Green Clay Embedded in dark grey flint
490	500	Broken Brown Water 50 gpm
500	510	Hard White

LR 57-55-301

RECEIVED
 DEC 9 1977
 Central Records
 Texas Dept. of Water Resources

RECEIVED
 SEP 1 1977

TEXAS WATER RIGHTS COMMISSION
 AUSTIN, TEXAS

[GWDB Reports and Downloads](#)
Well Basic Details
[Scanned Documents](#)

State Well Number	5755504
County	Hays
River Basin	Colorado
Groundwater Management Area	9
Regional Water Planning Area	K - Lower Colorado
Groundwater Conservation District	Hays Trinity GCD
Latitude (decimal degrees)	30.1908333
Latitude (degrees minutes seconds)	30° 11' 27" N
Longitude (decimal degrees)	-98.1822222
Longitude (degrees minutes seconds)	098° 10' 56" W
Coordinate Source	Global Positioning System - GPS
Aquifer Code	
Aquifer	Trinity
Aquifer Pick Method	Provided by Groundwater Conservation District
Land Surface Elevation (feet above sea level)	1269
Land Surface Elevation Method	Digital Elevation Model -DEM
Well Depth (feet below land surface)	490
Well Depth Source	Driller's Log
Drilling Start Date	
Drilling End Date	9/7/2011
Drilling Method	
Borehole Completion	

Well Type	Withdrawal of Water
Well Use	Domestic
Water Level Observation	GCD Current Site Visit
Water Quality Available	No
Pump	Submersible
Pump Depth (feet below land surface)	
Power Type	
Annular Seal Method	
Surface Completion	
Owner	Harriet Rutland
Driller	CENTEX PUMP & SUPPLY, INC.
Other Data Available	Drillers Log
Well Report Tracking Number	270773
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	Hidden Creek
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	Groundwater Conservation District
Created Date	8/23/2019
Last Update Date	8/23/2019

Remarks	
---------	--

Casing - No Data

Well Tests				
Test Date	Test Type	Yield (gallons per minute)	Drawdown (ft.)	Test Hours
9/7/2011	Jetted	40		

Lithology - No Data

Annular Seal Range - No Data

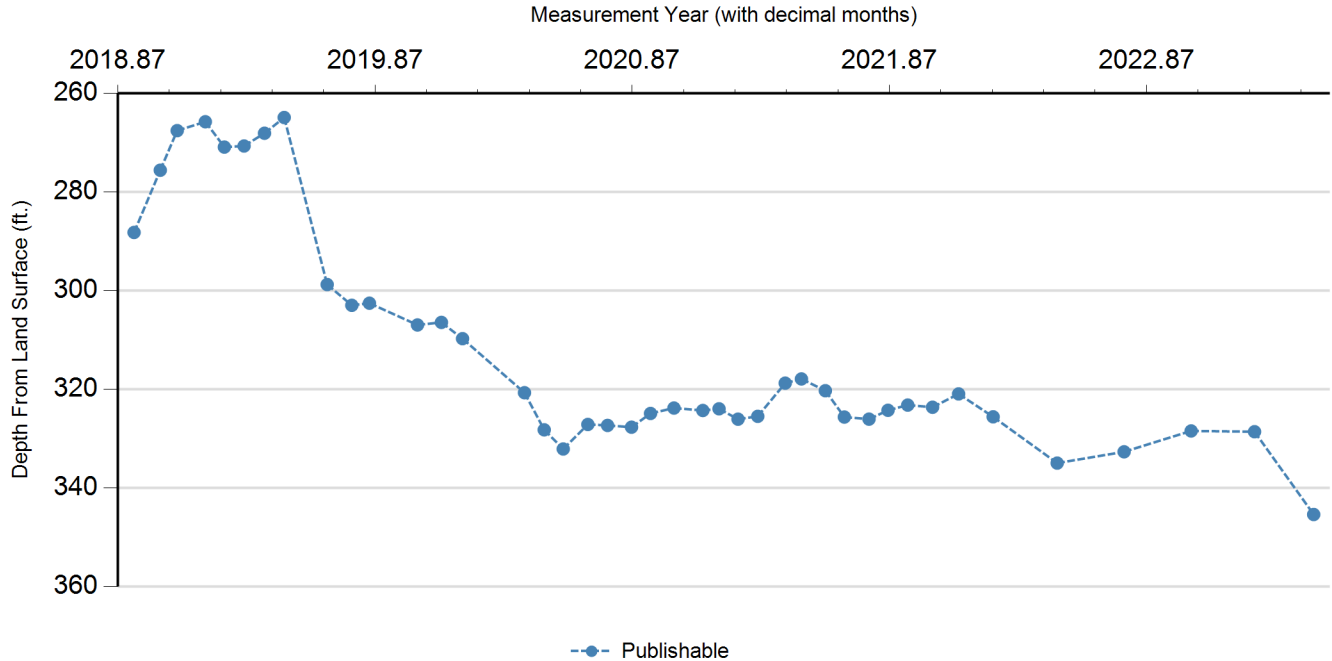
Borehole - No Data

Plugged Back - No Data

Filter Pack - No Data

Packers - No Data

Water Level Measurements



Status Code	Date	Time	Water Level (ft. below land surface)	Change value in () indicates rise in level	Water Elevation (ft. above sea level)	Meas #	Measuring Agency	Method	Remark ID	Comments
P	12/12/2018		288.22		980.78	1	Groundwater Conservation District	Transducer		
P	1/14/2019		275.61	(12.61)	993.39	1	Groundwater Conservation District	Transducer		
P	2/8/2019		267.59	(8.02)	1001.41	1	Groundwater Conservation District	Transducer		
P	3/18/2019		265.79	(1.80)	1003.21	1	Groundwater Conservation District	Transducer		
P	4/15/2019		270.92	5.13	998.08	1	Groundwater Conservation District	Transducer		
P	5/13/2019		270.7	(0.22)	998.3	1	Groundwater Conservation District	Transducer		
P	6/12/2019		268.12	(2.58)	1000.88	1	Groundwater Conservation District	Transducer		
P	7/10/2019		264.93	(3.19)	1004.07	1	Groundwater Conservation District	Transducer		
P	9/11/2019		298.77	33.84	970.23	1	Groundwater Conservation District	Transducer		
P	10/16/2019		302.98	4.21	966.02	1	Groundwater Conservation District	Transducer		
P	11/11/2019		302.55	(0.43)	966.45	1	Groundwater Conservation District	Transducer		
P	1/14/2020		306.96	4.41	962.04	1	Groundwater Conservation District	Transducer		
P	2/18/2020		306.44	(0.52)	962.56	1	Groundwater Conservation District	Transducer		
P	3/18/2020		309.74	3.30	959.26	1	Groundwater Conservation District	Transducer		

**Texas Water Development Board (TWDB)
Groundwater Database (GWDB)
Well Information Report for State Well Number
57-55-504**

Status Code	Date	Time	Water Level (ft. below land surface)	Change value in () indicates rise in level	Water Elevation (ft. above sea level)	Meas #	Measuring Agency	Method	Remark ID	Comments
P	6/16/2020		320.69	10.95	948.31	1	Groundwater Conservation District	Transducer		
P	7/14/2020		328.21	7.52	940.79	1	Groundwater Conservation District	Transducer		
P	8/11/2020		332.09	3.88	936.91	1	Groundwater Conservation District	Transducer		
P	9/16/2020		327.12	(4.97)	941.88	1	Groundwater Conservation District	Transducer		
P	10/14/2020		327.31	0.19	941.69	1	Groundwater Conservation District	Transducer		
P	11/18/2020		327.67	0.36	941.33	1	Groundwater Conservation District	Transducer		
P	12/15/2020		324.89	(2.78)	944.11	1	Groundwater Conservation District	Transducer		
P	1/13/2021		323.79	(1.10)	945.21	1	Groundwater Conservation District	Transducer		
P	2/24/2021		324.29	0.50	944.71	1	Groundwater Conservation District	Transducer		
P	3/17/2021		323.95	(0.34)	945.05	1	Groundwater Conservation District	Transducer		
P	4/14/2021		326.05	2.10	942.95	1	Groundwater Conservation District	Transducer		
P	5/12/2021		325.47	(0.58)	943.53	1	Groundwater Conservation District	Transducer		
P	6/21/2021		318.75	(6.72)	950.25	1	Groundwater Conservation District	Transducer		
P	7/14/2021		317.9	(0.85)	951.1	1	Groundwater Conservation District	Transducer		
P	8/18/2021		320.28	2.38	948.72	1	Groundwater Conservation District	Transducer		
P	9/15/2021		325.62	5.34	943.38	1	Groundwater Conservation District	Transducer		
P	10/20/2021		326.04	0.42	942.96	1	Groundwater Conservation District	Transducer		
P	11/17/2021		324.25	(1.79)	944.75	1	Groundwater Conservation District	Transducer		
P	12/15/2021		323.19	(1.06)	945.81	1	Groundwater Conservation District	Transducer		
P	1/15/2022		323.63	0.44	945.37	1	Groundwater Conservation District	Transducer		
P	2/22/2022		320.93	(2.70)	948.07	1	Groundwater Conservation District	Transducer		
P	4/11/2022		325.57	4.64	943.43	1	Groundwater Conservation District	Transducer		
P	7/12/2022		334.95	9.38	934.05	1	Groundwater Conservation District	Transducer		
P	10/17/2022		332.66	(2.29)	936.34	1	Groundwater Conservation District	Transducer		
P	1/17/2023		328.43	(4.23)	940.57	1	Groundwater Conservation District	Transducer		
P	4/17/2023		328.59	0.16	940.41	1	Groundwater Conservation District	Transducer		
P	7/11/2023		345.36	16.77	923.64	1	Groundwater Conservation District	Transducer		

Code Descriptions

Status Code	Status Description
P	Publishable

Water Quality Analysis - No Data Available

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[GWDB Reports and Downloads](#)

Well Basic Details

[Scanned Documents](#)

State Well Number	5755603
County	Hays
River Basin	Colorado
Groundwater Management Area	9
Regional Water Planning Area	K - Lower Colorado
Groundwater Conservation District	Hays Trinity GCD
Latitude (decimal degrees)	30.202223
Latitude (degrees minutes seconds)	30° 12' 08" N
Longitude (decimal degrees)	-98.161667
Longitude (degrees minutes seconds)	098° 09' 42" W
Coordinate Source	+/- 5 Seconds
Aquifer Code	218GLRH - Glen Rose Limestone and Hensell Member of Pearsall Formation
Aquifer	Trinity
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	1370
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	480
Well Depth Source	Driller's Log
Drilling Start Date	
Drilling End Date	6/0/1977
Drilling Method	
Borehole Completion	Open Hole

Well Type	Withdrawal of Water
Well Use	Domestic
Water Level Observation	Historical
Water Quality Available	Yes
Pump	Submersible
Pump Depth (feet below land surface)	
Power Type	Electric Motor
Annular Seal Method	
Surface Completion	
Owner	M.S. Bass
Driller	Glass and Tucker, Inc
Other Data Available	Caliper; Drillers Log; Electric Log; Gamma Ray; Gamma-Gamma; Neutron
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	Texas Water Development Board
Created Date	2/21/1990
Last Update Date	8/5/2009

Remarks	Logged by TWDB to 484 feet in 1977.
---------	-------------------------------------

Casing						
Diameter (in.)	Casing Type	Casing Material	Schedule	Gauge	Top Depth (ft.)	Bottom Depth (ft.)
6	Blank	Plastic (PVC)			0	220
	Open Hole				220	480

Well Tests - No Data

Lithology - No Data

Annular Seal Range - No Data

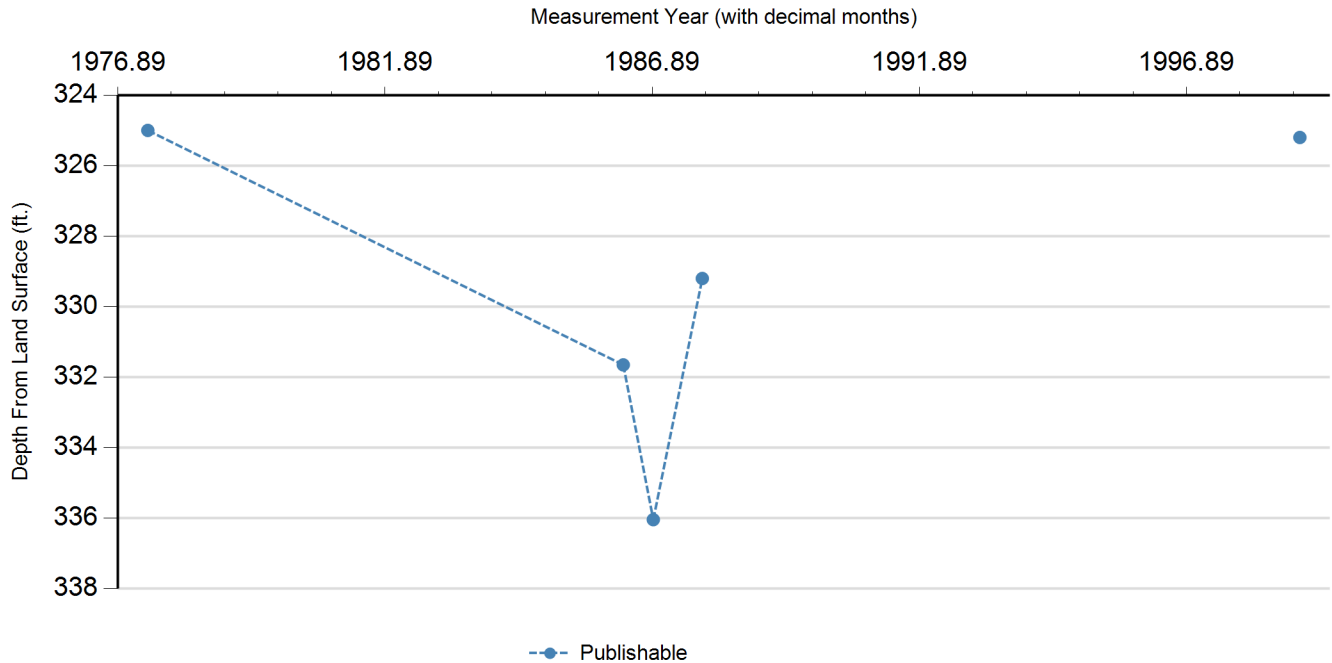
Borehole - No Data

Plugged Back - No Data

Filter Pack - No Data

Packers - No Data

Water Level Measurements



Status Code	Date	Time	Water Level (ft. below land surface)	Change value in () indicates rise in level	Water Elevation (ft. above sea level)	Meas #	Measuring Agency	Method	Remark ID	Comments
P	6/16/1977		325		1045	1	Texas Water Development Board	Logging Sonde		
P	5/9/1986		331.65	6.65	1038.35	1	Texas Water Development Board	Steel Tape		
P	12/4/1986		336.04	4.39	1033.96	1	Texas Water Development Board	Steel Tape		
P	11/4/1987		329.2	(6.84)	1040.8	1	Texas Water Development Board	Steel Tape		
X	2/8/1989					1	Texas Water Development Board	Steel Tape	22	
P	1/6/1999		325.2		1044.8	1	Texas Water Development Board	Steel Tape		

Code Descriptions

Status Code	Status Description
P	Publishable
X	No Measurement

Remark ID	Remark Description
22	Unable to measure because tape hangs before reaching water level

Water Quality Analysis

Sample Date: 6/16/1977 **Sample Time:** 0000 **Sample Number:** 1 **Collection Entity:** Texas Water Development Board

Sampled Aquifer: Glen Rose Limestone and Hensell Member of Pearsall Formation **Sampled Interval:** Top: Bottom: 475

Analyzed Lab: Texas Department of Health **Reliability:** Not indicative of aquifer quality.

Collection Remarks: sampler

Parameter Code	Parameter Description	Flag	Value*	Units	Plus/Minus
00415	ALKALINITY, PHENOLPHTHALEIN (MG/L)		0	mg/L	
00410	ALKALINITY, TOTAL (MG/L AS CaCO ₃)		327	mg/L as CaCO ₃	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO ₃)		399.05	mg/L	
00910	CALCIUM (MG/L)		180	mg/L	
00445	CARBONATE ION, CALCULATED (MG/L AS CO ₃)		0	mg/L	
00940	CHLORIDE, TOTAL (MG/L AS CL)		43	mg/L	
00950	FLUORIDE, DISSOLVED (MG/L AS F)		3.5	mg/L	
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CaCO ₃)		1016	mg/L as CaCO ₃	
00920	MAGNESIUM (MG/L)		138	mg/L	
71851	NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO ₃)	<	0.4	mg/L as NO ₃	
00400	PH (STANDARD UNITS), FIELD		7.6	SU	
00937	POTASSIUM, TOTAL (MG/L AS K)		16	mg/L	
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		0		
00955	SILICA, DISSOLVED (MG/L AS SiO ₂)		12	mg/L as SiO ₂	
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		0.48		
00932	SODIUM, CALCULATED, PERCENT		6	PCT	
00929	SODIUM, TOTAL (MG/L AS Na)		35	mg/L	
00094	SPECIFIC CONDUCTANCE, FIELD (UMHOS/CM AT 25C)		2363	MICR	
00945	SULFATE, TOTAL (MG/L AS SO ₄)		690	mg/L as SO ₄	
00010	TEMPERATURE, WATER (CELSIUS)		23	C	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		1314	mg/L	

Water Quality Analysis

Sample Date: 5/9/1986 **Sample Time:** 0000 **Sample Number:** 1 **Collection Entity:** Texas Water Development Board

Sampled Aquifer: Glen Rose Limestone and Hensell Member of Pearsall Formation

Analyzed Lab: Texas Department of Health **Reliability:** Collected from pumped well, but not filtered or preserved

Collection Remarks: No Data

Parameter Code	Parameter Description	Flag	Value*	Units	Plus/Minus
00415	ALKALINITY, PHENOLPHTHALEIN (MG/L)		0	mg/L	
00410	ALKALINITY, TOTAL (MG/L AS CaCO3)		284	mg/L as CaCO3	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO3)		346.58	mg/L	
00910	CALCIUM (MG/L)		310	mg/L	
00445	CARBONATE ION, CALCULATED (MG/L AS CO3)		0	mg/L	
00940	CHLORIDE, TOTAL (MG/L AS CL)		63	mg/L	
00950	FLUORIDE, DISSOLVED (MG/L AS F)		2.7	mg/L	
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CaCO3)		1658	mg/L as CaCO3	
00920	MAGNESIUM (MG/L)		215	mg/L	
71851	NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO3)	<	0.04	mg/L as NO3	
00400	PH (STANDARD UNITS), FIELD		7.7	SU	
00937	POTASSIUM, TOTAL (MG/L AS K)		18	mg/L	
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		0		
00955	SILICA, DISSOLVED (MG/L AS SiO2)		14	mg/L as SiO2	
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		0.53		
00932	SODIUM, CALCULATED, PERCENT		6	PCT	
00929	SODIUM, TOTAL (MG/L AS Na)		50	mg/L	
00094	SPECIFIC CONDUCTANCE, FIELD (UMHOS/CM AT 25C)		4216	MICR	
00945	SULFATE, TOTAL (MG/L AS SO4)		1391	mg/L as SO4	
00010	TEMPERATURE, WATER (CELSIUS)		22	C	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		2234	mg/L	

* Value may not display all significant digits for parameter in results, check Scanned Documents for laboratory paperwork..

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TEXAS WATER DEVELOPMENT BOARD

WELL SCHEDULE

Aquifer Glen Rose lower

Field No. _____

State Well No. 57-55-603

Owner's Well No. _____

County HAYS

1. Location: 1/4, 1/4 Sec., Block _____ Survey _____

N.L. 3.3 EL 2.2

2. Owner: M.S. Bass Address: Box 222-0854

Tenant: _____ Address: _____

Driller: Glass & Tucker Address: _____

3. Elevation of LSD is 1370 ft. above msl, determined by Topo

4. Drilled: June 1977; Dug, Cable Tool Rotary

5. Depth: Rept. 480 ft. Meas. _____ ft.

6. Completion: Open Hole, Straight Wall, Underreamed, Gravel Packed

7. Pump: Mfr. _____ Type _____

No. Stages _____, Bowls Diam. _____ in., Setting _____ ft.

Column Diam. _____ in., Length Tailpipe _____ ft.

8. Motor: Fuel _____ Make & Model _____ HP _____

9. Yield: Flow _____ gpm, Pump _____ gpm, Meas., Rept., Est. _____

10. Performance Test: Date _____ Length of Test _____ Made by _____

Static Level _____ ft. Pumping Level _____ ft. Drawdown _____ ft.

Production 20 gpm Specific Capacity _____ gpm/ft.

11. Water Level: 325 ft. Rept. 6-16 1977 above LSD

ft. Rept. _____ 19 _____ above _____

ft. Rept. _____ 19 _____ above _____

ft. Rept. _____ 19 _____ above _____

ft. Rept. _____ 19 _____ above _____

12. Use: Dom., Stock, Public Supply, Ind., Irr., Waterflooding, Observation, Not Used,

13. Quality: (Remarks on taste, odor, color, etc.) _____

Temp. _____ °F, Date sampled for analysis _____ Laboratory _____

Temp. _____ °F, Date sampled for analysis _____ Laboratory _____

Temp. _____ °F, Date sampled for analysis _____ Laboratory _____

14. Other data available as circled: Driller's Log, Radioactivity Log, Electric Log,

Formation Samples, Pumping Test, Chemical Analysis

15. Record by: Glen Warguandt Date June 1977

Source of Data _____

16. Remarks: Tested 20 gpm

CASING & BLANK PIPE			
Cemented From _____ ft. to _____ ft.			
Diam. (in.)	Type	Setting, ft.	
		from	to
6	PVC	+1	220

WELL SCREEN			
Screen Openings			
Diam. (in.)	Type	Setting, ft.	
		from	to
open		220	475

Typewrite (Black ribbon) or Print Plainly
(soft pencil or black ink)
Do not use ball point pen

Texas Department of Health Laboratories
1100 West 49th Street
Austin, Texas 78756

TWDB ONLY

Organization No. 914 Lab No.

Work No. 6044-TAC(86-87)0838

CHEMICAL WATER ANALYSIS REPORT

Send Reply To:

Water Availability Data and Studies Section
Texas Water Development Board
Stephen F. Austin Building
1700 Congress Ave.
Austin, Texas 78711

Attn: Gerald Baum Rm. 430C

County

105 Hays

State Well No.

5755603

Well No.

050986

Date Collected

LAT 30 12 07
LONG 98 09 41

Owner John Stewart

☒ Send copy to owner

Sample No.

By Ron Mah

Address Rt. 1, Box 681 A Dripping Springs Tx 78620

Well Location

Date Drilled 5-77 Depth 480 ft. WBF Lower Glen Rose Hensell

Source (type of well) Sub E

Producing intervals _____ Water level 331.85 ft. Sample depth ft.

Sampled after pumping 5+ min hrs. Yield _____

GPM TYPE
EST.

Temperature 072 °F °C

Point of collection Faucet between well head & Tank

Appearance ☒ clear ☐ turbid ☐ colored ☐ other

Use Dom Remarks _____

(FOR LABORATORY USE ONLY)

CHEMICAL ANALYSIS

MAY 13 '86

Date Received

Date Reported

MAY 29 '86

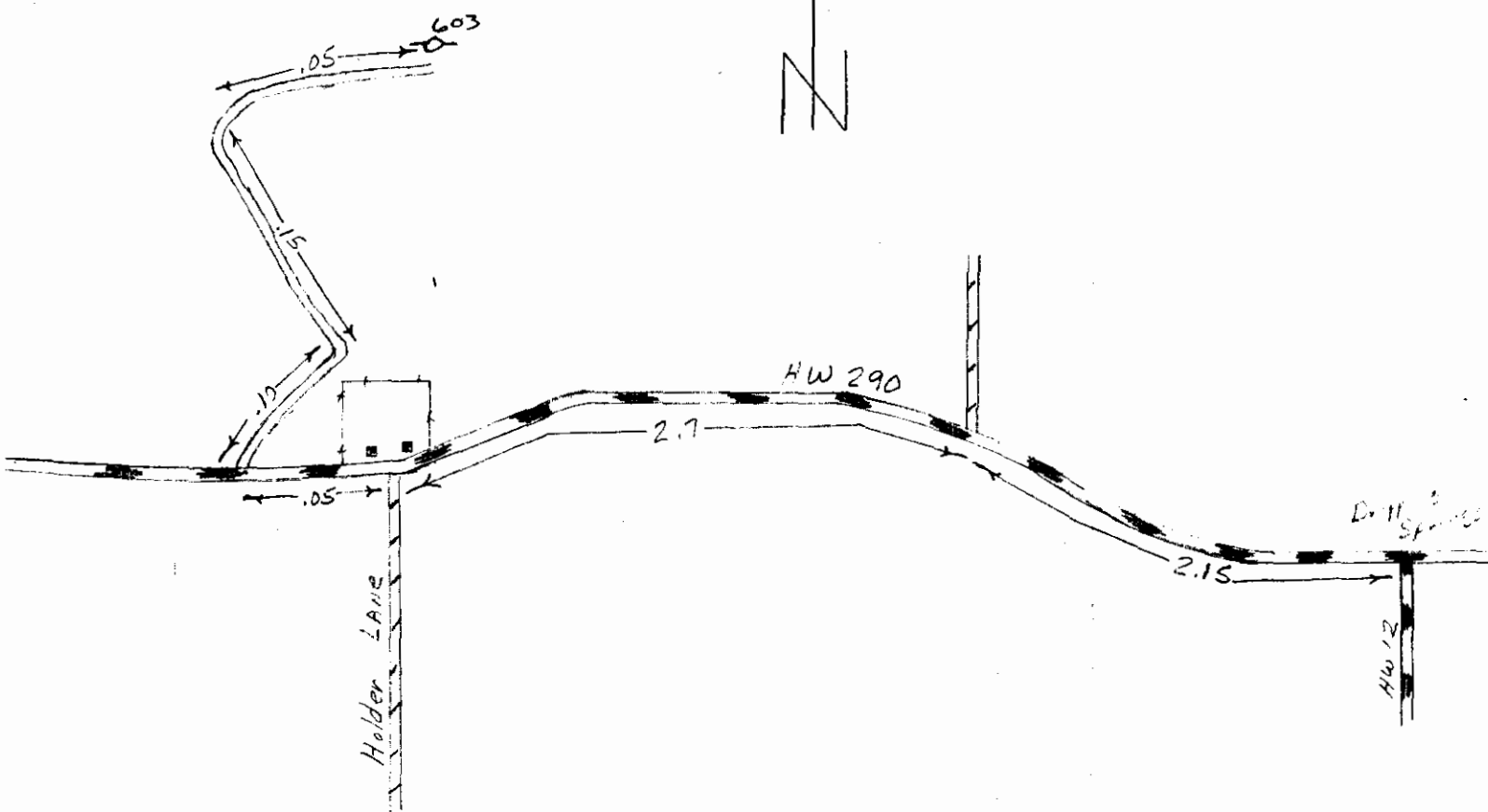
WATER ANALYSIS

Date: 052786

Sample No: EB6-618

State Well No: 57-55-603

	MG/L	ME/L		MG/L	ME/L
Silica:00955:	14		Carbonate:00445:	0	0
Calcium:00910:	310	15.52	Bicarbonate:00440:	346	5.68
Magnesium:00920:	215	17.70	Sulfate:00945:	1391	28.98
Sodium:00929:	50	2.17	Chloride:00940:	63	1.78
Potassium:00937:	18	.46	Fluoride:00951:	2.7	.14
T. Cations		35.85	Nitrate as NO3:71850:	<0.04	0
Manganese:01055:		XNa _____	T. Anions		36.58
			pH:00403:	7.7	
Boron:01022:		SAR _____			
Total Iron:01045:		RSC _____	180 deg TDS:70300:	2366	
Other _____			P. Alk.:00415:	0	
(Specific Cond.:00095:	2030		T. Alk.:00410:	284	
Diluted Conductance (micromhos/cm3)			T. Hardness:00900:	1661	
31 x136 =4216					
items will be analyzed if checked.			Ammonia-N:00610:		
			Nitrite-N:00615:		
			Nitrate-N:00620:		
			Organic Nitrogen:00605:		



Original copy by
Certified mail to the
Texas Water Development Board
P.O. Box 13087
Austin, Texas 78711

State of Texas

WATER WELL REPORT

For TWDB use only
Well No. 57-55-61
Located on map yes
Received: 7/7
26

OWNER:
Person having well drilled Mr. Sam Bass Address 7002 Silver Dale Cir Austin, Tx.
(Name) (Street or RFD) (City) (State)
Landowner Mr. John Stewart Address _____
(Name) (Street or RFD) (City) (State)

LOCATION OF WELL:
County Hays W. _____ miles in _____ direction from Dripping Springs
(N.E., S.W., etc.) (Town)

Locate by sketch map showing landmarks, roads, creeks,
highway number, etc.*

Give legal location with distances and directions from
adjacent sections or survey lines.

Labor _____ League _____

Block _____ Survey _____

Abstract No. _____

(NW¼ NE¼ SW¼ SE¼) of Section _____

(Use reverse side if necessary)

TYPE OF WORK (Check):
New Well ☒ Deepening _____
Reconditioning _____ Plugging _____
4) PROPOSED USE (Check):
Domestic ☒ Industrial _____ Municipal _____
Irrigation _____ Test Well _____ Other _____
5) TYPE OF WELL (Check):
Rotary ☒ Driven _____ Dug _____
Cable _____ Jetted _____ Bored _____

WELL LOG:
Diameter of hole 6½ in. Depth drilled 475 ft. Depth of completed well 475 ft. Date drilled 6-7-77
All measurements made from 0 ft. above ground level.

From (ft.)	To (ft.)	Description and color of formation material	9) Casing: Type: Old _____ New _____ Steel _____ Plastic <input checked="" type="checkbox"/> Other _____ Cemented from <u>0</u> ft. to <u>40</u> ft. Diameter (inches) _____ Setting _____ From (ft.) _____ To (ft.) _____ Gage _____ <u>6"</u> <u>41</u> <u>288"</u> <u>5040</u>
0	2	Surface	
2	3	Rock	
3	5	Caliche	
5	6	Rock	
6	10	Caliche	
10	14	Blue	
14	15	Shale	
15	37	Lt. Grey	
37	38	Shale	
38	40	Broken Lt. Grey	
40	65	Shaley Lime	

(Use reverse side if necessary)

COMPLETION (Check):
Straight well ☒ Gravel packed _____ Other _____
Under reamed _____ Open Hole _____
WATER LEVEL:
Static level 325 ft. below land surface Date 6-7-77
Artesian pressure _____ lbs. per square inch Date _____
Depth to pump bowls, cylinder, jet, etc., 460 ft.
below land surface.

11) WELL TESTS:
Was a pump test made? Yes ☒ No _____ If yes, by whom? _____
Yield: 20 gpm with 0 ft. drawdown after _____ hrs.
Bailer test _____ gpm with _____ ft. drawdown after _____ hrs.
Artesian flow _____ gpm
Temperature of water _____

12) WATER QUALITY:
Was a chemical analysis made? Yes ☒ No _____
Did any strata contain undesirable water? Yes _____ No ☒
Type of water? _____ depth of strata 400-425' to 440-460'

I hereby certify that this well was drilled by me (or under my supervision) and that
each and all of the statements herein are true to the best of my knowledge and belief.

By Mr. James B. Tucker, Jr. Water Well Drillers Registration No. 1488
(Type or Print)

Address Rt. 1A Box 52A Dripping Springs, Texas 78620
(Street or RFD) (City) (State)

Signed James B Tucker Jr. GLASS & TUCKER DRILLING CO. INC.
(Water Well Driller) (Company Name)

Please attach electric log, chemical analysis, and other pertinent information, if available.

LR57-55-603

Additional instructions on reverse side.

2) LOCATION OF WELL:

The sketch showing the well location must be as accurate as possible, showing landmarks, in sufficient detail so that the well may be plotted on a General Highway Map of the county in which the well is located.

Reference points from which distances are measured and directions given should be of a permanent nature (e.g. highway intersections, center of towns, river and creek bridges, railroad crossings). The distance and direction from the nearest town should always be indicated.

When giving a legal description include a sketch showing location of the well within the described area, e.g. survey abstract.

Information furnished in Section 2) of the TWDBE-GW-53 is very important. Unless the well can be accurately located on a map the value of the other data contained in the Report is greatly reduced.

65	70	Lt. Grey
70	80	Lt. Brown
80	97	Lt. Grey
97	105	Med.
105	107	Soft Broken
107	110	Soft Med. w/Shale
110	140	Lt. Grey
140	141	Shale
141	147	Med.
147	148	Shale
148	160	Med.
160	164	Broken Water 2gpm
164	180	White Gumbo
180	181	Clay
181	205	White Gumbo
205	220	White
220	240	Soft Med.
240	260	Hard Med.
260	268	Hard Broken Med. Fossil
268	269	Clay
269	275	Hard Broken Med. w/Fossil
275	276	Clay
276	302	Med.
302	303	Shale
303	340	Lt. Brown
340	370	Broken Lt. Grey & Brown S
370	371	Green Clay
371	380	Lt. Grey
380	400	Broken Water 10 gpm
400	425	Med.
425	440	Brown Sandstone
440	460	Broken White & Brown Water 10 gpm
460	480	Basin
480		

SAM
BASS

290 WEST

RECEIVED
DEC 9 1977

Central Records
Texas Dept. of Water Resources

RECEIVED
SEP 1 1977

TEXAS WATER RIGHTS COMMISSION
AUSTIN, TEXAS

LR 57-55-603

Typewrite (Black ribbon) or Print Plainly
(soft pencil or black ink)
Do not use ball point pen

Texas Department of Health Resources Laboratories
1100 West 49th Street
Austin, Texas 78756

TWDBE ONLY

Program No. 6258

Work No. _____

CHEMICAL WATER ANALYSIS REPORT

Send report to:

Ground Water Division
Texas Water Development Board
P.O. Box 13087
Austin, Texas 78711

County 105 HAYS
State Well No. 57-55-603
Well No. 06-16-77
Date Collected 06-16-77

Location _____ Sample No. 1 By Moore

Source (type of well) _____ Owner M.S. BASS

Date Drilled 6-77 Depth 484 ft. WBF COW CREEK

Producing intervals _____ Water level 325 ft. Sample depth 0475 ft.

Sampled after pumping _____ hrs. Yield 20 GPM 100 Temperature 073 °F _____ °C

Point of collection SAMPLER Appearance ☐ clear ☒ turbid ☐ colored ☐ other

Use DEM. Remarks _____

(FOR LABORATORY USE ONLY)

198 Laboratory No. 331183

CHEMICAL ANALYSIS
JUN 23 1977

Date Received _____

KEY FINISHED

JUL 26 1977

Date Reported _____

	MG/L	ME/L
Silica	<u>12</u>	
Calcium	<u>180</u>	<u>2.92</u>
Magnesium	<u>138</u>	<u>11.35</u>
Sodium	<u>35</u>	<u>1.51</u>
Total		<u>21.84</u>
<input type="checkbox"/> Potassium	<u>16.0</u>	<u>0.92</u>
<input type="checkbox"/> Manganese		<u>22.76</u>
<input type="checkbox"/> Boron		%Na _____
<input checked="" type="checkbox"/> Total Iron		SAR _____
<input type="checkbox"/> (other) _____	MG/L	RSC _____

Specific Conductance (micromhos/cm³) 1680

Diluted Conductance (micromhos/cm³) 13 1/2 x 175

☐ " items will be analyzed if checked.

1 The bicarbonate reported in this analysis is converted by computation (multiplying by 0.4917) to an equivalent amount of carbonate, and the carbonate figure is used in the computation of this sum.

2 Nitrogen cycle requires separate sample.

3 Total Iron requires separate sample.

TWDBE-WD-1 (Rev. 8-30-76)

	MG/L	ME/L
Carbonate	<u>0</u>	
Bicarbonate <u>196</u>	<u>399</u>	<u>6.54</u>
Sulfate	<u>690</u>	<u>14.33</u>
Chloride	<u>43</u>	<u>1.20</u>
Fluoride	<u>3.5</u>	<u>0.18</u>
Nitrate	<u>50.4</u>	
pH	<u>7.6</u>	Total <u>22.25</u>

<u>1</u> Dissolved Solids (sum in MG/L)	<u>1300</u>
Phenolphthalein Alkalinity as CaCO ₃	<u>0</u>
Total Alkalinity as CaCO ₃ <u>(6.54)</u>	<u>327</u>
Total Hardness as CaCO ₃ <u>(20.33)</u>	<u>1020</u>
<u>2</u> Nitrogen Cycle	
Ammonia - N	
Nitrite - N	
Nitrate - N	
Organic Nitrogen	

Analyst _____ Checked By _____

APPENDIX K

GROUNDWATER QUALITY TECHNICAL REPORT

GROUNDWATER QUALITY ASSESSMENT

FOR

**SCENIC GREENS WASTEWATER TREATMENT PLANT
DOMESTIC WASTEWATER PERMIT APPLICATION
FOR A
TEXAS LAND APPLICATION PERMIT**

July 2024

PREPARED BY

**LJA ENGINEERING, INC.
7500 RIALTO BLVD, BUILDING II, SUITE 100
AUSTIN, TEXAS 78735
(512) 439-4700**

GROUNDWATER QUALITY ASSESSMENT

The purpose of this report is to assess the impact of the disposal of treated effluent on uses of local groundwater resources, as a part of the requirements of Title 30 of the Texas Administrative Code, Chapter 309, Subchapter C, Rule §309.20(a)(4). This report is provided as a supplement to the information included in the Domestic Worksheet 3.0, Section 7.

- (A) All water wells within a half mile radius of the disposal areas have been identified using the current Texas Water Development Board (TWDB) database. Where available, the uses of the wells have been identified. It should be noted that several of the wells labeled as public supply on the driller's logs appear to be for private use currently.

Water quality data is available for the following wells: 5755603, 5755604, 5755605, 5755609. All wells are part of the Glen Rose Aquifer, which is the predominant aquifer in the area used for groundwater supply. Depth ranges from 390 ft to 510 ft.

A review of the water quality indicates a range of water quality in the area. The total dissolved solids values averaged approximately 1343.5 mg/L. Other values, including nitrate nitrogen solids values averaged 0.467 mg/L as NO₃ and hardness was measured at 1026 mg/L of CaCO₃.

Based on the data for the driller's logs, the wells were tested at various dates between 1977 and 2023. Given the similarity in data between the available water quality tests, it is reasonable to assume the water quality in this formation is generally similar for this area.

There are no anticipated impacts to the existing groundwater resources quality as a result of this proposed plan due to the measures required by rule and additional voluntary measures taken by the applicant to prevent effluent from reaching potential recharge areas. These include creek setbacks, weather stations to prevent irrigation during wet conditions and a reduced application rate.

- (B) Groundwater resources serving as sources or potential sources of domestic raw water supply by limiting wastewater application rates. Application rates will be limited to the values calculated in the attached water balance. In addition, moisture sensors will be installed to allow for preventive warning of saturated conditions and prevent irrigation in this condition.

Treated effluent will be held in in an onsite storage pond until routed to the spray irrigation units. The use of a larger than required pond from Phase 1 will ensure that there is ample storage capacity during extended wet periods.

Well Data (Available Water Quality)

[GWDB Reports and Downloads](#)
[Well Basic Details](#)
[Scanned Documents](#)

State Well Number	5755605
County	Hays
River Basin	Colorado
Groundwater Management Area	9
Regional Water Planning Area	K - Lower Colorado
Groundwater Conservation District	Hays Trinity GCD
Latitude (decimal degrees)	30.207223
Latitude (degrees minutes seconds)	30° 12' 26" N
Longitude (decimal degrees)	-98.131389
Longitude (degrees minutes seconds)	098° 07' 53" W
Coordinate Source	+/- 5 Seconds
Aquifer Code	218GRHC - Glen Rose LS and Hensell SH and Cow Creek LS Members of Pearsall FM
Aquifer	Trinity
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	1255
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	480
Well Depth Source	Geophysical Log
Drilling Start Date	
Drilling End Date	0/0/1977
Drilling Method	
Borehole Completion	

Well Type	Withdrawal of Water
Well Use	Domestic
Water Level Observation	Miscellaneous Measurements
Water Quality Available	Yes
Pump	Submersible
Pump Depth (feet below land surface)	
Power Type	Electric Motor
Annular Seal Method	
Surface Completion	
Owner	Artis Wilkerson
Driller	Glass and Tucker, Inc
Other Data Available	Caliper; Electric Log; Gamma Ray; Gamma-Gamma; Neutron
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	Texas Water Development Board
Created Date	8/2/1990
Last Update Date	6/24/2008

Remarks Open hole from 41 to 480 ft.

Casing - No Data

Well Tests - No Data

Lithology - No Data

Annular Seal Range - No Data

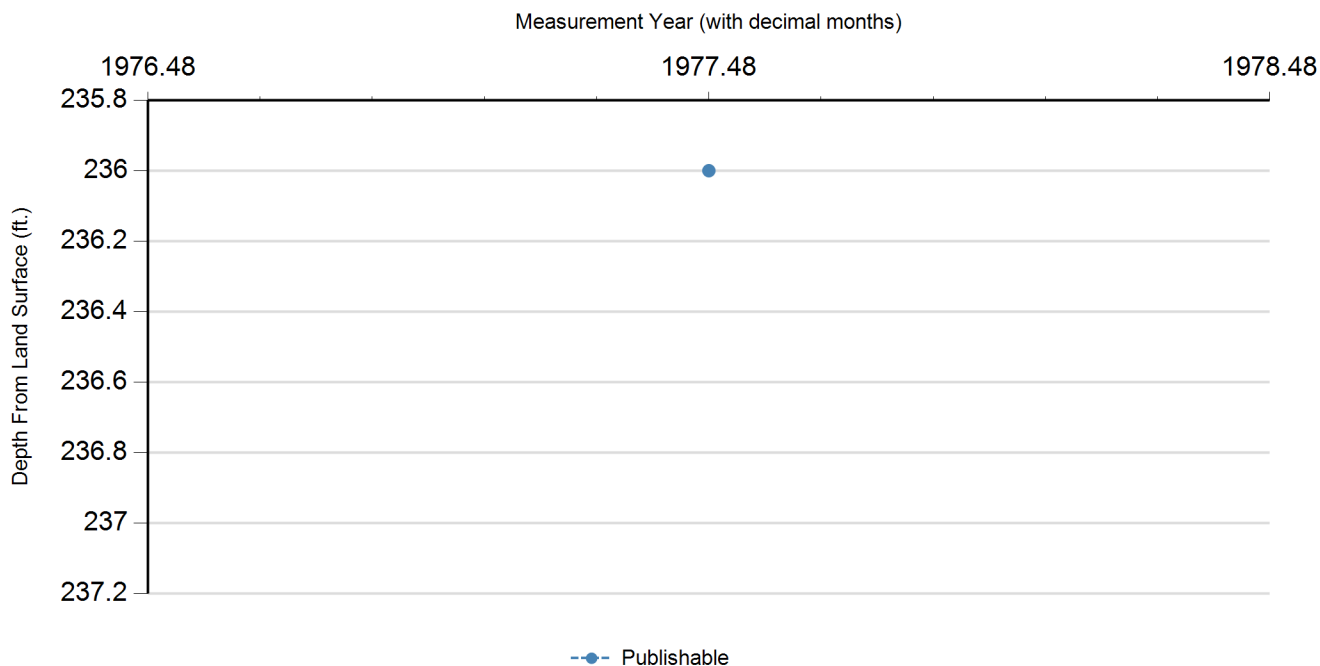
Borehole - No Data

Plugged Back - No Data

Filter Pack - No Data

Packers - No Data

Water Level Measurements



Status Code	Date	Time	Water Level (ft. below land surface)	Change value in () indicates rise in level	Water Elevation (ft. above sea level)	Meas #	Measuring Agency	Method	Remark ID	Comments
P	6/27/1977		236		1019	1	Texas Water Development Board	Steel Tape		

Code Descriptions

Status Code	Status Description
P	Publishable

Water Quality Analysis

Sample Date: 6/27/1977 **Sample Time:** 0000 **Sample Number:** 1 **Collection Entity:** Texas Water Development Board

Sampled Aquifer: Glen Rose LS and Hensell SH and Cow Creek LS **Sampled Interval:** Top: Bottom: 420
Members of Pearsall FM

Analyzed Lab: Texas Department of Health

Reliability: Not indicative of aquifer quality.

Collection Remarks: sampler

Parameter Code	Parameter Description	Flag	Value*	Units	Plus/Minus
00415	ALKALINITY, PHENOLPHTHALEIN (MG/L)		0	mg/L	
00410	ALKALINITY, TOTAL (MG/L AS CaCO ₃)		373	mg/L as CaCO ₃	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO ₃)		455.19	mg/L	
00910	CALCIUM (MG/L)		96	mg/L	
00445	CARBONATE ION, CALCULATED (MG/L AS CO ₃)		0	mg/L	
00940	CHLORIDE, TOTAL (MG/L AS CL)		30	mg/L	
00950	FLUORIDE, DISSOLVED (MG/L AS F)		3.6	mg/L	
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CaCO ₃)		593	mg/L as CaCO ₃	
00920	MAGNESIUM (MG/L)		86	mg/L	
71851	NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO ₃)		1.4	mg/L as NO ₃	
00400	PH (STANDARD UNITS), FIELD		7.8	SU	
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		0		
00955	SILICA, DISSOLVED (MG/L AS SiO ₂)		10	mg/L as SiO ₂	
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		0.48		
00932	SODIUM, CALCULATED, PERCENT		9	PCT	
00929	SODIUM, TOTAL (MG/L AS Na)		27	mg/L	
00094	SPECIFIC CONDUCTANCE, FIELD (UMHOS/CM AT 25C)		1350	MICR	
00945	SULFATE, TOTAL (MG/L AS SO ₄)		216	mg/L as SO ₄	
00010	TEMPERATURE, WATER (CELSIUS)		22	C	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		693	mg/L	

**Texas Water Development Board (TWDB)
Groundwater Database (GWDB)
Well Information Report for State Well Number
57-55-605**

Water Quality Analysis

Sample Date: 6/27/1977 **Sample Time:** 0000 **Sample Number:** 2 **Collection Entity:** Texas Water Development Board

Sampled Aquifer: Glen Rose LS and Hensell SH and Cow Creek LS **Sampled Interval:** Top: Bottom: 460
Members of Pearsall FM

Analyzed Lab: Texas Department of Health **Reliability:** Not indicative of aquifer quality.

Collection Remarks: sampler

Parameter Code	Parameter Description	Flag	Value*	Units	Plus/Minus
00415	ALKALINITY, PHENOLPHTHALEIN (MG/L)		0	mg/L	
00410	ALKALINITY, TOTAL (MG/L AS CaCO3)		288	mg/L as CaCO 3	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO3)		351.46	mg/L	
00910	CALCIUM (MG/L)		261	mg/L	
00445	CARBONATE ION, CALCULATED (MG/L AS CO3)		0	mg/L	
00940	CHLORIDE, TOTAL (MG/L AS CL)		52	mg/L	
00950	FLUORIDE, DISSOLVED (MG/L AS F)		2.3	mg/L	
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CaCO3)		1334	mg/L as CaCO 3	
00920	MAGNESIUM (MG/L)		166	mg/L	
71851	NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO3)		0.8	mg/L as NO3	
00400	PH (STANDARD UNITS), FIELD		7.8	SU	
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		0		
00955	SILICA, DISSOLVED (MG/L AS SiO2)		12	mg/L as SiO2	
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		0.76		
00932	SODIUM, CALCULATED, PERCENT		9	PCT	
00929	SODIUM, TOTAL (MG/L AS Na)		64	mg/L	
00094	SPECIFIC CONDUCTANCE, FIELD (UMHOS/CM AT 25C)		3360	MICR	
00945	SULFATE, TOTAL (MG/L AS SO4)		1060	mg/L as SO4	
00010	TEMPERATURE, WATER (CELSIUS)		23	C	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		1790	mg/L	

* Value may not display all significant digits for parameter in results, check Scanned Documents for laboratory paperwork..

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[GWDB Reports and Downloads](#)
[Well Basic Details](#)
[Scanned Documents](#)

State Well Number	5755609
County	Hays
River Basin	Colorado
Groundwater Management Area	9
Regional Water Planning Area	K - Lower Colorado
Groundwater Conservation District	Hays Trinity GCD
Latitude (decimal degrees)	30.196667
Latitude (degrees minutes seconds)	30° 11' 48" N
Longitude (decimal degrees)	-98.143889
Longitude (degrees minutes seconds)	098° 08' 38" W
Coordinate Source	Global Positioning System - GPS
Aquifer Code	218GLRSU - Glen Rose Limestone, Upper Member
Aquifer	Trinity
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	1186
Land Surface Elevation Method	Digital Elevation Model -DEM
Well Depth (feet below land surface)	
Well Depth Source	
Drilling Start Date	
Drilling End Date	
Drilling Method	
Borehole Completion	

Well Type	Spring
Well Use	Unused
Water Level Observation	None
Water Quality Available	Yes
Pump	
Pump Depth (feet below land surface)	
Power Type	
Annular Seal Method	
Surface Completion	
Owner	Blue Creek Spring
Driller	
Other Data Available	
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	Blue Creek
Other Well Number	
Previous State Well Number	
Reporting Agency	Groundwater Conservation District
Created Date	10/22/2015
Last Update Date	10/22/2015

Remarks Blue Creek 0.4 cfs Spring about 20 gpm. 7/20/2015.

Casing - No Data

Well Tests - No Data

Lithology - No Data

Annular Seal Range - No Data

Borehole - No Data

Plugged Back - No Data

Filter Pack - No Data

Packers - No Data

Water Level Measurements

No Data Available

Water Quality Analysis

Sample Date: 7/20/2015 **Sample Time:** 1600 **Sample Number:** 1 **Collection Entity:** Barton Springs/Edwards Aquifer CD

Sampled Aquifer: Glen Rose Limestone, Upper Member

Analyzed Lab: LCRA - Lower Colorado River Authority **Reliability:** Sampled using TWDB protocols

Collection Remarks: Lab Calculated Anion/Cation Chg Bal set to TWDB Calculated Value due to an error in the lab calculated formula

Parameter Code	Parameter Description	Flag	Value*	Units	Plus/Minus
00415	ALKALINITY, PHENOLPHTHALEIN (MG/L)	<	20	mg/L	
00410	ALKALINITY, TOTAL (MG/L AS CaCO ₃)		283	mg/L as CaCO ₃	
01106	ALUMINUM, DISSOLVED (UG/L AS AL)	<	4	ug/L	
50938	ANION/CATION CHG BAL, PERCENT		-0.2913	PCT	
01095	ANTIMONY, DISSOLVED (UG/L AS SB)	<	1	ug/L	
01000	ARSENIC, DISSOLVED (UG/L AS AS)	<	2	ug/L	
01005	BARIUM, DISSOLVED (UG/L AS BA)		44.5	ug/L	
01010	BERYLLIUM, DISSOLVED (UG/L AS BE)	<	1	ug/L	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO ₃)		345.358	mg/L	
01020	BORON, DISSOLVED (UG/L AS B)	<	50	ug/L	
71870	BROMIDE, DISSOLVED, (MG/L AS BR)		0.161	mg/L	
01025	CADMIUM, DISSOLVED (UG/L AS CD)	<	1	ug/L	
00915	CALCIUM, DISSOLVED (MG/L AS CA)		106	mg/L	
28004	CARBON-14 DISS APPARENT AGE (YEARS BP)	<	65	Y-BP	
82172	CARBON-14 FRACTION MODERN		1.0419		0.0025
00445	CARBONATE ION, CALCULATED (MG/L AS CO ₃)		0	mg/L	
00941	CHLORIDE, DISSOLVED (MG/L AS CL)		33.9	mg/L	
01030	CHROMIUM, DISSOLVED (UG/L AS CR)		1.21	ug/L	
01035	COBALT, DISSOLVED (UG/L AS CO)	<	1	ug/L	
01040	COPPER, DISSOLVED (UG/L AS CU)	<	1	ug/L	
82081	DELTA CARBON 13 C13/C12 PER MIL		-11.8	0/00	
50791	DEUTERIUM, EXPRESSED AS PERMIL VSMOW		-24.2	0/00	
00950	FLUORIDE, DISSOLVED (MG/L AS F)		0.23	mg/L	
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CaCO ₃)		347.301	mg/L as CaCO ₃	
01046	IRON, DISSOLVED (UG/L AS FE)	<	50	ug/L	
01049	LEAD, DISSOLVED (UG/L AS PB)	<	1	ug/L	
01130	LITHIUM, DISSOLVED (UG/L AS LI)		3.38	ug/L	
00925	MAGNESIUM, DISSOLVED (MG/L AS MG)		20	mg/L	
01056	MANGANESE, DISSOLVED (UG/L AS MN)	<	1	ug/L	
71890	MERCURY, DISSOLVED (UG/L AS HG)	<	0.2	ug/L	
01060	MOLYBDENUM, DISSOLVED (UG/L AS MO)	<	1	ug/L	

**Texas Water Development Board (TWDB)
Groundwater Database (GWDB)
Well Information Report for State Well Number
57-55-609**

Parameter Code	Parameter Description	Flag	Value*	Units	Plus/Minus
71851	NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO3)		0.12	mg/L as NO3	
00631	NITRITE PLUS NITRATE, DISSOLVED (MG/L AS N)		0.027	mg/L as N	
50790	OXYGEN-18, EXPRESSED AS PERMIL VSMOW		-4.35	0/00	
00400	PH (STANDARD UNITS), FIELD		7.54	SU	
00666	PHOSPHORUS, DISSOLVED (MG/L AS P)	<	0.02	mg/L as P	
00935	POTASSIUM, DISSOLVED (MG/L AS K)		1.1	mg/L	
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		0		
01145	SELENIUM, DISSOLVED (UG/L AS SE)	<	4	ug/L	
00955	SILICA, DISSOLVED (MG/L AS SiO2)		10.5	mg/L as SiO2	
01075	SILVER, DISSOLVED (UG/L AS AG)	<	1	ug/L	
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		0.388		
00932	SODIUM, CALCULATED, PERCENT		9.43	PCT	
00930	SODIUM, DISSOLVED (MG/L AS NA)		16.6	mg/L	
00094	SPECIFIC CONDUCTANCE, FIELD (UMHOS/CM AT 25C)		718	MICR	
01080	STRONTIUM, DISSOLVED (UG/L AS SR)		170	ug/L	
48297	STRONTIUM, ISOTOPE OF MASS 86 AND 87 RATIO		0.708179	N/A	
00946	SULFATE, DISSOLVED (MG/L AS SO4)		53	mg/L as SO4	
00010	TEMPERATURE, WATER (CELSIUS)		23.27	C	
01057	THALLIUM, DISSOLVED (UG/L AS TL)	<	1	ug/L	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		411.432	mg/L	
22703	URANIUM, NATURAL, DISSOLVED (UG/L AS U)	<	1	ug/L	
01085	VANADIUM, DISSOLVED (UG/L AS V)		1.43	ug/L	
01090	ZINC, DISSOLVED (UG/L AS ZN)	<	4	ug/L	

* Value may not display all significant digits for parameter in results, check Scanned Documents for laboratory paperwork..

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[GWDB Reports and Downloads](#)
[Well Basic Details](#)
[Scanned Documents](#)

State Well Number	5755603
County	Hays
River Basin	Colorado
Groundwater Management Area	9
Regional Water Planning Area	K - Lower Colorado
Groundwater Conservation District	Hays Trinity GCD
Latitude (decimal degrees)	30.202223
Latitude (degrees minutes seconds)	30° 12' 08" N
Longitude (decimal degrees)	-98.161667
Longitude (degrees minutes seconds)	098° 09' 42" W
Coordinate Source	+/- 5 Seconds
Aquifer Code	218GLRH - Glen Rose Limestone and Hensell Member of Pearsall Formation
Aquifer	Trinity
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	1370
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	480
Well Depth Source	Driller's Log
Drilling Start Date	
Drilling End Date	6/0/1977
Drilling Method	
Borehole Completion	Open Hole

Well Type	Withdrawal of Water
Well Use	Domestic
Water Level Observation	Historical
Water Quality Available	Yes
Pump	Submersible
Pump Depth (feet below land surface)	
Power Type	Electric Motor
Annular Seal Method	
Surface Completion	
Owner	M.S. Bass
Driller	Glass and Tucker, Inc
Other Data Available	Caliper; Drillers Log; Electric Log; Gamma Ray; Gamma-Gamma; Neutron
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	Texas Water Development Board
Created Date	2/21/1990
Last Update Date	8/5/2009

Remarks	Logged by TWDB to 484 feet in 1977.
---------	-------------------------------------

Casing						
Diameter (in.)	Casing Type	Casing Material	Schedule	Gauge	Top Depth (ft.)	Bottom Depth (ft.)
6	Blank	Plastic (PVC)			0	220
	Open Hole				220	480

Well Tests - No Data

Lithology - No Data

Annular Seal Range - No Data

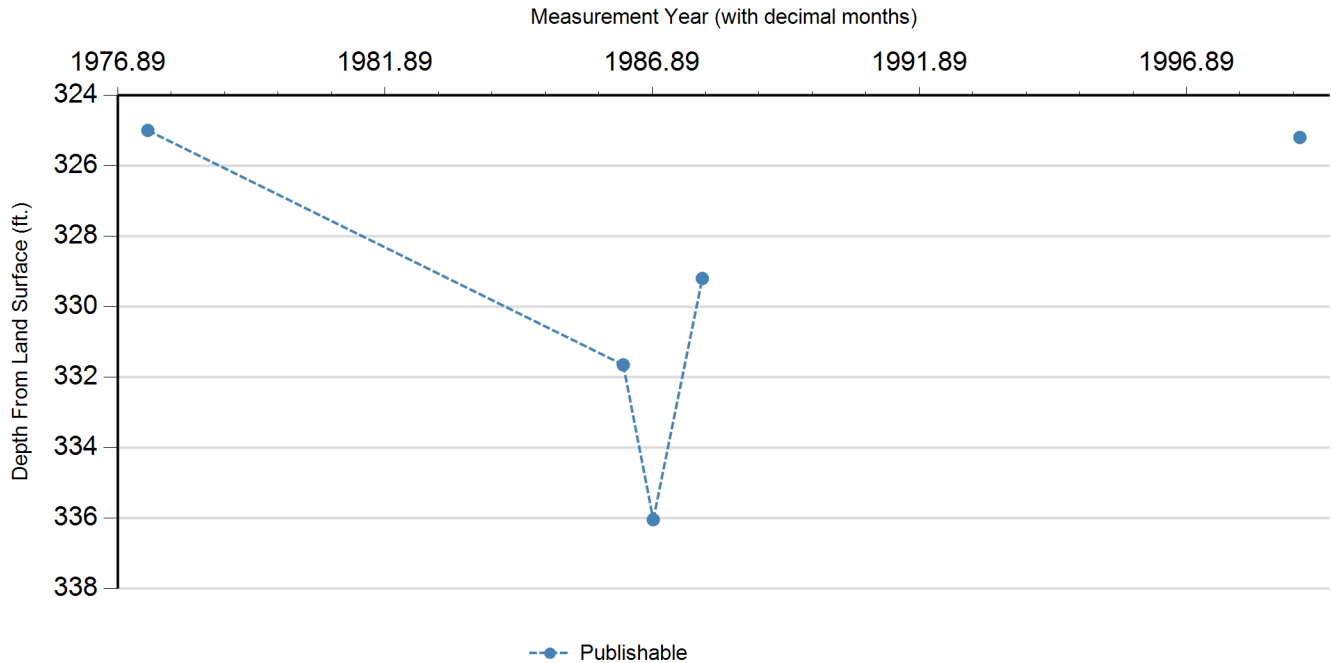
Borehole - No Data

Plugged Back - No Data

Filter Pack - No Data

Packers - No Data

Water Level Measurements



Status Code	Date	Time	Water Level (ft. below land surface)	Change value in () indicates rise in level	Water Elevation (ft. above sea level)	Meas #	Measuring Agency	Method	Remark ID	Comments
P	6/16/1977		325		1045	1	Texas Water Development Board	Logging Sonde		
P	5/9/1986		331.65	6.65	1038.35	1	Texas Water Development Board	Steel Tape		
P	12/4/1986		336.04	4.39	1033.96	1	Texas Water Development Board	Steel Tape		
P	11/4/1987		329.2	(6.84)	1040.8	1	Texas Water Development Board	Steel Tape		
X	2/8/1989					1	Texas Water Development Board	Steel Tape	22	
P	1/6/1999		325.2		1044.8	1	Texas Water Development Board	Steel Tape		

Code Descriptions

Status Code	Status Description
P	Publishable
X	No Measurement

Remark ID	Remark Description
22	Unable to measure because tape hangs before reaching water level

Water Quality Analysis

Sample Date: 6/16/1977 **Sample Time:** 0000 **Sample Number:** 1 **Collection Entity:** Texas Water Development Board

Sampled Aquifer: Glen Rose Limestone and Hensell Member of Pearsall Formation **Sampled Interval:** Top: Bottom: 475

Analyzed Lab: Texas Department of Health **Reliability:** Not indicative of aquifer quality.

Collection Remarks: sampler

Parameter Code	Parameter Description	Flag	Value*	Units	Plus/Minus
00415	ALKALINITY, PHENOLPHTHALEIN (MG/L)		0	mg/L	
00410	ALKALINITY, TOTAL (MG/L AS CaCO ₃)		327	mg/L as CaCO ₃	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO ₃)		399.05	mg/L	
00910	CALCIUM (MG/L)		180	mg/L	
00445	CARBONATE ION, CALCULATED (MG/L AS CO ₃)		0	mg/L	
00940	CHLORIDE, TOTAL (MG/L AS CL)		43	mg/L	
00950	FLUORIDE, DISSOLVED (MG/L AS F)		3.5	mg/L	
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CaCO ₃)		1016	mg/L as CaCO ₃	
00920	MAGNESIUM (MG/L)		138	mg/L	
71851	NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO ₃)	<	0.4	mg/L as NO ₃	
00400	PH (STANDARD UNITS), FIELD		7.6	SU	
00937	POTASSIUM, TOTAL (MG/L AS K)		16	mg/L	
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		0		
00955	SILICA, DISSOLVED (MG/L AS SiO ₂)		12	mg/L as SiO ₂	
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		0.48		
00932	SODIUM, CALCULATED, PERCENT		6	PCT	
00929	SODIUM, TOTAL (MG/L AS Na)		35	mg/L	
00094	SPECIFIC CONDUCTANCE, FIELD (UMHOS/CM AT 25C)		2363	MICR	
00945	SULFATE, TOTAL (MG/L AS SO ₄)		690	mg/L as SO ₄	
00010	TEMPERATURE, WATER (CELSIUS)		23	C	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		1314	mg/L	

Water Quality Analysis

Sample Date: 5/9/1986 **Sample Time:** 0000 **Sample Number:** 1 **Collection Entity:** Texas Water Development Board

Sampled Aquifer: Glen Rose Limestone and Hensell Member of Pearsall Formation

Analyzed Lab: Texas Department of Health **Reliability:** Collected from pumped well, but not filtered or preserved

Collection Remarks: No Data

Parameter Code	Parameter Description	Flag	Value*	Units	Plus/Minus
00415	ALKALINITY, PHENOLPHTHALEIN (MG/L)		0	mg/L	
00410	ALKALINITY, TOTAL (MG/L AS CaCO3)		284	mg/L as CaCO3	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO3)		346.58	mg/L	
00910	CALCIUM (MG/L)		310	mg/L	
00445	CARBONATE ION, CALCULATED (MG/L AS CO3)		0	mg/L	
00940	CHLORIDE, TOTAL (MG/L AS CL)		63	mg/L	
00950	FLUORIDE, DISSOLVED (MG/L AS F)		2.7	mg/L	
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CaCO3)		1658	mg/L as CaCO3	
00920	MAGNESIUM (MG/L)		215	mg/L	
71851	NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO3)	<	0.04	mg/L as NO3	
00400	PH (STANDARD UNITS), FIELD		7.7	SU	
00937	POTASSIUM, TOTAL (MG/L AS K)		18	mg/L	
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		0		
00955	SILICA, DISSOLVED (MG/L AS SiO2)		14	mg/L as SiO2	
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		0.53		
00932	SODIUM, CALCULATED, PERCENT		6	PCT	
00929	SODIUM, TOTAL (MG/L AS Na)		50	mg/L	
00094	SPECIFIC CONDUCTANCE, FIELD (UMHOS/CM AT 25C)		4216	MICR	
00945	SULFATE, TOTAL (MG/L AS SO4)		1391	mg/L as SO4	
00010	TEMPERATURE, WATER (CELSIUS)		22	C	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		2234	mg/L	

* Value may not display all significant digits for parameter in results, check Scanned Documents for laboratory paperwork..

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[GWDB Reports and Downloads](#)
[Well Basic Details](#)
[Scanned Documents](#)

State Well Number	5755604
County	Hays
River Basin	Colorado
Groundwater Management Area	9
Regional Water Planning Area	K - Lower Colorado
Groundwater Conservation District	Hays Trinity GCD
Latitude (decimal degrees)	30.192778
Latitude (degrees minutes seconds)	30° 11' 34" N
Longitude (decimal degrees)	-98.165001
Longitude (degrees minutes seconds)	098° 09' 54" W
Coordinate Source	+/- 1 Second
Aquifer Code	218HSCC - Hensell Sand and Cow Creek Limestone
Aquifer	Trinity
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	1254
Land Surface Elevation Method	Digital Elevation Model -DEM
Well Depth (feet below land surface)	460
Well Depth Source	Driller's Log
Drilling Start Date	
Drilling End Date	1/13/1997
Drilling Method	Air Rotary
Borehole Completion	Open Hole

Well Type	Withdrawal of Water
Well Use	Domestic
Water Level Observation	Miscellaneous Measurements
Water Quality Available	Yes
Pump	Submersible
Pump Depth (feet below land surface)	
Power Type	Electric Motor
Annular Seal Method	
Surface Completion	
Owner	Randy Robinson
Driller	James Tucker Drilling, Inc.
Other Data Available	Aquifer Test; Drillers Log
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	Texas Water Development Board
Created Date	9/7/2010
Last Update Date	4/30/2014

Remarks Site 65 in BSEACD Report 2010-0701. Reported yield 75 GPM with 16.3 feet drawdown after 16.5 hours in 2004. Specific capacity 4.6 GPM/ft. Aquifer test data and results in TWDB files.

Casing

Diameter (in.)	Casing Type	Casing Material	Schedule	Gauge	Top Depth (ft.)	Bottom Depth (ft.)
8	Blank	Plastic (PVC)			0	383
10	Open Hole				383	460

Well Tests - No Data

Lithology - No Data

Annular Seal Range - No Data

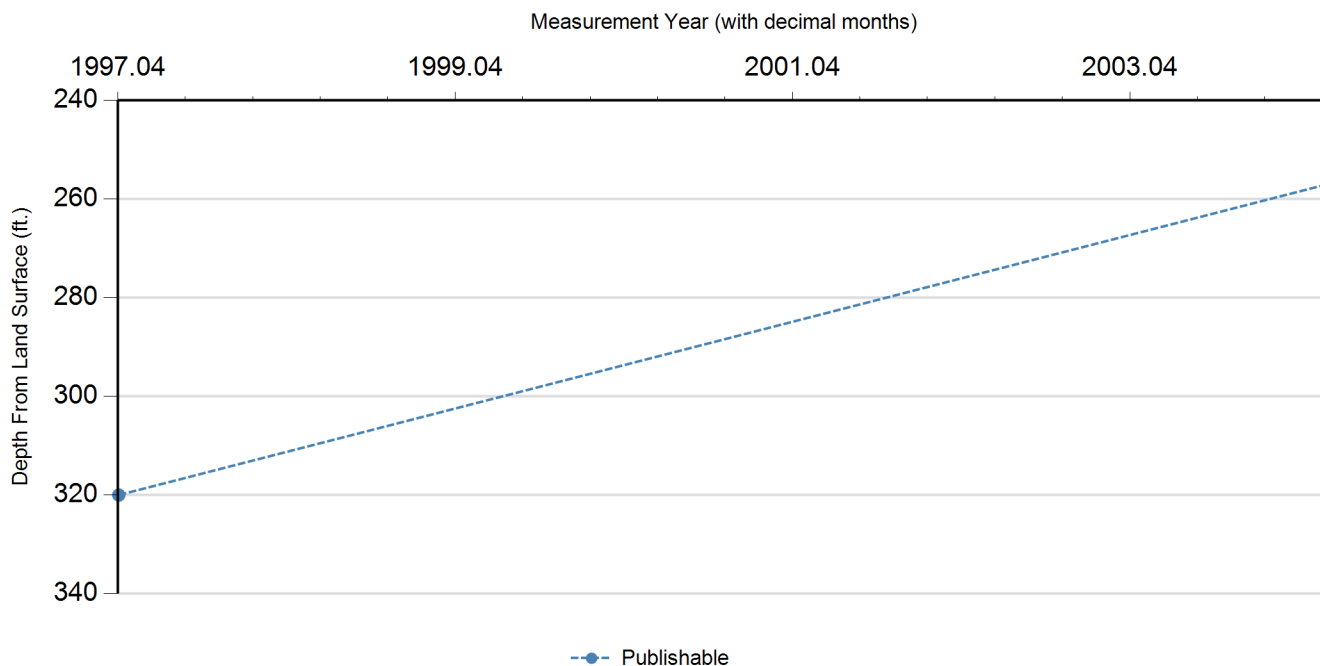
Borehole - No Data

Plugged Back - No Data

Filter Pack - No Data

Packers - No Data

Water Level Measurements



Status Code	Date	Time	Water Level (ft. below land surface)	Change value in () indicates rise in level	Water Elevation (ft. above sea level)	Meas #	Measuring Agency	Method	Remark ID	Comments
P	1/15/1997		320		934	1	Registered Water Well Driller	Unknown		
P	3/17/2004		257	(63.00)	997	1	Groundwater Consultant	Transducer		
P	3/19/2004		258.01	1.01	995.99	1	Groundwater Consultant	Transducer		

Code Descriptions

Status Code	Status Description
P	Publishable

Water Quality Analysis

Sample Date: 3/18/2004 **Sample Time:** 1000 **Sample Number:** 1 **Collection Entity:** Groundwater Consultant

Sampled Aquifer: Hensell Sand and Cow Creek Limestone

Analyzed Lab: LCRA - Lower Colorado River Authority

Reliability: Collected from pumped well, but not filtered or preserved

Collection Remarks: during aquifer test

Parameter Code	Parameter Description	Flag	Value*	Units	Plus/Minus
00415	ALKALINITY, PHENOLPHTHALEIN (MG/L)		0	mg/L	
00410	ALKALINITY, TOTAL (MG/L AS CaCO ₃)		277	mg/L as CaCO ₃	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO ₃)		338.03	mg/L	
00910	CALCIUM (MG/L)		230	mg/L	
00445	CARBONATE ION, CALCULATED (MG/L AS CO ₃)		0	mg/L	
00940	CHLORIDE, TOTAL (MG/L AS CL)		53.3	mg/L	
00950	FLUORIDE, DISSOLVED (MG/L AS F)		2.31	mg/L	
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CaCO ₃)		1209	mg/L as CaCO ₃	
00920	MAGNESIUM (MG/L)		154	mg/L	
71851	NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO ₃)		0.04	mg/L as NO ₃	
00400	PH (STANDARD UNITS), FIELD		7.38	SU	
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		0		
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		0.69		
00932	SODIUM, CALCULATED, PERCENT		9	PCT	
00929	SODIUM, TOTAL (MG/L AS Na)		55.5	mg/L	
00094	SPECIFIC CONDUCTANCE, FIELD (UMHOS/CM AT 25C)		2080	MICR	
00945	SULFATE, TOTAL (MG/L AS SO ₄)		958	mg/L as SO ₄	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		1619	mg/L	

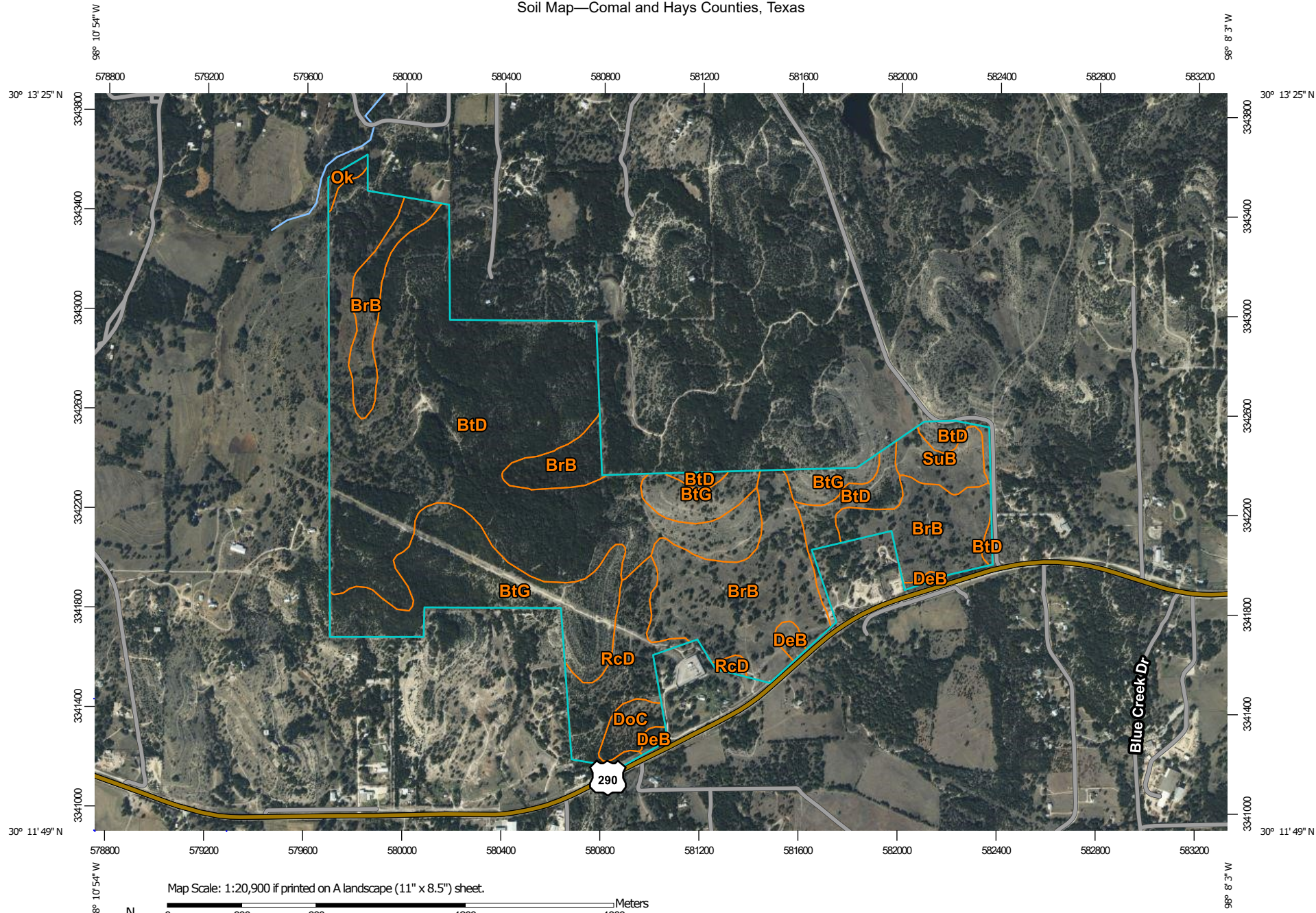
* Value may not display all significant digits for parameter in results, check Scanned Documents for laboratory paperwork..

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APPENDIX L

USDA SOIL SURVEY MAP AND SOIL ANALYSES

Soil Map—Comal and Hays Counties, Texas



**Natural Resources
Conservation Service**

Web Soil Survey
National Cooperative Soil Survey

7/1/2024
Page 1 of 3

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Comal and Hays Counties, Texas

Survey Area Data: Version 20, Sep 5, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 15, 2019—Dec 19, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BrB	Bolar clay loam, 1 to 3 percent slopes	154.8	22.6%
BtD	Brackett-Rock outcrop-Comfort complex, 1 to 8 percent slopes	348.4	50.9%
BtG	Brackett-Rock outcrop-Real complex, 8 to 30 percent slopes	106.9	15.6%
DeB	Denton silty clay, 1 to 3 percent slopes	6.1	0.9%
DoC	Doss silty clay, moist, 1 to 5 percent slopes	9.7	1.4%
Ok	Oakalla silty clay loam, 0 to 2 percent slopes, frequently flooded	2.9	0.4%
RcD	Real-Comfort-Doss complex, 1 to 8 percent slopes	39.3	5.7%
SuB	Sunev clay loam, 1 to 3 percent slopes	16.3	2.4%
Totals for Area of Interest		684.4	100.0%

APPENDIX M

POND LINER CERTIFICATION

The pond liner will be geomembrane with an underdrain and a leak detection system. It will have a minimum thickness of 45 mils and will include sampling points. Final Design by a licensed Texas PE will be included in the construction plans submitted to TCEQ for review and approval prior to construction.

Candice Calhoun

From: Lauren Crone <lcrone@lja.com>
Sent: Wednesday, September 4, 2024 9:10 AM
To: Candice Calhoun
Subject: RE: Application to Renew Permit No. WQ0014488001 - City of Dripping Springs; Scenic Greens WWTP
Attachments: WQ0014488001 NOD1 Response .pdf; Municipal Disposal Renewal Spanish NORI.docx; TCEQ ePay.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Candice,

Please see the updated response attached. Let me know if you need anything else.

Thank you,

Lauren Crone, P.E. | Senior Project Manager
Central Texas Land Development
O: 512.439.4700 | C: 512.971.7693
7500 Rialto Blvd. Building II, Suite 100 Austin, TX 78735
EMPLOYEE-OWNED. CLIENT FOCUSED.

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From: Candice Calhoun <Candice.Calhoun@tceq.texas.gov>
Sent: Tuesday, September 3, 2024 4:02 PM
To: mfischer@cityofdrippingsprings.gov
Cc: Lauren Crone <lcrone@lja.com>
Subject: Application to Renew Permit No. WQ0014488001 - City of Dripping Springs; Scenic Greens WWTP
Importance: High

[EXTERNAL EMAIL]

Good afternoon, Michelle,

The attached Notice of Deficiency (NOD) letter dated **September 3, 2024**, requests additional information needed to declare the application administratively complete. Please send complete response by **September 17, 2024**.

September 3, 2024

Candice Calhoun
Applications Review and Processing Team (MC148)
Water Quality Division
Texas Commission of Environmental Quality
12100 Park 35 Circle
Austin, Texas 78753

Re: Application to Renew Permit No.: WQ0014488002
Applicant Name: City of Dripping Springs (CN602491284)
Site Name: Scenic Greens WWTP (RN105330948)
Type of Application: Renewal
LJA Project No. A619

Dear Candice:

Please find the responses related to the permit application for Scenic Greens WWTP received August 27th, 2024 below.

1. 1. Administrative Report 1.0

Section 1 – We were unable to confirm payment of the application processing fee. The filing fee for your application is \$1,215.00. Please submit payment to: TCEQ, Revenue Section (MC 214), P.O. Box 13088, Austin, Texas 78711-3088. Also, provide a copy of the check along with the responses to this letter.

Response: Please see the attached copy of the check to this response.

2. The following is a portion of the NORI which contains information relevant to your application. Please read it carefully and indicate if it contains any errors or omissions. The complete notice will be sent to you once the application is declared administratively complete.

Response: No errors or omissions were found.

3. The application indicates that public notices in Spanish are required. After confirming the portion of the NORI above does not contain any errors or omissions, please use the attached template to translate the NORI into Spanish. Only the first and last paragraphs are unique to this application and require translation. Please provide the translated Spanish NORI in a Microsoft Word document.

Response: The Spanish NORI is included with this update.

Should you have any questions or need any additional information, please do not hesitate to call.

Sincerely,

A handwritten signature in dark ink, reading 'Lauren Crone'. The signature is fluid and cursive, with the first name 'Lauren' being more prominent than the last name 'Crone'.

Lauren Crone, P.E.

Comisión de Calidad Ambiental del Estado de Texas



AVISO DE RECIBO DE LA SOLICITUD E INTENCION DE OBTENER PERMISO PARA LA CALIDAD DEL AGUA RENOVACION

PERMISO NO. WQ0014488002

SOLICITUD. Ciudad de Dripping Springs, P.O. Box 384, Dripping Springs, Texas 78260, tiene solicitado a la Comisión de Calidad Ambiental de Texas (TCEQ) para renovar Tierras de Texas Permiso de Solicitud (TLAP) No. WQ0014488002 para autorizar la disposición de tratamiento aguas residuales en un volumen que no exceda un flujo promedio diario de 62,500 galones por día en Fase provisional I a través de un sistema de eliminación de goteo subterráneo de acceso público (SADDS) con un mínimo área de 14,35 acres, 125.000 galones por día en la fase Interim II a través de un SADDS de acceso público con una superficie mínima de 28,70 hectáreas y 250.000 galones diarios en la fase Final mediante un SADDS de acceso público con una superficie mínima de 57,39 hectáreas. Las aguas residuales domésticas La instalación de tratamiento y el área de eliminación están ubicadas aproximadamente a 2,600 pies al oeste del intersección de McGregor Lane y U.S. Highway 290 West, cerca de la ciudad de Dripping Springs, en el condado de Hays, Texas 78260. TCEQ recibió esta solicitud el 27 de agosto de 2024. El permiso La solicitud estará disponible para ver y copiar en el Ayuntamiento de la ciudad de Dripping Springs, recepción, 511 West Mercer Street, Dripping Springs, en el condado de Hays, Texas, antes de la fecha Este aviso se publica en el periódico. La aplicación, incluidas las actualizaciones, y Los avisos asociados están disponibles electrónicamente en la siguiente página web: <https://www.tceq.texas.gov/permitting/wastewater/pending-permits/tlap-applications> Este El enlace a un mapa electrónico de la ubicación general del sitio o instalación se proporciona como acceso público. cortesía y no forma parte de la solicitud o notificación. Para conocer la ubicación exacta, consulte la solicitud.

<https://gisweb.tceq.texas.gov/LocationMapper/?marker=-98.151944,30.205277&level=18>

AVISO ADICIONAL. El Director Ejecutivo de la TCEQ ha determinado que la solicitud es administrativamente completa y conducirá una revisión técnica de la solicitud. Después de completar la revisión técnica, el Director Ejecutivo puede preparar un borrador del permiso y emitirá una Decisión Preliminar sobre la solicitud. **El aviso de la solicitud y la decisión preliminar serán publicados y enviado a los que están en la lista de correo de las personas a lo largo del condado que desean recibir los avisos y los que están en la lista de correo que desean recibir avisos de esta solicitud. El aviso dará la fecha límite para someter comentarios públicos.**

COMENTARIO PUBLICO / REUNION PUBLICA. Usted puede presentar comentarios públicos o pedir una reunión pública sobre esta solicitud. El propósito

de una reunión pública es dar la oportunidad de presentar comentarios o hacer preguntas acerca de la solicitud. La TCEQ realiza una reunión pública si el Director Ejecutivo determina que hay un grado de interés público suficiente en la solicitud o si un legislador local lo pide. Una reunión pública no es una audiencia administrativa de lo contencioso.

OPORTUNIDAD DE UNA AUDIENCIA ADMINISTRATIVA DE LO CONTENCIOSO.

Después del plazo para presentar comentarios públicos, el Director Ejecutivo considerará todos los comentarios apropiados y preparará una respuesta a todo los comentarios públicos esenciales, pertinentes, o significativos. **A menos que la solicitud haya sido referida directamente a una audiencia administrativa de lo contencioso, la respuesta a los comentarios y la decisión del Director Ejecutivo sobre la solicitud serán enviados por correo a todos los que presentaron un comentario público y a las personas que están en la lista para recibir avisos sobre esta solicitud. Si se reciben comentarios, el aviso también proveerá instrucciones para pedir una reconsideración de la decisión del Director Ejecutivo y para pedir una audiencia administrativa de lo contencioso.** Una audiencia administrativa de lo contencioso es un procedimiento legal similar a un procedimiento legal civil en un tribunal de distrito del estado.

PARA SOLICITAR UNA AUDIENCIA DE CASO IMPUGNADO, USTED DEBE INCLUIR EN SU SOLICITUD LOS SIGUIENTES DATOS: su nombre, dirección, y número de teléfono; el nombre del solicitante y número del permiso; la ubicación y distancia de su propiedad/actividad con respecto a la instalación; una descripción específica de la forma cómo usted sería afectado adversamente por el sitio de una manera no común al público en general; una lista de todas las cuestiones de hecho en disputa que usted presente durante el período de comentarios; y la declaración "[Yo/nosotros] solicito/solicitamos una audiencia de caso impugnado". Si presenta la petición para una audiencia de caso impugnado de parte de un grupo o asociación, debe identificar una persona que representa al grupo para recibir correspondencia en el futuro; identificar el nombre y la dirección de un miembro del grupo que sería afectado adversamente por la planta o la actividad propuesta; proveer la información indicada anteriormente con respecto a la ubicación del miembro afectado y su distancia de la planta o actividad propuesta; explicar cómo y porqué el miembro sería afectado; y explicar cómo los intereses que el grupo desea proteger son pertinentes al propósito del grupo.

Después del cierre de todos los períodos de comentarios y de petición que aplican, el Director Ejecutivo enviará la solicitud y cualquier petición para reconsideración o para una audiencia de caso impugnado a los Comisionados de la TCEQ para su consideración durante una reunión programada de la Comisión. La Comisión sólo puede conceder una solicitud de una audiencia de caso impugnado sobre los temas que el solicitante haya presentado en sus comentarios oportunos que no fueron retirados posteriormente. Si se concede una audiencia, el tema de la audiencia estará limitado a cuestiones de hecho en disputa o cuestiones mixtas de hecho y de derecho relacionadas a intereses pertinentes y materiales de calidad del agua que se hayan presentado durante el período de comentarios.

Si ciertos criterios se cumplen, la TCEQ puede actuar sobre una solicitud para renovar un permiso sin proveer una oportunidad de una audiencia administrativa de lo contencioso.

LISTA DE CORREO. Si somete comentarios públicos, un pedido para una audiencia

administrativa de lo contencioso o una reconsideración de la decisión del Director Ejecutivo, la Oficina del Secretario Principal enviará por correo los avisos públicos en relación con la solicitud. Además, puede pedir que la TCEQ ponga su nombre en una o más de las listas de correos siguientes (1) la lista de correo permanente para recibir los avisos de el solicitante indicado por nombre y número del permiso específico y/o (2) la lista de correo de todas las solicitudes en un condado específico. Si desea que se agregue su nombre en una de las listas designe cual lista(s) y envía por correo su pedido a la Oficina del Secretario Principal de la TCEQ.

CONTACTOS E INFORMACIÓN A LA AGENCIA. Todos los comentarios públicos y solicitudes deben ser presentadas electrónicamente vía

<http://www14.tceq.texas.gov/epic/eComment/> o por escrito dirigidos a la Comisión de Texas de Calidad Ambiental, Oficial de la Secretaría (Office of Chief Clerk), MC-105, P.O. Box 13087, Austin, Texas 78711-3087. Tenga en cuenta que cualquier información personal que usted proporcione, incluyendo su nombre, número de teléfono, dirección de correo electrónico y dirección física pasarán a formar parte del registro público de la Agencia. Para obtener más información acerca de esta solicitud de permiso o el proceso de permisos, llame al programa de educación pública de la TCEQ, gratis, al 1-800-687-4040. Si desea información en Español, puede llamar al 1-800-687-4040.

También se puede obtener más información de la ciudad de Dripping Springs en la dirección indicada arriba o llamando a la Sra. Lauren Crone, P.E., LJA Engineering, Inc., al 512-439-4700.

Fecha de emisión _____ *[Date notice issued]*

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Actor Email: lcrone@lja.com

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Name: STEPHEN D MILLER

Company: LJA ENGINEERING INC

Address: 7500 RIALTO BOULEVARD BUILDING, AUSTIN, TX 78735

Phone: 512-439-4700

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