



# Technical 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
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  3. Second notice (NAPD-Notice of Preliminary Decision)
    - English
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  4. Application materials \*
  5. Draft permit \*
  6. Technical summary or fact sheet \*
- 



# Portada de Paquete Técnico

**Este archivo contiene los siguientes documentos:**

1. Resumen de la solicitud (en lenguaje sencillo)
  - Inglés
  - Idioma alternativo (español)
2. Primer aviso (NORI, Aviso de Recepción de Solicitud e Intención de Obtener un Permiso)
  - Inglés
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3. Segundo aviso (NAPD, Aviso de Decisión Preliminar)
  - Inglés
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4. Materiales de la solicitud \*\*
5. Proyecto de permiso \*\*
6. Resumen técnico u hoja de datos \*\*



## TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

# SUMMARY OF APPLICATION IN PLAIN LANGUAGE FOR TPDES OR TLAP PERMIT APPLICATIONS

## Summary of Application (in plain language) Template and Instructions for Texas Pollutant Discharge Elimination System (TPDES) and Texas Land Application (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.*

Texas Parks and Wildlife Department (CN600134852) operates the Pedernales Falls State Park Wastewater Treatment Facility (RN101254258), a natural treatment pond system with a daily average flow of 31,500 gallons per day of treated effluent that is land applied by sprinkler irrigation. The facility is located at TPWD Pedernales Falls State Park, in Johnson City, Johnson County, Texas 78636. Application for renewal of the existing Texas Land Application Permit (TLAP) for sprinkler irrigation disposal of treated effluent onto native grassland that is not accessible to the public is being requested. This permit will not authorize a discharge of pollutants into water in the state.

Discharges from the facility are expected to contain biochemical oxygen demand of 100 parts per million with a pH not less than 6.0 standard units nor greater than 9.0 standard units. Wastewater from the park is treated by a series of ponds consisting of a facultative pond and two stabilization ponds. Treated effluent is conveyed to an effluent holding pond and then pumped to the land application site/irrigation field.

### PLANTILLA EN ESPAÑOL PARA SOLICITUDES NUEVAS/RENOVACIONES/ENMIENDAS DE TPDES o TLAP

### AGUAS RESIDUALES DOMESTICAS /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 requerido por el Capítulo 39 del Código Administrativo de Texas 30. La información proporcionada en este resumen puede cambiar durante la revisión técnica de la solicitud y no es una representación ejecutiva federal de la solicitud de permiso.*

El Departamento de Parques y Vida Silvestre de Texas TPWD (CN600134852) opera la planta de Tratamiento de Aguas Residuales para el Parque Estatal de Pedernales Falls (RN101254258), consistente en un tratamiento natural a base de lagunas con una capacidad de tratamiento promedio de 31,500 galones por día. El efluente tratado será dispuesto a través de un sistema controlado de irrigación a través de rociadores (aspersores de irrigación). Las lagunas de tratamiento están localizadas en TPWD Parque Estatal de Pedernales Falls Johnson City, Condado Johnson, Texas 78636.



## TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

# **SUMMARY OF APPLICATION IN PLAIN LANGUAGE FOR TPDES OR TLAP PERMIT APPLICATIONS**

## **Summary of Application (in plain language) Template and Instructions for Texas Pollutant Discharge Elimination System (TPDES) and Texas Land Application (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.*

Texas Parks and Wildlife Department (CN600134852) operates the Pedernales Falls State Park Wastewater Treatment Facility (RN101254258), a natural treatment pond system with a daily average flow of 31,500 gallons per day of treated effluent that is land applied by sprinkler irrigation. The facility is located at TPWD Pedernales Falls State Park, in Johnson City, Johnson County, Texas 78636. Application for renewal of the existing Texas Land Application Permit (TLAP) for sprinkler irrigation disposal of treated effluent onto native grassland that is not accessible to the public is being requested. This permit will not authorize a discharge of pollutants into water in the state.

Discharges from the facility are expected to contain biochemical oxygen demand of 100 parts per million with a pH not less than 6.0 standard units nor greater than 9.0 standard units. Wastewater from the park is treated by a series of ponds consisting of a facultative pond and two stabilization ponds. Treated effluent is conveyed to an effluent holding pond and then pumped to the land application site/irrigation field.

### **PLANTILLA EN ESPAÑOL PARA SOLICITUDES NUEVAS/RENOVACIONES/ENMIENDAS DE TPDES o TLAP**

### **AGUAS RESIDUALES DOMESTICAS /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 requerido por el Capítulo 39 del Código Administrativo de Texas 30. La información proporcionada en este resumen puede cambiar durante la revisión técnica de la solicitud y no es una representación ejecutiva federal de la solicitud de permiso.*

El Departamento de Parques y Vida Silvestre de Texas TPWD (CN600134852) opera la planta de Tratamiento de Aguas Residuales para el Parque Estatal de Pedernales Falls (RN101254258), consistente en un tratamiento natural a base de lagunas con una capacidad de tratamiento promedio de 31,500 galones por día. El efluente tratado será dispuesto a través de un sistema controlado de irrigación a través de rociadores (aspersores de irrigación). Las lagunas de tratamiento están localizadas en TPWD Parque Estatal de Pedernales Falls Johnson City, Condado Johnson, Texas 78636.

La presente con la intención de solicitar la renovación del permiso existente para aplicación de aguas tratadas sobre tierras en Texas (TLAP), para la irrigación a través de aspersores de irrigación a pastizales nativos mismos que no estarán accesible al público. Este permiso no autoriza descargas de contaminantes en aguas del estado.

Las descargas tratadas de las instalaciones se anticipa contener demanda bioquímica de oxígeno de 100 ppm, un pH de no menos de 6.0 SU y no mayor de 9.0 SU (unidad estándar). Las aguas sanitarias del parque son tratadas por una serie de lagunas consistentes en: Una Laguna Facultativa y dos Lagunas de Estabilización. El efluente tratado será trasferido a una Laguna de retención de donde será bombeada al sitio exclusivo de aplicación destinado como campo de irrigación.

# TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



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

PERMIT NO. WQ0015708001

**APPLICATION.** Texas Parks And Wildlife Department, 4200 Smith School Road, Austin, Texas 78744, has applied to the Texas Commission on Environmental Quality (TCEQ) to renew Texas Land Application Permit (TLAP) No. WQ0015708001 to authorize the disposal of treated wastewater at a volume not to exceed a daily average flow of 31,500 gallons per day via surface irrigation of 10 acres of non-public access grass land. The domestic wastewater facility and disposal area is located approximately 4.3 miles north of the intersection of Park Road 6026 and Pedernales Falls Road, near the city of Johnson City, in Blanco County, Texas 78636. TCEQ received this application on February 24, 2025. The permit application will be available for viewing and copying at Pedernales Falls State Park, Main Entrance, 2585 Park Road 6026, Johnson City, in Blanco 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=-98.255555,30.330555&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](http://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](http://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 Texas Parks And Wildlife Department at the address stated above or by calling Benjamin Fleury, Plant Superintendent, at 830-868-7304.

Issuance Date: March 21, 2025

# 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. WQ0015708001**

**SOLICITUD.** Texas Parks and Wildlife Department, 4200 Smith School Road, Austin, Texas 78744 ha solicitado a la Comisión de Calidad Ambiental de Texas (TCEQ) para renovar el Permiso No. WQ0015708001 de disposición de aguas residuales para autorizar Parque estatal Pedernales Falls Planta de tratamiento de aguas residuales la disposición de aguas residuales tratadas en un volumen que no sobrepasa un flujo promedio diario de 31,500 galones por día por medio de riego superficial. La planta de sistema de lagunas naturalestratamiento de aguas domésticos residuales y el área de disposición están ubicados en 4.3 millas al norte de la intersección de Pedernales Falls Road y Park Road 6026, cerca de la ciudad de Johnson City en el Condado de Blanco, Texas. La TCEQ recibió esta solicitud el día 24 de febrero de 2025. La solicitud para el permiso estará disponible para leerla y copiarla en Parque estatal Pedernales Falls, Oficina de entrada principal, 2585 Park Road 6026, Johnson City en el Condado de Blanco, Texa, antes de la fecha de publicación de este aviso en el periódico. Este enlace a un mapa electrónico de la ubicación general del sitio o de la instalación es proporcionado como una cortesía y no es parte de la solicitud o del aviso. Para la ubicación exacta, consulte la solicitud. <https://gisweb.tceq.texas.gov/LocationMapper/?marker=-98.255555,30.330555&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 información adicional del Texas Park and Wildlife Department a la dirección indicada arriba o llamando a Benjamin Fleury al 830-868-7304.

Fecha de emisión 21 de marzo de 2025

# TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



## NOTICE OF APPLICATION AND PRELIMINARY DECISION FOR WATER QUALITY LAND APPLICATION PERMIT FOR MUNICIPAL WASTEWATER

### RENEWAL

**PERMIT NO. WQ0015708001**

**APPLICATION AND PRELIMINARY DECISION.** Texas Parks And Wildlife Department, 4200 Smith School Road, Austin, Texas 78744, has applied to the Texas Commission on Environmental Quality (TCEQ) for a renewal of TCEQ Permit No. WQ0015708001 which authorizes the disposal of treated domestic wastewater at a daily average flow not to exceed 31,500 gallons per day via surface irrigation of 10 acres of non-public access grass land. This permit will not authorize a discharge of pollutants into water in the state. TCEQ received this application on February 25, 2025.

The wastewater treatment facility and disposal site will be located approximately 4.3 miles north of the intersection of Park Road 6026 and Pedernales Falls Road, in Blanco County, Texas 78636. The wastewater treatment facility and disposal site will be located in the drainage basin of Pedernales River in Segment No. 1414 of the Colorado River Basin. This link to an electronic map of the site or facility's general location is provided as a public courtesy and is not part of the application or notice. For the exact location, refer to the application.

<https://gisweb.tceq.texas.gov/LocationMapper/?marker=-98.255555.30.330555&level=18>

The TCEQ Executive Director has completed the technical review of the application and prepared a draft permit. The draft permit, if approved, would establish the conditions under which the facility must operate. The Executive Director has made a preliminary decision that this permit, if issued, meets all statutory and regulatory requirements. The permit application, Executive Director's preliminary decision, and draft permit are available for viewing and copying at Pedernales Falls State Park, Main Entrance, 2585 Park Road 6026, Johnson City Texas. 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>.

**ALTERNATIVE LANGUAGE NOTICE.** Alternative language notice in Spanish is available at <https://www.tceq.texas.gov/permitting/wastewater/plain-language-summaries-and-public-notices>. El aviso de idioma alternativo en español está disponible en <https://www.tceq.texas.gov/permitting/wastewater/plain-language-summaries-and-public-notices>.

**PUBLIC COMMENT / PUBLIC MEETING.** You may submit public comments or request a public meeting about this application. The purpose of a public meeting is to provide the opportunity to submit comments or to ask questions about the application. TCEQ holds 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 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 a contested case hearing or reconsideration of the Executive Director's decision.** A contested case hearing is a legal proceeding similar to a civil trial in a 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.**

**EXECUTIVE DIRECTOR ACTION.** The Executive Director may issue final approval of the application unless a timely contested case hearing request or request for reconsideration is filed. If a timely hearing request or request for reconsideration is filed, the Executive Director will not issue final approval of the permit and will forward the application and request to the TCEQ Commissioners for their consideration at a scheduled Commission meeting.

**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.

**All written public comments and public meeting requests must be submitted to the Office of the Chief Clerk, MC 105, Texas Commission on Environmental Quality, P.O. Box 13087, Austin, TX 78711-3087 or electronically at [www.tceq.texas.gov/goto/comment](http://www.tceq.texas.gov/goto/comment) within 30 days from the date of newspaper publication of this notice.**

**INFORMATION AVAILABLE ONLINE.** For details about the status of the application, visit the Commissioners' Integrated Database at [www.tceq.texas.gov/goto/cid](http://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.** Public comments and requests must be submitted either electronically at [www.tceq.texas.gov/goto/comment](http://www.tceq.texas.gov/goto/comment), 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. Any personal information you submit to the TCEQ will become part of the agency's record; this includes email addresses. 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](http://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 Texas Parks And Wildlife Department at the address stated above or by calling Benjamin Fleury, Plant Superintendent, at 830-868-7304.

Issuance Date: May 13, 2025

# Comisión De Calidad Ambiental Del Estado De Texas



## AVISO DE SOLICITUD Y DECISIÓN PRELIMINAR PARA PERMISO PARA APLICACIÓN DE LA CALIDAD DEL AGUA EN TERRENOS PARA AGUAS RESIDUALES MUNICIPALES

### RENOVACIÓN

**PERMISO NO. WQ0015708001**

**SOLICITUD Y DECISIÓN PRELIMINAR.** Texas Parks and Wildlife Department, 4200 Smith School Road, Austin, Texas 78744 ha solicitado a la Comisión de Calidad Ambiental del Estado de Texas (TCEQ) por una renovación para autorizar Parque estatal Pedernales Falls Planta. Este permiso autoriza la disposición de aguas residuales tratadas a un caudal promedio diario que no exceda los 31,500 galones por día mediante riego superficial de 10 acres de pastizales de acceso no público. Este permiso no autorizará una descarga de contaminantes a las aguas del estado. La TCEQ recibió esta solicitud el día 25 de febrero de 2025.

La planta y el sitio de disposición están ubicadas en 4.3 millas al norte de la intersección de Pedernales Falls Road (Texas 201) y Park Road 6026, cerca de la ciudad de Johnson City en el Condado de Blanco, Texas 78636 . La planta y el sitio de disposición están ubicados en la cuenca de drenaje de Rio Pedernales en el Segmento No. 1414 de la Cuenca del Río Colorado. Este enlace a un mapa electrónico de la ubicación general del sitio o de la instalación es proporcionado como una cortesía y no es parte de la solicitud o del aviso. Para la ubicación exacta, consulte la solicitud.

<https://gisweb.tceq.texas.gov/LocationMapper/?marker=-98.255555,30.330555&level=18>

El Director Ejecutivo de la TCEQ ha completado la revisión técnica de la solicitud y ha preparado un borrador del permiso. El borrador del permiso, si es aprobado, establecería las condiciones bajo las cuales la instalación debe operar. El Director Ejecutivo ha tomado una decisión preliminar que si este permiso es emitido, cumple con todos los requisitos normativos y legales. La solicitud del permiso, la decisión preliminar del Director Ejecutivo y el borrador del permiso están disponibles para leer y copiar en Parque estatal Pedernales Falls, Oficina de entrada principal, 2585 Park Road 6026, Johnson City en el Condado de Blanco, Texas 78636. La solicitud (cualquier actualización y aviso inclusive) está disponible electrónicamente en la siguiente página web: <https://www.tceq.texas.gov/permitting/wastewater/pending-permits/tlap-applications>.

**AVISO DE IDIOMA ALTERNATIVO.** El aviso de idioma alternativo en español está disponible en <https://www.tceq.texas.gov/permitting/wastewater/pending-permits/tlap-applications>.

**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 todos 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.

**ACCIÓN DEL DIRECTOR EJECUTIVO.** El Director Ejecutivo puede emitir una aprobación final de la solicitud a menos que exista un pedido antes del plazo de vencimiento de una audiencia administrativa de lo contencioso o se ha presentado un pedido de reconsideración. Si un pedido ha llegado antes del plazo de vencimiento de la audiencia o el pedido de reconsideración ha sido presentado, el Director Ejecutivo no emitirá una aprobación final sobre el permiso y enviará la solicitud y el pedido a los Comisionados de la TECQ para consideración en una reunión programada de la Comisión.

**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.

**Todos los comentarios escritos del público y los pedidos una reunión deben ser presentados durante los 30 días después de la publicación del aviso a la Oficina del Secretario Principal, MC 105, TCEQ, P.O. Box 13087, Austin, TX 78711-3087 or por el internet a [www.tceq.texas.gov/about/comments.html](http://www.tceq.texas.gov/about/comments.html).** 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.

**CONTACTOS E INFORMACIÓN DE LA AGENCIA.** Los comentarios y solicitudes públicas deben enviarse electrónicamente a <https://www14.tceq.texas.gov/epic/eComment/>, o por escrito a Texas Commission on Environmental Quality, Office of the Chief Clerk, MC-105, P.O. Box 13087, Austin, Texas 78711-3087. Cualquier información personal que envíe a la TCEQ pasará a formar parte del registro de la agencia; esto incluye las direcciones de correo electrónico. Para obtener más información sobre esta solicitud de permiso o el proceso de permisos, llame al Programa de Educación Pública de la TCEQ, sin cargo, al 1-800-687-4040 o visite su sitio web en [www.tceq.texas.gov/goto/pep](http://www.tceq.texas.gov/goto/pep). Si desea información en español, puede llamar al 1-800-687-4040.

También se puede obtener información adicional del Texas Park and Wildlife Department a la dirección indicada arriba o llamando Benjamin Fleury al 830-868-7304.

Fecha de emission: 13 de mayo de 2025



PERMIT NO. WQ0015708001

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

This is a renewal of Permit No.  
WQ0015708001 issued on  
February 26, 2020.

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

Texas Parks And Wildlife Department

whose mailing address is

4200 Smith School Road  
Austin, Texas 78744

Nature of Business Producing Waste: Domestic wastewater treatment operation, SIC Code 7033.

General Description and Location of Waste Disposal System:

**Description:** The Texas Parks and Wildlife Department Pedernales Falls State Park Wastewater Treatment Facility consists of a pond system. Treatment units include a facultative lagoon with a surface area of 0.65 acres and volume of 3.79 acre-feet, two stabilization ponds with total surface area of 1.22 acres and volume of 5.31 acre-feet. The permittee is authorized to dispose of treated domestic wastewater effluent at a daily average flow not to exceed 0.0315 million gallons per day (MGD) via surface irrigation of 10 acres of non-public access grass land. The facility includes a storage pond with a total surface area of 1.86 acres and total capacity of 13.69 acre-feet for storage of treated effluent prior to irrigation. Application rates to the irrigated land shall not exceed 3.5 acre-feet per year per acre irrigated. The permittee will maintain native grasses on the disposal site.

**Location:** The wastewater treatment facility and disposal site are located approximately 4.3 miles north of the intersection of Park Road 6026 and Pedernales Falls Road, in Blanco County, Texas 78636. See Attachment A.

**Drainage Area:** The wastewater treatment facility and disposal site are located in the drainage basin of Pedernales River in Segment No. 1414 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:

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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 – 0.0315 MGD from the treatment system

Quality: The following effluent limitations are required:

<u>Parameter</u>	<u>Effluent Concentrations</u>	
	(Not to Exceed)	
	<u>Daily Average mg/l</u>	<u>Single Grab mg/l</u>
Biochemical Oxygen Demand (5-day)	N/A	100

The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units.

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
pH	One/month	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. The term “biosolids” is defined as sewage sludge that has been tested or processed to meet Class A, Class AB, or Class B pathogen standards in 30 TAC Chapter 312 for beneficial use.
  7. 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 or biosolids 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 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 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 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 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 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 or biosolids 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 127) 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 or biosolids 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 or biosolids 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 Biosolids. This provision does not authorize the permittee to land apply biosolids on property owned, leased or under the direct control of the permittee.**

### SECTION I. REQUIREMENTS APPLYING TO ALL SEWAGE SLUDGE OR BIOSOLIDS LAND APPLICATION

#### A. General Requirements

1. The permittee shall handle and dispose of sewage sludge or biosolids 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 or biosolids.
2. In all cases, if the person (permit holder) who prepares the sewage sludge or biosolids supplies the sewage sludge or biosolids 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 or biosolids to assure compliance with these regulations.
3. The land application of processed or unprocessed chemical toilet waste, grease trap waste, grit trap waste, milk solids, or similar non-hazardous municipal or industrial solid wastes, or any of the wastes listed in this provision combined with biosolids, WTP residuals or domestic septage is prohibited unless the grease trap waste is added at a fats, oil and grease (FOG) receiving facility as part of an anaerobic digestion process.

#### B. Testing Requirements

1. Sewage sludge or biosolids shall be tested prior to sludge disposal 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 or biosolids 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 or biosolids 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 or biosolids 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. The permittee shall submit the following information in an annual report to the TCEQ by September 30<sup>th</sup> of each year. The permittee must submit this annual report using the online electronic reporting system available through TCEQ's website. If the permittee requests and obtains an electronic reporting waiver, the annual report can be submitted in hard copy to the TCEQ Regional Office (MC Region 11) and the Enforcement Division (MC 224).

2. Biosolids 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 biosolids pathogen requirements.

- a. For sewage sludge to be classified as Class A biosolids 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 biosolids 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 biosolids may be classified a Class A biosolids 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 biosolids criteria.

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 biosolids are land applied:

- i. Food crops with harvested parts that touch the biosolids /soil mixture and are totally above the land surface shall not be harvested for 14 months after application of biosolids.
- ii. Food crops with harvested parts below the surface of the land shall not be harvested for 20 months after application of biosolids when the biosolids remain 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 biosolids when the biosolids remain 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 biosolids.
- v. Domestic livestock shall not be allowed to graze on the land for 30 days after application of biosolids.
- vi. Turf grown on land where biosolids are applied shall not be harvested for 1 year after application of the biosolids 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 biosolids.

- viii. Public access to land with a low potential for public exposure shall be restricted for 30 days after application of biosolids.
- ix. Land application of biosolids 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 biosolids shall be injected below the land surface within eight hours after being discharged from the pathogen treatment process.

Alternative 10 -

- i. Biosolids 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 biosolids that are 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	- prior to sludge disposal
PCBs	- prior to sludge disposal

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 biosolids (*) 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 biosolids 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 or biosolids treatment process or processes at the facility: preliminary operations (e.g., sludge or biosolids 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, sewage sludge or biosolids 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 BIOSOLIDS 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>	Cumulative Pollutant Loading Rate (pounds per acre)*
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>	Monthly Average Concentration (milligrams per kilogram)*
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 biosolids pathogen reduction requirements as defined above in Section I.B.3.

**C. Management Practices**

1. Bulk biosolids 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 or biosolids enters a wetland or other waters in the State.
2. Bulk sewage sludge not meeting Class A biosolids 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 biosolids 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 Class A or AB biosolids sold or given away. The information sheet shall contain the following information:
  - a. The name and address of the person who prepared the Class A or AB biosolids that are sold or given away in a bag or other container for application to the land.
  - b. A statement that application of the Class A or AB biosolids 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 biosolids 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 biosolids are 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 biosolids are 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 biosolids 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 biosolids.
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 biosolids disposal practice.

**E. Record Keeping Requirements**

The 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 biosolids 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 biosolids, 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 biosolids are 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 biosolids 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 or biosolids treatment activities.
  - b. The location, by street address, and specific latitude and longitude, of each site on which sludge or biosolids are applied.
  - c. The number of acres in each site on which bulk sludge or biosolids are applied.
  - d. The date and time sludge or biosolids are 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 submit the following information in an annual report to the TCEQ by September 30<sup>th</sup> of each year. The permittee must submit this annual report using the online electronic reporting system available through TCEQ's website. If the permittee requests and obtains an electronic reporting waiver, the annual report can be submitted in hard copy to the TCEQ Regional Office (MC Region 11) and the Enforcement Division (MC 224).

1. Identify in the following categories (as applicable) the sewage sludge or biosolids treatment process or processes at the facility: preliminary operations (e.g., sludge or biosolids 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 or biosolids 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 or biosolids disposal dry weight (lbs/acre) at each disposal site.
11. The concentration (mg/kg) in the sludge or biosolids 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 biosolids, 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 or biosolids 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 or biosolids 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 biosolids are applied.
  - c. The date and time bulk biosolids are applied to each site.
  - d. The cumulative amount of each pollutant (i.e., pounds/acre) listed in Table 2 in the bulk biosolids applied to each site.
  - e. The amount of biosolids (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 OR BIOSOLIDS DISPOSED IN A MUNICIPAL SOLID WASTE LANDFILL**

- A. The permittee shall handle and dispose of sewage sludge or biosolids 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 or biosolids meet 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 or biosolids and supplies that sewage sludge or biosolids 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 or biosolids disposal practice.
- D. Sewage sludge or biosolids shall be tested prior to sludge disposal 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 or biosolids 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 or biosolids 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 or biosolids 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 Enforcement Division (MC 224), by September 30<sup>th</sup> of each year.

- E. Sewage sludge or biosolids 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 submit the following information in an annual report to the TCEQ by September 30<sup>th</sup> of each year. The permittee must submit this annual report using the online electronic reporting system available through TCEQ's website. If the permittee requests and obtains an electronic reporting waiver, the annual report can be submitted in hard copy to the TCEQ Regional Office (MC Region 11) and the Enforcement Division (MC224).

1. Identify in the following categories (as applicable) the sewage sludge or biosolids treatment process or processes at the facility: preliminary operations (e.g., sludge or biosolids 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 or biosolids production in dry tons/year.
4. Amount of sludge or biosolids disposed in a municipal solid waste landfill in dry tons/year.
5. Amount of sludge or biosolids transported interstate in dry tons/year.
6. A certification that the sewage sludge or biosolids 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 OR BIOSOLIDS TRANSPORTED TO ANOTHER FACILITY FOR FURTHER PROCESSING**

These provisions apply to sludge or biosolids that is transported to another wastewater treatment facility or facility that further processes sludge or biosolids. These provisions are intended to allow transport of sludge or biosolids to facilities that have been authorized to accept sludge or biosolids. These provisions do not limit the ability of the receiving facility to determine whether to accept the sludge or biosolids, 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 or biosolids 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 or biosolids may only be transported using a registered transporter or using an approved pipeline.

**B. Record Keeping Requirements**

1. For sludge or biosolids transported by an approved pipeline, the permittee must maintain records of the following:
  - a. the amount of sludge or biosolids 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 or biosolids.
2. For sludge or biosolids 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 or biosolids 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 submit the following information in an annual report to the TCEQ by September 30<sup>th</sup> of each year. The permittee must submit this annual report using the online electronic reporting system available through TCEQ's website. If the permittee requests and obtains an electronic reporting waiver, the annual report can be submitted in hard copy to the TCEQ Regional Office (MC Region 11) and the Enforcement Division (MC 224).

1. Identify in the following categories (as applicable) the sewage sludge or biosolids treatment process or processes at the facility: preliminary operations (e.g., sludge or biosolids 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 or biosolids production;
3. the amount of sludge or biosolids 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 area-wide 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 area-wide system, if an area-wide system is developed; to require the delivery of the wastes authorized to be collected in, treated by, or discharged from the system, to an 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.
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 D facility must be operated by a chief operator or an operator holding a Class D 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. Plans and specifications have been approved for the 0.0315 MGD wastewater treatment facility, in accordance with 30 TAC § 217, Design Criteria for Domestic Wastewater Systems. A summary transmittal approval letter was issued on March 11, 2021 (Log No. 0321/035). A copy of the summary transmittal letter shall be available at the plant site for inspection by authorized representatives of the TCEQ.
5. 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, on Notification of Completion Form 20007.

6. 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).
7. Monitoring requirements contained in the permit are suspended from the effective date of the permit until plant startup. 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.
8. 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.
9. The permittee shall provide facilities for the protection of its wastewater treatment facility from a 100-year flood.
10. The permittee shall obtain representative soil samples from the root zones of the land application areas receiving wastewater. The common area and residential areas shall be sampled separately. Composite sampling techniques shall be used. Each composite sample shall represent no more than 10 acres with no less than 10 to 15 subsamples representing each composite sample. Subsamples shall be composited by like sampling depth, type of crop 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 6, 6 to 18 inches, and 18 to 30 inches below ground level. The permittee shall sample soils in December to February of each year. Soil samples shall be analyzed within 30 days of sample collection.

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

<b>Parameter</b>	<b>Method</b>	<b>Minimum Analytical Level (MAL)</b>	<b>Reporting units</b>
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(P)	mg/kg (dry weight basis)
Plant-available: Potassium (K)	May be determined in the same Mehlich III extract with inductively coupled plasma	5 (K)	mg/kg (dry weight basis)
Amendment addition, e.g., gypsum			Report in short tons/acre 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 11) and to the Compliance Monitoring Team (MC 224) no later than September 1<sup>st</sup> 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.

11. Application rates to the irrigated land shall not exceed 3.50 acre-feet per year per acre irrigated. The permittee is responsible for providing equipment to determine application rates and maintaining accurate records of the volume of effluent applied. These records shall be made available for review by the TCEQ and shall be maintained for at least three years.
12. Irrigation practices shall be designed and managed as to prevent ponding of effluent or contamination of ground and surface waters and to prevent the occurrence of nuisance conditions in the area. To promote effluent and nutrient uptake by the crop, and to prevent pathways for effluent surfacing, native grasses shall be established and well maintained in the irrigation area throughout the year. Tailwater control facilities shall be provided as necessary to prevent the discharge of any effluent from the irrigated land.
13. The permittee shall use cultural practices to promote and maintain the health and propagation of the native grass crops and avoid plant lodging. The permittee shall harvest the crops (cut and remove it from the field) at least once during the year. Harvesting and mowing dates shall be recorded in a logbook kept on site to be made available to TCEQ personnel upon request.
14. Effluent shall not be applied for irrigation during rainfall events or when the ground is frozen or saturated.
15. For any area where treated effluent is stored or where there exist hose bibs or faucets, the permittee shall erect adequate signs stating that the irrigation water is from a non-potable water supply. 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.

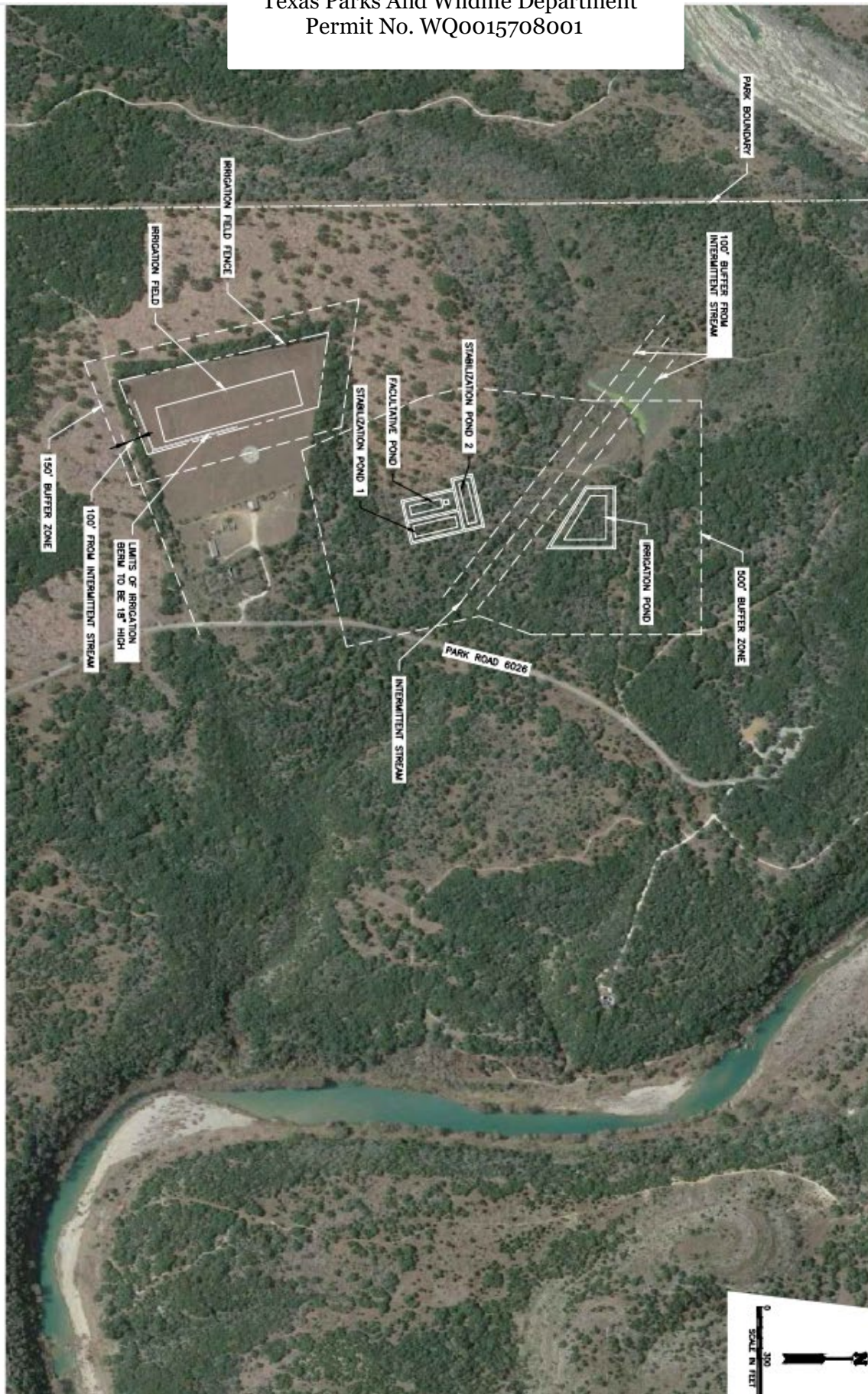
16. Spray fixtures for the irrigation system shall be of such design that they cannot be operated by unauthorized personnel.
17. The physical condition of the spray irrigation fields will be monitored on a weekly basis when the fields are being utilized for the purpose of wastewater irrigation. Any areas with problems such as surface runoff, surficial erosion, stressed or damaged vegetation will be recorded in the field log kept onsite and corrective measures will be initiated within 24 hours of discovery.
18. The permittee shall maintain a minimum horizontal buffer distance of 100 feet from all surface waters where no land application of effluent will occur.
19. The permittee shall comply with buffer zone requirements of 30 TAC §309.13(c). A wastewater treatment plant unit, defined by 30 TAC §309.11(9), must be located a minimum horizontal distance of 250 feet from a private well and a minimum horizontal distance of 500 feet from a public water well site, spring, or other similar sources of public drinking water, as provided by 30 TAC §290.41(c)(1) of this title. A land application field must be located a minimum horizontal distance of 150 feet from a private well and a minimum horizontal distance of 500 feet from a public water well site, spring, or other similar sources of public drinking water.
20. This facility overlies the recharge zone of a major aquifer as designated by the Texas Water Development Board. Any new or modified wastewater pond shall be adequately lined to control seepage in accordance with 30 TAC §217.203 and 30 TAC §309.13(d) since the facility overlies the recharge zone of an aquifer.

The permittee shall submit the liner certification for a newly-constructed or modified wastewater pond to the Water Quality Assessment Team (MC-150) and the Wastewater Permitting Section (MC-148) of the Water Quality Division, the TCEQ Austin Region Office (MC-Region 11), and the TCEQ Compliance Monitoring Section (MC-224) of the Enforcement Division within 30 days of completion and prior to use. The certification shall be signed and sealed by a Texas-licensed professional engineer and include a description of how the liner meets the requirements of 30 TAC §217.203 and 30 TAC §309.13(d). **The existing pond liners were certified on January 22, 2025.**

21. Facilities for the retention of treated or untreated wastewater shall be adequately managed and lined to control seepage. At least once per month, the permittee shall inspect the pond sides and bottoms (if visible) for signs of damage and leakage, and any pond leak detection systems that are in service. These inspections shall be recorded in a logbook maintained onsite. Leaking ponds shall be removed from service, or operated in a manner to prevent discharge, until repairs are made, or replacement ponds are constructed. A record of the monthly inspections shall be maintained in a field log and kept onsite for TCEQ inspection.
22. The existing wastewater ponds shall be maintained and operated in a manner that prevents unauthorized discharge to water in the state and contamination of groundwater.

23. Pond liner certifications and all liner construction and repair documentation shall be maintained by the Permittee for the life of the facility and be made available for TCEQ personnel for inspection and review.
24. Holding or storage ponds shall conform to the design criteria for stabilization ponds with regard to construction and levee design and shall maintain a minimum freeboard of two feet according to 30 TAC Chapter 217, Design Criteria for Domestic Wastewater Systems.
25. Permanent transmission lines shall be installed from the holding pond to each tract of land to be irrigated utilizing effluent from that pond.

Attachment A- Buffer Zone Map  
Texas Parks And Wildlife Department  
Permit No. WQ0015708001



## **TECHNICAL SUMMARY AND EXECUTIVE DIRECTOR'S PRELIMINARY DECISION**

### DESCRIPTION OF APPLICATION

Applicant:	Texas Parks And Wildlife Department TCEQ Permit No. WQ0015708001
Regulated Activity:	Domestic Wastewater Permit
Type of Application:	Renewal
Request:	Renewal with changes
Authority:	Texas Water Code (TWC) § 26.027; 30 Texas Administrative Code (TAC) Chapters 305, 309, 312, 319, and 30; and Commission policies.

### EXECUTIVE DIRECTOR RECOMMENDATION

The Executive Director has made a preliminary decision that this permit, if issued, meets all statutory and regulatory requirements. The draft permit includes an expiration date of **five years from the date of issuance**, according to 30 TAC Section 305.127(1)(C)(ii)(III), Conditions to be Determined for Individual Permits.

### REASON FOR PROJECT PROPOSED

Texas Parks And Wildlife Department (TPWD) has applied to the Texas Commission on Environmental Quality (TCEQ) for a renewal of Permit No. WQ0015708001 to authorize the disposal of treated domestic wastewater at a daily average flow not to exceed 0.0315 million gallons per day (MGD) via surface irrigation of 10 acres of non-public access grass land. The facility will include a storage pond with a total surface area of 1.86 acres and total capacity of 13.69 acre-feet for storage of treated effluent prior to irrigation. The proposed wastewater treatment facility will serve Pedernales Falls State Park.

### PROJECT DESCRIPTION AND LOCATION

The TPWD Pedernales Falls State Park Wastewater Treatment Facility will consist of a pond system. Treatment units will include a facultative lagoon with a surface area of 0.65 acres and volume of 3.79 acre-feet, and two stabilization ponds with total surface area of 1.22 acres and volume of 5.31 acre-feet. The facility has been constructed, however, it is not in operation yet.

Sludge generated from the treatment facility will be hauled by a registered transporter to Austin Wastewater Processing Facility/Wastewater Residuals Management, Permit No. 2384A, in Travis County, to be digested, dewatered, and then disposed of with the bulk of the sludge from the plant accepting the sludge. The draft permit also authorizes the disposal of sludge at a TCEQ-authorized land application site, co-disposal landfill, wastewater treatment facility, or facility that further processes sludge.

The wastewater treatment facility and disposal site will be located approximately 4.3 miles north

of the intersection of Park Road 6026 and Pedernales Falls Road, in Blanco County, Texas 78636.

The wastewater treatment facility and disposal site will be located in the drainage basin of Pedernales River in Segment No. 1414 of the Colorado River Basin. No discharge of pollutants into water in the state is authorized by this permit.

#### SUMMARY OF EFFLUENT DATA

There is no effluent data as the facility has been constructed but is not yet in operation.

#### DRAFT PERMIT CONDITIONS

The draft permit authorizes the disposal of treated domestic wastewater effluent at a daily average flow not to exceed 0.0315 MGD via surface irrigation of 10 acres of non-public access grass land. The facility will include a storage pond with a total surface area of 1.86 acres and total capacity of 13.69 acre-feet for storage of treated effluent prior to irrigation. Application rates to the irrigated land shall not exceed 3.5 acre-feet per year per acre irrigated. The permittee will maintain native grasses on the disposal site.

The effluent limitation in the draft permit, based on a single grab, is 100 mg/l biochemical oxygen demand (BOD<sub>5</sub>).

The draft permit includes Sludge Provisions according to the requirements of 30 TAC Chapter 312, Sludge Use, Disposal, and Transportation. Sludge generated from the treatment facility is hauled by a registered transporter to Austin Wastewater Processing Facility/Wastewater Residuals Management, Permit No. 2384A, in Travis County, to be digested, dewatered, and then disposed of with the bulk of the sludge from the plant accepting the sludge. The draft permit also authorizes the disposal of sludge at a TCEQ-authorized land application site, co-disposal landfill, wastewater treatment facility, or facility that further processes sludge.

#### SUMMARY OF CHANGES FROM APPLICATION

None.

#### SUMMARY OF CHANGES FROM EXISTING PERMIT

Effluent limitations and monitoring requirements in the draft permit remain the same as the existing permit effluent limitations and monitoring requirements.

Certain accidental discharges or spills of treated or untreated wastewater from wastewater treatment facilities or collection systems owned or operated by a local government may be reported on a monthly basis in accordance with 30 TAC § 305.132.

The facultative lagoon surface area and storage volume in the existing permit, listed as 0.60 acres and 2.14 acre-feet respectively, have been updated to 0.65 acres and 3.79 acre-feet in the draft.

Two stabilization ponds with a total surface area of 1.20 acres and a volume of 2.73 acre-feet in the existing permit have been updated to 1.22 acres and 5.31 acre-feet respectively in the draft.

permit.

The Storage Pond with a total surface area of 1.6 acres and total capacity of 12.9 acre-feet in the existing permit have been updated to 1.86 acres and 13.69 acre-feet, respectively in the draft permit.

Special Provisions (S.P.) no. 4 of the existing permit has been revised in the draft permit.

S.P. no. 6 and 22 of the existing permit have been removed in the draft permit.

S.P. 13 of the existing permit has been updated and renumbered as S.P. 12 in the draft permit.

S.P. 14 of the existing permit has been updated and renumbered as S.P. 13 in the draft permit.

S.P. 16 of the existing permit has been updated and renumbered as S.P. 15 in the draft permit.

S.P. 21 of the existing permit has been updated and renumbered as S.P. 20 in the draft permit.

S.P. 21, 22, 23 have been added in the draft permit.

S.P. 23 and 24 of the existing permit have been renumbered as S.P. 24 and 25 in the draft permit.

The draft permit includes all updates based on the 30 TAC 312 rule change effective April 23, 2020.

#### BASIS FOR DRAFT PERMIT

The following items were considered in developing the draft permit:

1. Application received on February 25, 2025, and additional information received on March 14, 2025.
2. Existing TCEQ permit: Permit No. WQ0015708001 issued on February 26, 2020.
3. Interoffice Memorandum from the Water Quality Assessment Team, Water Quality Assessment & Standards Section, Water Quality Division.

#### PROCEDURES FOR FINAL DECISION

When an application is declared administratively complete, the Chief Clerk sends a letter to the applicant advising the applicant to publish the Notice of Receipt of Application and Intent to Obtain Permit in the newspaper. In addition, the Chief Clerk instructs the applicant to place a copy of the application in a public place for review and copying in the county where the facility is or will be located. This application will be in a public place throughout the comment period. The Chief Clerk also mails this notice to any interested persons and, if required, to landowners identified in the permit application. This notice informs the public about the application and provides that an interested person may file comments on the application or request a contested case hearing or a public meeting.

Once a draft permit is completed, it is sent, along with the Executive Director's preliminary decision, as contained in the technical summary or fact sheet, to the Chief Clerk. At that time, the Notice of Application and Preliminary Decision will be mailed to the same people and published in the same newspaper as the prior notice. This notice sets a deadline for making public comments. The applicant must place a copy of the Executive Director's preliminary decision and draft permit in the public place with the application.

Any interested person may request a public meeting on the application until the deadline for filing public comments. A public meeting is intended for the taking of public comment and is not a contested case proceeding.

After the public comment deadline, the Executive Director prepares a response to all significant public comments on the application or the draft permit raised during the public comment period. The Chief Clerk then mails the Executive Director's response to comments and final decision to people who have filed comments, requested a contested case hearing, or requested to be on the mailing list. This notice provides that if a person is not satisfied with the Executive Director's response and decision, they can request a contested case hearing or file a request to reconsider the Executive Director's decision within 30 days after the notice is mailed.

The Executive Director will issue the permit unless a written hearing request or request for reconsideration is filed within 30 days after the Executive Director's response to comments and final decision is mailed. If a hearing request or request for reconsideration is filed, the Executive Director will not issue the permit and will forward the application and request to the TCEQ Commissioners for their consideration at a scheduled Commission meeting. If a contested case hearing is held, it will be a legal proceeding similar to a civil trial in state district court.

If the Executive Director calls a public meeting or the Commission grants a contested case hearing as described above, the Commission will give notice of the date, time, and place of the meeting or hearing. If a hearing request or request for reconsideration is made, the Commission will consider all public comments in making its decision and shall either adopt the Executive Director's response to public comments or prepare its own response.

For additional information about this application, contact Sumitra Pokharel at (512) 239-4722.

*Sumitra Pokharel*

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Sumitra Pokharel  
Municipal Permits Team  
Wastewater Permitting Section (MC 148)

May 08, 2025

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Date

Brooke T. Paup, *Chairwoman*  
Bobby Janecka, *Commissioner*  
Catarina R. Gonzales, *Commissioner*  
Kelly Keel, *Executive Director*



## TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

*Protecting Texas by Reducing and Preventing Pollution*

February 25, 2025

Re: Confirmation of Submission of the Renewal without changes for Public Domestic Wastewater Authorization.

Dear Applicant:

This is an acknowledgement that you have successfully completed Renewal without changes for the Public Domestic Wastewater authorization.

ER Account Number: ER110719  
Application Reference Number: 749075  
Authorization Number: WQ0015708001  
Site Name: Tpwd Pedernales Falls State Park  
Regulated Entity: RN101254258 - Tpwd Pedernales Falls State Park  
Customer(s): CN600134852 - Texas Parks And Wildlife Department

Please be aware that TCEQ staff may contact your designated contact for any additional information.

If you have any questions, you may contact the Applications Review and Processing Team by email at [WQ-ARPTeam@tceq.texas.gov](mailto:WQ-ARPTeam@tceq.texas.gov) or by telephone at (512) 239-4671.

Sincerely,  
Applications Review and Processing Team  
Water Quality Division

**Texas Commission on Environmental Quality**  
**Update Domestic or Industrial Individual Permit**  
**WQ0015708001**

### Site Information (Regulated Entity)

What is the name of the site to be authorized?	TPWD PEDERNALES FALLS STATE PARK
Does the site have a physical address?	No
Because there is no physical address, describe how to locate this site:	W SIDE OF PARK RD 6026 APPROX 4.3 MI N OF THE INTERX PEDERNALES FALLS RD AND PARK RD 6026
City	JOHNSON CITY
State	TX
ZIP	78636
County	BLANCO
Latitude (N) (##.#####)	30.330555
Longitude (W) (-###.#####)	-98.255555
Primary SIC Code	
Secondary SIC Code	
Primary NAICS Code	
Secondary NAICS Code	

#### Regulated Entity Site Information

What is the Regulated Entity's Number (RN)?	RN101254258
What is the name of the Regulated Entity (RE)?	TPWD PEDERNALES FALLS STATE PARK
Does the RE site have a physical address?	Yes

#### Physical Address

Number and Street	2585 PARK ROAD 6026
City	JOHNSON CITY
State	TX
ZIP	78636
County	BLANCO
Latitude (N) (##.#####)	30.308049
Longitude (W) (-###.#####)	-98.257653
Facility NAICS Code	
What is the primary business of this entity?	STATE PARK

### Texas P-Customer (Applicant) Information (Owner)

How is this applicant associated with this site?	Owner
What is the applicant's Customer Number (CN)?	CN600134852
Type of Customer	State Government
<b>Full legal name of the applicant:</b>	
Legal Name	Texas Parks And Wildlife Department
Texas SOS Filing Number	
Federal Tax ID	741680372
State Franchise Tax ID	
State Sales Tax ID	
Local Tax ID	
DUNS Number	
Number of Employees	501+
Independently Owned and Operated?	No
I certify that the full legal name of the entity applying for this permit has been provided and is legally authorized to do business in Texas.	Yes
<b>Responsible Authority Contact</b>	
Organization Name	Texas Parks And Wildlife Department
Prefix	MR
First	Justin
Middle	
Last	Rhodes
Suffix	
Credentials	
Title	State Park Deputy Division Director
<b>Responsible Authority Mailing Address</b>	
Enter new address or copy one from list:	RE Physical Address
Address Type	Domestic
Mailing Address (include Suite or Bldg. here, if applicable)	4200 SMITH SCHOOL RD
Routing (such as Mail Code, Dept., or Attn:)	
City	AUSTIN
State	TX
ZIP	78744
Phone (###-###-####)	5123894665
Extension	
Alternate Phone (###-###-####)	
Fax (###-###-####)	
E-mail	Justin.Rhodes@tpwd.texas.gov

## Billing Contact

---

**Responsible contact for receiving billing statements:**

Select the permittee that is responsible for payment of the annual fee.

Organization Name

CN600134852, Texas Parks And  
Wildlife Department

Prefix

First

Kathleen

Middle

Last

Foust

Suffix

Credentials

CCM

Title

PURCHASER

Enter new address or copy one from list:

CN600134852, Texas Parks And  
Wildlife Department**Mailing Address**

Address Type

Domestic

Mailing Address (include Suite or Bldg. here, if applicable)

4200 SMITH SCHOOL RD

Routing (such as Mail Code, Dept., or Attn:)

City

AUSTIN

State

TX

ZIP

78744

Phone (###-###-####)

5123898718

Extension

Alternate Phone (###-###-####)

Fax (###-###-####)

E-mail

Kathleen.Foust@tpwd.texas.gov

**Application Contact****Person TCEQ should contact for questions about this application:**

Same as another contact?

Organization Name

TEXAS PARKS AND WILDLIFE  
DEPARTMENT

Prefix

MR

First

Stephen

Middle

Last

Abbott

Suffix

Credentials

Title

TPWD - TCEQ Compliance  
Coordinator

Enter new address or copy one from list:

**Mailing Address**

Address Type	Domestic
Mailing Address (include Suite or Bldg. here, if applicable)	4200 SMITH SCHOOL RD
Routing (such as Mail Code, Dept., or Attn:)	
City	AUSTIN
State	TX
ZIP	78744
Phone (###-###-####)	5123894665
Extension	
Alternate Phone (###-###-####)	
Fax (###-###-####)	
E-mail	Stephen.Abbott@tpwd.texas.gov

## Technical Contact

**Person TCEQ should contact for questions about this application:**

Same as another contact?

Organization Name	STV
Prefix	MR
First	Carlos
Middle	
Last	Saracho
Suffix	
Credentials	PE
Title	STV PROJECT MANAGER

Enter new address or copy one from list:

**Mailing Address**

Address Type	Domestic
Mailing Address (include Suite or Bldg. here, if applicable)	11757 KATY FWY STE 1540
Routing (such as Mail Code, Dept., or Attn:)	
City	HOUSTON
State	TX
ZIP	77079
Phone (###-###-####)	7135797409
Extension	
Alternate Phone (###-###-####)	
Fax (###-###-####)	7135321734
E-mail	Josecarlos.Saracho@stvinc.com

## DMR Contact

### Person responsible for submitting Discharge Monitoring Report

#### Forms:

Same as another contact?

Organization Name TPWD-Pedernales Falls State Park

Prefix

First Daniel

Middle

Last Piccolo

Suffix

Credentials

Title

Enter new address or copy one from list:

#### Mailing Address:

Address Type Domestic

Mailing Address (include Suite or Bldg. here, if applicable) 2585 Park Rd 6025

Routing (such as Mail Code, Dept., or Attn:)

City Johnson City

State TX

ZIP 78636

Phone (###-###-####) 8303300917

Extension

Alternate Phone (###-###-####)

Fax (###-###-####)

E-mail Daniel.Piccolo@tpwd.texas.gov

## Section 1# Permit Contact

### Permit Contact#: 1

#### Person TCEQ should contact throughout the permit term.

1) Same as another contact?

2) Organization Name TPWD-Pedernales Falls State Park

3) Prefix

4) First Benjamin

5) Middle

6) Last Fleury

7) Suffix

8) Credentials

9) Title Park Superintendent

**Mailing Address**

10) Enter new address or copy one from list	RE Physical Address
11) Address Type	Domestic
11.1) Mailing Address (include Suite or Bldg. here, if applicable)	2585 PARK ROAD 6026
11.2) Routing (such as Mail Code, Dept., or Attn:)	
11.3) City	JOHNSON CITY
11.4) State	TX
11.5) ZIP	78636
12) Phone (###-###-####)	8308687304
13) Extension	
14) Alternate Phone (###-###-####)	
15) Fax (###-###-####)	
16) E-mail	Benjamin.Fleury@tpwd.texas.gov

**Owner Information****Owner of Treatment Facility**

1) Prefix	MR
2) First and Last Name	Justin Phodes
3) Organization Name	Texas Park & Wildlife Department
4) Mailing Address	4200 Smith School Road
5) City	Austin
6) State	TX
7) Zip Code	78744
8) Phone (###-###-####)	5123894665
9) Extension	
10) Email	Justin.Rhodes@tpwd.texas.gov
11) What is ownership of the treatment facility?	Public

**Owner of Land (where treatment facility is or will be)**

12) Prefix	MR
13) First and Last Name	Justin Rhodes
14) Organization Name	Texas Parks And Wildlife Department
15) Mailing Address	4200 Smith School Road
16) City	Austin
17) State	TX
18) Zip Code	78744
19) Phone (###-###-####)	5123894665
20) Extension	
21) Email	Justin.Rhodes@tpwd.texas.gov
22) Is the landowner the same person as the facility owner or co-	Yes

applicant?

## General Information Renewal-Amendment

1) Current authorization expiration date:	02/26/2025
2) Current Facility operational status:	Active
3) Is the facility located on or does the treated effluent cross American Indian Land?	No
4) What is the application type that you are seeking?	Renewal without changes
5) Current Authorization type:	Public Domestic Wastewater
5.1) What is the proposed total flow in MGD discharged at the facility?	0.0315
5.2) Select the applicable fee	< .05 MGD - Renewal - \$315
6) What is the classification for your authorization?	TLAP
6.1) Is the location of the effluent disposal site in the existing permit accurate?	Yes
6.2) City nearest the disposal site:	Johnson City
6.3) County in which the disposal site is located:	BLANCO
6.4) Describe the routing of effluent from the treatment facility to the disposal site:	Treated effluent from the second stabilization pond is pumped through a 3-inch discharge pipe to a 1.86-acre effluent holding pond. Effluent from the holding pond is pumped to a 10-acre land application site through a 3-inch pipe to irrigation sprinklers.
6.5) Identify the nearest watercourse to the disposal site to which rainfall runoff might flow if not contained:	Pedernales River Segment 1414
6.6) If the existing permit contains an onsite sludge disposal authorization, is the location of the sewage sludge disposal site in the existing permit accurate?	Not Applicable
<b>Owner of Effluent TLAP Disposal Site</b>	
6.7) Prefix	
6.8) First and Last Name	Justin Rhodes
6.9) Organization Name	Texas Parks And Wildlife Department
6.10) Mailing Address	4200 Smith School Road
6.11) City	Austin
6.12) State	TX
6.13) Zip Code	78744
6.14) Phone (###-###-####)	5123894665
6.15) Extension	
6.16) Email	Justin.Rhodes@tpwd.texas.gov
6.17) Is the landowner the same person as the facility owner or co-applicant?	Yes
7) Did any person formerly employed by the TCEQ represent your	No

company and get paid for service regarding this application?

## Public Notice Information

### Individual Publishing the Notices

1) Prefix	MR
2) First and Last Name	Carlos Saracho
3) Credential	PE
4) Title	Project Manager
5) Organization Name	STV
6) Mailing Address	11757 KATY FWY STE 1540
7) Address Line 2	
8) City	HOUSTON
9) State	TX
10) Zip Code	77079
11) Phone (###-###-####)	7135797409
12) Extension	
13) Fax (###-###-####)	
14) Email	josecarlos.saracho@stvinc.com

### Contact person to be listed in the Notices

15) Prefix	
16) First and Last Name	Benjamin, Fleury
17) Credential	
18) Title	Plant Superintendent
19) Organization Name	TPWD Pedernales Falls State Park
20) Phone (###-###-####)	8308687304
21) Fax (###-###-####)	
22) Email	Benjamin.Fleury@tpwd.texas.gov

### Bilingual Notice Requirements

23) 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
23.1) Are the students who attend either the elementary school or the middle school enrolled in a bilingual education program at that school?	Yes
23.2) Do the students at these schools attend a bilingual education program at another location?	No
23.3) 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)?	No
23.4) Which language is required by the bilingual program?	Spanish

## Section 1# Public Viewing Information

**County#: 1**

1) County	BLANCO
2) Public building name	Pedernales Falls State Park Office
3) Location within the building	Main Entrance
4) Physical Address of Building	2585 Park Road 6026
5) City	Johnson City
6) Contact Name	Benjamin Fleury
7) Phone (###-###-####)	8308687304
8) Extension	
9) Is the location open to the public?	Yes

**Plain Language**

## 1) Plain Language

## [File Properties]

File Name	LANG_A.1 - TCEQ-20972_Plain English Form_Final.pdf
Hash	F6EB6A115CDA43DB60C789F1A1F6BE5A38F05C2EA1F72CBE73044EF101E5D585
MIME-Type	application/pdf

**Domestic Attachments**

1) Attach an 8.5"x11", reproduced portion of the most current and original USGS Topographic Quadrangle Map(s) that meets the 1:24,000 scale.

## [File Properties]

File Name	MAP_A.2 & A.3 - USGS Site Location Maps.pdf
Hash	DBBF54C15110436977FB774CB12FB43D6714A0451D3A088C4A9F9B2D60FDB975
MIME-Type	application/pdf

2) I confirm that all required sections of Technical Report 1.0 are complete and will be included in the Technical Attachment.	Yes
--	-----

2.1) Are you planning to include Worksheet 2.1 (Stream Physical Characteristics) in the Technical Attachment?	No
---	----

2.2) I confirm that Worksheet 3.0 (Land Disposal of Effluent) is complete and included in the Technical Attachment.	Yes
---	-----

2.3) Are you planning to include Worksheet 4.0 (Pollutant Analyses Requirements) in the Technical Attachment?	No
---	----

2.4) Are you planning to include Worksheet 5.0 (Toxicity Testing Requirements) in the Technical Attachment?	No
---	----

2.5) I confirm that Worksheet 6.0 (Industrial Waste Contribution) is complete and included in the Technical Attachment.	Yes
---	-----

2.6) Are you planning to include Worksheet 7.0 (Class V Injection Well	No
--	----

Inventory/Authorization Form) in the Technical Attachment?

## 2.7) Technical Attachment

[File Properties]

File Name	TECH_TCEQ TLAP Renewal - Domestic Techincal Report.pdf
Hash	AC8121F73284930575A323DB23944C1805829876FD78FD1CE8DF4A285194A624
MIME-Type	application/pdf

## 3) Buffer Zone Map

[File Properties]

File Name	BUFF_ZM_T.4 - Buffer Zone Map.pdf
Hash	2EDAE5E58A87A658566B3C0A72689582E54DD3A54D1BD27987D07C2B207E1E84
MIME-Type	application/pdf

## 4) Flow Diagram

[File Properties]

File Name	FLDIA_T.1 - Process Flow Diagram.pdf
Hash	1161F81DD08CE5B2A8043D06AE1B0391F59B69D407518382E4580F87B34CED88
MIME-Type	application/pdf

## 5) Site Drawing

[File Properties]

File Name	SITEDR_T.2 - Site Drawing.pdf
Hash	E18D37B5350B18961E853BFF04D00518636AAA8ECA8474A07D761DA15A9A4E4E
MIME-Type	application/pdf

## 6) Design Calculations

[File Properties]

File Name	DES_CAL_PFalls WWTP Design Calculations.pdf
Hash	AC6DDD42CC0376E658B021CEF4EF260E3A8C62F910A0AD1C374B91D3CE511F1D
MIME-Type	application/pdf

## 7) Solids Management Plan

## 8) Water Balance

## 9) Other Attachments

[File Properties]

File Name	OTHER_1.1 TCEQ-10400 - Core Data Form.pdf
Hash	28F741E716B55595C12B936D39192DF74B07C52B7D90C875332FA3E8005BAEA4
MIME-Type	application/pdf

## Certification

I certify that I am authorized under 30 Texas Administrative Code 305.44 to sign this document and can provide documentation in proof of such authorization upon request.

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.

1. I am Stephen C Abbott, the owner of the STEERS account ER110461.
2. I have the authority to sign this data on behalf of the applicant named above.
3. I have personally examined the foregoing and am familiar with its content and the content of any attachments, and based upon my personal knowledge and/or inquiry of any individual responsible for information contained herein, that this information is true, accurate, and complete.
4. I further certify that I have not violated any term in my TCEQ STEERS participation agreement and that I have no reason to believe that the confidentiality or use of my password has been compromised at any time.
5. I understand that use of my password constitutes an electronic signature legally equivalent to my written signature.
6. I also understand that the attestations of fact contained herein pertain to the implementation, oversight and enforcement of a state and/or federal environmental program and must be true and complete to the best of my knowledge.
7. I am aware that criminal penalties may be imposed for statements or omissions that I know or have reason to believe are untrue or misleading.
8. I am knowingly and intentionally signing Update Domestic or Industrial Individual Permit WQ0015708001.
9. My signature indicates that I am in agreement with the information on this form, and authorize its submittal to the TCEQ.

OWNER Signature: Stephen C Abbott OWNER

Customer Number:	CN600134852
Legal Name:	Texas Parks And Wildlife Department
Account Number:	ER110461
Signature IP Address:	204.64.0.169
Signature Date:	2025-02-25
Signature Hash:	97E75A732DDC2D23B88E74D77C96345BC11B91A2D7545048E35595206F9CBAB4
Form Hash Code at time of Signature:	0BA34F943068CE88A57F1FCD5D475A2479B0923A4A28F3BE60CFB5A7E255AE9D

## Fee Payment

Transaction by:	The application fee payment transaction was made by ER110719/Dawn R Anderson
Paid by:	The application fee was paid by DAWN ANDERSON
Fee Amount:	\$300.00
Paid Date:	The application fee was paid on 2025-02-25
Transaction/Voucher number:	The transaction number is 582EA000654987 and the voucher number is 752990

## Submission

---

Reference Number:	The application reference number is 749075
Submitted by:	The application was submitted by ER110719/ Dawn R Anderson
Submitted Timestamp:	The application was submitted on 2025-02-25 at 16:17:21 CST
Submitted From:	The application was submitted from IP address 147.160.221.246
Confirmation Number:	The confirmation number is 634002
Steers Version:	The STEERS version is 6.87
Permit Number:	The permit number is WQ0015708001

## Additional Information

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Application Creator: This account was created by Dawn R Anderson



# 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

<b>1. Reason for Submission</b> (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
<b>2. Customer Reference Number</b> (if issued)	<a href="#">Follow this link to search for CN or RN numbers in Central Registry**</a>	<b>3. Regulated Entity Reference Number</b> (if issued)
CN 600134852		RN 101254258

## SECTION II: Customer Information

<b>4. General Customer Information</b>		<b>5. Effective Date for Customer Information Updates</b> (mm/dd/yyyy)			
<input type="checkbox"/> New Customer <input checked="" 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>					
<b>6. Customer Legal Name</b> (If an individual, print last name first: eg: Doe, John)				<i>If new Customer, enter previous Customer below:</i>	
Texas Parks and Wildlife Department (TPWD)					
<b>7. TX SOS/CPA Filing Number</b>		<b>8. TX State Tax ID</b> (11 digits)		<b>9. Federal Tax ID</b> (9 digits)	<b>10. DUNS Number</b> (if applicable)
<b>11. Type of Customer:</b>		<input type="checkbox"/> Corporation		<input type="checkbox"/> Individual	Partnership: <input type="checkbox"/> General <input type="checkbox"/> Limited
Government: <input type="checkbox"/> City <input type="checkbox"/> County <input type="checkbox"/> Federal <input type="checkbox"/> Local <input checked="" type="checkbox"/> State <input type="checkbox"/> Other		<input type="checkbox"/> Sole Proprietorship		<input type="checkbox"/> Other:	
<b>12. Number of Employees</b>				<b>13. Independently Owned and Operated?</b>	
<input type="checkbox"/> 0-20 <input type="checkbox"/> 21-100 <input type="checkbox"/> 101-250 <input type="checkbox"/> 251-500 <input checked="" type="checkbox"/> 501 and higher				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
<b>14. Customer Role</b> (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 checked="" type="checkbox"/> Owner & Operator <input type="checkbox"/> Other:					
<input type="checkbox"/> Occupational Licensee <input type="checkbox"/> Responsible Party <input type="checkbox"/> VCP/BSA Applicant					
<b>15. Mailing Address:</b>	Texas Parks and Wildlife Department				
	4200 Smith School Road				
	<b>City</b>	Austin	<b>State</b>	TX	<b>ZIP</b> 78744 <b>ZIP + 4</b>
<b>16. Country Mailing Information</b> (if outside USA)				<b>17. E-Mail Address</b> (if applicable)	
N/A					
<b>18. Telephone Number</b>		<b>19. Extension or Code</b>		<b>20. Fax Number</b> (if applicable)	

**SECTION III: Regulated Entity Information****21. General Regulated Entity Information** (If "New Regulated Entity" is selected, a new permit application is also required.)☐ New Regulated Entity ☒ Update to Regulated Entity Name ☐ Update to Regulated Entity Information

*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).*

**22. Regulated Entity Name** (Enter name of the site where the regulated action is taking place.)

TPWD Pedernales Falls State Park

**23. Street Address of the Regulated Entity:**(No PO Boxes)

TPWD Pedernales Falls State Park

2585 Park Road 6026

City

Johnson City

State

TX

ZIP

78636

ZIP + 4

**24. County**

Blanco

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

**25. Description to Physical Location:****26. Nearest City**

State

Nearest ZIP Code

*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).*

**27. Latitude (N) In Decimal:**

30.330475°N

**28. Longitude (W) In Decimal:**

98.25547°W

Degrees

Minutes

Seconds

Degrees

Minutes

Seconds

30

19

41.71

98

15

19.71

**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)

**33. What is the Primary Business of this entity?** (Do not repeat the SIC or NAICS description.)

State Park

**34. Mailing Address:**

2585 Park Rd 6026

City

Johnson City

State

TX

ZIP

78636

ZIP + 4

**35. E-Mail Address:**

benjamin.fleury@tpwd.state.tx.gov

**36. Telephone Number****37. Extension or Code****38. Fax Number** (if applicable)

( 830 ) 868-7304

( ) -

**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 checked="" 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**

<b>40. Name:</b>	Josecarlos Saracho			<b>41. Title:</b>	Project Manager
<b>42. Telephone Number</b>	<b>43. Ext./Code</b>	<b>44. Fax Number</b>	<b>45. E-Mail Address</b>		
( 713 ) 532-1730		( 713 ) 532-1734	josecarlos.saracho@stvinc.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.

<b>Company:</b>	STV Inc.		<b>Job Title:</b>	Project Technical Advisor	
<b>Name (In Print):</b>	Dawn R. Anderson			<b>Phone:</b>	214-640-1726
<b>Signature:</b>				<b>Date:</b>	January 11, 2025



## TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

### **SUMMARY OF APPLICATION IN PLAIN LANGUAGE FOR TPDES OR TLAP PERMIT APPLICATIONS**

#### **Summary of Application (in plain language) Template and Instructions for Texas Pollutant Discharge Elimination System (TPDES) and Texas Land Application (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.*

Texas Parks and Wildlife Department (CN600134852) operates the Pedernales Falls State Park Wastewater Treatment Facility (RN101254258), a natural treatment pond system with a daily average flow of 31,500 gallons per day of treated effluent that is land applied by sprinkler irrigation. The facility is located at TPWD Pedernales Falls State Park, in Johnson City, Johnson County, Texas 78636. Application for renewal of the existing Texas Land Application Permit (TLAP) for sprinkler irrigation disposal of treated effluent onto native grassland that is not accessible to the public is being requested. This permit will not authorize a discharge of pollutants into water in the state.

Discharges from the facility are expected to contain biochemical oxygen demand of 100 parts per million with a pH not less than 6.0 standard units nor greater than 9.0 standard units. Wastewater from the park is treated by a series of ponds consisting of a facultative pond and two stabilization ponds. Treated effluent is conveyed to an effluent holding pond and then pumped to the land application site/irrigation field.

##### **PLANTILLA EN ESPAÑOL PARA SOLICITUDES NUEVAS/RENOVACIONES/ENMIENDAS DE TPDES o TLAP**

##### **AGUAS RESIDUALES DOMESTICAS /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 requerido por el Capítulo 39 del Código Administrativo de Texas 30. La información proporcionada en este resumen puede cambiar durante la revisión técnica de la solicitud y no es una representación ejecutiva federal de la solicitud de permiso.*

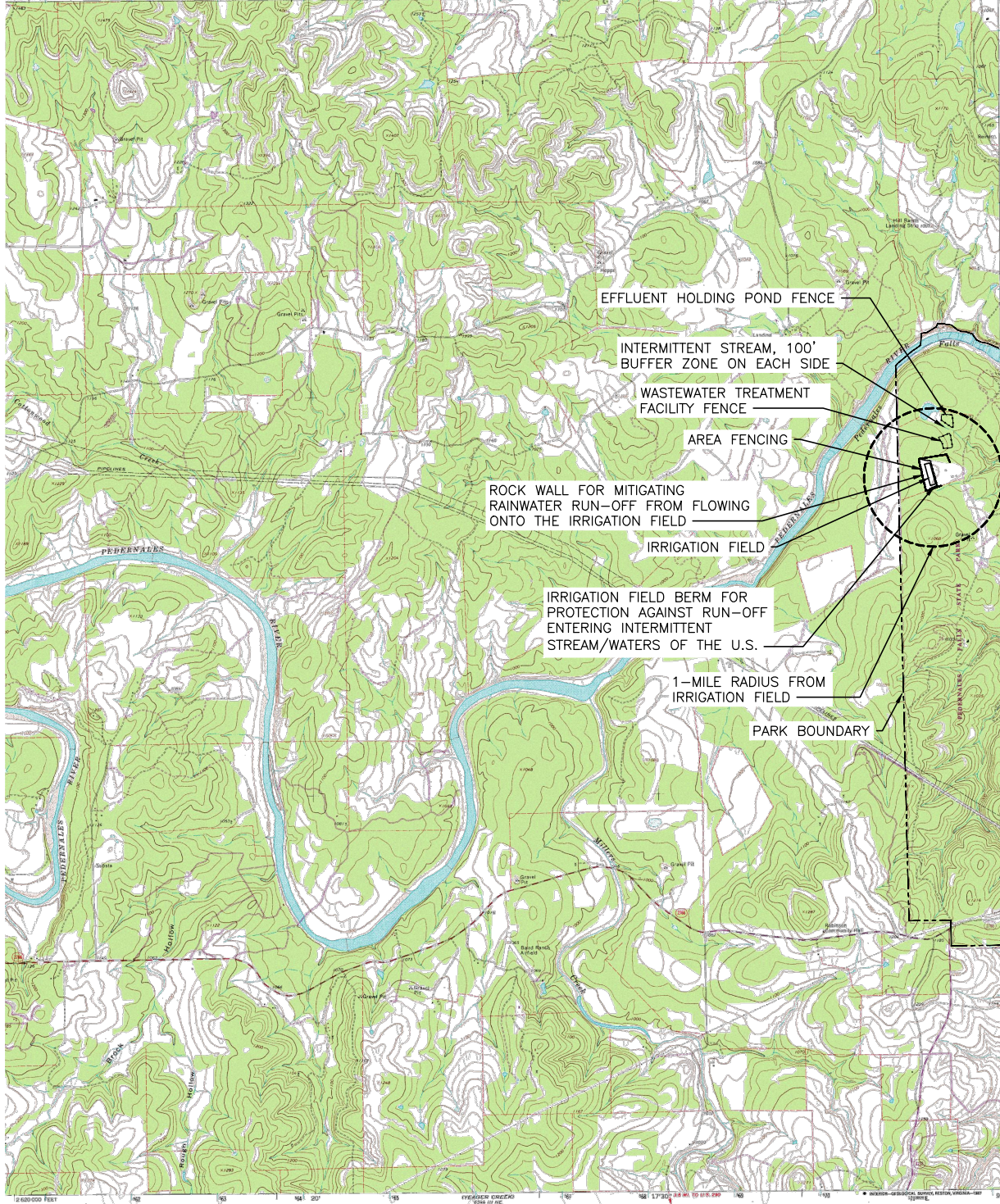
El Departamento de Parques y Vida Silvestre de Texas TPWD (CN600134852) opera la planta de Tratamiento de Aguas Residuales para el Parque Estatal de Pedernales Falls (RN101254258), consistente en un tratamiento natural a base de lagunas con una capacidad de tratamiento promedio de 31,500 galones por día. El efluente tratado será dispuesto a través de un sistema controlado de irrigación a través de rociadores (aspersores de irrigación). Las lagunas de tratamiento están localizadas en TPWD Parque Estatal de Pedernales Falls Johnson City, Condado Johnson, Texas 78636.

La presente con la intención de solicitar la renovación del permiso existente para aplicación de aguas tratadas sobre tierras en Texas (TLAP), para la irrigación a través de aspersores de irrigación a pastizales nativos mismos que no estarán accesible al público. Este permiso no autoriza descargas de contaminantes en aguas del estado.

Las descargas tratadas de las instalaciones se anticipa contener demanda bioquímica de oxígeno de 100 ppm, un pH de no menos de 6.0 SU y no mayor de 9.0 SU (unidad estándar). Las aguas sanitarias del parque son tratadas por una serie de lagunas consistentes en: Una Laguna Facultativa y dos Lagunas de Estabilización. El efluente tratado será trasferido a una Laguna de retención de donde será bombeada al sitio exclusivo de aplicación destinado como campo de irrigación.

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
LOGICAL SURVEY

PEDERNALES FALLS QUADRANGLE  
TEXAS-BLANCO CO.  
7.5 MINUTE SERIES (TOPOGRAPHIC)



DECEMBER 2024

TPWD - PEDERNALES FALLS STATE PARK WWTP  
TCEQ TLAP PERMIT RENEWAL APPLICATION

USGS SITE LOCATION MAP (1 OF 2)

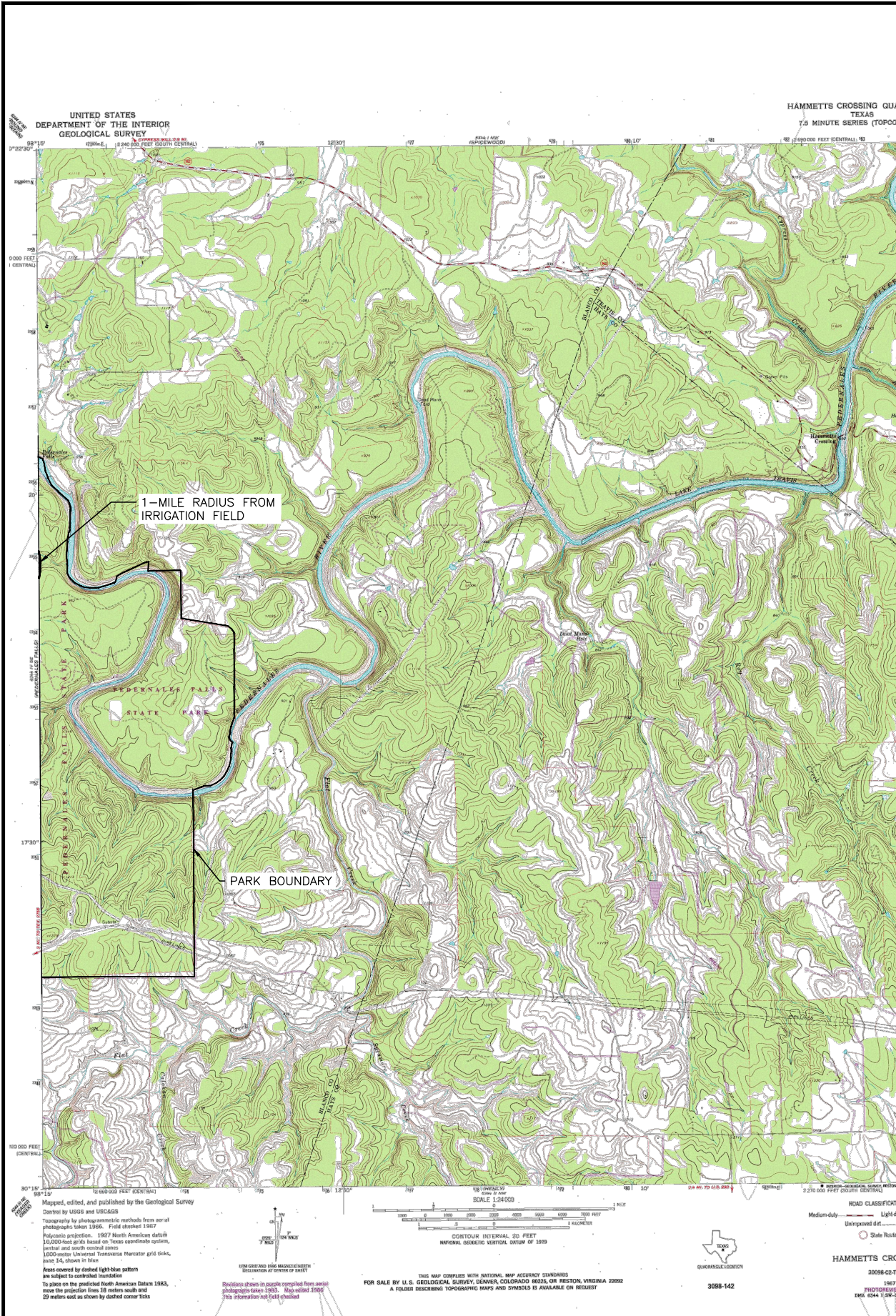
TEXAS  
PARKS &  
WILDLIFE

CP&Y  
CP&Y, Inc.

TBPE FIRM REGISTRATION # 1741

FIGURE

A.2



DECEMBER 2024

TPWD – PEDERNALES FALLS STATE PARK WWTP  
TCEQ TLAP PERMIT RENEWAL APPLICATION

USGS SITE LOCATION MAP (2 OF 2)

TEXAS  
PARKS &  
WILDLIFE

CP&Y  
CP&Y, Inc.  
TBPE FIRM REGISTRATION # 1741

FIGURE

A.3

**Texas Parks and Wildlife Department**  
**Pedernales Falls State Park Wastewater Treatment Facility**  
**Texas Land Application Permit (TLAP) –Renewal Application**

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**TCEQ Domestic Technical Report**

2.0 - TCEQ-10054 – Tech Report 1.0

2.1 - TCEQ-10054 – Worksheet 3.0

2.2 - TCEQ-10054 – Worksheet 6.0

*Attachments:*

T.1 - PROCESS FLOW DIAGRAM

T.2 - SITE DRAWING

T.3 - TCEQ APPROVAL LETTER

T.4 - BUFFER ZONE MAP

T.5 - POND LINER CERTIFICATION

T.6 - ANNUAL CROPPING PLAN

T.7 - USDA-NRCS CUSTOM SOIL RESOURCE REPORT

T.8 - USGS WELL IDENTIFICATION MAP

T.9 - STATE WELL REPORTS BY ID

T.10 - GROUNDWATER QUALITY TECHNICAL REPORT

*Supplementary Attachments:*

S.1 - LAND DISPOSAL RUN-OFF PROTECTION

S.2 - SOIL SAMPLING & ANALYSIS

**Texas Parks and Wildlife Department**  
**Pedernales Falls State Park Wastewater Treatment Facility**  
**Texas Land Application Permit (TLAP) –Renewal Application**

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**2.0 – TCEQ-10054 – Tech Report 1.0**



# TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

## DOMESTIC WASTEWATER PERMIT APPLICATION TECHNICAL REPORT 1.0

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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): 0.0315

2-Hr Peak Flow (MGD): N/A

Estimated construction start date: June 2021

Estimated waste disposal start date: May 2025

#### B. Interim II Phase

Design Flow (MGD): N/A

2-Hr Peak Flow (MGD): N/A

Estimated construction start date: N/A

Estimated waste disposal start date: N/A

#### C. Final Phase

Design Flow (MGD): N/A

2-Hr Peak Flow (MGD): N/A

Estimated construction start date: N/A

Estimated waste disposal start date: N/A

#### D. Current Operating Phase

Provide the startup date of the facility: N/A

### 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.**

The proposed wastewater treatment plant is a lagoon system consisting of a facultative pond and two stabilization ponds. Wastewater from lift stations located within the park is pumped to the facultative pond and then flows by gravity to stabilization pond 1 and then to stabilization pond 2 for treatment. Effluent from stabilization pond 2 can be returned to the facultative pond with recirculation pumps. Treated effluent from stabilization pond 2 flows by gravity over a V-Notch weir into the Effluent Measurement Box. Transfer pumps convey the metered flow to the effluent holding pond. Treated effluent from the effluent holding pond is pumped to the irrigation field sprinklers for metered discharge. A flow schematic is presented in Attachment T.1 – Process Flow Diagram

The lagoon system has the capacity to accumulate and degrade some amount of organic matter. Periodic sludge removal from the treatment system is required no less than once every two years. Liquid sludge removed from the deep end of the facultative pond with a vacuum truck will be transported to a permitted municipal solids waste processing facility.

## 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)
Facultative Pond	1	300'L x 110'W x 12' SWD
Stabilization Pond 1	1	300'L x 113'W x 5' SWD
Stabilization Pond	1	295'L x 104'W x 5' SWD
Effluent Holding Pond	1	367'x403'x155'x341'x8' SWD

## C. Process Flow Diagram

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

**Attachment:** Attachment T.1 – Process Flow Diagram

## 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: 30.330475N
- Longitude: 98.255475W

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: Attachment T.2 – Site Drawing**

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

Pedernales Falls State Park has a campground with campsites equipped with water, campground restrooms, including several with showers. The park also has a couple of single-family residences and restrooms at park headquarters.

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
N/A		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.**

N/A

## 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: March 11, 2021

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.**

A copy of the TCEQ approval letter included in this submittal as Attachment T.3 – TCEQ Approval Letter.

### 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.

Project buffer zones include a 500 ft buffer zone around the wastewater treatment facility; a 150 ft buffer zone around the irrigation field; and a 100 ft buffer zones from intermittent streams. An irrigation berm provides protection from irrigation field run-off entering an intermittent stream. Refer to attachment T.4 – Buffer Zone Map included in this submittal.

### 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*.

Construction is nearing completion with phased start-up activities for the lift stations scheduled for the next few months. Completion of construction is anticipated in January 2025, with treated effluent sampling and discharge to the irrigation field not anticipated until the 2nd quarter of 2025. During construction of the project ponds, no water wells were discovered. All ponds are constructed with liners per TCEQ requirements and signed and sealed liner certifications are being submitted per the Special Provisions of the TCEQ permit. A letter notifying TCEQ of pending completion of construction was submitted on October 4, 2024. A TCEQ Notification of Completion Form 20007 is also being prepared for submittal to TCEQ.

### 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.

N/A

#### 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.

N/A

#### **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.

N/A

### **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 N/A or TXRNE N/A

**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:

N/A

### 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.

N/A

### 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.

N/A

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.

N/A

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.  
N/A

#### 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 BOD<sub>5</sub> concentration of the sludge, and the design BOD<sub>5</sub> concentration of the influent from the collection system. Also note if this information has or has not changed since the last permit action.

N/A

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 BOD<sub>5</sub> concentration of the septic waste, and the design BOD<sub>5</sub> concentration of the influent from the collection system. Also note if this information has or has not changed since the last permit action.

N/A

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.

N/A

## 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 <sub>5</sub> , 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, $\mu$ mohs/cm, †					
Oil & Grease, mg/l					
Alkalinity (CaCO <sub>3</sub> )*, 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 <sub>3</sub> ), mg/l					

## Section 8. Facility Operator (Instructions Page 50)

Facility Operator Name: Daniel Picclo

Facility Operator's License Classification and Level: Wastewater Treatment Operator D

Facility Operator's License Number: WW0073320

## 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 ( $\geq 2$  years)
- ☐ Methane or Biogas Recovery
- ☒ Other Treatment Process: Liquid sludge transported to a TCEQ permitted municipal solid waste processing facility.

### 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
Other	Off-site Third-Party Handler or Preparer	Not Applicable	N/A	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): transport to another WWTP

#### D. Disposal site

Disposal site name: Austin Wastewater Processing Facility/Wastewater Residuals Management

TCEQ permit or registration number: Permit 2384A

County where disposal site is located: Travis

#### E. Transportation method

Method of transportation (truck, train, pipe, other): Truck

Name of the hauler: Wastewater Transport Services, LLC

Hauler registration number: #24343

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	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Marketing and Distribution of sludge	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Sludge Surface Disposal or Sludge Monofill	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Temporary storage in sludge lagoons	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> 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:** N/A
- USDA Natural Resources Conservation Service Soil Map:  
**Attachment:** N/A
- Federal Emergency Management Map:  
**Attachment:** N/A
- Site map:  
**Attachment:** N/A

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:** N/A

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:

N/A

## 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: N/A

Total Kjeldahl Nitrogen, mg/kg: N/A

Total Nitrogen (=nitrate nitrogen + TKN), mg/kg: N/A

Phosphorus, mg/kg: N/A

Potassium, mg/kg: N/A

pH, standard units: N/A

Ammonia Nitrogen mg/kg: N/A

Arsenic: N/A

Cadmium: N/A

Chromium: N/A

Copper: N/A

Lead: N/A

Mercury: N/A

Molybdenum: N/A

Nickel: N/A

Selenium: N/A

Zinc: N/A

Total PCBs: N/A

Provide the following information:

Volume and frequency of sludge to the lagoon(s): N/A

Total dry tons stored in the lagoons(s) per 365-day period: N/A

Total dry tons stored in the lagoons(s) over the life of the unit: N/A

## C. Liner information

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

☐

Yes

☐

No

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

N/A

#### D. Site development plan

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

N/A

Attach the following documents to the application.

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

#### 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:** N/A

## Section 12. Authorizations/Compliance/Enforcement (Instructions)

**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:

N/A

**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:

N/A

**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:** N/A

## 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: \_\_\_\_\_

Title: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

**Texas Parks and Wildlife Department**  
**Pedernales Falls State Park Wastewater Treatment Facility**  
**Texas Land Application Permit (TLAP) –Renewal Application**

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**2.1 – TCEQ-10054 – Worksheet 3.0**

# 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 checked="" type="checkbox"/> Irrigation                  | <input type="checkbox"/> Subsurface soils absorption           |
| <input type="checkbox"/> Drip irrigation system                 | <input type="checkbox"/> Subsurface area drip dispersal system |
| <input type="checkbox"/> Evaporation                            | <input type="checkbox"/> Evapotranspiration beds               |
| <input type="checkbox"/> Other (describe in detail): <u>N/A</u> |  |

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

For existing authorizations, provide Registration Number: N/A

## 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
Native Grasses/Hay Field	10.0	31,500	N

### 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
Effluent Holding Pond	1.86	13.69	367'x403'x155'x341'x8'SWD	Synthetic liner with underdrain leak detection

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

**Attachment:** T.5 – Pond Liner Certification

### 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.

N/A

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

FEMA Map 48031C0250 C

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

The irrigation field contains a rainwater run-off protection wall to divert run-off flow around the entire land disposal property site. Additionally, the irrigation field contains a berm located 100' from an intermittent stream. The berm diverts runoff from the irrigation field away from the intermittent stream. Attachment: S.1 - Land Disposal Run-Off Protection

## 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: T.6 - Cropping Plan & T.7 - USDA-NRCS Custom Soil Resource Report**

- 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: T.8 - USGS – Well Identification Map**

- 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
5746317	Spring	Y	open	Well is over 500 ft from Irrigation Field and WWTP
5747104	Withdrawal of water	N	plugged	Well is over 500 ft from Irrigation Field and WWTP
109016		N	plugged	Plugging Report for Tracking #109016 Attached. Report Tracking#34919
109018		N	plugged	Plugging Report for Tracking #109018 Attached. Report Tracking#34922
444037	Domestic	Y	open	Well is over 500 ft from Irrigation Field and WWTP
64347	Domestic	Y	open	Well is over 500 ft from Irrigation Field and WWTP
5746601	Domestic	Y	open	Well is over 500 ft from Irrigation Field and WWTP
55596 HTGCD	Outcrop			Well is over 500 ft from Irrigation Field and WWTP
5746608	Withdrawal of water	N	plugged	TWDB Well Report for State Well: 57-46-608 states: “Well plugged at 20 feet”

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

**Attachment:** T.9 – State Well Reports by ID

## 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:** T.10 - Groundwater Quality Technical Report

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:** N/A

## 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:** T-7 - USDA-NRCS Custom Soil Resource Report

### 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: S.2 – Soil Sampling & Analysis**

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
Anhalt clay, 0 to 2 percent	20 to 40	Very low	Very low	
Hensley loam	10 to 20	Well drained	Moderately	

**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.

N/A

**Texas Parks and Wildlife Department**  
**Pedernales Falls State Park Wastewater Treatment Facility**  
**Texas Land Application Permit (TLAP) –Renewal Application**

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**2.2 – TCEQ-10054 – Worksheet 6.0**

# 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: 0

Significant IUs – non-categorical:

Number of IUs: 0

Average Daily Flows, in MGD: 0

Other IUs:

Number of IUs: 0

Average Daily Flows, in MGD: 0

#### 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.

N/A

#### 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.

N/A

#### 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.

N/A

#### 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.

N/A

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.

N/A

Section 3. Significant Industrial User (SIU) Information and

### A. General information

Company Name: N/A

SIC Code: N/A

Contact name: N/A

Address: N/A

City, State, and Zip Code: N/A

Telephone number: N/A

Email address: N/A

### 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).

N/A

### C. Product and service information

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

N/A

### D. Flow rate information

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

Process Wastewater:

Discharge, in gallons/day: 0

Discharge Type: ☐ Continuous ☐ Batch ☐ Intermittent

Non-Process Wastewater:

Discharge, in gallons/day: 0

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: N/A

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

Category: N/A

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

Category: N/A

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

Category: N/A

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

Category: N/A

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.

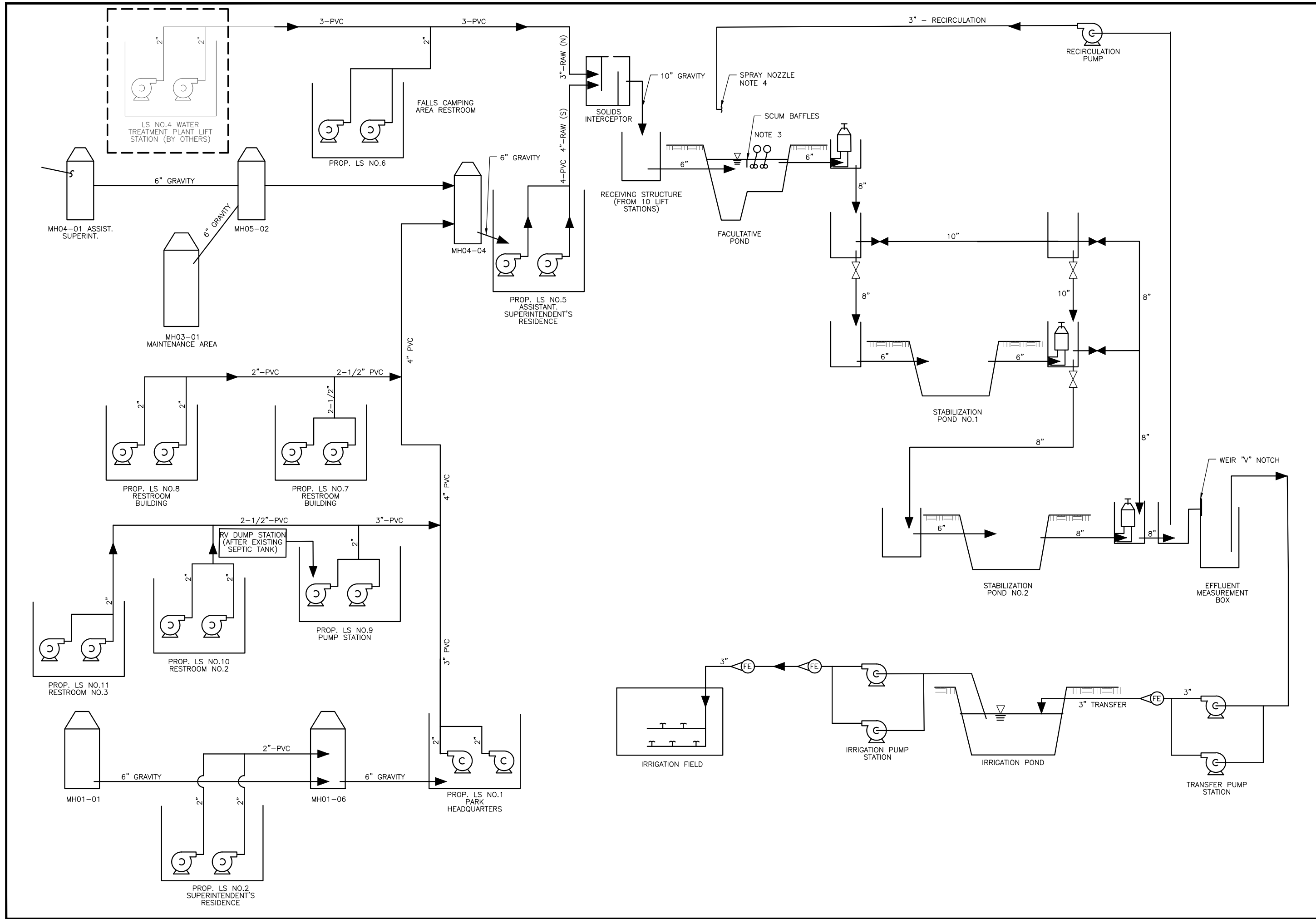
N/A

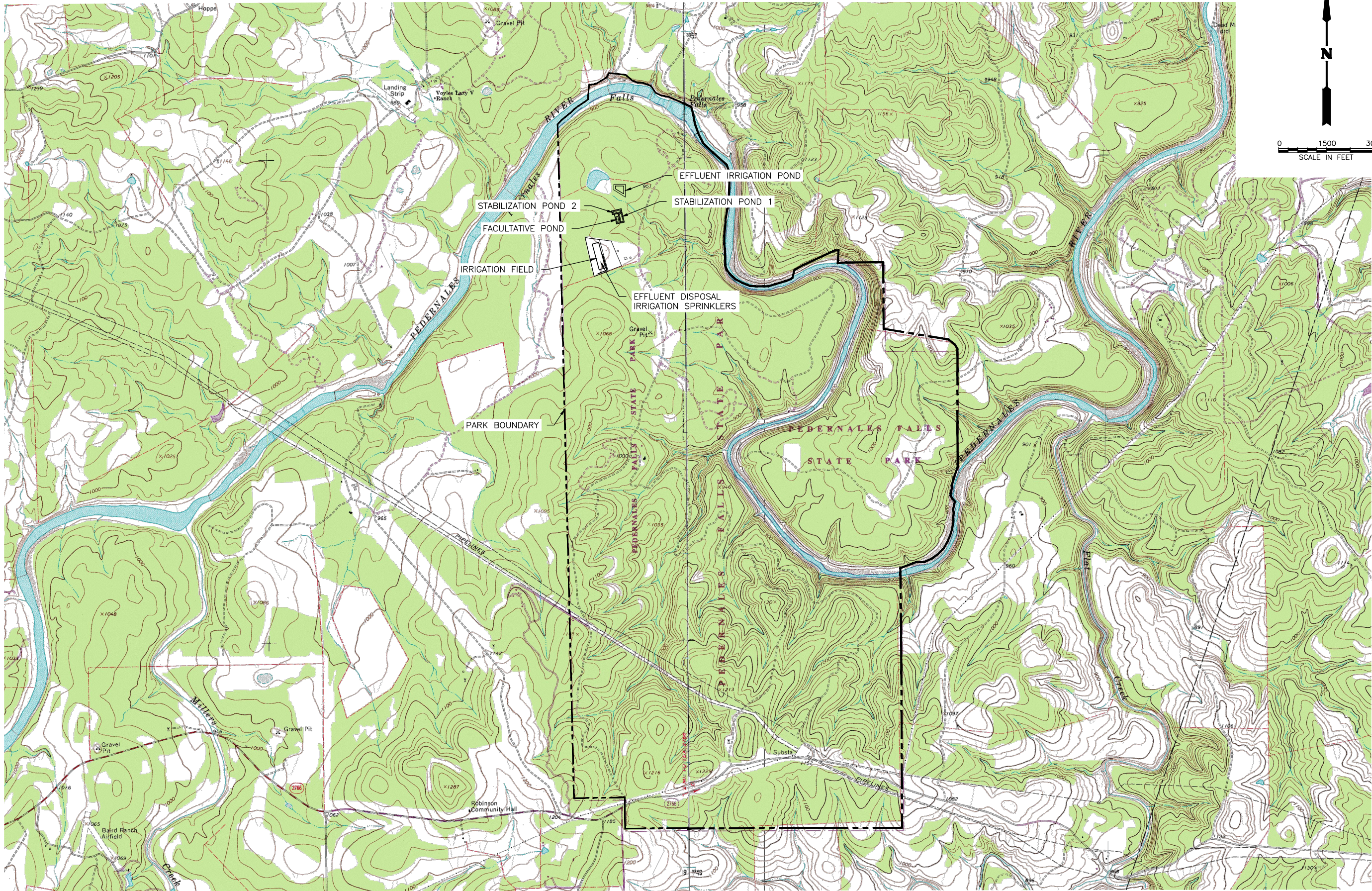
**Texas Parks and Wildlife Department**  
**Pedernales Falls State Park Wastewater Treatment Facility**  
**Texas Land Application Permit (TLAP) –Renewal Application**

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**Technical Attachments**





NOTE: PEDERNALES FALLS STATE PARK HAS A CAMPGROUND WITH RESTROOMS, INCLUDING SEVERAL SHOWERS. THE PARK HAS A COUPLE OF SINGLE-FAMILY RESIDENCES AND RESTROOMS AT PARK HEADQUARTERS.

USGS MAP

TPWD - PEDERNALES FALLS STATE PARK WWTP  
TCEQ TLAP Permit Renewal Application  
T.3 - TCEQ Approval Letter

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



## TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

*Protecting Texas by Reducing and Preventing Pollution*

March 11, 2021

Josecarlos Saracho, P.E.  
CP&Y INC  
11757 Katy Freeway, Ste. 1540  
Houston, Tx 77079

This is reprint of the march 3, 2021 letter

Re: Texas Parks And Wildlife Department  
Pedernales State Park WWTF  
Permit No. WQ0015708-001  
WWPR Log No. 0321/035  
CN600134852, RN101254258  
Blanco County

Dear Mr. Saracho:

We have received the project summary transmittal letter dated 3/3/2021.

The rules which regulate the design, installation and testing of domestic wastewater projects are found in 30 TAC, Chapter 217, of the Texas Commission on Environmental Quality (TCEQ) rules titled, Design Criteria for Wastewater Systems.

Section 217.6(d), relating to case-by-case reviews, states in part that upon submittal of a summary transmittal letter, the executive director may approve of the project without reviewing a complete set of plans and specifications.

Under the authority of §217.6(e) a technical review of complete plans and specifications is not required. **However, the project proposed in the summary transmittal letter is approved for construction. Please note, that this conditional approval does not relieve the applicant of any responsibilities to obtain all other necessary permits or authorizations, such as wastewater treatment permit or other authorization as required by Chapter 26 of the Texas Water Code.** Below are provisions of the Chapter 217 regulations, which must be met as a condition of approval. These items are provided as a reminder. If you have already met these requirements, please disregard this additional notice.

- You must keep certain materials on file for the life of the project and provide them to TCEQ upon request. These materials include an engineering report, test results, a summary transmittal letter, and the final version of the project plans and specifications. These materials shall be prepared and sealed by a Professional Engineer licensed in the State of Texas and must show substantial compliance with Chapter 217. All plans and specifications must conform to any waste discharge requirements authorized in a permit by the TCEQ. Certain specific items which shall be addressed in the engineering report are discussed in §217.6(d). Additionally, the engineering report must include all constants, graphs,

Josecarlos Saracho, P.E.

Page 2

March 11, 2021

equations, and calculations needed to show substantial compliance with Chapter 217. The items which shall be included in the summary transmittal letter are addressed in §217.6(d)(1)-(9).

- Any deviations from Chapter 217 shall be disclosed in the summary transmittal letter and the technical justifications for those deviations shall be provided in the engineering report. Any deviations from Chapter 217 shall be based on the best professional judgement of the licensed professional engineer sealing the materials and the engineer's judgement that the design would not result in a threat to public health or the environment.
- Any variance from a Chapter 217 requirement disclosed in your summary transmittal letter is approved. If in the future, additional variances from the Chapter 217 requirements are desired for the project, each variance must be requested in writing by the design engineer. Then, the TCEQ will consider granting a written approval to the variance from the rules for the specific project and the specific circumstances.
- Within 60 days of the completion of construction, an appointed engineer shall notify both the Wastewater Permits Section of the TCEQ and the appropriate Region Office of the date of completion. The engineer shall also provide written certification that all construction, materials, and equipment were substantially in accordance with the approved project, the rules of the TCEQ, and any change orders filed with the TCEQ. All notifications, certifications, and change orders must include the signed and dated seal of a Professional Engineer licensed in the State of Texas.

This approval does not mean that future projects will be approved without a complete plans and specifications review. The TCEQ will provide a notification of intent to review whenever a project is to undergo a complete plans and specifications review. Please be reminded of 30 TAC §217.7(a) of the rules which states, "Approval given by the executive director or other authorized review authority does not relieve an owner of any liability or responsibility with respect to designing, constructing, or operating a collection system or treatment facility in accordance with applicable commission rules and the associated wastewater permit".

If you have any questions or if we can be of any further assistance, please call me at (512) 239-4552.

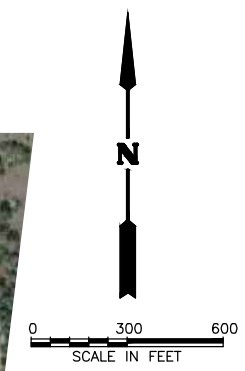
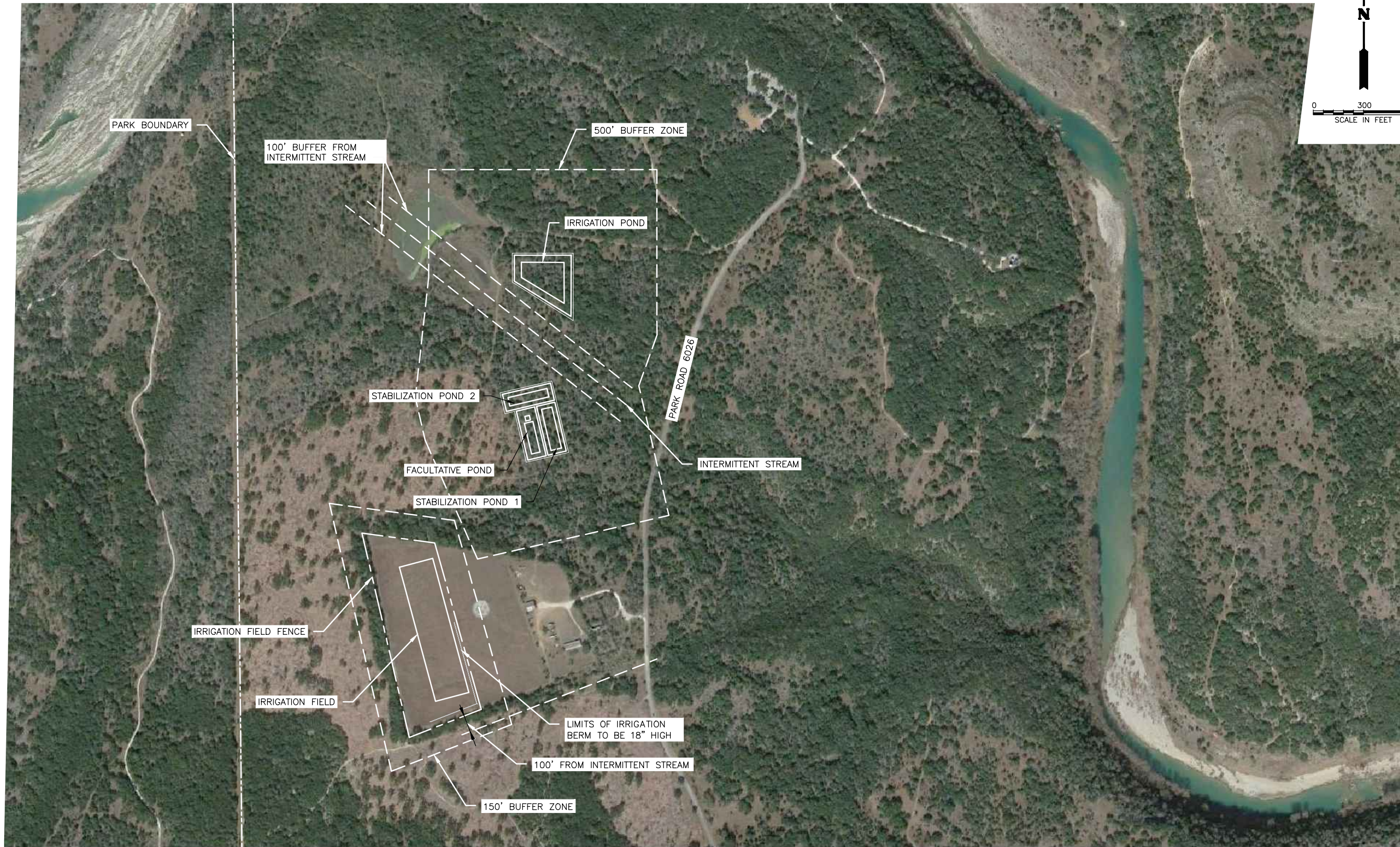
Sincerely,



Louis C. Herrin, III, P.E.  
Wastewater Permits Section (MC 148)  
Water Quality Division  
Texas Commission on Environmental Quality

LCHIII/tc

cc: TCEQ, Region 11 Office



NOTE:

1. THE INTERMITTENT STREAMS PROVIDE THE GENERAL DIRECTION OF RUN-OFF FLOW.
2. THE ENTIRE TREATMENT PLANT AND DISPOSAL AREA PROPERTY BOUNDARIES ARE OUTSIDE OF THE 100-YR FLOODPLAIN.

BUFFER ZONE



**TPWD - PEDERNALES FALLS STATE PARK WWTP  
TCEQ TLAP PERMIT RENEWAL APPLICATION  
DOMESTIC TECHNICAL WORKSHEET 3.0, SECTION 8 ATTACHMENT  
T.5 – Pond Liner Certification**

The Pedernales Falls State Park WWTP design drawings and specifications (P&S) were developed in accordance with TCEQ Title 30 Texas Administrative Codes 217 & 309 for wastewater treatment with natural ponds and land application of treatment effluent. The P&S were sealed by Jose Carlos Saracho, a licensed Texas Professional Engineer (PE No. 123464) and submitted to TCEQ for design approval. The TCEQ approval of the P&S to proceed to construction was dated March 11, 2021, and is included with this application as attachment T.3 TCEQ Approval of Plans and Specs for Construction.

Construction inspection was conducted by the Owner with oversight by Jose Carlos Saracho, the engineer of record during project construction, including review and approval of contractor submittals. The approved Reinforced Polyethylene Geomembrane liner for the project was Dura-Skrim N45/N45BTI manufactured by Raven. This liner as specifically specified to meet the design requirements on the project. The pond liner product data sheets are attached for reference.

The pond liner installation was completed by Colorado Lining International. The installer was ISO 9001 certified with demonstrated experience installing Raven N45 liner, confirmed with completed project references. Quality assurance during pond liner installation was provided by the Owner in coordination with the design engineer. Pond liner installation reports are attached for reference. A certified subgrade acceptance form and certified geomembrane liner installation form approved by the engineer of record follow this summary.

Construction of this facility was completed in January of 2025.



January 22, 2025

A handwritten signature in blue ink, appearing to read 'Saracho', written over a faint circular stamp.

## PRODUCT DESCRIPTION

DURA♦SKRIM® N45B is a flexible geomembrane, reinforced with a closely knit 9x9 weft inserted polyester scrim fully encapsulated between two layers of highly UV stabilized linear low density polyethylene. Exceptional toughness, high tensile and puncture strength is achieved with the combination of premium high strength LLDPE and dense scrim reinforcement. A highly stabilized formulation consisting of antioxidants, UV stabilizers and carbon black provide excellent protection for long-term exposed or barrier applications. DURA♦SKRIM® N-Series geomembranes are produced in the color black as standard, and are available in other custom manufactured colors with minimum order quantity requirements.

## PRODUCT USE

DURA♦SKRIM® N45B is used in applications that require exceptional outdoor life requiring up to 20 years of exposure depending upon the geographical location. Applications requiring high tear properties, exceptional tensile strength and puncture resistance utilize N45B to meet these demands. DURA♦SKRIM® N-Series is manufactured from a chemical-resistant, linear-low-density polyethylene with excellent cold crack performance and resistance to thermal expansion.

DURA♦SKRIM® N45B meets the physical property values as stated in GRI test method GM25, and is certified under the NSF/ANSI Standard 61, Drinking Water System Components – Health Effects.

## SIZE & PACKAGING

DURA♦SKRIM® N45B is available in a variety of widths and lengths to meet the project requirements. Large diameter mill rolls are available to assure an efficient seaming process. Factory welded panels are produced in a controlled environment and are accordion folded and tightly rolled on a heavy-duty core for ease of handling and time saving installation.

**DURA♦SKRIM®**



Bio Cell Liner

## PRODUCT

## PART #

DURA♦SKRIM ..... N45B

## APPLICATIONS

Waste Lagoon Liners	Landfill Caps
Floating Covers	Erosion Control Covers
Daily Landfill Covers	Canal Liners
Modular Tank Liners	Disposal Pit Liner
Tunnel Liners	Water Containment Ponds
Remediation Liners	Heap Leach Liner
Earthen Liners	Secondary Containment
Interim Landfill Covers	Remediation Covers

# DURA♦SKRIM® N45B

SCRIM REINFORCED POLYETHYLENE — NSF/ANSI STANDARD 61 CERTIFIED

## PRO-FORMA DATA SHEET

		DURA♦SKRIM® N45B			
		IMPERIAL		METRIC	
PROPERTIES	TEST METHOD	MINIMUM	TYPICAL	MINIMUM	TYPICAL
APPEARANCE		Black		Black	
CORE THICKNESS	ASTM D5199	40 mil	45 mil	1.02 mm	1.14 mm
WEIGHT	ASTM D751	189 lbf/msf	213 lbf/msf	923 g/m <sup>2</sup>	1040 g/m <sup>2</sup>
CONSTRUCTION		9x9-1000 Denier PET scrim reinforced polyethylene			
TONGUE TEAR STRENGTH	ASTM D5884	100 lbf	135 lbf	445 N	601 N
GRAB TENSILE AT BREAK	ASTM D7004	275 lbf	350 lbf	1223 N	1557 N
TENSILE ELONGATION AT BREAK	ASTM D7004	22 %	30 %	22 %	30 %
PUNCTURE RESISTANCE	ASTM D4833	108 lbf	125 lbf	480 N	556 N
STANDARD OIT OR HIGH PRESSURE HPOIT	ASTM D3895 ASTM D5885	100 min 400 min	150 min 2400 min	100 min 400 min	150 min 2400 min
HYDRAULIC CONDUCTIVITY		1.47 x 10 <sup>-10</sup> cm/sec			
MAXIMUM STATIC USE TEMPERATURE		180° F		82° C	
MINIMUM STATIC USE TEMPERATURE		-70° F		-57° C	

**PRO-FORMA SHEET CONTENTS:** The data listed in the Pro-Forma data sheet is representative of initial production runs. These values may be revised at anytime without notice as additional test data becomes available.

## DURA♦SKRIM®

DURA♦SKRIM® N45B is a flexible geomembrane, reinforced with a closely knit 9x9 weft inserted polyester scrim fully encapsulated between two layers of highly UV stabilized linear low density polyethylene. Exceptional toughness, high tensile and puncture strength is achieved with the combination of premium high strength LLDPE and dense scrim reinforcement. A highly stabilized formulation consisting of antioxidants, UV stabilizers and carbon black provide excellent protection for long-term exposed or barrier applications.



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data sheets.

Note: To the best of our knowledge, unless otherwise stated, these are typical property values and are intended as guides only, not as specification limits. Chemical resistance, odor transmission, longevity as well as other performance criteria is not implied or given and actual testing must be performed for applicability in specific applications and/or conditions. RAVEN INDUSTRIES MAKES NO WARRANTIES AS TO THE FITNESS FOR A SPECIFIC USE OR MERCHANTABILITY OF PRODUCTS REFERRED TO, no guarantee of satisfactory results from reliance upon contained information or recommendations and disclaims all liability for resulting loss or damage. Limited Warranty available at [www.ravenefd.com](http://www.ravenefd.com)

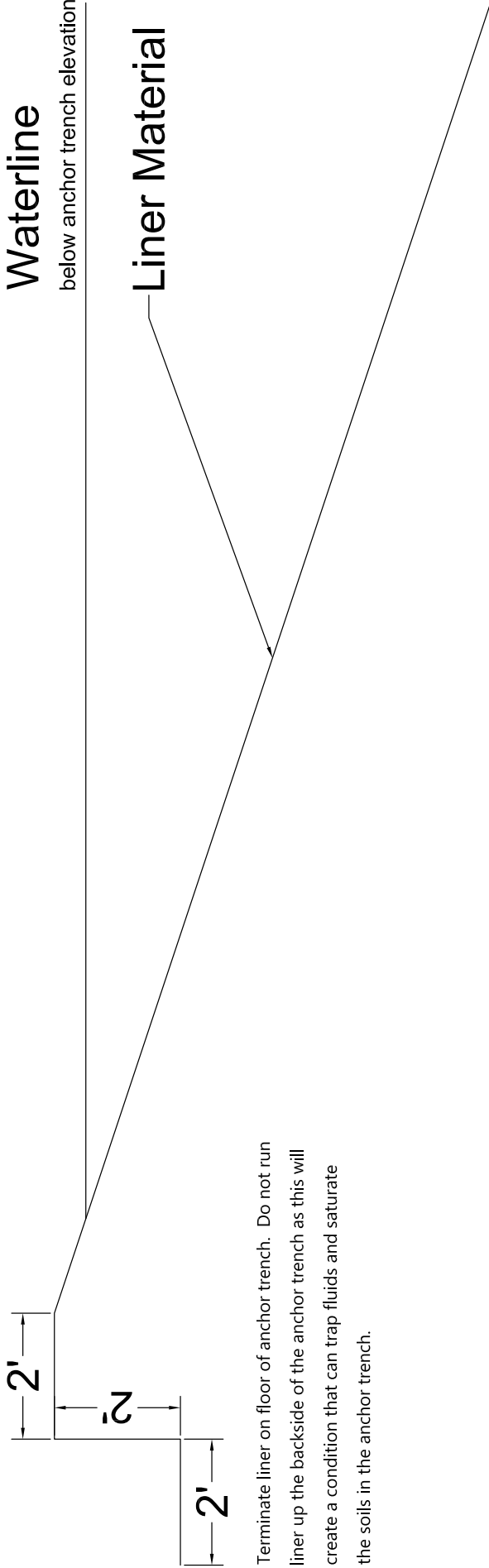
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[efdsales@ravenind.com](mailto:efdsales@ravenind.com)  
[www.ravenefd.com](http://www.ravenefd.com)

**RAVEN**

021618 EFD 1355



Terminate liner on floor of anchor trench. Do not run liner up the backside of the anchor trench as this will create a condition that can trap fluids and saturate the soils in the anchor trench.

# Anchor Trench - Exposed Liner

N.T.S.

NOTES: This drawing is being provided for informational purposes only. Any use for any other purpose is strictly prohibited.

Typical Raven CL Construction Detail Drawings

R

A

V

E

N

RAVEN CL CONSTRUCTION, INC.

1082 BRIDGING HILLS ROAD

PO BOX 100013

+1 (303) 841-2022 MAIN

+1 (303) 841-5780 FAX

WWW.RAVENCL.COM

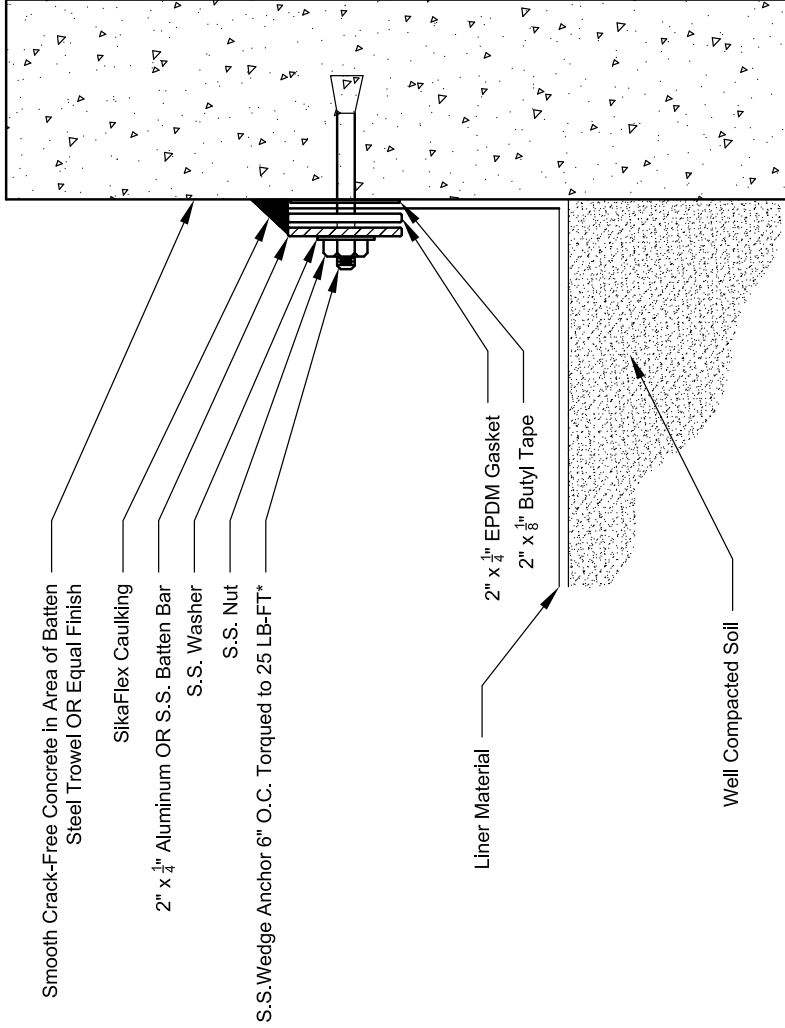
Anchor Trench - Exposed Liner

Date : 7.23.19

REV 0

Scale: NTS

Drawn by: S Johnson



## Concrete Attachment - Mechanical - Vertical - 6 inch o.c.

N.T.S.  
\* DO NOT OVER TIGHTEN ANCHOR BOLTS.  
ONLY TIGHTEN ANCHOR BOLTS TO 25 LB-FT

NOTES: This drawing is being provided for informational purposes only. Any use for any other purpose is strictly prohibited.

Typical Raven CLI Construction Detail Drawings

**RAVEN CLI CONSTRUCTION, INC.**  
1002 BRIDGING HILLS ROAD  
PO BOX 1002  
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+1 (303) 841-5780 FAX  
WWW.RAVENCLI.COM



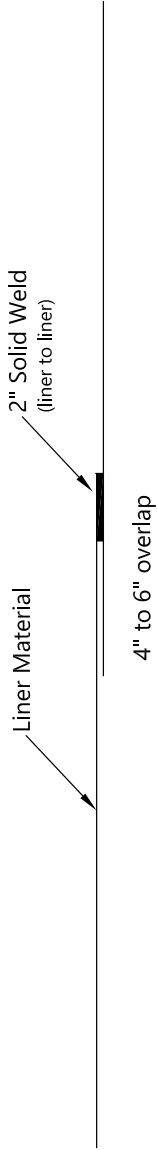
Mechanical Concrete Attachment -  
Vertical - 6 inch o.c.

Date : 6.11.19

REV 0

Scale: NTS

Drawn by: S Johnson



# Field Seam - Wedge Weld

N.T.S.

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Typical Raven CLl Construction Detail Drawings



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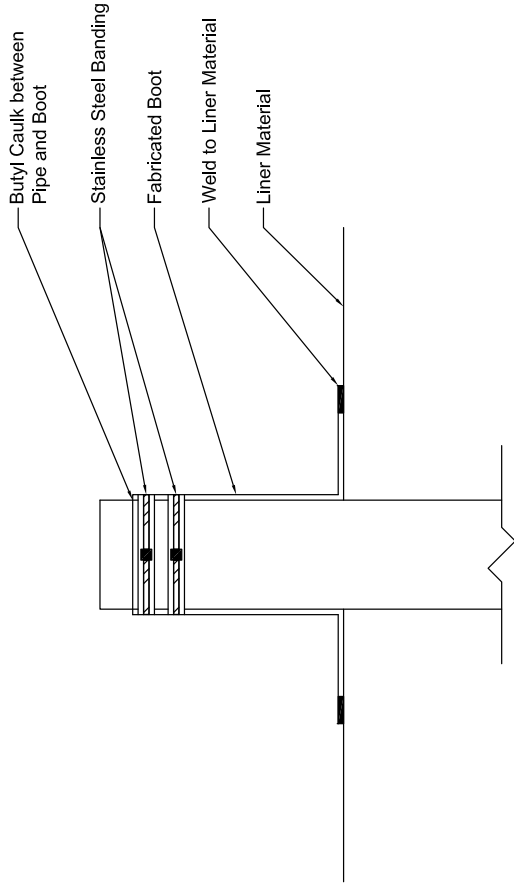
Field Seam - Wedge Weld

Date : 3.1.19

REV 0

Scale: NTS

Drawn by: S Johnson



# Pipe Boot - Straight

N.T.S.

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Typical Raven CLI Construction Detail Drawings



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PARKERSBURG, WV 26101  
+1 (330) 841-2022 MAIN  
+1 (330) 841-5780 FAX  
WWW.RAVENCLI.COM

Pipe Boot - Straight

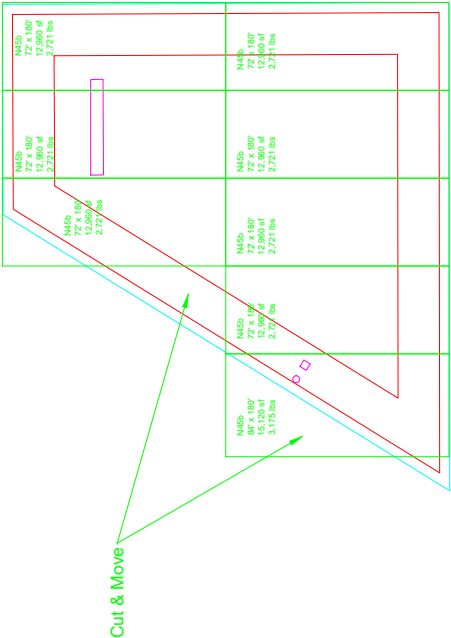
Date : 6.13.19

REV 0

Scale: NTS

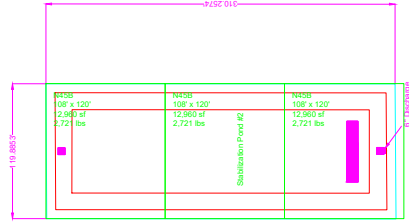
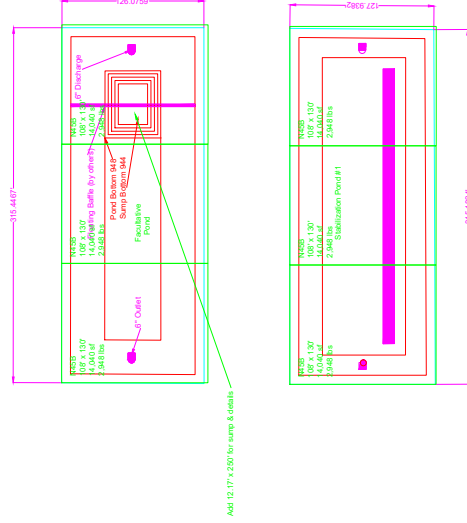
Drawn by: S Johnson

# Effluent Holding Pond



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# Wastewater Ponds



# Material Reference List

Total SF: 763,900  
Total Projects: 6

Raven CLI Construction  
www.ravencli.com

1062 Singing Hills Rd, Parker, CO 80138  
800-635-3456

<b>Horseshoe Bay WWTP</b>	Horseshoe Bay, TX	Year: 2020	<b>Job Type:</b> Pond	<b>Material Type:</b> RPP	<b>Mil:</b> 36	<b>Square Ft.:</b> 234,000
			<b>Job Type:</b> Installation	Archer Western Contractors - Scott Smiley	Contractor	972.203.8140
				The City of Horseshoe Bay -	Owner	8305988741
<b>The Grove at Shoal Creek Block 3</b>	Austin, TX	Year: 2020	<b>Job Type:</b> Installation	James Miertschin & Associates, Inc - James Miertschin	Engineer	5123272708
			<b>Job Type:</b> Pond	Grove ATX Commercial L.P. -	Owner	5126864986
				WPM Construction - Randall Reese	Contractor	5124106747
<b>Santa Rita Ranch 20A</b>	Liberty Hill, TX	Year: 2019		Rialto Studio -	Engineer	2108281155
			<b>Job Type:</b> Decorative Pond	<b>Material Type:</b> RPP	<b>Mil:</b> 36	<b>Square Ft.:</b> 169,560
			<b>Job Type:</b> Installation	JL Gray Construction, Inc - Grant Fisher	Contractor	5127722990
<b>Snelgrooves Pond</b>	Liberty Hill, TX	Year: 2018		Santa Rita KC, LLC -	Owner	5128936373
				Randall Jones Inc. -	Engineer	512-836-4793
			<b>Job Type:</b> Pond	<b>Material Type:</b> RPP	<b>Mil:</b> 45	<b>Square Ft.:</b> 28,920
<b>Lake Brownwood WWTP Replace</b>	Lake Brownwood, TX	Year: 2017	<b>Job Type:</b> Installation	Texas Wildlife Company - John Schwarzkose	Contractor	
			<b>Job Type:</b> Lagoon	<b>Material Type:</b> RPP	<b>Mil:</b> 45	<b>Square Ft.:</b> 162,210
			<b>Job Type:</b> Fabrication - TX	Simbeck & Associates - Kay Shelton	Contractor	970.533.7178
<b>Lake Brownwood WWTP Replace</b>	Lake Brownwood, TX	Year: 2017	<b>Job Type:</b> Lagoon	<b>Material Type:</b> RPP	<b>Mil:</b> 36	<b>Square Ft.:</b> 162,210
			<b>Job Type:</b> Fabrication - TX	Simbeck & Associates - Kay Shelton	Contractor	970.533.7178

10/25/2023  
Udelhoven  
Attn. Jim Christian  
184 E. 53<sup>rd</sup> Avenue  
Anchorage, AK 99518

Re: Pedernales Falls Project

Jim,

This letter shall serve as certification that the 45mil Reinforced Polyethylene Colorado Lining International (CLI) provided for Pedernales Falls meets the specifications for this project.

Additionally, this 45mil Reinforced Polyethylene was installed and tested in accordance with the provided design specifications. The installation and quality assurance testing also meets or exceeded documented industry guidelines and standards.

We are providing you with the associated field documentation to support this certification.

In addition, you are protected by a twenty-year material warranty and a two-year installation warranty.

On behalf of our dedicated installation team and management staff, we would like to thank you for giving us the opportunity to successfully complete this project for you.

If you have any further requests, please do not hesitate to contact me.

Sincerely,

*Vincent Davis*

Vinnie Davis  
Project Management Lead

**TPWD - PEDERNALES FALLS STATE PARK WWTP  
TCEQ TLAP PERMIT RENEWAL APPLICATION  
DOMESTIC TECHNICAL WORKSHEET 3.0, ITEM 5 ATTACHMENT  
T.6 - Annual Cropping Plan**

The effluent to be applied to irrigation field through sprinkler system will be beneficial to one (or more) of the selected grasses shown below. The selection was based on their high water consumption intake. TPWD has no grazing or harvesting yield goal set. However, Grasses would likely be harvested four times per year with traditional farm equipment to cut and remove. Harvesting will be done to optimize plant nutrient uptake and/or collect seed. The tall grasses will have an active growing season of from April to November. TPWD will manage the irrigation field through mowing, and with clippings removal to control any buildup in nutrients. Planting alternatives being considered will not require supplemental fertilization due to have nominal nutrient requirements. It is expected that they will thrive in the proposed nutrient rich conditions. All considered alternatives will have a high salt tolerance.

In summary:

Varieties to be planted: switch grass, eastern gamagrass and/or bushy bluestem.

Soils map— Refer to map attachment T-7

Cool and warm season plant species – Expected to grow yearlong with some winter season decrease in growth rate.

Crop growing season – all year

Crop nutrient requirements – none

Minimum/maximum harvest height – none

Additional fertilizer requirements - none

Supplemental watering requirements - none

Crop salt tolerances – High Salt tolerance

Harvesting method/number of harvests – as needed

Justification for not removing existing vegetation to be irrigated – as needed



United States  
Department of  
Agriculture

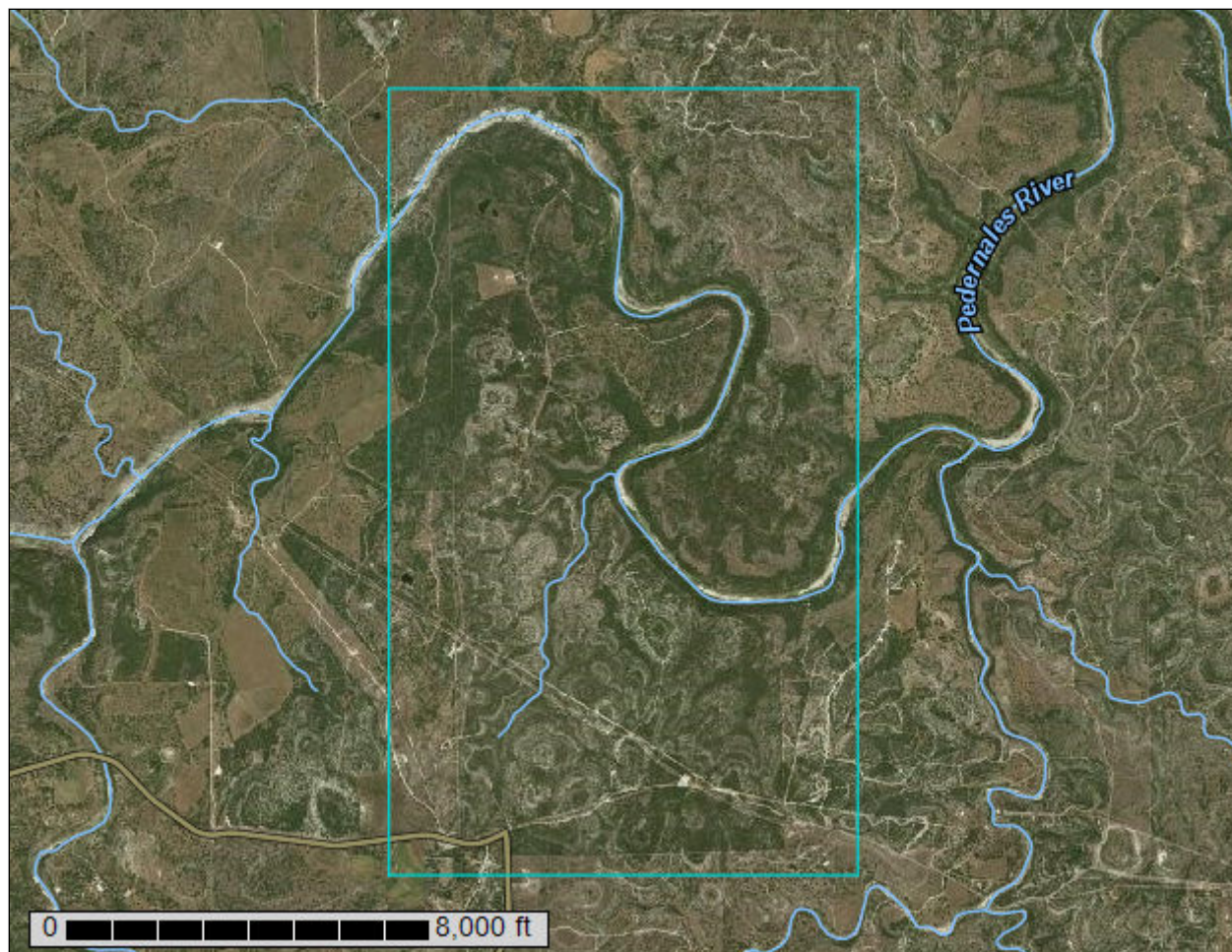
**NRCS**

Natural  
Resources  
Conservation  
Service

A product of the National  
Cooperative Soil Survey,  
a joint effort of the United  
States Department of  
Agriculture and other  
Federal agencies, State  
agencies including the  
Agricultural Experiment  
Stations, and local  
participants

# Custom Soil Resource Report for **Blanco and Burnet Counties, Texas**

## **Pedernales Falls State Park- Soils**



# Preface

---

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist ([http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2\\_053951](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951)).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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# How Soil Surveys Are Made

---

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

## Custom Soil Resource Report

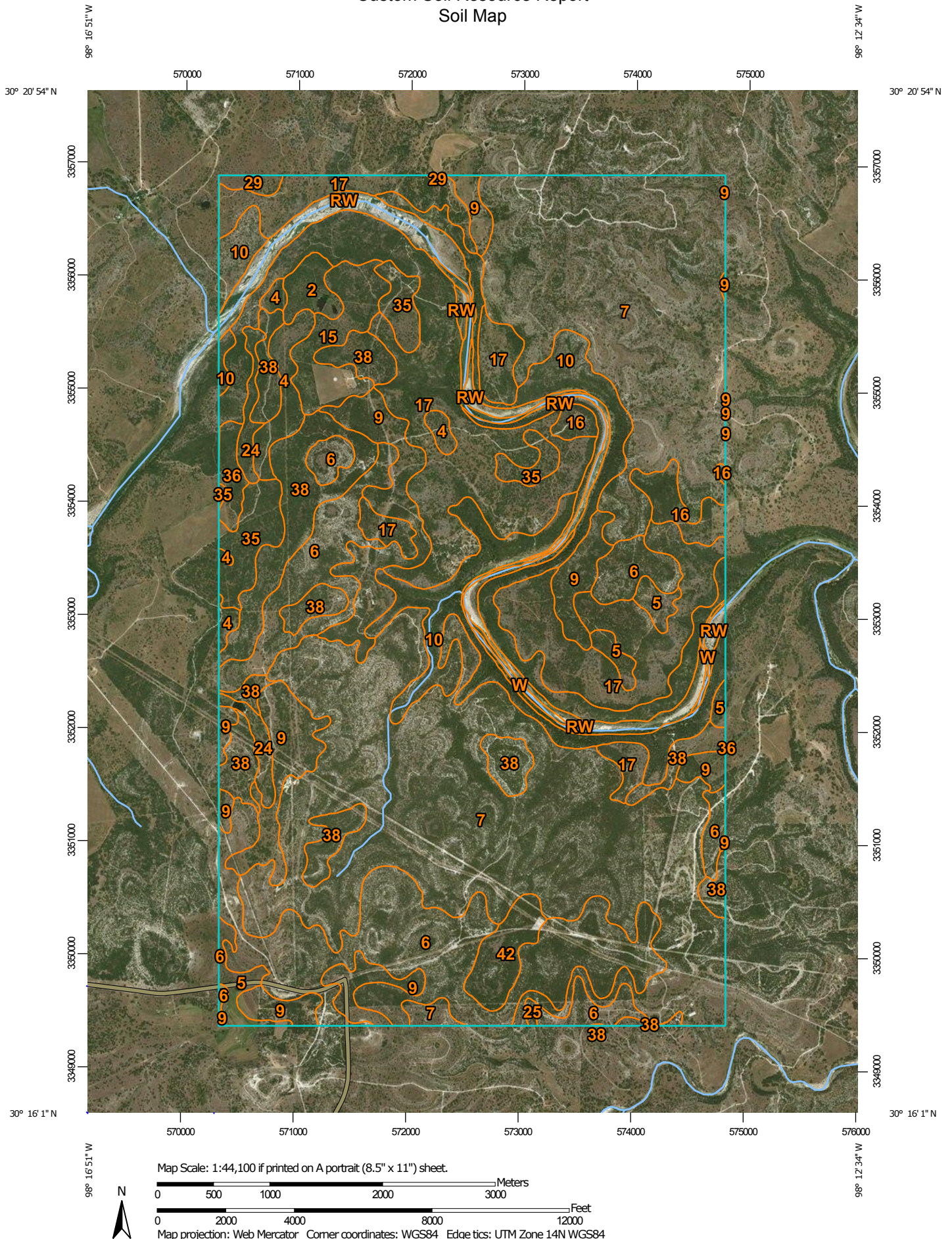
identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

# Soil Map

---

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.


# Custom Soil Resource Report Soil Map



# Custom Soil Resource Report


## 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 1:31,700.

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: Blanco and Burnet Counties, Texas

Survey Area Data: Version 14, Nov 7, 2017

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Feb 8, 2015—Feb 28, 2017

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
2	Anhalt clay, 0 to 2 percent slopes	51.3	0.6%
4	Bolar clay loam, 1 to 3 percent slopes	119.5	1.4%
5	Bolar clay loam, 3 to 5 percent slopes	102.7	1.2%
6	Brackett association, 1 to 8 percent slopes	1,053.8	12.6%
7	Brackett-Real association, 10 to 30 percent slopes	2,966.0	35.3%
9	Doss silty clay, moist, 1 to 5 percent slopes	582.7	6.9%
10	Eckert-Rock outcrop association, rolling	679.9	8.1%
15	Hensley loam, 1 to 3 percent slopes	141.4	1.7%
16	Hensley loam, 3 to 5 percent slopes	94.5	1.1%
17	Hensley association, undulating	1,285.1	15.3%
24	Krum clay, 1 to 3 percent slopes	70.7	0.8%
25	Krum clay, 3 to 5 percent slopes	5.4	0.1%
29	Luckenbach clay loam, 1 to 3 percent slopes	20.6	0.2%
35	Pedernales fine sandy loam, 1 to 3 percent slopes	180.4	2.1%
36	Pedernales fine sandy loam, 3 to 5 percent slopes	42.3	0.5%
38	Purves association, undulating	533.8	6.4%
42	Tarpley association, undulating	89.6	1.1%
RW	Riverwash, frequently flooded	299.2	3.6%
W	Water	74.1	0.9%
<b>Totals for Area of Interest</b>		<b>8,393.1</b>	<b>100.0%</b>

## Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named

according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

## Custom Soil Resource Report

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

## Blanco and Burnet Counties, Texas

### 2—Anhalt clay, 0 to 2 percent slopes

#### Map Unit Setting

*National map unit symbol:* 2t2m8  
*Elevation:* 570 to 2,200 feet  
*Mean annual precipitation:* 31 to 36 inches  
*Mean annual air temperature:* 65 to 68 degrees F  
*Frost-free period:* 220 to 260 days  
*Farmland classification:* All areas are prime farmland

#### Map Unit Composition

*Anhalt and similar soils:* 85 percent  
*Minor components:* 15 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Anhalt

##### Setting

*Landform:* Hillslopes  
*Landform position (two-dimensional):* Toeslope  
*Landform position (three-dimensional):* Base slope  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Clayey residuum weathered from limestone

##### Typical profile

*Ap - 0 to 12 inches:* clay  
*Bss - 12 to 28 inches:* clay  
*Cr - 28 to 60 inches:* bedrock

##### Properties and qualities

*Slope:* 0 to 2 percent  
*Depth to restrictive feature:* 20 to 40 inches to paralithic bedrock  
*Natural drainage class:* Well drained  
*Runoff class:* Very high  
*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately low (0.00 to 0.06 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum in profile:* 15 percent  
*Salinity, maximum in profile:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Available water storage in profile:* Low (about 3.6 inches)

##### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 3s  
*Hydrologic Soil Group:* D  
*Ecological site:* Deep Redland 29-35" PZ (R081CY358TX)  
*Hydric soil rating:* No

## Minor Components

### Krum

*Percent of map unit:* 8 percent  
*Landform:* Stream terraces  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Linear  
*Across-slope shape:* Concave  
*Ecological site:* Clay Loam 29-35" PZ (R081CY357TX)  
*Hydric soil rating:* No

### Tarrant

*Percent of map unit:* 5 percent  
*Landform:* Hillslopes  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Linear  
*Across-slope shape:* Convex, linear  
*Ecological site:* Low Stony Hill 29-35" PZ (R081CY360TX)  
*Hydric soil rating:* No

### Tarpley

*Percent of map unit:* 2 percent  
*Landform:* Hillslopes  
*Landform position (two-dimensional):* Footslope  
*Landform position (three-dimensional):* Base slope  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Ecological site:* Redland 29-35" PZ (R081CY361TX)  
*Hydric soil rating:* No

## 4—Bolar clay loam, 1 to 3 percent slopes

### Map Unit Setting

*National map unit symbol:* 2t272  
*Elevation:* 650 to 1,720 feet  
*Mean annual precipitation:* 30 to 36 inches  
*Mean annual air temperature:* 64 to 68 degrees F  
*Frost-free period:* 230 to 260 days  
*Farmland classification:* Farmland of statewide importance

### Map Unit Composition

*Bolar and similar soils:* 90 percent  
*Minor components:* 10 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Bolar

#### Setting

*Landform:* Hillslopes

## Custom Soil Resource Report

*Landform position (two-dimensional):* Footslope, toeslope

*Landform position (three-dimensional):* Base slope

*Down-slope shape:* Concave

*Across-slope shape:* Convex

*Parent material:* Loamy residuum weathered from limestone

### Typical profile

*A - 0 to 14 inches:* clay loam

*Bk - 14 to 28 inches:* clay loam

*R - 28 to 80 inches:* bedrock

### Properties and qualities

*Slope:* 1 to 3 percent

*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock

*Natural drainage class:* Well drained

*Runoff class:* Low

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to high  
(0.06 to 1.98 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Calcium carbonate, maximum in profile:* 80 percent

*Salinity, maximum in profile:* Nonsaline to very slightly saline (0.0 to 2.0  
mmhos/cm)

*Available water storage in profile:* Low (about 3.4 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 3s

*Hydrologic Soil Group:* C

*Ecological site:* Clay Loam 29-35" PZ (R081CY357TX)

*Hydric soil rating:* No

### Minor Components

#### Krum

*Percent of map unit:* 3 percent

*Landform:* Drainageways

*Landform position (two-dimensional):* Footslope

*Landform position (three-dimensional):* Base slope, tread

*Down-slope shape:* Linear

*Across-slope shape:* Concave, linear

*Ecological site:* Clay Loam 29-35" PZ (R081CY357TX)

*Hydric soil rating:* No

#### Denton

*Percent of map unit:* 3 percent

*Landform:* Hillslopes

*Landform position (two-dimensional):* Toeslope

*Landform position (three-dimensional):* Base slope

*Down-slope shape:* Convex

*Across-slope shape:* Linear

*Ecological site:* Clay Loam 29-35" PZ (R081CY357TX)

*Hydric soil rating:* No

#### Doss

*Percent of map unit:* 2 percent

## Custom Soil Resource Report

*Landform:* Hillslopes  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Convex  
*Across-slope shape:* Linear  
*Ecological site:* Shallow 29-35" PZ (R081CY574TX)  
*Hydric soil rating:* No

### **Sunev**

*Percent of map unit:* 2 percent  
*Landform:* Stream terraces  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Concave  
*Across-slope shape:* Linear  
*Ecological site:* Clay Loam 29-35" PZ (R081CY357TX)  
*Hydric soil rating:* No

## **5—Bolar clay loam, 3 to 5 percent slopes**

### **Map Unit Setting**

*National map unit symbol:* dk3m  
*Elevation:* 1,000 to 1,900 feet  
*Mean annual precipitation:* 20 to 36 inches  
*Mean annual air temperature:* 64 to 68 degrees F  
*Frost-free period:* 220 to 240 days  
*Farmland classification:* Farmland of statewide importance

### **Map Unit Composition**

*Bolar and similar soils:* 100 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### **Description of Bolar**

#### **Setting**

*Landform:* Ridges  
*Landform position (two-dimensional):* Shoulder  
*Down-slope shape:* Convex  
*Across-slope shape:* Convex  
*Parent material:* Loamy residuum weathered from limestone

#### **Typical profile**

*H1 - 0 to 13 inches:* clay loam  
*H2 - 13 to 25 inches:* clay loam  
*H3 - 25 to 38 inches:* stony clay loam  
*H4 - 38 to 42 inches:* bedrock

#### **Properties and qualities**

*Slope:* 3 to 5 percent  
*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock  
*Natural drainage class:* Well drained

## Custom Soil Resource Report

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to high  
(0.06 to 1.98 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Calcium carbonate, maximum in profile:* 60 percent

*Available water storage in profile:* Low (about 5.5 inches)

### **Interpretive groups**

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 3e

*Hydrologic Soil Group:* C

*Ecological site:* Clay Loam 29-35" PZ (R081CY357TX)

*Hydric soil rating:* No

## **6—Brackett association, 1 to 8 percent slopes**

### **Map Unit Setting**

*National map unit symbol:* 2t26h

*Elevation:* 550 to 1,920 feet

*Mean annual precipitation:* 30 to 35 inches

*Mean annual air temperature:* 64 to 68 degrees F

*Frost-free period:* 210 to 240 days

*Farmland classification:* Not prime farmland

### **Map Unit Composition**

*Brackett and similar soils:* 87 percent

*Minor components:* 13 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

### **Description of Brackett**

#### **Setting**

*Landform:* Ridges

*Landform position (two-dimensional):* Summit, shoulder, backslope, footslope

*Landform position (three-dimensional):* Interfluve, side slope

*Down-slope shape:* Convex

*Across-slope shape:* Linear

*Parent material:* Residuum weathered from limestone

#### **Typical profile**

*A - 0 to 5 inches:* clay loam

*Bk - 5 to 14 inches:* clay loam

*Cr - 14 to 60 inches:* bedrock

#### **Properties and qualities**

*Slope:* 1 to 8 percent

*Depth to restrictive feature:* 5 to 20 inches to paralithic bedrock

*Natural drainage class:* Well drained

*Runoff class:* Medium

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to high  
(0.06 to 1.98 in/hr)

## Custom Soil Resource Report

*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum in profile:* 80 percent  
*Salinity, maximum in profile:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Available water storage in profile:* Very low (about 2.0 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 4e  
*Hydrologic Soil Group:* D  
*Ecological site:* Adobe 29-35" PZ (R081CY355TX)  
*Hydric soil rating:* No

### Minor Components

#### Eckrant

*Percent of map unit:* 5 percent  
*Landform:* Ridges  
*Landform position (two-dimensional):* Summit, backslope, shoulder  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Convex  
*Across-slope shape:* Convex  
*Ecological site:* Low Stony Hill 29-35" PZ (R081CY360TX)  
*Hydric soil rating:* No

#### Bolar

*Percent of map unit:* 3 percent  
*Landform:* Ridges on plateaus  
*Landform position (two-dimensional):* Shoulder, backslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Convex  
*Across-slope shape:* Convex  
*Ecological site:* Clay Loam 29-35" PZ (R081CY357TX)  
*Hydric soil rating:* No

#### Doss

*Percent of map unit:* 3 percent  
*Landform:* Ridges  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Convex  
*Across-slope shape:* Linear  
*Ecological site:* Shallow 29-35" PZ (R081CY574TX)  
*Hydric soil rating:* No

#### Krum

*Percent of map unit:* 2 percent  
*Landform:* Stream terraces on plateaus  
*Landform position (three-dimensional):* Tread, riser  
*Down-slope shape:* Concave  
*Across-slope shape:* Linear  
*Ecological site:* Clay Loam 29-35" PZ (R081CY357TX)  
*Hydric soil rating:* No

## **7—Brackett-Real association, 10 to 30 percent slopes**

### **Map Unit Setting**

*National map unit symbol:* 2t271

*Elevation:* 670 to 2,000 feet

*Mean annual precipitation:* 30 to 37 inches

*Mean annual air temperature:* 64 to 68 degrees F

*Frost-free period:* 230 to 265 days

*Farmland classification:* Not prime farmland

### **Map Unit Composition**

*Brackett and similar soils:* 58 percent

*Real and similar soils:* 30 percent

*Minor components:* 12 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

### **Description of Brackett**

#### **Setting**

*Landform:* Ridges

*Landform position (two-dimensional):* Shoulder, backslope, footslope

*Landform position (three-dimensional):* Side slope

*Down-slope shape:* Linear

*Across-slope shape:* Convex

*Parent material:* Residuum weathered from limestone

#### **Typical profile**

*A - 0 to 6 inches:* gravelly clay loam

*Bk - 6 to 14 inches:* gravelly clay loam

*Cr - 14 to 60 inches:* bedrock

#### **Properties and qualities**

*Slope:* 10 to 30 percent

*Depth to restrictive feature:* 10 to 20 inches to paralithic bedrock

*Natural drainage class:* Well drained

*Runoff class:* High

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to high  
(0.06 to 1.98 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Calcium carbonate, maximum in profile:* 90 percent

*Salinity, maximum in profile:* Nonsaline to very slightly saline (0.0 to 2.0  
mmhos/cm)

*Available water storage in profile:* Very low (about 1.8 inches)

#### **Interpretive groups**

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 7e

*Hydrologic Soil Group:* D

## Custom Soil Resource Report

*Ecological site:* Steep Adobe 29-35" PZ (R081CY362TX)

*Hydric soil rating:* No

### Description of Real

#### Setting

*Landform:* Ridges

*Landform position (two-dimensional):* Footslope, backslope

*Landform position (three-dimensional):* Base slope, side slope

*Down-slope shape:* Convex

*Across-slope shape:* Convex

*Parent material:* Residuum weathered from limestone

#### Typical profile

*A - 0 to 8 inches:* gravelly clay loam

*Ak - 8 to 15 inches:* extremely gravelly clay loam

*Cr - 15 to 60 inches:* bedrock

#### Properties and qualities

*Slope:* 10 to 30 percent

*Depth to restrictive feature:* 8 to 19 inches to paralithic bedrock

*Natural drainage class:* Well drained

*Runoff class:* Medium

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to high  
(0.06 to 1.98 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Calcium carbonate, maximum in profile:* 70 percent

*Salinity, maximum in profile:* Nonsaline to very slightly saline (0.0 to 2.0  
mmhos/cm)

*Available water storage in profile:* Very low (about 1.2 inches)

#### Interpretive groups

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 7e

*Hydrologic Soil Group:* D

*Ecological site:* Steep Adobe 29-35" PZ (R081CY362TX)

*Hydric soil rating:* No

### Minor Components

#### Tarpley

*Percent of map unit:* 3 percent

*Landform:* Ridges

*Landform position (two-dimensional):* Summit

*Landform position (three-dimensional):* Interfluvium

*Down-slope shape:* Convex

*Across-slope shape:* Linear

*Ecological site:* Redland 29-35" PZ (R081CY361TX)

*Hydric soil rating:* No

#### Rock outcrop

*Percent of map unit:* 3 percent

*Landform:* Ridges

*Landform position (two-dimensional):* Backslope, shoulder, summit, footslope

*Landform position (three-dimensional):* Side slope, interfluvium

## Custom Soil Resource Report

*Down-slope shape:* Convex  
*Across-slope shape:* Convex  
*Hydric soil rating:* No

### **Doss**

*Percent of map unit:* 3 percent  
*Landform:* Ridges  
*Landform position (two-dimensional):* Footslope  
*Landform position (three-dimensional):* Base slope  
*Down-slope shape:* Concave  
*Across-slope shape:* Linear  
*Ecological site:* Shallow 29-35" PZ (R081CY574TX)  
*Hydric soil rating:* No

### **Eckrant**

*Percent of map unit:* 3 percent  
*Landform:* Ridges  
*Landform position (two-dimensional):* Backslope, shoulder, summit, footslope  
*Landform position (three-dimensional):* Interfluvium, side slope  
*Down-slope shape:* Linear  
*Across-slope shape:* Convex  
*Ecological site:* Steep Rocky 29-35" PZ (R081CY363TX)  
*Hydric soil rating:* No

## **9—Doss silty clay, moist, 1 to 5 percent slopes**

### **Map Unit Setting**

*National map unit symbol:* 2s0st  
*Elevation:* 630 to 1,840 feet  
*Mean annual precipitation:* 30 to 36 inches  
*Mean annual air temperature:* 66 to 68 degrees F  
*Frost-free period:* 210 to 240 days  
*Farmland classification:* Not prime farmland

### **Map Unit Composition**

*Doss and similar soils:* 85 percent  
*Minor components:* 15 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### **Description of Doss**

#### **Setting**

*Landform:* Hillslopes  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Convex  
*Across-slope shape:* Linear  
*Parent material:* Residuum weathered from limestone

## Custom Soil Resource Report

### Typical profile

*A - 0 to 9 inches:* silty clay  
*Bk - 9 to 17 inches:* silty clay  
*Cr - 17 to 80 inches:* bedrock

### Properties and qualities

*Slope:* 1 to 5 percent  
*Depth to restrictive feature:* 11 to 20 inches to paralithic bedrock  
*Natural drainage class:* Well drained  
*Runoff class:* Medium  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.57 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum in profile:* 70 percent  
*Salinity, maximum in profile:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Available water storage in profile:* Very low (about 2.4 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 4e  
*Hydrologic Soil Group:* D  
*Ecological site:* Shallow 29-35" PZ (R081CY574TX)  
*Hydric soil rating:* No

### Minor Components

#### Brackett

*Percent of map unit:* 7 percent  
*Landform:* Ridges  
*Landform position (two-dimensional):* Shoulder, backslope, footslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Linear  
*Across-slope shape:* Convex  
*Ecological site:* Steep Adobe 29-35" PZ (R081CY362TX)  
*Hydric soil rating:* No

#### Bolar

*Percent of map unit:* 5 percent  
*Landform:* Ridges  
*Landform position (two-dimensional):* Shoulder  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Convex  
*Across-slope shape:* Convex  
*Ecological site:* Clay Loam 29-35" PZ (R081CY357TX)  
*Hydric soil rating:* No

#### Eckrant

*Percent of map unit:* 1 percent  
*Landform:* Ridges  
*Landform position (two-dimensional):* Shoulder  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Convex  
*Across-slope shape:* Convex

## Custom Soil Resource Report

*Ecological site:* Low Stony Hill 29-35" PZ (R081CY360TX)

*Hydric soil rating:* No

### Denton

*Percent of map unit:* 1 percent

*Landform:* Plains

*Landform position (two-dimensional):* Backslope

*Landform position (three-dimensional):* Side slope

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Ecological site:* Clay Loam 29-35" PZ (R081CY357TX)

*Hydric soil rating:* No

### Purves

*Percent of map unit:* 1 percent

*Landform:* Plains

*Landform position (two-dimensional):* Backslope

*Landform position (three-dimensional):* Side slope

*Down-slope shape:* Convex

*Across-slope shape:* Linear

*Ecological site:* Shallow 29-35" PZ (R081CY574TX)

*Hydric soil rating:* No

## 10—Eckert-Rock outcrop association, rolling

### Map Unit Setting

*National map unit symbol:* dk2c

*Elevation:* 300 to 8,700 feet

*Mean annual precipitation:* 10 to 35 inches

*Mean annual air temperature:* 52 to 73 degrees F

*Frost-free period:* 120 to 320 days

*Farmland classification:* Not prime farmland

### Map Unit Composition

*Eckert and similar soils:* 50 percent

*Rock outcrop:* 25 percent

*Minor components:* 25 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Eckert

#### Setting

*Landform:* Ridges

*Landform position (two-dimensional):* Shoulder, backslope, footslope

*Landform position (three-dimensional):* Side slope, base slope

*Down-slope shape:* Convex

*Across-slope shape:* Convex

*Parent material:* Residuum weathered from limestone

#### Typical profile

*H1 - 0 to 7 inches:* stony loam

## Custom Soil Resource Report

*H2 - 7 to 8 inches: bedrock*

### Properties and qualities

*Slope: 2 to 20 percent*

*Depth to restrictive feature: 4 to 14 inches to lithic bedrock*

*Natural drainage class: Well drained*

*Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.06 to 1.98 in/hr)*

*Depth to water table: More than 80 inches*

*Frequency of flooding: None*

*Frequency of ponding: None*

*Calcium carbonate, maximum in profile: 5 percent*

*Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)*

*Available water storage in profile: Very low (about 0.9 inches)*

### Interpretive groups

*Land capability classification (irrigated): None specified*

*Land capability classification (nonirrigated): 7s*

*Hydrologic Soil Group: D*

*Ecological site: STONY LOAM - Provisional 23-31 PZ (R081BY351TX)*

*Hydric soil rating: No*

## Description of Rock Outcrop

### Setting

*Landform: Ridges*

*Landform position (two-dimensional): Shoulder, backslope, footslope*

*Landform position (three-dimensional): Side slope, base slope*

*Down-slope shape: Convex*

*Across-slope shape: Convex*

*Parent material: Limestone*

### Typical profile

*H1 - 0 to 80 inches: bedrock*

### Properties and qualities

*Slope: 2 to 20 percent*

*Depth to restrictive feature: 0 to 2 inches to lithic bedrock*

*Capacity of the most limiting layer to transmit water (Ksat): Moderately low to very high (0.06 to 19.98 in/hr)*

### Interpretive groups

*Land capability classification (irrigated): None specified*

*Land capability classification (nonirrigated): 8s*

*Hydrologic Soil Group: D*

*Hydric soil rating: No*

## Minor Components

### Unnamed

*Percent of map unit: 25 percent*

*Hydric soil rating: No*

## 15—Hensley loam, 1 to 3 percent slopes

### Map Unit Setting

*National map unit symbol:* dk2j  
*Elevation:* 350 to 2,250 feet  
*Mean annual precipitation:* 24 to 40 inches  
*Mean annual air temperature:* 64 to 66 degrees F  
*Frost-free period:* 210 to 250 days  
*Farmland classification:* Not prime farmland

### Map Unit Composition

*Hensley and similar soils:* 100 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Hensley

#### Setting

*Landform:* Plains  
*Down-slope shape:* Convex  
*Across-slope shape:* Linear  
*Parent material:* Residuum weathered from limestone

#### Typical profile

*H1 - 0 to 5 inches:* loam  
*H2 - 5 to 18 inches:* clay  
*H3 - 18 to 19 inches:* bedrock

#### Properties and qualities

*Slope:* 1 to 3 percent  
*Depth to restrictive feature:* 10 to 20 inches to lithic bedrock  
*Natural drainage class:* Well drained  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Salinity, maximum in profile:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Available water storage in profile:* Very low (about 2.9 inches)

#### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 4s  
*Hydrologic Soil Group:* D  
*Ecological site:* Redland 29-35" PZ (R081CY361TX)  
*Hydric soil rating:* No

## 16—Hensley loam, 3 to 5 percent slopes

### Map Unit Setting

*National map unit symbol:* dk2k

*Elevation:* 350 to 2,250 feet

*Mean annual precipitation:* 24 to 40 inches

*Mean annual air temperature:* 64 to 66 degrees F

*Frost-free period:* 210 to 250 days

*Farmland classification:* Not prime farmland

### Map Unit Composition

*Hensley and similar soils:* 100 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Hensley

#### Setting

*Landform:* Plains

*Down-slope shape:* Convex

*Across-slope shape:* Linear

*Parent material:* Residuum weathered from limestone

#### Typical profile

*H1 - 0 to 5 inches:* loam

*H2 - 5 to 18 inches:* clay

*H3 - 18 to 19 inches:* bedrock

#### Properties and qualities

*Slope:* 3 to 5 percent

*Depth to restrictive feature:* 10 to 20 inches to lithic bedrock

*Natural drainage class:* Well drained

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Salinity, maximum in profile:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

*Available water storage in profile:* Very low (about 2.9 inches)

#### Interpretive groups

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 4e

*Hydrologic Soil Group:* D

*Ecological site:* Redland 29-35" PZ (R081CY361TX)

*Hydric soil rating:* No

## 17—Hensley association, undulating

### Map Unit Setting

*National map unit symbol:* dk2l

*Elevation:* 350 to 2,020 feet

*Mean annual precipitation:* 26 to 34 inches

*Mean annual air temperature:* 64 to 66 degrees F

*Frost-free period:* 210 to 250 days

*Farmland classification:* Not prime farmland

### Map Unit Composition

*Hensley and similar soils:* 100 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Hensley

#### Setting

*Landform:* Plains

*Down-slope shape:* Convex

*Across-slope shape:* Linear

*Parent material:* Residuum weathered from limestone

#### Typical profile

*H1 - 0 to 5 inches:* stony loam

*H2 - 5 to 18 inches:* clay

*H3 - 18 to 19 inches:* bedrock

#### Properties and qualities

*Slope:* 1 to 8 percent

*Depth to restrictive feature:* 10 to 20 inches to lithic bedrock

*Natural drainage class:* Well drained

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Salinity, maximum in profile:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

*Available water storage in profile:* Very low (about 2.9 inches)

#### Interpretive groups

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 6s

*Hydrologic Soil Group:* D

*Ecological site:* Redland 29-35" PZ (R081CY361TX)

*Hydric soil rating:* No

## 24—Krum clay, 1 to 3 percent slopes

### Map Unit Setting

*National map unit symbol:* 2t2j5

*Elevation:* 550 to 1,750 feet

*Mean annual precipitation:* 31 to 37 inches

*Mean annual air temperature:* 65 to 69 degrees F

*Frost-free period:* 230 to 250 days

*Farmland classification:* All areas are prime farmland

### Map Unit Composition

*Krum and similar soils:* 90 percent

*Minor components:* 10 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Krum

#### Setting

*Landform:* Stream terraces

*Landform position (three-dimensional):* Tread

*Down-slope shape:* Concave

*Across-slope shape:* Linear

*Parent material:* Calcareous silty and clayey alluvium derived from limestone

#### Typical profile

*A - 0 to 16 inches:* clay

*Bk1 - 16 to 58 inches:* clay

*Bk2 - 58 to 66 inches:* clay

*Ck - 66 to 80 inches:* clay

#### Properties and qualities

*Slope:* 1 to 3 percent

*Depth to restrictive feature:* More than 80 inches

*Natural drainage class:* Well drained

*Runoff class:* High

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Calcium carbonate, maximum in profile:* 50 percent

*Salinity, maximum in profile:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

*Sodium adsorption ratio, maximum in profile:* 3.0

*Available water storage in profile:* High (about 9.5 inches)

#### Interpretive groups

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 3e

*Hydrologic Soil Group:* C

*Ecological site:* Clay Loam 29-35" PZ (R081CY357TX)

## Custom Soil Resource Report

*Hydric soil rating:* No

### Minor Components

#### **Bolar**

*Percent of map unit:* 5 percent  
*Landform:* Hillslopes  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Ecological site:* Clay Loam 29-35" PZ (R081CY357TX)  
*Hydric soil rating:* No

#### **Doss**

*Percent of map unit:* 3 percent  
*Landform:* Hillslopes  
*Landform position (two-dimensional):* Footslope  
*Landform position (three-dimensional):* Base slope  
*Down-slope shape:* Convex  
*Across-slope shape:* Linear  
*Ecological site:* Shallow 29-35" PZ (R081CY574TX)  
*Hydric soil rating:* No

#### **Lewisville**

*Percent of map unit:* 2 percent  
*Landform:* Stream terraces  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Concave  
*Across-slope shape:* Linear  
*Ecological site:* Clay Loam 29-35" PZ (R081CY357TX)  
*Hydric soil rating:* No

## 25—Krum clay, 3 to 5 percent slopes

### **Map Unit Setting**

*National map unit symbol:* 2t2j6  
*Elevation:* 620 to 1,820 feet  
*Mean annual precipitation:* 31 to 37 inches  
*Mean annual air temperature:* 65 to 69 degrees F  
*Frost-free period:* 230 to 250 days  
*Farmland classification:* All areas are prime farmland

### **Map Unit Composition**

*Krum and similar soils:* 90 percent  
*Minor components:* 10 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

## Description of Krum

### Setting

*Landform:* Stream terraces  
*Landform position (three-dimensional):* Riser  
*Down-slope shape:* Concave  
*Across-slope shape:* Linear  
*Parent material:* Calcareous silty and clayey alluvium derived from limestone

### Typical profile

*A - 0 to 13 inches:* clay  
*Bk1 - 13 to 27 inches:* clay  
*Bk2 - 27 to 40 inches:* clay  
*Ck - 40 to 80 inches:* clay

### Properties and qualities

*Slope:* 3 to 5 percent  
*Depth to restrictive feature:* More than 80 inches  
*Natural drainage class:* Well drained  
*Runoff class:* High  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum in profile:* 50 percent  
*Salinity, maximum in profile:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Sodium adsorption ratio, maximum in profile:* 3.0  
*Available water storage in profile:* Moderate (about 9.0 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 3e  
*Hydrologic Soil Group:* C  
*Ecological site:* Clay Loam 29-35" PZ (R081CY357TX)  
*Hydric soil rating:* No

## Minor Components

### Bolar

*Percent of map unit:* 5 percent  
*Landform:* Hillslopes  
*Landform position (two-dimensional):* Footslope  
*Landform position (three-dimensional):* Base slope  
*Down-slope shape:* Convex  
*Across-slope shape:* Linear  
*Ecological site:* Clay Loam 29-35" PZ (R081CY357TX)  
*Hydric soil rating:* No

### Doss

*Percent of map unit:* 3 percent  
*Landform:* Hillslopes  
*Landform position (two-dimensional):* Footslope  
*Landform position (three-dimensional):* Base slope  
*Down-slope shape:* Convex

## Custom Soil Resource Report

*Across-slope shape:* Convex  
*Ecological site:* Shallow 29-35" PZ (R081CY574TX)  
*Hydric soil rating:* No

### **Lewisville**

*Percent of map unit:* 2 percent  
*Landform:* Stream terraces  
*Landform position (three-dimensional):* Riser  
*Down-slope shape:* Convex  
*Across-slope shape:* Linear  
*Ecological site:* Clay Loam 29-35" PZ (R081CY357TX)  
*Hydric soil rating:* No

## **29—Luckenbach clay loam, 1 to 3 percent slopes**

### **Map Unit Setting**

*National map unit symbol:* dk30  
*Elevation:* 500 to 2,170 feet  
*Mean annual precipitation:* 26 to 34 inches  
*Mean annual air temperature:* 46 to 64 degrees F  
*Frost-free period:* 215 to 235 days  
*Farmland classification:* All areas are prime farmland

### **Map Unit Composition**

*Luckenbach and similar soils:* 100 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### **Description of Luckenbach**

#### **Setting**

*Landform:* Stream terraces  
*Landform position (three-dimensional):* Tread, riser  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Mixed sources alluvium

#### **Typical profile**

*H1 - 0 to 17 inches:* clay loam  
*H2 - 17 to 36 inches:* clay  
*H3 - 36 to 80 inches:* clay loam

#### **Properties and qualities**

*Slope:* 1 to 3 percent  
*Depth to restrictive feature:* More than 80 inches  
*Natural drainage class:* Well drained  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high (0.20 to 0.57 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum in profile:* 15 percent

## Custom Soil Resource Report

*Salinity, maximum in profile:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

*Available water storage in profile:* High (about 9.0 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 2e

*Hydrologic Soil Group:* C

*Ecological site:* Clay Loam 29-35" PZ (R081CY357TX)

*Hydric soil rating:* No

## 35—Pedernales fine sandy loam, 1 to 3 percent slopes

### Map Unit Setting

*National map unit symbol:* 2t2m7

*Elevation:* 670 to 2,000 feet

*Mean annual precipitation:* 26 to 32 inches

*Mean annual air temperature:* 65 to 67 degrees F

*Frost-free period:* 220 to 240 days

*Farmland classification:* All areas are prime farmland

### Map Unit Composition

*Pedernales and similar soils:* 90 percent

*Minor components:* 10 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Pedernales

#### Setting

*Landform:* Hillslopes

*Landform position (two-dimensional):* Toeslope

*Landform position (three-dimensional):* Base slope

*Down-slope shape:* Linear

*Across-slope shape:* Convex

*Parent material:* Calcareous loamy slope alluvium over residuum weathered from sandstone

#### Typical profile

*Ap - 0 to 11 inches:* fine sandy loam

*Bt - 11 to 37 inches:* sandy clay

*Btk - 37 to 43 inches:* sandy clay loam

*BCtk - 43 to 80 inches:* sandy clay loam

#### Properties and qualities

*Slope:* 1 to 3 percent

*Depth to restrictive feature:* More than 80 inches

*Natural drainage class:* Well drained

*Runoff class:* Medium

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high (0.20 to 0.57 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

## Custom Soil Resource Report

*Frequency of ponding:* None  
*Calcium carbonate, maximum in profile:* 35 percent  
*Salinity, maximum in profile:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Sodium adsorption ratio, maximum in profile:* 2.0  
*Available water storage in profile:* Moderate (about 8.8 inches)

### Interpretive groups

*Land capability classification (irrigated):* 2e  
*Land capability classification (nonirrigated):* 2e  
*Hydrologic Soil Group:* C  
*Ecological site:* Tight Sandy Loam 25-32" PZ (R082AY378TX)  
*Hydric soil rating:* No

### Minor Components

#### Hye

*Percent of map unit:* 5 percent  
*Landform:* Hillslopes  
*Landform position (two-dimensional):* Footslope  
*Landform position (three-dimensional):* Base slope  
*Down-slope shape:* Convex  
*Across-slope shape:* Convex  
*Ecological site:* Red Sandy Loam 25-32" PZ (R082AY369TX)  
*Hydric soil rating:* No

#### Luckenbach

*Percent of map unit:* 3 percent  
*Landform:* Stream terraces  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Ecological site:* Clay Loam 23-31" PZ (R081BY326TX)  
*Hydric soil rating:* No

#### Hensley

*Percent of map unit:* 2 percent  
*Landform:* Hillslopes  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Convex  
*Across-slope shape:* Convex  
*Ecological site:* Redland 23-31" PZ (R081BY340TX)  
*Hydric soil rating:* No

## 36—Pedernales fine sandy loam, 3 to 5 percent slopes

### Map Unit Setting

*National map unit symbol:* 2t2mc  
*Elevation:* 670 to 2,000 feet  
*Mean annual precipitation:* 26 to 32 inches

## Custom Soil Resource Report

*Across-slope shape:* Convex  
*Ecological site:* Redland 23-31" PZ (R081BY340TX)  
*Hydric soil rating:* No

### **Hye**

*Percent of map unit:* 3 percent  
*Landform:* Hillslopes  
*Landform position (two-dimensional):* Footslope  
*Landform position (three-dimensional):* Base slope  
*Down-slope shape:* Convex  
*Across-slope shape:* Convex  
*Ecological site:* Red Sandy Loam 25-32" PZ (R082AY369TX)  
*Hydric soil rating:* No

### **Luckenbach**

*Percent of map unit:* 2 percent  
*Landform:* Stream terraces  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Ecological site:* Clay Loam 23-31" PZ (R081BY326TX)  
*Hydric soil rating:* No

### **Doss**

*Percent of map unit:* 1 percent  
*Landform:* Hillslopes  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Ecological site:* Shallow 29-35" PZ (R081CY574TX)  
*Hydric soil rating:* No

## **38—Purves association, undulating**

### **Map Unit Setting**

*National map unit symbol:* dk3b  
*Elevation:* 400 to 1,800 feet  
*Mean annual precipitation:* 27 to 37 inches  
*Mean annual air temperature:* 64 to 68 degrees F  
*Frost-free period:* 210 to 240 days  
*Farmland classification:* Not prime farmland

### **Map Unit Composition**

*Purves and similar soils:* 100 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### **Description of Purves**

#### **Setting**

*Landform:* Plains

## Custom Soil Resource Report

*Down-slope shape:* Convex  
*Across-slope shape:* Linear  
*Parent material:* Residuum weathered from limestone

### Typical profile

*H1 - 0 to 9 inches:* stony clay  
*H2 - 9 to 16 inches:* gravelly clay  
*H3 - 16 to 18 inches:* bedrock

### Properties and qualities

*Slope:* 1 to 8 percent  
*Depth to restrictive feature:* 8 to 20 inches to lithic bedrock  
*Natural drainage class:* Well drained  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.57 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum in profile:* 45 percent  
*Available water storage in profile:* Very low (about 1.9 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 6s  
*Hydrologic Soil Group:* D  
*Ecological site:* Shallow 29-35" PZ (R081CY574TX)  
*Hydric soil rating:* No

## 42—Tarpley association, undulating

### Map Unit Setting

*National map unit symbol:* dk3h  
*Elevation:* 1,000 to 2,000 feet  
*Mean annual precipitation:* 28 to 35 inches  
*Mean annual air temperature:* 64 to 70 degrees F  
*Frost-free period:* 220 to 250 days  
*Farmland classification:* Not prime farmland

### Map Unit Composition

*Tarpley and similar soils:* 100 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Tarpley

#### Setting

*Landform:* Plains  
*Down-slope shape:* Convex  
*Across-slope shape:* Linear  
*Parent material:* Residuum weathered from limestone

#### Typical profile

*H1 - 0 to 8 inches:* stony clay  
*H2 - 8 to 15 inches:* clay

## Custom Soil Resource Report

*H3 - 15 to 16 inches: bedrock*

### Properties and qualities

*Slope: 1 to 8 percent*

*Depth to restrictive feature: 13 to 20 inches to lithic bedrock*

*Natural drainage class: Well drained*

*Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)*

*Depth to water table: More than 80 inches*

*Frequency of flooding: None*

*Frequency of ponding: None*

*Calcium carbonate, maximum in profile: 5 percent*

*Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)*

*Available water storage in profile: Very low (about 1.7 inches)*

### Interpretive groups

*Land capability classification (irrigated): None specified*

*Land capability classification (nonirrigated): 6s*

*Hydrologic Soil Group: D*

*Ecological site: Redland 29-35" PZ (R081CY361TX)*

*Hydric soil rating: No*

## RW—Riverwash, frequently flooded

### Map Unit Setting

*National map unit symbol: dk3s*

*Elevation: 600 to 2,400 feet*

*Mean annual precipitation: 10 to 35 inches*

*Mean annual air temperature: 64 to 70 degrees F*

*Frost-free period: 220 to 300 days*

*Farmland classification: Not prime farmland*

### Map Unit Composition

*Riverwash: 80 percent*

*Minor components: 20 percent*

*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Riverwash

#### Setting

*Landform: Channels*

*Down-slope shape: Concave*

*Across-slope shape: Concave*

*Parent material: Gravelly alluvium derived from limestone*

#### Typical profile

*H1 - 0 to 80 inches: extremely gravelly coarse sandy loam*

### Properties and qualities

*Slope: 0 to 2 percent*

*Natural drainage class: Excessively drained*

## Custom Soil Resource Report

*Capacity of the most limiting layer to transmit water (Ksat):* High to very high (5.95 to 19.98 in/hr)

*Frequency of flooding:* Frequent

*Sodium adsorption ratio, maximum in profile:* 2.0

*Available water storage in profile:* Very low (about 1.8 inches)

### **Interpretive groups**

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 8w

*Hydrologic Soil Group:* A

*Hydric soil rating:* No

### **Minor Components**

#### **Unnamed, hydric**

*Percent of map unit:* 18 percent

*Landform:* Sloughs

*Hydric soil rating:* Yes

#### **Unnamed**

*Percent of map unit:* 2 percent

*Hydric soil rating:* No

## **W—Water**

### **Map Unit Composition**

*Water:* 100 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

# References

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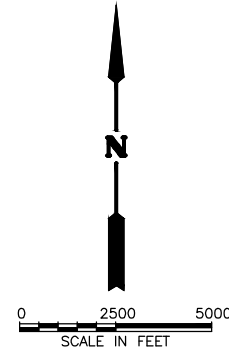
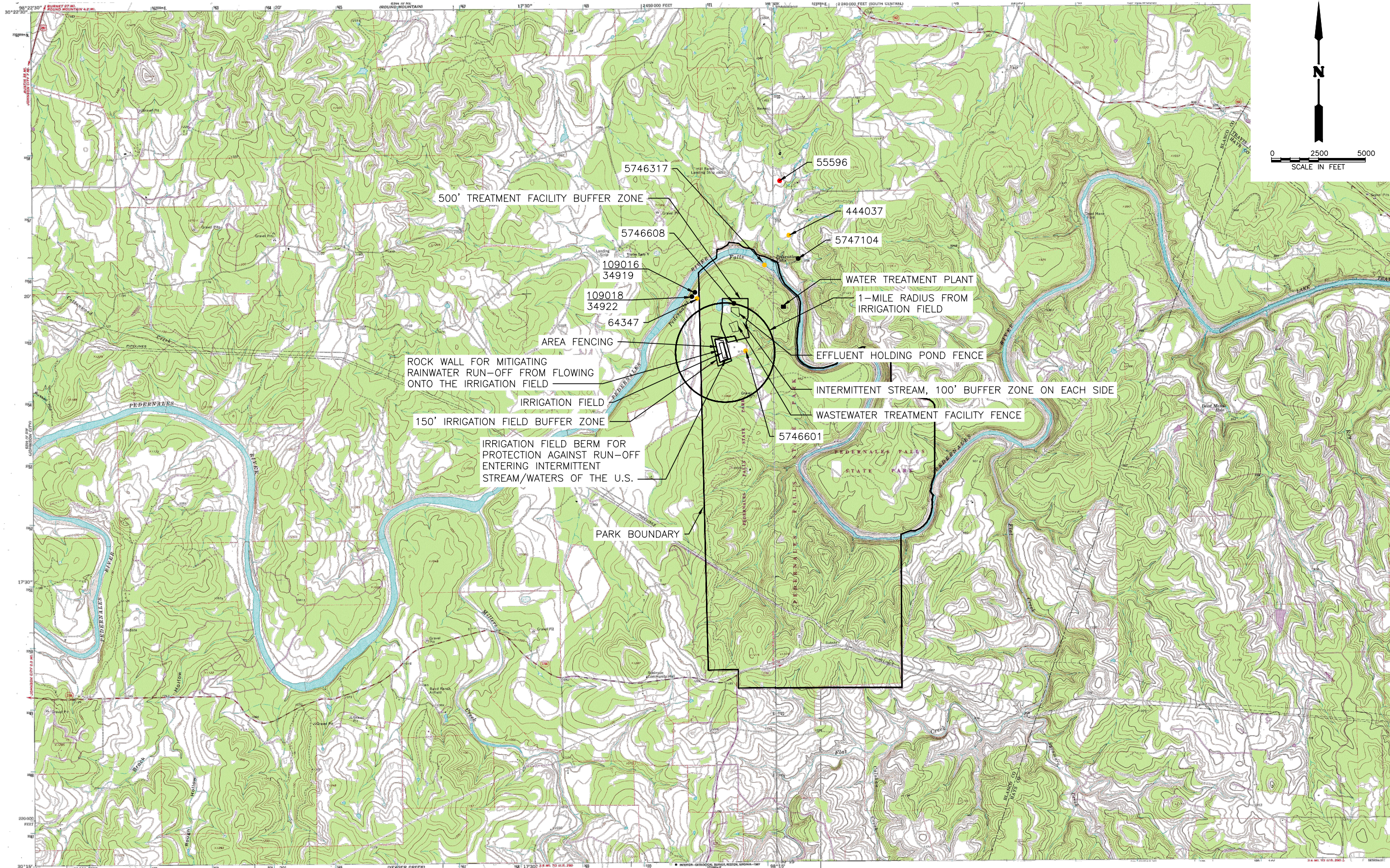
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## Custom Soil Resource Report

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Maped, edited, and published by the Geological Survey  
Control by USGS and USGS/USGS  
Topography by photogrammetric methods from aerial  
photographs taken 1966. Field checked 1967.  
Polyconic projection. 1927 North American datum  
10,000-foot grid based on Texas coordinate system,  
central zone.  
1000-meter Universal Transverse Mercator grid ticks,  
zone 14, shown in blue.  
Fine red dashed lines indicate selected fence lines.  
To place on the predicted North American Datum 1983,  
move the projection lines 18 meters south and  
29 meters east as shown by dashed corner ticks.  
Revisions shown in purple compiled from aerial  
photographs taken 1985. Map edited 1986.  
This information not field checked.

UTM GRID AND 1983 MAGNETIC NORTH  
DECLINATION AT CENTER OF SHEET

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3098-131

PEDERNALES FALLS, TEX.  
3009B-C3-TF-024  
1967  
PHOTOREVISED 1986  
DMA 6144 BY SC-500003 1982

ROAD CLASSIFICATION  
Heavy-duty — Light-duty  
Medium-duty — Unimproved dirt  
U.S. Route — State Route

LEGEND  
● OPEN WELL  
● PLUGGED WELL  
● TWDB OUTCROP WELL

DUAL WELL CALLOUT — PLUGGING REPORT TRACKING #  
STATE OF TEXAS WELL REPORT TRACKING #

**Texas Parks and Wildlife Department**  
**Pedernales Falls State Park Wastewater Treatment Facility**  
**Texas Land Application Permit (TLAP) –Renewal Application**

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**T.9 WELL REPORTS BY ID**

TPWD - PEDERNALES FALLS STATE PARK WWTP			
TCEQ TLAP PERMIT RENEWAL APPLICATION			
STATE OF TEXAS WELL REPORTS BY ID & PLUGGING REPORT TRACKING			
STATE WELL LOCATION TABLE			
	Plugging Report Tracking #	State Well #	Well Status
1		57-47-104	Plugged Well
2		57-46-317	TWDB Ground Water
3		57-46-601	TWDB Ground Water
4		57-46-608	Plugged Well
5		64347	Producing Well
6	109016	34919	Plugged Well
7	109018	34922	Plugged Well
8		444037	Producing Well
9		55596 (HTGCD)	TWDB Outcrop Well

**Texas Parks and Wildlife Department**  
**Pedernales Falls State Park Wastewater Treatment Facility**  
**Texas Land Application Permit (TLAP) –Renewal Application**

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**T.9 WELL REPORTS BY ID**  
**WELL ID # 57-47-104**

**Texas Water Development Board (TWDB)  
Groundwater Database (GWDB)  
Well Information Report for State Well Number  
57-47-104**

[GWDB Reports and Downloads](#)
[Well Basic Details](#)
[Scanned Documents](#)

State Well Number	5747104
County	Blanco
River Basin	Colorado
Groundwater Management Area	9
Regional Water Planning Area	K - Lower Colorado
Groundwater Conservation District	Blanco-Pedernales GCD
Latitude (decimal degrees)	30.338334
Latitude (degrees minutes seconds)	30° 20' 18" N
Longitude (decimal degrees)	-98.245834
Longitude (degrees minutes seconds)	098° 14' 45" W
Coordinate Source	+/- 1 Second
Aquifer Code	218PRSL - Pearsall Formation
Aquifer	Trinity
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	1010
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	121
Well Depth Source	Owner
Drilling Start Date	
Drilling End Date	0/0/1913
Drilling Method	
Borehole Completion	Open Hole

Well Type	Withdrawal of Water
Well Use	Plugged or Destroyed
Water Level Observation	None
Water Quality Available	Yes
Pump	None
Pump Depth (feet below land surface)	
Power Type	
Annular Seal Method	
Surface Completion	
Owner	John Hill
Driller	George Lomach
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	U.S. Geological Survey
Created Date	7/19/1968
Last Update Date	9/5/2007

**Remarks** Destroyed domestic and stock well.

### Casing

Diameter (in.)	Casing Type	Casing Material	Schedule	Gauge	Top Depth (ft.)	Bottom Depth (ft.)
6	Blank	Galvanized Iron			0	45
6	Open Hole				45	121

**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**

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**Water Level Measurements**

No Data Available

### Water Quality Analysis

**Sample Date:** 8/8/1938    **Sample Time:** 0000    **Sample Number:** 1    **Collection Entity:** Other Federal Agencies

**Sampled Aquifer:** Pearsall Formation

**Analyzed Lab:** University of Texas

**Reliability:** Reliability unknown or not available

**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)		364.65	mg/L	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO3)		445	mg/L	
00445	CARBONATE ION, CALCULATED (MG/L AS CO3)		0	mg/L	
00940	CHLORIDE, TOTAL (MG/L AS CL)		27	mg/L	
71851	NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO3)	<	20	mg/L	
00945	SULFATE, TOTAL (MG/L AS SO4)		12	mg/L	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		424	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 (<http://www.twdb.texas.gov/groundwater/data/gwdbbrpt.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](mailto:GroundwaterData@twdb.texas.gov).

**Texas Parks and Wildlife Department**  
**Pedernales Falls State Park Wastewater Treatment Facility**  
**Texas Land Application Permit (TLAP) –Renewal Application**

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**T.9 WELL REPORTS BY ID**  
**WELL ID # 57-46-317**

# TWDB Water Quality Field Data Sheet

SWN: 57.46.317 Site Name: Pedernales Falls Spring  
 County: Blanco County Address or Location: \_\_\_\_\_  
 County Code: 31 \_\_\_\_\_  
 Aquifer Code: ~~31~~ \_\_\_\_\_  
 Aquifer Id: ~~31~~ \_\_\_\_\_

Project TWDB  
 Newly Invented Well Yes  
 ID Number: 1042  
 Date: 8/28/15  
 Sampler(s): B. Hunt BSEACD

Standard TWDB suite			Isotopes			
1	2	3	4	5	6	7
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
HNO3 by lab	Total Alk.		*NaOH by lab	Deuterium		2nd Enrichment
	Ice	Ice + H2SO4		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.

Calibration Verification Readings		
	Pre Sample	Post Sample
PH		
4 =	4.0	4.05
7 =	—	—
10 =	—	—
Cond		
0 (air)	0	0
500 =	4.47	4.33
1,000 =	—	—

Time In: 10:07 Time Out: 10:45  
 Water Level: — M.P. = — ft W.L. remark: \_\_\_\_\_  
 Pumping time: — Sampling Point: spring outflow  
 Well Use: Spring FIELD G.P.S. readings  
 Lift: — Latitude: 30-20-15.0  
 Power: — Longitude: 98-15-05.6  
 Casing Type: — Casing Size: —  
 Sample Time: 10:45 Filtered: Yes No  
 Filter pressure: hand pump / line / spring

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 (39086): _____ mg/L	

Items Below Calculated Later From Results:	
Dissolved Solids (mg/L):	_____
Hardness (as CaCO3):	_____
Balanced:	_____

Notes: \_\_\_\_\_

Field Data entered into TWDB GWDB: yes / no

Water Quality Stabilization Parameters Table (At least 3 readings @ 5 min. intervals)							
Time	10:27	10:32	10:37				
pH	7.84	7.77	7.76				
Celsius Temp.	27.59	27.59	27.60				
D.O.	7.08	2.74	2.60				
Conductivity	0.561	0.562	0.561				

Comments

Estimate ~ 5 cfs total flow.  
 Field parameters measured with Horiba U-50

State Well Number 5746317 Previous Well Number            County Blanco 031

River Basin Colorado 14 Zone    Latitude 302015 Longitude 0981505.6 Coordinates Accuracy 1

Owner's well No.            Location:            1/4,            1/4, Section            Block            Survey           

Address \_\_\_\_\_ Tenant/Oper. \_\_\_\_\_

Aquifer Marble Falls

3	2	0	M	P	L	F
---	---	---	---	---	---	---

 Aquifer ID 

--	--

--	--

 Well Type 

S
---

 User 

--	--	--	--	--	--	--

[illegible][illegible]

Static Level \_\_\_\_\_ ft.      Pumping Level \_\_\_\_\_ ft.      Amount of Drawdown \_\_\_\_\_ ft.      Specific Capacity \_\_\_\_\_  $\frac{\text{GPM}}{\text{ft}}$

Water Use    Primary Spring ☐    Secondary \_\_\_\_\_ ☐    Tertiary \_\_\_\_\_ ☐

[illegible][illegible]

Water Date 

--	--	--	--	--	--	--	--

 Meas. 

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 Remarks 

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 M.P. 

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 13 

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14 

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Levels \_\_\_\_\_ Date 

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 Meas. 

--	--	--	--	--	--	--	--	--	--

 Remarks 

--	--

Date 

--	--	--	--	--	--	--	--	--	--

 Meas. 

--	--	--	--	--	--	--	--	--	--

 Remarks 

--	--

Recorded by Brian Hunt Date Record Collected or Information Updated 08/28/2015 Reporting Agency OS

Remarks	1	Pedernales Falls Spring																				
	2																					
	3																					
	4																					
	5																					
	6																					

Aquifer  
57.46 - 317  
 Well Number

57-46-317  
Well Number



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3505 Montopolis Drive  
Austin, TX 78744  
Phone: (512)356-6022  
Fax: (512)356-6021

## ANALYTICAL RESULTS

Workorder: Q1533344

Lab ID: Q1533344004 **57.46.317**  
Sample ID: 1042-PED FALLS SPR  
Project ID:

Date Received: 8/28/2015 13:10 Matrix: Aqueous  
Date Collected: 8/28/2015 10:45 Sample Type: SAMPLE

Parameters	Results Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
<b>INORGANICS</b>										
Analysis Desc: E200.7 Metals, Trace Elements		Preparation Method: E200.7 Prep								
		Analytical Method: E200.7 Metals, Trace Elements								
Boron Dissolved	73.1 ug/L	20.0	50.0		1	09/08/15 16:55	MM	09/10/15 11:24		MV
Calcium Dissolved	46.6 mg/L	0.0700	0.200		1	09/08/15 16:55	MM	09/10/15 11:24		MV
Strontium Dissolved	360 ug/L	4.00	10.0		1	09/08/15 16:55	MM	09/10/15 11:24		MV
Iron Dissolved	<50.0 ug/L	20.0	50.0		1	09/08/15 16:55	MM	09/10/15 11:24		MV
Magnesium Dissolved	28.9 mg/L	0.0700	0.200		1	09/08/15 16:55	MM	09/10/15 11:24		MV
Potassium Dissolved	2.43 mg/L	0.0700	0.200		1	09/08/15 16:55	MM	09/10/15 11:24		MV
Sodium Dissolved	17.9 mg/L	0.200	0.500		1	09/08/15 16:55	MM	09/10/15 11:24		MV
Analysis Desc: E200.8, ICP-MS		Preparation Method: E200.8, ICP-MS Prep								
		Analytical Method: E200.8, ICP-MS								
Aluminum Dissolved	4.90 ug/L	1.50	4.00		1	09/08/15 17:00	MM	09/10/15 12:17		SLW
Antimony Dissolved	<1.00 ug/L	0.400	1.00		1	09/08/15 17:00	MM	09/10/15 12:17		SLW
Arsenic Dissolved	<2.00 ug/L	0.700	2.00		1	09/08/15 17:00	MM	09/10/15 12:17		SLW
Barium Dissolved	35.6 ug/L	0.400	1.00		1	09/08/15 17:00	MM	09/10/15 12:17		SLW
Beryllium Dissolved	<1.00 ug/L	0.400	1.00		1	09/08/15 17:00	MM	09/10/15 12:17		SLW
Cadmium Dissolved	<1.00 ug/L	0.400	1.00		1	09/08/15 17:00	MM	09/10/15 12:17		SLW
Chromium Dissolved	<1.00 ug/L	0.400	1.00		1	09/08/15 17:00	MM	09/10/15 12:17		SLW
Cobalt Dissolved	<1.00 ug/L	0.400	1.00		1	09/08/15 17:00	MM	09/10/15 12:17		SLW
Copper Dissolved	<1.00 ug/L	0.400	1.00		1	09/08/15 17:00	MM	09/10/15 12:17		SLW
Lithium Dissolved	5.68 ug/L	0.700	2.00		1	09/08/15 17:00	MM	09/10/15 12:17		SLW N
Lead Dissolved	<1.00 ug/L	0.400	1.00		1	09/08/15 17:00	MM	09/10/15 12:17		SLW
Manganese Dissolved	<1.00 ug/L	0.400	1.00		1	09/08/15 17:00	MM	09/10/15 12:17		SLW
Molybdenum Dissolved	1.02 ug/L	0.400	1.00		1	09/08/15 17:00	MM	09/10/15 12:17		SLW
Selenium Dissolved	<4.00 ug/L	1.50	4.00		1	09/08/15 17:00	MM	09/10/15 12:17		SLW
Silver Dissolved	<1.00 ug/L	0.400	1.00		1	09/08/15 17:00	MM	09/10/15 12:17		SLW
Thallium Dissolved	<1.00 ug/L	0.400	1.00		1	09/08/15 17:00	MM	09/10/15 12:17		SLW
Uranium Dissolved	<1.00 ug/L	0.400	1.00		1	09/08/15 17:00	MM	09/10/15 12:17		SLW N
Vanadium Dissolved	2.54 ug/L	0.400	1.00		1	09/08/15 17:00	MM	09/10/15 12:17		SLW
Zinc Dissolved	<4.00 ug/L	1.50	4.00		1	09/08/15 17:00	MM	09/10/15 12:17		SLW

Report ID: 170410 - 1958188

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## ANALYTICAL RESULTS

Workorder: Q1533344

Lab ID: **Q1533344004** **57.46.317**  
Sample ID: **1042-PED FALLS SPR**  
Project ID:

Date Received: 8/28/2015 13:10 Matrix: Aqueous  
Date Collected: 8/28/2015 10:45 Sample Type: SAMPLE

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	31.6 mg/L	0.400	1.00	1		09/09/15 00:43	ML	09/09/15 00:43	ML	
Bromide Dissolved	0.192 mg/L	0.00800	0.0200	1		09/09/15 00:43	ML	09/09/15 00:43	ML	
Fluoride Dissolved	0.255 mg/L	0.00400	0.0100	1		09/09/15 00:43	ML	09/09/15 00:43	ML	
Sulfate Dissolved	29.2 mg/L	0.400	1.00	1		09/09/15 00:43	ML	09/09/15 00:43	ML	
<b>TOTAL PHOSPHATE AS P</b>										
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		09/08/15 11:22	MM	09/10/15	CM	
<b>ALKALINITY</b>										
Analysis Desc: SM2320B, Alkalinity		Preparation Method: SM2320B, Alkalinity								
		Analytical Method: SM2320B, Alkalinity								
Phenolphthalein Alkalinity	<20.0 mg/L	20.0	20.0	1		09/08/15	ADG	09/08/15	ADG	N
Hydroxide Alkalinity	<20.0 mg/L	20.0	20.0	1		09/08/15	ADG	09/08/15	ADG	N
Bicarbonate Alkalinity	220 mg/L	20.0	20.0	1		09/08/15	ADG	09/08/15	ADG	N
Carbonate Alkalinity	<20.0 mg/L	20.0	20.0	1		09/08/15	ADG	09/08/15	ADG	N
Total Alkalinity	220 mg/L	20.0	20.0	1		09/08/15	ADG	09/08/15	ADG	
<b>NITRATE AND NITRITE</b>										
Analysis Desc: SM4500-NO3-H, Nitrate/Nitrite		Preparation Method: SM4500-NO3-H, Nitrate/Nitrite								
		Analytical Method: SM4500-NO3-H, Nitrate/Nitrite								
Nitrate/Nitrite	0.296 mg/L	0.00800	0.0200	1		09/11/15	ML	09/11/15	ML	
<b>SILICA</b>										
Analysis Desc: SM4500-SiO2-C, Silica		Preparation Method: SM4500-SiO2-C, Silica								
		Analytical Method: SM4500-SiO2-C, Silica								
Silica, Dissolved	14.4 mg/L	0.200	0.500	1		09/08/15	ML	09/08/15	ML	
<b>HEAVY METALS</b>										
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		09/01/15	FM	09/03/15 10:33	FM	

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## ANALYTICAL RESULTS

Workorder: Q1533344

Lab ID: Q1533344004 **57-46-317**  
Sample ID: 1042-PED FALLS SPR  
Project ID:

Date Received: 8/28/2015 13:10 Matrix: Aqueous  
Date Collected: 8/28/2015 10:45 Sample Type: SAMPLE

Parameters	Results Units	LQD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
<b>INORGANICS</b>										
Analysis Desc: SM1030B Cation/Anion Balance			Preparation Method: SM1030B Cation/Anion Balance							
			Analytical Method: SM1030B Cation/Anion Balance							
Cation/Anion Balance	3.180 %			1		09/14/15 14:22	CW	09/14/15 14:22	CW	

Report ID: 170410 - 1958188

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**Texas Parks and Wildlife Department**  
**Pedernales Falls State Park Wastewater Treatment Facility**  
**Texas Land Application Permit (TLAP) –Renewal Application**

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**T.9 WELL REPORTS BY ID**  
**WELL ID # 57-46-601**

GWDB Reports and Downloads

Well Basic Details

Scanned Documents

State Well Number	5746601
County	Blanco
River Basin	Colorado
Groundwater Management Area	9
Regional Water Planning Area	K - Lower Colorado
Groundwater Conservation District	Blanco-Pedernales GCD
Latitude (decimal degrees)	30.325
Latitude (degrees minutes seconds)	30° 19' 30" N
Longitude (decimal degrees)	-98.255001
Longitude (degrees minutes seconds)	098° 15' 18" W
Coordinate Source	+/- 1 Second
Aquifer Code	218TVPK - Travis Peak Formation
Aquifer	Trinity
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	960
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	35
Well Depth Source	Owner
Drilling Start Date	
Drilling End Date	
Drilling Method	Dug
Borehole Completion	

Well Type	Withdrawal of Water
Well Use	Domestic
Water Level Observation	Miscellaneous Measurements
Water Quality Available	Yes
Pump	Piston
Pump Depth (feet below land surface)	
Power Type	Electric Motor
Annular Seal Method	
Surface Completion	
Owner	Mrs. C.A. Wheatley
Driller	Unknown
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	U.S. Geological Survey
Created Date	9/24/1968
Last Update Date	9/4/2007

Remarks Estimated yield 40 GPM in 1981.

**Casing - No Data**

**Well Tests - No Data**

**Lithology - No Data**

**Annular Seal Range - No Data**

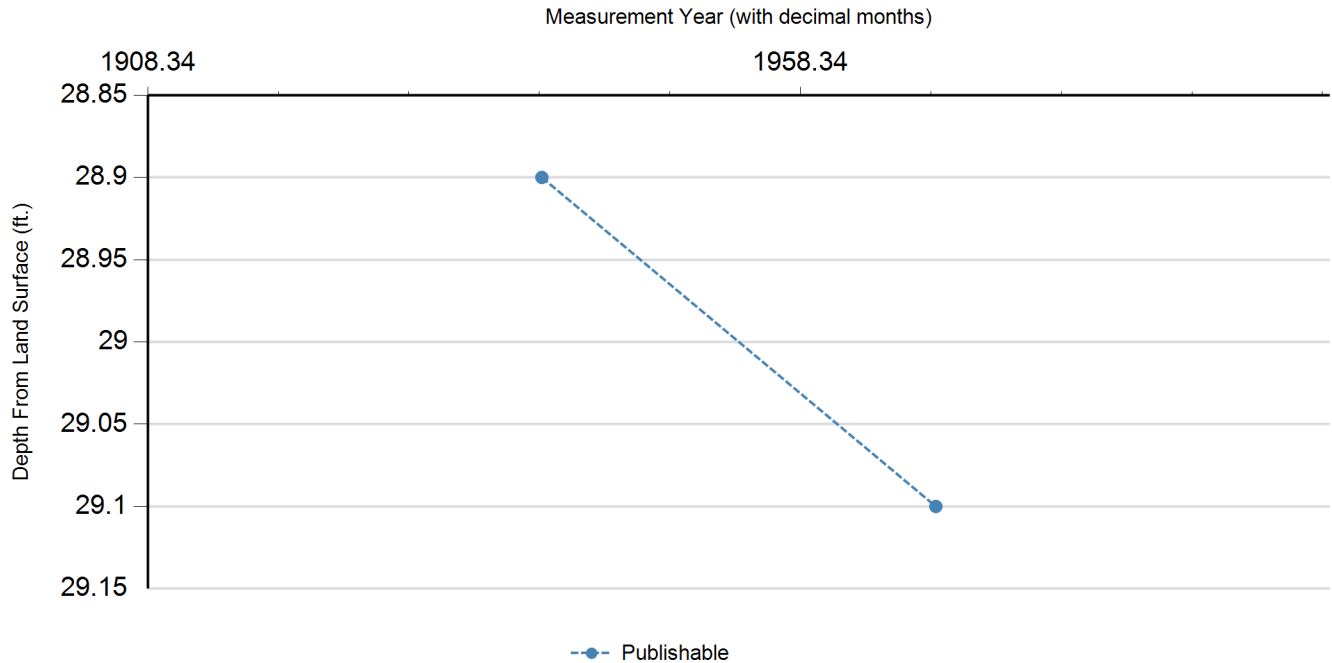
**Borehole - No Data**

**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	7/14/1938		28.9		931.1	1	Texas Commission on Environmental Quality	Steel Tape		
P	9/24/1968		29.1	0.20	930.9	1	Texas Commission on Environmental Quality	Steel Tape		

### Code Descriptions

Status Code	Status Description
P	Publishable

### Water Quality Analysis

**Sample Date:** 7/14/1938    **Sample Time:** 0000    **Sample Number:** 1    **Collection Entity:** Other Federal Agencies

**Sampled Aquifer:** Travis Peak Formation

**Analyzed Lab:** University of Texas

**Reliability:** Reliability unknown or not available

**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)		330.23	mg/L	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO3)		402.99	mg/L	
00910	CALCIUM (MG/L)		104	mg/L	
00445	CARBONATE ION, CALCULATED (MG/L AS CO3)		0	mg/L	
00940	CHLORIDE, TOTAL (MG/L AS CL)		41	mg/L	
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CaCO3)		551	mg/L	
00920	MAGNESIUM (MG/L)		71	mg/L	
71851	NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO3)		188	mg/L	
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		0		
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		0		
00932	SODIUM, CALCULATED, PERCENT		1	PCT	
00929	SODIUM, TOTAL (MG/L AS NA)	<	5	mg/L	
00945	SULFATE, TOTAL (MG/L AS SO4)		14	mg/L	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		621	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 (<http://www.twdb.texas.gov/groundwater/data/gwdbbrpt.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](mailto:GroundwaterData@twdb.texas.gov).

**Texas Parks and Wildlife Department**  
**Pedernales Falls State Park Wastewater Treatment Facility**  
**Texas Land Application Permit (TLAP) –Renewal Application**

---



**T.9 WELL REPORTS BY ID**  
**WELL ID # 57-46-608**

**Texas Water Development Board  
Well Schedule**

State Well No. 57 46 608 Previous Well No.            County BLANCO 031  
 River Basin COLORADO 14 Zone 3 Lat. 30 19 52 Long. 98 15 22 Source of Coord. 1  
 Owner's Well No.            Location 1/4, 1.4, Section           , Block           , Survey           

Owner TEXAS PARKS WILDLIFE Driller J B VIRDOLL

Address JOHNSON CITY TX Tenant/Oper.             
 Date Drilled 10 01 1971 Depth 300 Source of Depth Datum D Altitude 990 Source of Alt. Datum M  
 Aquifer ELENBURGER 367E6SS Well Type W User           

Well Const. Construction Method HYDROLOGIC ROT H Casing Material PVC A

Completion            ☐ Screen Material            ☐

Lift Data Pump Mfr.            Type            ☐ No. Stages           

Bowls Diam.            in. Setting            ft. Column Diam.            in.

Motor Mfr.            Fuel or Power            ☐ Horsepower           

Yield Flow            GPM Pump            GPM Meas., Rept., Est.            Date           

Performance Test Date            Length of Test            Production            GPM

Static Level            ft. Pumping Level            ft. Drawdown            ft. Sp.Cap.            GPM/ft.

Quality (Remarks)           

Water Use Primary NONE ☒ Secondary            ☐ Tertiary            ☐

Other Data Available Water Level ☒ Water Quality ☒ Logs            Other Data           

Date            Meas.            •           

Water Levels Date            Meas.            •           

Date            Meas.            •           

Casing or Blank Pipe (C) Well Screen or Slotted Zone (S) Open Hole (O) Cemented from <u>          </u> to <u>          </u> Diam. Setting (feet) (in.) From To			
1	C	7	0 21
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			

Recorded By BIRI/ASENSIO Date Record Collected or Updated 08 17 1992

(20 max) Reporting Agency           

Remarks 1 WELL PLUGGED AT 20 FT.

Aquifer             
Well No. 57-46 608

100 TEXAS PARKS WILDLIFE 100 Driller TAYLOR VIRDELL 100

address \_\_\_\_\_ Tenant/Oper. \_\_\_\_\_  
 Date Drilled   Depth  Source of Depth Datum  Altitude  Source of Alt. Datum   
 Quifer 367 EBSS FLENBURG GRP. + SAN  Well Type  User

Well Construction Method	Casing Material

Completion \_\_\_\_\_ ☐ Screen Material \_\_\_\_\_ ☐

**Lift Data**      **Pump Mfr.** \_\_\_\_\_ **Type** \_\_\_\_\_ ☐ **No. Stages** \_\_\_\_\_

**Flow** Diam. \_\_\_\_\_ in.    **Setting** \_\_\_\_\_ ft. **Column Diam.** \_\_\_\_\_ in.

**Motor Mfr.** \_\_\_\_\_ **Fuel or Power** \_\_\_\_\_ ☐ **Horsepower** ☒

**Field Flow** \_\_\_\_\_ **GPM** **Pump** \_\_\_\_\_ **GPM** **Meas., Rept., Est.** \_\_\_\_\_ **Date** \_\_\_\_\_

Performance Test Date \_\_\_\_\_ Length of Test \_\_\_\_\_ Production \_\_\_\_\_ GPM \_\_\_\_\_

Static Level \_\_\_\_\_ ft.    Pumping Level \_\_\_\_\_ ft.    Drawdown \_\_\_\_\_ ft.    Sp.Cap. \_\_\_\_\_ GPM/ft.

Quality (Remarks) \_\_\_\_\_

**Water Use**    **Primary** ☐    **Secondary** ☐    **Tertiary** ☐

Other Data Water ☒ Water ☒ Logs ☐☐☐☐☐☐ Other ☐☐☐☐☐

Date     Meas.     .

**Water Date**       **Mess.**

Date 



 Meas. 


 • 


 \_\_\_\_\_

Recorded By BIRI-ASENSIO Date Record Collected or Updated 08 17 1992 18 

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(20 max) Reporting Agency 01

Remarks
1
2
3
4
5
6
7

Acquirer 367 EBSS  
Well No. 57-46-608

[GWDB Reports and Downloads](#)
[Well Basic Details](#)
[Scanned Documents](#)

State Well Number	5746608
County	Blanco
River Basin	Colorado
Groundwater Management Area	9
Regional Water Planning Area	K - Lower Colorado
Groundwater Conservation District	Blanco-Pedernales GCD
Latitude (decimal degrees)	30.331389
Latitude (degrees minutes seconds)	30° 19' 53" N
Longitude (decimal degrees)	-98.256389
Longitude (degrees minutes seconds)	098° 15' 23" W
Coordinate Source	+/- 1 Second
Aquifer Code	367EBSS - Ellenburger Group and San Saba Limestone
Aquifer	Ellenburger-San Saba
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	990
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	300
Well Depth Source	Driller's Log
Drilling Start Date	
Drilling End Date	10/1/1971
Drilling Method	Mud (Hydraulic) Rotary
Borehole Completion	Open Hole

Well Type	Withdrawal of Water
Well Use	Unused
Water Level Observation	None
Water Quality Available	No
Pump	None
Pump Depth (feet below land surface)	
Power Type	
Annular Seal Method	
Surface Completion	
Owner	TPWD
Driller	Virdell Brothers Drilling Co.
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	8/17/1992
Last Update Date	

Remarks Well plugged at 20 feet.

### Casing

Diameter (in.)	Casing Type	Casing Material	Schedule	Gauge	Top Depth (ft.)	Bottom Depth (ft.)
7	Blank	Plastic (PVC)			21	
	Open Hole				21	300

**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**

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**Water Level Measurements**

No Data Available

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**Water Quality Analysis - No Data Available**

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*GWDB DISCLAIMER: Except where noted, all of the information provided in the Texas Water Development Board (TWDB) Groundwater Database (<http://www.twdb.texas.gov/groundwater/data/gwdbbrpt.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](mailto:GroundwaterData@twdb.texas.gov).*

**Texas Parks and Wildlife Department**  
**Pedernales Falls State Park Wastewater Treatment Facility**  
**Texas Land Application Permit (TLAP) –Renewal Application**

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**T.9 WELL REPORTS BY ID**  
**WELL ID # 64347**

## STATE OF TEXAS WELL REPORT for Tracking #64347

Owner: **Gary Hendrix**

Owner Well #: **1**

Address: **5401 Mary Anna Dr.  
Austin, TX 78746**

Grid #: **57-46-6**

Well Location: **8592 FM 2766  
Johnson City, TX 78636**

Latitude: **30° 19' 58" N**

Longitude: **098° 15' 47" W**

Well County: **Blanco**

Elevation: **No Data**

Type of Work: **New Well**

Proposed Use: **Domestic**

Drilling Start Date: **7/25/2005**

Drilling End Date: **7/27/2005**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	<b>9.75</b>	<b>0</b>	<b>77</b>
	<b>6</b>	<b>77</b>	<b>264</b>

Drilling Method: **Air Hammer**

Borehole Completion: **Filter Packed**

	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>	<i>Filter Material</i>	<i>Size</i>
Filter Pack Intervals:	<b>50</b>	<b>67</b>	<b>Gravel</b>	<b>#4 pea</b>

	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>	<i>Description (number of sacks &amp; material)</i>
Annular Seal Data:	<b>0</b>	<b>50</b>	<b>5 cement</b>
	<b>67</b>	<b>77</b>	<b>1 cement</b>

Seal Method: **gravity cemented**

Distance to Property Line (ft.): **53**

Sealed By: **Driller**

Distance to Septic Field or other  
concentrated contamination (ft.): **n/a**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **estimated**

Surface Completion: **Pitless Adapter Used**

Water Level: **105 ft. below land surface on 2005-07-27** Measurement Method: **Unknown**

Packers: **none**

Type of Pump: **No Data**

Well Tests: **Jetted** **Yield: 8 GPM**

Water Quality:

Strata Depth (ft.)	Water Type
220, 226, 230	400 tds, 9 grains

Chemical Analysis Made: **Yes**

Did the driller knowingly penetrate any strata which  
contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **L & L Drilling Co.**

**Drawer 217  
Hye, TX 78635**

Driller Name: **Gregory A. Smith**

License Number: **1595**

Apprentice Name: **Lynette Smith**

Apprentice Number: **WWDAPP00001  
265**

Comments: **No Data**

Lithology:  
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:  
BLANK PIPE & WELL SCREEN DATA

From (ft)	To (ft)	Description
0-1		brown topsoil
1-5		yellow caliche
5-16		yellow clay
16-264		gray limestone
23-64		lost circulation
145-153		cave
220-221		break
226-227		break
230-231		break
		water 8 gpm

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
6	new	plastic solid	+2 - 77 0.280
4.5	new	plastic slotted	119 - 256 0.248

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**IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY**

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Please include the report's Tracking Number on your written request.

**Texas Department of Licensing and Regulation  
P.O. Box 12157  
Austin, TX 78711  
(512) 334-5540**

**Texas Parks and Wildlife Department**  
**Pedernales Falls State Park Wastewater Treatment Facility**  
**Texas Land Application Permit (TLAP) –Renewal Application**

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**T.9 WELL REPORTS BY ID**  
**WELL ID # 34919**

# STATE OF TEXAS WELL REPORT for Tracking #34919

Owner: **Gary Hendrix**

Owner Well #: **1**

Address: **5401 Mary Anna Dr.  
Austin, TX 78746**

Grid #: **57-46-3**

Well Location: **FM 2766  
Johnson City, TX 78636**

Latitude: **30° 20' 01" N**

Longitude: **098° 15' 48" W**

Well County: **Blanco**

Elevation: **No Data**

**\*\*Plugged Within 48 Hours\*\***

**\*\*This well has been plugged\*\***

**Plugging Report Tracking #109016**

Type of Work: **New Well**

Proposed Use: **Domestic**

Drilling Start Date: **3/1/2004**

Drilling End Date: **3/1/2004**

Borehole:

<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
<b>8.62</b>	<b>0</b>	<b>55</b>
<b>6.75</b>	<b>55</b>	<b>63</b>
<b>6</b>	<b>63</b>	<b>304</b>

Drilling Method: **Air Hammer**

Borehole Completion: **Plugged**

Annular Seal Data:

<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>	<i>Description (number of sacks &amp; material)</i>
<b>0</b>	<b>20</b>	<b>2 cement</b>

Seal Method: **gravity cemented**

Distance to Property Line (ft.): **1000**

Sealed By: **Driller**

Distance to Septic Field or other  
concentrated contamination (ft.): **n/a**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **estimated**

Surface Completion: **Unknown**

Water Level: **No Data**

Packers: **none**

Type of Pump: **No Data**

Well Tests: **No Test Data Specified**

Plug Information:

<i>Description (number of sacks &amp; material)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
<b>none 0 - 20 cement 2 sacks</b>		

Water Quality:

<i>Strata Depth (ft.)</i>	<i>Water Type</i>
<b>No Data</b>	<b>No Data</b>

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which  
contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **L & L Drilling Co.**

**Drawer 217  
Hye, TX 78635**

Driller Name: **Gregory A. Smith**

License Number: **1595**

Apprentice Name: **Lynette Smith**

Apprentice Number: **WWDAPP00001  
264**

Comments: **No Data**

Lithology:  
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:  
BLANK PIPE & WELL SCREEN DATA

<i>Top (ft.)</i>	<i>Bottom (ft.)</i>	<i>Description</i>
<b>0</b>	<b>3</b>	<b>brown topsoil</b>
<b>3</b>	<b>8</b>	<b>brown, white &amp; gray limestone</b>
<b>8</b>	<b>14</b>	<b>brown &amp; gray limestone</b>
<b>14</b>	<b>25</b>	<b>gray &amp; white limestone</b>
<b>25</b>	<b>50</b>	<b>gray limestone</b>
<b>50</b>	<b>108</b>	<b>gray &amp; white limestone</b>
<b>108</b>	<b>114</b>	<b>gray &amp; brown limestone</b>
<b>114</b>	<b>304</b>	<b>gray limestone</b>

<i>Dia. (in.)</i>	<i>New/Used</i>	<i>Type</i>	<i>Setting From/To (ft.)</i>
<b>none</b>			

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**Texas Department of Licensing and Regulation**  
**P.O. Box 12157**  
**Austin, TX 78711**  
**(512) 334-5540**

357	358	water 3 gpm
467	531	black & gray limestone
531	559	gray shale with gray limestone layers
559	626	black limestone
626	703	black hard shale with gray limestone layers
703	1580	white, gray & brown limestone
1078	1084	water 30 gpm
1160	1161	water
1580	1664	white, gray & brown limestone
1621	1623	water 5 gpm
1663	1664	water 23 gpm

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**Texas Department of Licensing and Regulation**  
**P.O. Box 12157**  
**Austin, TX 78711**  
**(512) 334-5540**

## STATE OF TEXAS PLUGGING REPORT for Tracking #109016

Owner: **Gary Hendrix**

Owner Well #: **1**

Address: **5401 Mary Anna Dr.  
Austin, TX 78746**

Grid #: **57-46-3**

Well Location: **FM 2766  
Johnson City, TX 78636**

Latitude: **30° 20' 01" N**

Longitude: **098° 15' 48" W**

Well County: **Blanco**

Elevation: **No Data**

Well Type: **Domestic**

### Drilling Information

Company: **L & L Drilling Co.**

Date Drilled: **3/1/2004**

Driller: **Gregory Allen Smith**

License Number: **1595**

### Well Report Tracking #34919

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	<b>8.62</b>	<b>0</b>	<b>55</b>
	<b>6.75</b>	<b>55</b>	<b>63</b>
	<b>6</b>	<b>63</b>	<b>304</b>

### Plugging Information

Date Plugged: **3/1/2004**

Plugger: **Gregory A. Smith**

Plug Method: **Unknown**

Casing Left in Well:

Plug(s) Placed in Well:

**No Data**

*Description (number of sacks & material)*

**none 0 - 20 cement 2 sacks**

Certification Data:

The driller certified that the driller plugged this well (or the well was plugged under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the reports(s) being returned for completion and resubmittal.

Company Information: **L & L Drilling Co.**

**Drawer 217  
Hye, TX 78635**

Driller Name: **Gregory A. Smith**

License Number: **1595**

Apprentice Name: **Lynette Smith**

Apprentice Number: **WWDAPP00001  
264**

Comments: **No Data**

**Texas Parks and Wildlife Department**  
**Pedernales Falls State Park Wastewater Treatment Facility**  
**Texas Land Application Permit (TLAP) –Renewal Application**

---



**T.9 WELL REPORTS BY ID**  
**WELL ID # 34922**

## STATE OF TEXAS WELL REPORT for Tracking #34922

Owner: **Gary Hendrix**

Owner Well #: **2**

Address: **5401 Mary Anna Dr.  
Austin, TX 78746**

Grid #: **57-46-6**

Well Location: **FM 2766  
Johnson City, TX 78636**

Latitude: **30° 19' 59" N**

Longitude: **098° 15' 50" W**

Well County: **Blanco**

Elevation: **No Data**

**\*\*Plugged Within 48 Hours\*\***

**\*\*This well has been plugged\*\***

**Plugging Report Tracking #109018**

Type of Work: **New Well**

Proposed Use: **Domestic**

Drilling Start Date: **3/1/2004**

Drilling End Date: **3/2/2004**

Borehole:

<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
<b>6</b>	<b>0</b>	<b>304</b>

Drilling Method: **Air Hammer**

Borehole Completion: **Plugged**

Annular Seal Data:

<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>	<i>Description (number of sacks &amp; material)</i>
<b>0</b>	<b>20</b>	<b>2 cement</b>

Seal Method: **gravity cemented**

Distance to Property Line (ft.): **1000**

Sealed By: **Driller**

Distance to Septic Field or other  
concentrated contamination (ft.): **n/a**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **estimated**

Surface Completion: **Unknown**

Water Level: **No Data**

Packers: **none**

Type of Pump: **No Data**

Well Tests: **No Test Data Specified**

Plug Information:

<i>Description (number of sacks &amp; material)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
<b>none 0 - 20 cement 2 sacks</b>		

Water Quality:

<i>Strata Depth (ft.)</i>	<i>Water Type</i>
<b>No Data</b>	<b>No Data</b>

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which  
contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **L & L Drilling Co.**

**Drawer 217  
Hye, TX 78635**

Driller Name: **Gregory A. Smith**

License Number: **1595**

Apprentice Name: **Lynette Smith**

Apprentice Number: **WWDAPP00001  
264**

Comments: **No Data**

Lithology:  
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:  
BLANK PIPE & WELL SCREEN DATA

<i>Top (ft.)</i>	<i>Bottom (ft.)</i>	<i>Description</i>
<b>0</b>	<b>9</b>	<b>white, brown &amp; gray limestone</b>
<b>9</b>	<b>50</b>	<b>gray limestone</b>
<b>50</b>	<b>57</b>	<b>red limestone &amp; shale</b>
<b>57</b>	<b>304</b>	<b>gray limestone</b>

<i>Dia. (in.)</i>	<i>New/Used</i>	<i>Type</i>	<i>Setting From/To (ft.)</i>
<b>none</b>			

#### IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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**Texas Department of Licensing and Regulation  
P.O. Box 12157  
Austin, TX 78711  
(512) 334-5540**

## STATE OF TEXAS PLUGGING REPORT for Tracking #109018

Owner: **Gary Hendrix**

Owner Well #: **2**

Address: **5401 Mary Anna Dr.  
Austin, TX 78746**

Grid #: **57-46-6**

Well Location: **FM 2766  
Johnson City, TX 78636**

Latitude: **30° 19' 59" N**

Longitude: **098° 15' 50" W**

Well County: **Blanco**

Elevation: **No Data**

Well Type: **Domestic**

### Drilling Information

Company: **L & L Drilling Co.**

Date Drilled: **3/2/2004**

Driller: **Gregory Allen Smith**

License Number: **1595**

### Well Report Tracking #34922

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	<b>6</b>	<b>0</b>	<b>304</b>

### Plugging Information

Date Plugged: **3/2/2004**

Plugger: **Gregory A. Smith**

Plug Method: **Unknown**

Casing Left in Well:

Plug(s) Placed in Well:

**No Data**

*Description (number of sacks & material)*

**none 0 - 20 cement 2 sacks**

Certification Data: The driller certified that the driller plugged this well (or the well was plugged under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the reports(s) being returned for completion and resubmittal.

Company Information: **L & L Drilling Co.**

**Drawer 217  
Hye, TX 78635**

Driller Name: **Gregory A. Smith**

License Number: **1595**

Apprentice Name: **Lynette Smith**

Apprentice Number: **WWDAPP00001  
264**

Comments: **No Data**

**Texas Parks and Wildlife Department**  
**Pedernales Falls State Park Wastewater Treatment Facility**  
**Texas Land Application Permit (TLAP) –Renewal Application**

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**T.9 WELL REPORTS BY ID**  
**WELL ID # 444037**

# STATE OF TEXAS WELL REPORT for Tracking #444037

Owner: <b>Pedernales Blue Hole LTD</b>	Owner Well #: <b>No Data</b>
Address: <b>100 Congress Ave. Suite 1450 Austin, TX 78701</b>	Grid #: <b>57-47-1</b>
Well Location: <b>RR 962 Cypress Mill, TX 78663</b>	Latitude: <b>30° 20' 30.5" N</b>
Well County: <b>Blanco</b>	Longitude: <b>098° 14' 51" W</b>
	Elevation: <b>No Data</b>

Type of Work: <b>New Well</b>	Proposed Use: <b>Domestic</b>
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Drilling Start Date: **2/9/2017**      Drilling End Date: **2/24/2017**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	<b>9.5</b>	<b>0</b>	<b>155</b>
	<b>6.75</b>	<b>155</b>	<b>185</b>
	<b>6</b>	<b>185</b>	<b>1664</b>

Drilling Method: **Air Hammer**

Borehole Completion: **Filter Packed**

	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>	<i>Filter Material</i>	<i>Size</i>
Filter Pack Intervals:	<b>51</b>	<b>155</b>	<b>Gravel</b>	<b>pea</b>

	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>	<i>Description (number of sacks &amp; material)</i>
Annular Seal Data:	<b>1</b>	<b>3</b>	<b>Cement 0.5 Bags/Sacks</b>
	<b>3</b>	<b>51</b>	<b>Bentonite 7 Bags/Sacks</b>

Seal Method: **Gravity**

Distance to Property Line (ft.): **200**

Sealed By: **Driller**

Distance to Septic Field or other concentrated contamination (ft.): **1000**

Distance to Septic Tank (ft.): **1000**

Method of Verification: **estimated**

Surface Completion: <b>Surface Sleeve Installed</b>	<b>Surface Completion by Driller</b>
---	--------------------------------------

Water Level: <b>70 ft. below land surface on 2017-02-24</b>	Measurement Method: <b>Sonic/Radar</b>
---	--

Packers: **none**

Type of Pump: **No Data**

Well Tests: **Jetted**      **Yield: 85 GPM**

Water Quality:

<i>Strata Depth (ft.)</i>	<i>Water Type</i>
<b>65 - 66</b>	<b>No Data</b>
<b>84 - 85</b>	<b>No Data</b>
<b>357 - 358</b>	<b>No Data</b>
<b>1078 - 1084</b>	<b>No Data</b>
<b>1160 - 1161</b>	<b>No Data</b>
<b>1621 - 1623</b>	<b>No Data</b>
<b>1663 - 1664</b>	<b>No Data</b>

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which  
contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **L & L Drilling Co.**

**P.O. Box 217  
Hye, TX 78635**

Driller Name: **Gregory A. Smith**

License Number: **1595**

Comments: **jetted @ 340' yield 46 gpm  
jetted @ 500' yield 60 gpm**

Lithology:  
DESCRIPTION & COLOR OF FORMATION MATERIAL

<i>Top (ft.)</i>	<i>Bottom (ft.)</i>	<i>Description</i>
<b>0</b>	<b>2</b>	<b>brown topsoil &amp; clay</b>
<b>2</b>	<b>41</b>	<b>white &amp; yellow limestone</b>
<b>41</b>	<b>63</b>	<b>gray clay with brown limestone layers</b>
<b>63</b>	<b>134</b>	<b>red, white, yellow &amp; gray limestone with red clay layers</b>
<b>65</b>	<b>66</b>	<b>water 4 gpm</b>
<b>84</b>	<b>85</b>	<b>water 20 gpm</b>
<b>134</b>	<b>148</b>	<b>gray limestone</b>
<b>148</b>	<b>201</b>	<b>gray &amp; black limestone</b>
<b>201</b>	<b>356</b>	<b>gray &amp; white limestone</b>
<b>356</b>	<b>467</b>	<b>gray, brown &amp; white limestone</b>

Casing:  
BLANK PIPE & WELL SCREEN DATA

<i>Dia (in.)</i>	<i>Type</i>	<i>Material</i>	<i>Sch./Gage</i>	<i>Top (ft.)</i>	<i>Bottom (ft.)</i>
<b>6</b>	<b>Blank</b>	<b>New Plastic (PVC)</b>	<b>40 0.28</b>	<b>0</b>	<b>65</b>
<b>6</b>	<b>Perforated or Slotted</b>	<b>New Plastic (PVC)</b>	<b>40 0.28</b>	<b>65</b>	<b>155</b>

357	358	water 3 gpm
467	531	black & gray limestone
531	559	gray shale with gray limestone layers
559	626	black limestone
626	703	black hard shale with gray limestone layers
703	1580	white, gray & brown limestone
1078	1084	water 30 gpm
1160	1161	water
1580	1664	white, gray & brown limestone
1621	1623	water 5 gpm
1663	1664	water 23 gpm

---

**IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY**

TEX. OCC. CODE Title 12, Chapter 1901.251, authorizes the owner (owner or the person for whom the well was drilled) to keep information in Well Reports confidential. 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.

Please include the report's Tracking Number on your written request.

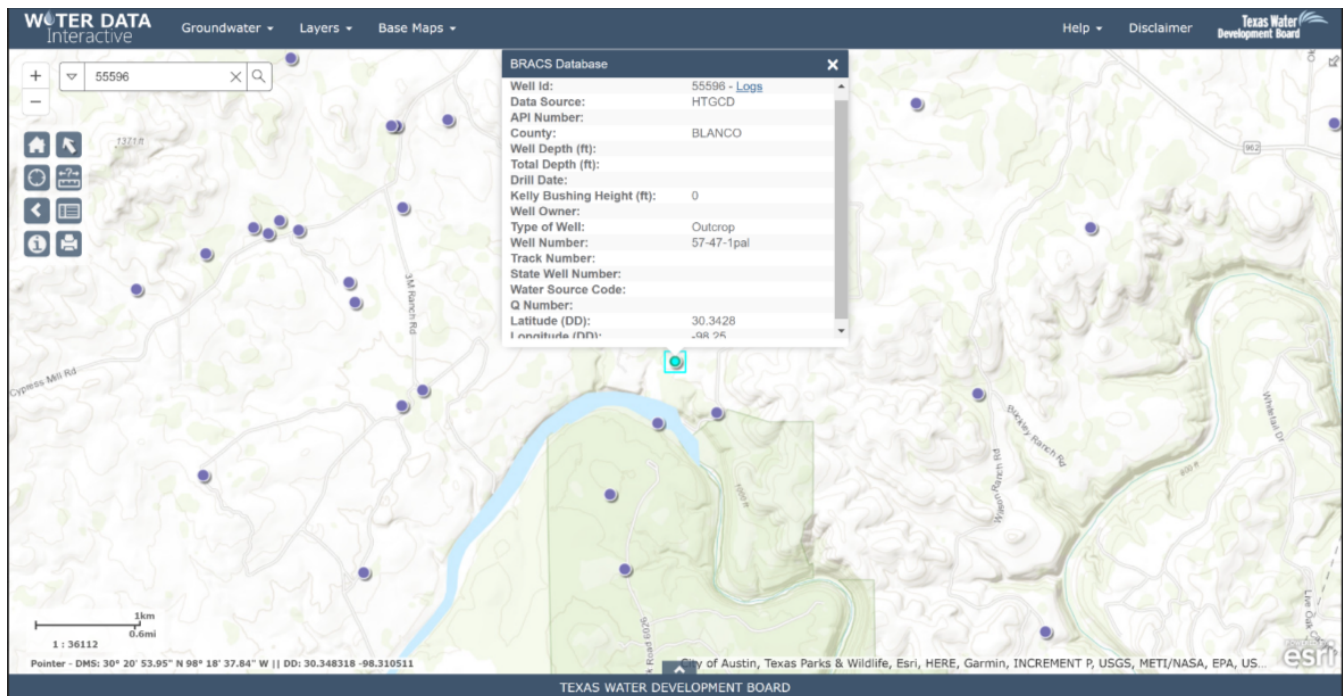
**Texas Department of Licensing and Regulation**  
**P.O. Box 12157**  
**Austin, TX 78711**  
**(512) 334-5540**

**Texas Parks and Wildlife Department**  
**Pedernales Falls State Park Wastewater Treatment Facility**  
**Texas Land Application Permit (TLAP) –Renewal Application**

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**T.9 WELL REPORTS BY ID**  
**WELL ID # 55596 (HTGCD)**



**Texas Water Development Board**

**Brackish Resources Aquifer Characterization System (BRACS) Database**

**Please note:**

**There is no geophysical well log available for this well.**

**The BRACS Database contains records of many types of wells, some of which do not have complete information. However, there may be a geophysical well log available for a nearby well.**

**If you need assistance locating a log, please contact BRACS staff at: [BRACS-SUPPORT@twdb.texas.gov](mailto:BRACS-SUPPORT@twdb.texas.gov)**

**For additional well attributes, you may download the most recent BRACS Database (MS Access format) and database data dictionary that explains the tables of information at:**

**<http://www.twdb.texas.gov/innovativewater/bracs/database.asp>**

**TPWD - PEDERNALES FALLS STATE PARK WWTP**  
**TCEQ TLAP PERMIT RENEWAL APPLICATION**  
**DOMESTIC TECHNICAL WORKSHEET 3.0, SECTION 7 ATTACHMENT**  
**T.10 - Groundwater Quality Technical Report**

The purpose of this report is to assess the impact of the effluent from the proposed wastewater treatment pond to the irrigation land. The following sections include a description of the local groundwater resources, description of the proposed effluent application method, and any practices or features that will prevent impacts to groundwater.

Pedernales Falls State Park is located in Blanco County east of Johnson City. All wells within Pedernales Falls State Park fall into Blanco – Pedernales Groundwater Conservation District and water is withdrawn from seven aquifers:

- Edwards-Trinity (Plateau)
- Upper Trinity
- Middle Trinity
- Lower Trinity
- Ellenburger-San Saba
- Hickory
- Marble Falls

Wells identified in Worksheet 3.0, Section 6 Table 3.0(3) withdraw water mainly from Upper, Middle Trinity and Marble Falls based on Texas Water Development Board groundwater database. Well depths vary from 40 feet to 300 feet deep. Average water levels in these wells vary from 29 feet to 70 feet below land surface elevation. Groundwater yields from Upper and Middle Trinity aquifers are generally low between 10-50 gpm, but can occasionally be significantly higher. Water quality for these wells are normally good with occasionally high sulfate level. Production Upper and Middle aquifers is primarily used for municipal, rural domestic, and livestock demands. Marble Falls aquifer an unconfined limestone aquifer. Wells withdrawing water from this aquifer can have relatively high nitrate concentrations. Groundwater usage is limited to local domestic and livestock needs.

Effluent from the proposed wastewater treatment pond will be applied to irrigation land as the method of land disposal. Irrigation area is 10 acres with an average 0.023% slope. Design application rate is 3.53 acre-ft/acre/year. Application method is irrigation sprinkler system. Based on the water balance calculations as shown in Attachment T-2 and annual cropping plan, total depths of crop uptake, evapotranspiration, and depth of the groundwater being used by wells within Pedernales Falls State Park are greater than the average applicate rate per acre. The effluent applied to the irrigation land at 3.53 acre-ft/acre/year application rate is not anticipated to affect the local groundwater usage and quality.

The proposed wastewater treatment ponds will consist of a facultative pond and a series of two stabilization ponds. A typical HDPE/Membrane liner system will be provided at with a minimum

thickness of 40 mils. Liner will include an underdrain with a leachate detection and collection system. Material of the proposed liner should be able to withstand constant sunlight without degrading. Liner permeability should meet no more than  $1 \times 10^{-7}$  centimeters per second (cm/s) as required by TCEQ 30 TAC Chapter 217, Subchapter H.

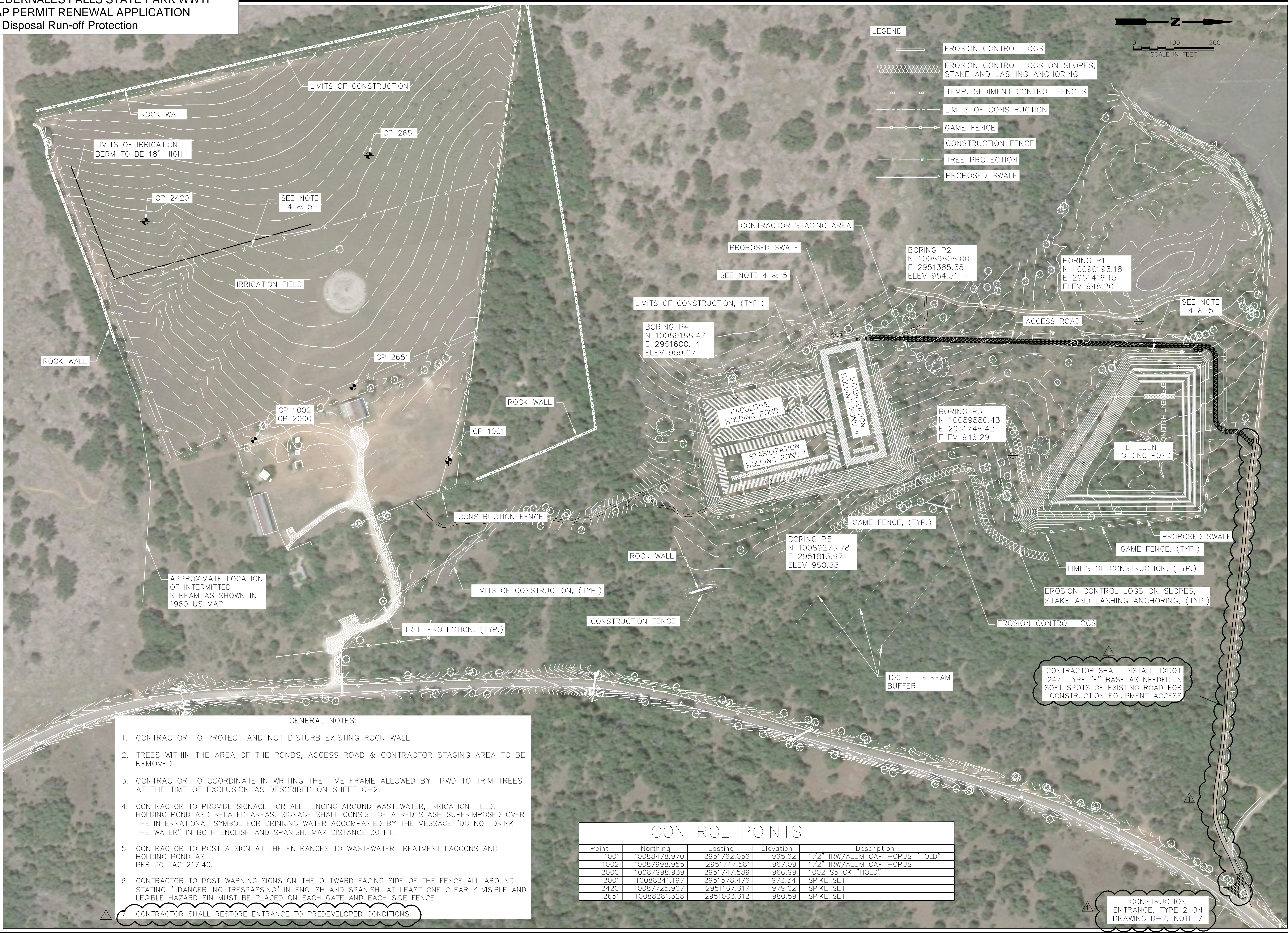
No groundwater monitoring wells are included in this case.

**Texas Parks and Wildlife Department**  
**Pedernales Falls State Park Wastewater Treatment Facility**  
**Texas Land Application Permit (TLAP) –Renewal Application**

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**Supplemental Attachments**



## **S.2 SOIL SAMPING & ANALYSIS**



**TPWD - PEDERNALES FALLS STATE PARK WWTP  
TCEQ TLAP PERMIT RENEWAL APPLICATION  
DOMESTIC TECHNICAL WORKSHEET 3.0, SECTION 8 ATTACHMENT  
S.2 – Soil Sampling & Analysis**

TCEQ TLAP permit for the above referenced facility, WQ001570801, contains Special Provision Item # 11 requiring soil samples from the root zones of the land application area receiving wastewater, refer to permit expert below. Soil sampling shall be conducting in December to February of each year, with samples being analyzed within 30 days of collection. 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 land application field must be submitted to the TCEQ Regional Office (MC Region 11) and the Compliance Monitoring Team (MC 224) no later than September 1<sup>st</sup> 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 during that year.

Construction of this facility is anticipated to be complete in January of 2025, with the first occurrence of effluent land disposal anticipated in the 2<sup>nd</sup> quarter of 2025. As such, wastewater is not anticipated to have been applied to the soil for the December 2024 to February 2025 sampling period. In mid to late January of 2025, verification of the anticipated irrigation disposal operation will be reassessed and in coordination with TCEQ's Compliance Monitoring Team, a determination on soil sampling and analyses in February 2025 will be made.

Baseline soil analyses obtained for the original wastewater permit application is attached for reference. Soil samples were collected on November 26, 2018 and tested over the next two weeks. Treated wastewater effluent has not been applied to the land disposal site since these soil samples were collected.

TCEQ Permit WQ001570801

Special Provisions, pg. 33

11. The permittee shall obtain representative soil samples from the root zones of the land application areas receiving wastewater. The common area and residential areas shall be sampled separately. Composite sampling techniques shall be used. Each composite sample shall represent no more than 10 acres with no less than 10 to 15 subsamples representing each composite sample. Subsamples shall be composited by like sampling depth, type of crop 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 6, 6 to 18 inches, and 18 to 30 inches below ground level. The permittee shall sample soils in December to February of each year. Soil samples shall be analyzed within 30 days of sample collection.

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 N 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(P)	mg/kg (dry weight basis)
Plant-available: Potassium (K)	May be determined in the same Mehlich III extract with inductively coupled plasma	5 (K)	mg/kg (dry weight basis)
Amendment addition, e.g., gypsum			Report in short tons/acre 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 11) and to the Compliance Monitoring Team (MC 224) no later than September 1<sup>st</sup> 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.

TCEQ Permit WQ001570801

Special Provisions, pg. 33

11. The permittee shall obtain representative soil samples from the root zones of the land application areas receiving wastewater. The common area and residential areas shall be sampled separately. Composite sampling techniques shall be used. Each composite sample shall represent no more than 10 acres with no less than 10 to 15 subsamples representing each composite sample. Subsamples shall be composited by like sampling depth, type of crop 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 6, 6 to 18 inches, and 18 to 30 inches below ground level. The permittee shall sample soils in December to February of each year. Soil samples shall be analyzed within 30 days of sample collection.

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Total Nitrogen	= TKN plus Nitrate-nitrogen		mg/kg (dry weight basis)
Plant-available: Phosphorus	Mehlich III with inductively coupled plasma	1(P)	mg/kg (dry weight basis)
Plant-available: Potassium (K)	May be determined in the same Mehlich III extract with inductively coupled plasma	5 (K)	mg/kg (dry weight basis)
Amendment addition, e.g., gypsum			Report in short tons/acre 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 11) and to the Compliance Monitoring Team (MC 224) no later than September 1<sup>st</sup> 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.



Professional Service Industries, Inc.  
3 Burwood Lane  
San Antonio, TX 78216  
Phone: (210) 342-9377  
Fax: (210) 342-9401

December 12, 2018

Attention: Nicole Chupka  
TPWD Infrastructure Contract Manager  
Email: Nicole.chupka@tpwd.texas.gov

Texas Parks and Wildlife Department  
4200 Smith School Road  
Austin, Texas 78744

**Re: Soil Sampling Services**  
**Proposed Effluent Irrigation Field**  
**Modification to Task Order #41; P.O. #501655; Pursuant to Blanket Contract #443637**  
**Pedernales Falls State Park – Water and Wastewater System Improvements; TPWD #114243**  
30.32444444, -98.25805556  
Approx. 650 ft West of Bird Blind at 4355 Park Road 6026  
Johnson City, Blanco County, TX 78636  
PSI Project No.: 0435-3803

Dear Ms. Chupka:

Thank you for choosing Professional Service Industries, Inc. (PSI), an Intertek company. The information you requested is attached.

PSI performed the soil sampling services that you requested in general accordance with our agreement dated October 29, 2018. PSI transmits one electronic copy with this letter.

We thank you for your business and we look forward to finding ways to grow our partnership, expand our services, and continue Building Better Together.

For Professional Service Industries, Inc.

A handwritten signature in black ink that reads "Andrea Clements".

Andrea Clements  
Environmental Scientist

A handwritten signature in blue ink that reads "David Hill".

David Hill, PE, PG  
Principal Consultant



Professional Service Industries, Inc.  
3 Burwood Lane, San Antonio, TX 78216  
Tel: +1 210 342 9377  
Fax: +1 210 342 9401

Attention: Nicole Chupka  
TPWD Infrastructure Contract Manager  
Email: Nicole.chupka@tpwd.texas.gov

Texas Parks and Wildlife Department  
4200 Smith School Road  
Austin, Texas 78744

**Re: Soil Sampling Services**  
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**Modification to Task Order #41; P.O. #501655; Pursuant to Blanket Contract #443637**  
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30.32444444, -98.25805556  
Approx. 650 ft West of Bird Blind at 4355 Park Road 6026  
Johnson City, Blanco County, TX 78636  
PSI Project No.: 0435-3803

Dear Ms. Chupka:

Thank you for your interest in Professional Service Industries, Inc. (PSI), an Intertek company. PSI has performed the soil testing requested at the above referenced location. PSI provided its services in general accordance with our proposal number 0435-259984 dated October 29, 2018.

#### **PROJECT UNDERSTANDING**

PSI understands that the client requested soil sampling and analysis in accordance with the land application that will be filed with the TCEQ. An approximately 10-acre area is planned for irrigation with treated wastewater coming from a lagoon system.

Soil sampling under the application requires composite or benchmark sampling techniques from each of multiple horizons of the wastewater application area. Individual soil types as defined by the USDA Soil Conservation Service Soil Survey should be sampled at zones 0-6, 6-18, and 18-30 inches. PSI understands that only one soil type is present on the approximately 10-acre site - Hensley loam, 1 to 3 percent slopes (map symbol: 15). Each composite sample must represent no more than 80 acres with no less than 15 subsamples representing each composite sample. Subsamples must be composited by individual site, zone, and soil type for analysis and reporting.

#### **SCOPE OF WORK**

The proposed environmental services consisted of the following:



- Perform soil sampling and testing for the appropriate parameters (Form TCEQ-10053-Instructions for Completing Domestic Wastewater Permit Applications – Instructions for Domestic Worksheet 3.0 – Land Application of Effluent – 8. Soil Analyses pgs. 78-79).
  - Hensley loam: One (1) composite soil sample from at least 15 locations from the Zone (0-6") below grade and laboratory testing for the following parameters: pH, electrical conductivity, sodium adsorption ratio (SAR), total Kjeldahl nitrogen (TKN), total nitrogen, nitrate-nitrogen, potassium, phosphorous, calcium, magnesium, sulfur, and sodium.
  - Hensley loam: One (1) composite soil sample from at least 15 locations from the Zone (6"-18") and laboratory testing will consist of the following parameters: pH, electrical conductivity, sodium adsorption ratio (SAR), total Kjeldahl nitrogen (TKN), total nitrogen, nitrate-nitrogen, potassium, phosphorous, calcium, magnesium, sulfur, and sodium.
  - Hensley loam: One (1) composite soil sample from at least 15 locations from Zone (18"-30") and laboratory testing will consist of the following parameters: pH, electrical conductivity, sodium adsorption ratio (SAR), total Kjeldahl nitrogen (TKN), total nitrogen, nitrate-nitrogen, potassium, phosphorous, calcium, magnesium, sulfur, and sodium.
- Report of the soil analysis and evaluation will also include the soil series name; total depth of the soil series; permeability of the soil series by depth; and available water capacity of the soil series by depth.

## SOIL EVALUATION

The United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Custom Soil Resource Report for Blanco and Burnet Counties, Texas was obtained on October 24, 2018 and is attached. A single soil type was identified on the subject site - Hensley loam, 1 to 3 percent slopes. Hensley loam is found on plains landforms, and the parent material consists of residuum weathered from limestone. The typical soil profile is H1 – 0 to 5 inches: loam, H2 – 5 to 18 inches clay, and H3 – 18 to 19 inches bedrock. The depth of the soil is not expected to exceed 20 inches. The soil type is well drained with no frequency of flooding or ponding. The capacity of the most limiting layer to transmit water (Ksat) is reported as moderately low to moderately high (0.06 to 0.20 inches/hour), which corresponds with permeability. There is very low available water storage in the profile, and it is not considered prime farmland. The soil does not have a hydric rating, which indicates that wetlands are unlikely to be present. The Hydrologic Soil Group is D: soils are clay loam, silty clay loam, sandy clay, silty clay, or clay; this group has the highest runoff potential; very low infiltration rates when thoroughly wetted and consist primarily of clay soils with a high swelling potential and soils with a clay layer at or near the surface and shallow soils over nearly impervious material.

## SOIL SAMPLING ACTIVITIES

On November 26, 2018, PSI collected soil samples from the proposed effluent water irrigation field utilizing a decontaminated hand auger and a steel sharp shooter shovel. The fifteen (15) soil sampling locations were randomly selected, and a sampling location map is attached. The samples at the subject site were collected at the proposed three (3) depth intervals of 0-6 inches, 6-18 inches, and 18-30 inches for the single soil type mapped by the USDA NRCS Custom Soil Resources Report and composited from the fifteen (15) locations.

The samples were mailed the same day in a sealed cooler on ice via FedEx Priority Overnight to A&B Labs located at 10100 East Fwy (I-10), Suite 100 in Houston, Texas for analysis. The soil samples were submitted to testing for the following parameters and methods listed below:

- % Moisture (SM 2540G)
- Water Soluble Nitrogen Anions – Nitrite, Nitrate (EPA 300.0)



- Ammonia as Nitrogen (EPA 350.3)
- Total Kjeldahl Nitrogen (TKN) (EPA 351.4)
- Total Nitrogen (EPA 351.4/300.0)
- Electrical Conductivity (STM D4940)
- pH (SW-846 9045D)
- Sodium Adsorption Rate (LA 29-B)
- Total Metals – Calcium, Magnesium, Sodium (SW-846 6010C)
- Available Metals – Mehlich 3 Extraction – Phosphorus & Sulfur (SW-846 6010C)
- Available Metals – Mehlich 3 Extraction – Calcium, Magnesium, Potassium, Sodium (SW-846 6010C)

### LABORATORY RESULTS

A summary table of the laboratory results is below, and a copy of the laboratory results from A&B Labs is attached. A&B Labs was provided the specifications for analysis from the TCEQ requirements (Form TCEQ-10053-Instructions for Completing Domestic Wastewater Permit Applications – Instructions for Domestic Worksheet 3.0 – Land Application of Effluent – 8. Soil Analyses pgs. 78-79).

<b>Summary of Analytical Testing Results</b> <b>Hensley loam, 1 to 3 percent slopes</b> <b>Sampling Date: 11/26/2018</b>			
<b>Analytical Parameter</b>	<b>Sample Depth (inches)</b>		
	<b>0-6"</b>	<b>6-18"</b>	<b>18-30"</b>
pH	9.1	9.2	8.9
Electrical Conductivity (umho/cm) ( <b>mmho/cm</b> )	242 <b>0.242</b>	181 <b>0.181</b>	167 <b>0.167</b>
Sodium Adsorption Ratio (SAR) (meq/L)	< 0.1	< 0.1	< 0.1
Total Kjeldahl Nitrogen (TKN) (mg/Kg)	211	240	114
Total Nitrogen (mg/Kg)	214	243	117
Nitrate-N (mg/Kg)	3.13	3.35	3.23
Potassium (mg/Kg)	204	144	62.6
Phosphorus (mg/Kg)	< 1.0	< 1.0	< 1.0
Calcium (mg/Kg)	4,509	5,131	7,545
Magnesium (mg/Kg)	273	308	381
Sodium (mg/Kg)	18.1	22.4	21.3
Sulfur (mg/Kg)	2.23	2.41	3.95

Complete copies of the analytical reports and Chain-of-Custody documentation are attached for your information.



We thank you for your business, and we look forward to finding ways to grow our partnership. Please call with any questions or if PSI can be of additional service.

For Professional Service Industries, Inc.

A handwritten signature in blue ink that reads "Andrea Clements".

Andrea Clements  
Staff Scientist

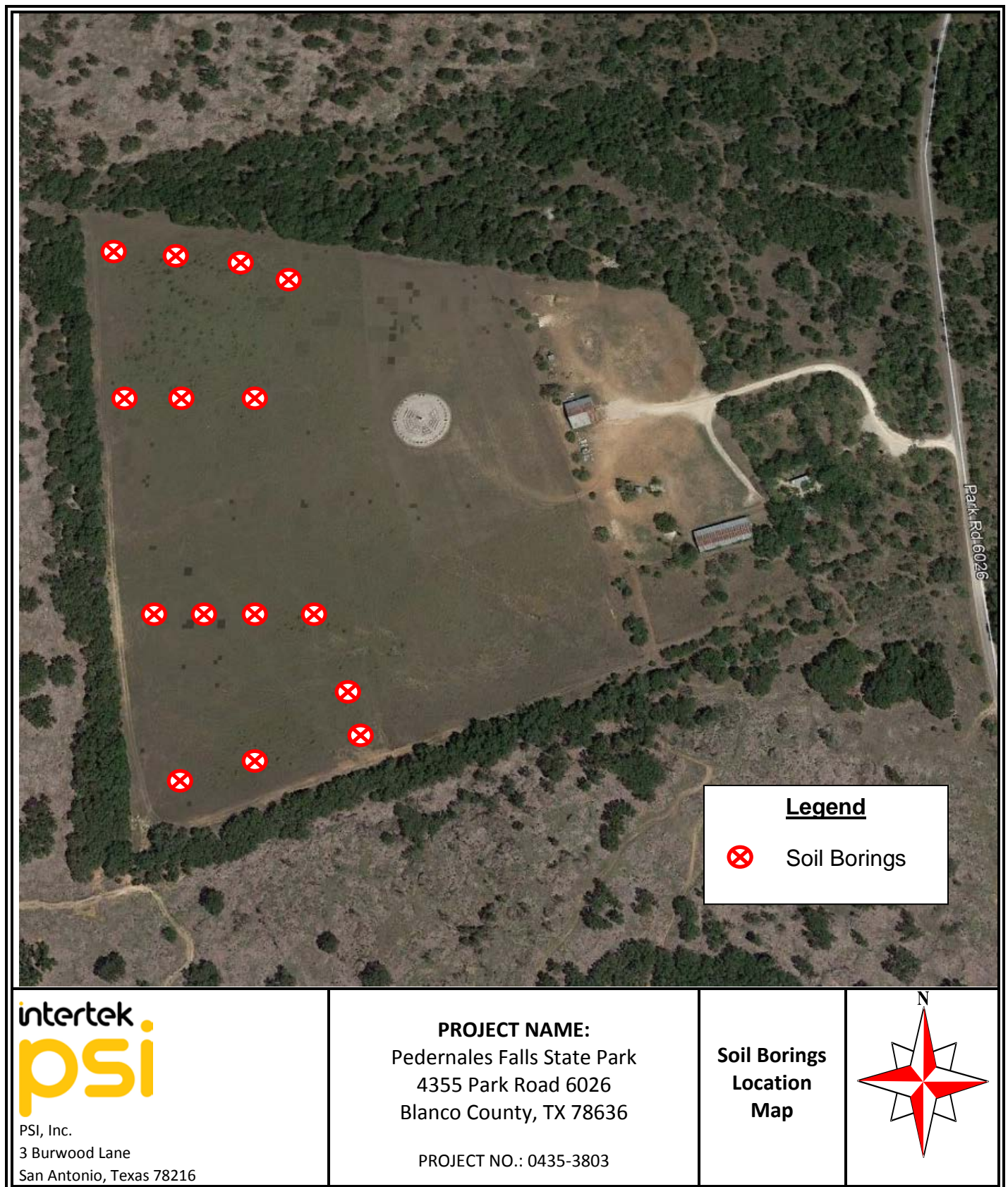
A handwritten signature in blue ink that reads "David Hill".

David Hill, PE, PG  
Senior Engineer

Attachments: Sampling Location Map  
A&B Labs Laboratory Report  
USDA NRCS Custom Soil Resource Report



## ATTACHMENTS



CORRECTED

## Laboratory Analysis Report

Total Number of Pages: 21

Job ID : 18111354



10100 East Freeway, Suite 100, Houston, TX 77029 tel: 713-453-6060, fax: 713-453-6091, <http://www.ablabs.com>

---

**Client Project Name :**  
**0435-3803 / Pedernates WTP Soil Testing**

<b>Report To :</b>	Client Name:	Intertek - PSI	P.O.#:
	Attn:	Andrea Clements	Sample Collected By: Andrea Clements
	Client Address:	3 Burwood Ln.	Date Collected: 11/26/18
	City, State, Zip:	San Antonio, Texas, 78216	

---

**A&B Labs has analyzed the following samples...**

Client Sample ID	Matrix	A&B Sample ID
1 0"-6"	Soil	18111354.01
2 6"-18"	Soil	18111354.02
3 18"-3"	Soil	18111354.03

*Shantall Carpenter*

Released By: Shantall Carpenter  
Title: Senior Project Manager  
Date: 12/12/2018



This Laboratory is NELAP ( T104704213-18-18) accredited. Effective: 10/25/2018; Expires: 3/31/2019  
Scope: Non-Potable Water, Drinking Water, Air, Solid, Biological Tissue, Hazardous Waste

I am the laboratory manager, or his/her designee, and I am responsible for the release of this data package. This laboratory data package has been reviewed and is complete and technically compliant with the requirements of the methods used, except where noted in the attached exception reports. I affirm, to the best of my knowledge that all problems/anomalies observed by this laboratory (and if applicable, any and all laboratories subcontracted through this laboratory) that might affect the quality of the data, have been identified in the Laboratory Review Checklist, and that no information or data have been knowingly withheld that would affect the quality of the data.

This report cannot be reproduced, except in full, without prior written permission of A&B Labs. Results shown relate only to the items tested. Samples are assumed to be in acceptable condition unless otherwise noted. Blank correction is not made unless otherwise noted. Air concentrations reported are based on field sampling information provided by client. Soil samples are reported on a wet weight basis unless otherwise noted. Uncertainty estimates are available on request.

Corrected to dry-weight results and include SAR metals in PPM results.

Date Received : 11/27/2018 12:10

# LABORATORY TERM AND QUALIFIER DEFINITION REPORT



Job ID : 18111354

Date: 12/12/2018

## General Term Definition

Back-Wt	Back Weight	Post-Wt	Post Weight
BRL	Below Reporting Limit	ppm	parts per million
cfu	colony-forming units	Pre-Wt	Previous Weight
Conc.	Concentration	Q	Qualifier
D.F.	Dilution Factor	RegLimit	Regulatory Limit
Front-Wt	Front Weight	RPD	Relative Percent Difference
LCS	Laboratory Check Standard	RptLimit	Reporting Limit
LCSD	Laboratory Check Standard Duplicate	SDL	Sample Detection Limit
MS	Matrix Spike	surr	Surrogate
MSD	Matrix Spike Duplicate	T	Time
MW	Molecular Weight	TNTC	Too numerous to count
J	Estimation. Below calibration range but above MDL		

## Qualifier Definition

B1	Target analyte detected in method blank at or above the method reporting limit.
B3	Target analyte detected in method blank at or above the MDL or reporting limit. However, concentration found in the sample was $\geq 10$ times the concentration found in the blank.
H3	Sample was received and analyzed past holding time.
M2	Matrix Spike and/or Matrix Spike Duplicate recovery is below laboratory control limits due to matrix interference."The sample randomly selected as QC for this batch was not part of your project. Therefore, this sample matrix is not applicable to your project samples."
R1	RPD exceeds control limits.
R5	Sample RPD exceeds control limit due to non-homogeneity.



# LABORATORY TEST RESULTS

Job ID : 18111354

Date 12/12/2018

Client Name: Intertek - PSI Attn: Andrea Clements  
Project Name: 0435-3803 / Pedernates WTP Soil Testing

Client Sample ID: 1 0"-6" Job Sample ID: 18111354.01  
Date Collected: 11/26/18 Sample Matrix: Soil  
Time Collected: 14:25 % Moisture: 14.4  
Other Information:

Test Method	Parameter/Test Description	Result	Units	DF	Rpt Limit	Reg Limit	Q	Date Time	Analyst
SM 2540G	% Moisture								
	% Moisture	14.4	%	1	0.1			11/27/18 15:00	KRS
EPA 300.0	Water Soluble Anions								
	Nitrate/Nitrite as N*	3.13	mg/Kg	1	1			11/28/18 00:05	RR
	Nitrate-N*	3.13	mg/Kg	1	1			11/28/18 00:05	RR
	Nitrite-N*	BRL	mg/Kg	1	1			11/28/18 00:05	RR
EPA 350.3	Ammonia as Nitrogen								
	Ammonia as N*	2.22	mg/Kg	1	1			11/28/18 08:31	SG
EPA 351.4	Total Kjeldahl Nitrogen								
	TKN1*	211	mg/Kg	5	25			12/04/18 14:00	SG
EPA 351.4/300									
	Total Nitrogen1*	214	mg/Kg	1	5			12/04/18 15:00	SG
ASTM D4940	Electrical Conductivity								
	Conductance	242	umho/cm	1	5			12/04/18 13:30	LEB
SW-846 9045D	Corrosivity, pH								
	pH	9.1	s.u.	1			H3	11/28/18 10:30	KRS
	Temperature when read, °C <sup>1</sup>	20.8	s.u.	1			H3	11/28/18 10:30	KRS
LA 29-B	Sodium Adsorption Ratio								
	SAR <sup>1</sup>	BRL	meq/L	1	0.1			12/04/18 14:46	BRR
SW-846 6010C	Total Metals								
	Calcium*	63201	mg/Kg	1000	500			11/29/18 12:36	BRR
	Magnesium*	4813	mg/Kg	100	50			11/29/18 12:32	BRR
	Sodium*	22	mg/Kg	1	5			11/28/18 17:24	BRR
SW-846 6010C	Water Soluble Metals								
	Calcium	48.8	ppm	100	50			12/04/18 13:58	BRR
	Magnesium	6.26	ppm	2	1			12/10/18 14:46	BRR
	Sodium	0.78	ppm	2	5			12/10/18 14:46	BRR
SW-846 6010C	Available Metals - Mehlich 3 Extraction								
	Phosphorus*	BRL	mg/Kg	1	1			12/04/18 12:50	BRR
	Sulfur1*	2.23	mg/Kg	1	1			12/04/18 12:50	BRR
SW-846 6010C	Available Metals - Mehlich 3 Extraction								
	Calcium*	4509	mg/Kg	500	100			12/04/18 13:35	BRR
	Magnesium*	273	mg/Kg	10	2			12/04/18 14:24	BRR
	Potassium*	204	mg/Kg	1	2			12/04/18 14:35	BRR
	Sodium*	18.1	mg/Kg	1	0.2			12/04/18 14:35	BRR

Soil results reported on dry weight basis



# LABORATORY TEST RESULTS

Job ID : 18111354

Date 12/12/2018

Client Name: Intertek - PSI Attn: Andrea Clements  
Project Name: 0435-3803 / Pedernates WTP Soil Testing

Client Sample ID: 2 6"-18" Job Sample ID: 18111354.02  
Date Collected: 11/26/18 Sample Matrix: Soil  
Time Collected: 14:30 % Moisture: 15.8  
Other Information:

Test Method	Parameter/Test Description	Result	Units	DF	Rpt Limit	Reg Limit	Q	Date Time	Analyst
SM 2540G	% Moisture								
	% Moisture	15.8	%	1	0.1			11/27/18 15:00	KRS
EPA 300.0	Water Soluble Anions								
	Nitrate/Nitrite as N*	3.35	mg/Kg	1	1			11/28/18 00:27	RR
	Nitrate-N*	3.35	mg/Kg	1	1			11/28/18 00:27	RR
	Nitrite-N*	BRL	mg/Kg	1	1			11/28/18 00:27	RR
EPA 350.3	Ammonia as Nitrogen								
	Ammonia as N*	BRL	mg/Kg	1	1			11/28/18 08:31	SG
EPA 351.4	Total Kjeldahl Nitrogen								
	TKN1*	240	mg/Kg	5	25			12/04/18 14:00	SG
EPA 351.4/300									
	Total Nitrogen1*	243	mg/Kg	1	5			12/04/18 15:00	SG
ASTM D4940	Electrical Conductivity								
	Conductance	181	umho/cm	1	5			12/04/18 13:30	LEB
SW-846 9045D	Corrosivity, pH								
	pH	9.2	s.u.	1			H3	11/28/18 10:30	KRS
	Temperature when read, °C <sup>1</sup>	20.8	s.u.	1			H3	11/28/18 10:30	KRS
LA 29-B	Sodium Adsorption Ratio								
	SAR <sup>1</sup>	BRL	meq/L	1	0.1			12/04/18 14:50	BRR
SW-846 6010C	Total Metals								
	Calcium*	102732	mg/Kg	1000	500			11/29/18 12:43	BRR
	Magnesium*	6152	mg/Kg	100	50			11/29/18 12:40	BRR
	Sodium*	25.3	mg/Kg	1	5			11/28/18 17:32	BRR
SW-846 6010C	Water Soluble Metals								
	Calcium	47.3	ppm	100	50			12/04/18 14:01	BRR
	Magnesium	6.68	ppm	2	1			12/04/18 14:50	BRR
	Sodium	0.67	ppm	2	5			12/04/18 14:50	BRR
SW-846 6010C	Available Metals - Mehlich 3 Extraction								
	Phosphorus*	BRL	mg/Kg	1	1			12/04/18 12:52	BRR
	Sulfur1*	2.41	mg/Kg	1	1			12/04/18 12:52	BRR
SW-846 6010C	Available Metals - Mehlich 3 Extraction								
	Calcium*	5131	mg/Kg	500	100			12/04/18 13:39	BRR
	Magnesium*	308	mg/Kg	10	2			12/04/18 14:27	BRR
	Potassium*	144	mg/Kg	1	2			12/04/18 14:39	BRR
	Sodium*	22.4	mg/Kg	1	0.2			12/04/18 14:39	BRR

Soil results reported on dry weight basis



# LABORATORY TEST RESULTS

Job ID : 18111354

Date 12/12/2018

Client Name: Intertek - PSI Attn: Andrea Clements  
Project Name: 0435-3803 / Pedernates WTP Soil Testing

Client Sample ID: 3 18"-3" Job Sample ID: 18111354.03  
Date Collected: 11/26/18 Sample Matrix: Soil  
Time Collected: 14:36 % Moisture: 12.0  
Other Information:

Test Method	Parameter/Test Description	Result	Units	DF	Rpt Limit	Reg Limit	Q	Date Time	Analyst
SM 2540G	% Moisture								
	% Moisture	12	%	1	0.1			11/27/18 15:00	KRS
EPA 300.0	Water Soluble Anions								
	Nitrate/Nitrite as N*	3.23	mg/Kg	1	1			11/28/18 00:49	RR
	Nitrate-N*	3.23	mg/Kg	1	1			11/28/18 00:49	RR
	Nitrite-N*	BRL	mg/Kg	1	1			11/28/18 00:49	RR
EPA 350.3	Ammonia as Nitrogen								
	Ammonia as N*	BRL	mg/Kg	1	1			11/28/18 08:31	SG
EPA 351.4	Total Kjeldahl Nitrogen								
	TKN <sup>1</sup> *	114	mg/Kg	5	25			12/04/18 14:00	SG
EPA 351.4/300									
	Total Nitrogen <sup>1</sup> *	117	mg/Kg	1	5			12/04/18 15:00	SG
ASTM D4940	Electrical Conductivity								
	Conductance	167	umho/cm	1	5			12/04/18 13:30	LEB
SW-846 9045D	Corrosivity, pH								
	pH	8.9	s.u.	1			H3	11/28/18 10:30	KRS
	Temperature when read, °C <sup>1</sup>	20.8	s.u.	1			H3	11/28/18 10:30	KRS
LA 29-B	Sodium Adsorption Ratio								
	SAR <sup>1</sup>	BRL	meq/L	1	0.1			12/04/18 14:54	BRR
SW-846 6010C	Total Metals								
	Calcium*	204545	mg/Kg	5000	2500			11/29/18 12:51	BRR
	Magnesium*	31818	mg/Kg	1000	500			11/29/18 12:47	BRR
	Sodium*	75.2	mg/Kg	1	5			11/28/18 17:40	BRR
SW-846 6010C	Water Soluble Metals								
	Calcium	52.4	ppm	200	100			12/04/18 14:05	BRR
	Magnesium	6.38	ppm	2	1			12/04/18 14:54	BRR
	Sodium	1.11	ppm	2	5			12/04/18 14:54	BRR
SW-846 6010C	Available Metals - Mehlich 3 Extraction								
	Phosphorus*	BRL	mg/Kg	1	1			12/04/18 12:55	BRR
	Sulfur <sup>1</sup> *	3.95	mg/Kg	1	1			12/04/18 12:55	BRR
SW-846 6010C	Available Metals - Mehlich 3 Extraction								
	Calcium*	7545	mg/Kg	1000	200			12/04/18 13:48	BRR
	Magnesium*	381	mg/Kg	10	2			12/04/18 14:31	BRR
	Potassium*	62.6	mg/Kg	1	2			12/04/18 14:43	BRR
	Sodium*	21.3	mg/Kg	1	0.2			12/04/18 14:43	BRR

Soil results reported on dry weight basis

<sup>1</sup>-Parameter not available for accreditation

# QUALITY CONTROL CERTIFICATE



**Job ID :** 18111354

**Date :** 12/12/2018

<b>Analysis :</b> % Moisture	<b>Method :</b> SM 2540G	<b>Reporting Units :</b> %
<b>QC Batch ID :</b> Qb18112754	<b>Created Date :</b> 11/27/18	<b>Created By :</b> KRSaranya
<b>Samples in This QC Batch :</b> 18111354.01,02,03		
<b>Sample Preparation :</b> PB18112732	<b>Prep Method :</b> SM 2540G	<b>Prep Date :</b> 11/27/18 14:00 <b>Prep By :</b> KRSaranya

QC Type: Method Blank							
Parameter	CAS #	Result	Units	D.F.	RptLimit		Qual
% Moisture		BRL	%	1	0.1		

QC Type: Duplicate							
QC Sample ID: 18111357.05							
Parameter	QCSample Result	Sample Result	Units	RPD	RPD CtrLimit		Qual
% Moisture	16.8	17.0	%	1.2	20		

# QUALITY CONTROL CERTIFICATE



**Job ID :** 18111354

**Date :** 12/12/2018

**Analysis :** Ammonia as Nitrogen      **Method :** EPA 350.3      **Reporting Units :** mg/Kg

**QC Batch ID :** Qb18112802      **Created Date :** 11/28/18      **Created By :** Sgarcia

**Samples in This QC Batch :** 18111354.01,02,03

## QC Type: Method Blank

Parameter	CAS #	Result	Units	D.F.	RptLimit	Qual
Ammonia as N		BRL	mg/Kg	1	1	

## QC Type: LCS and LCSD

Parameter	LCS Spk Added	LCS Result	LCS % Rec	LCSD Spk Added	LCSD Result	LCSD % Rec	RPD	RPD CtrlLimit	%Recovery CtrlLimit	Qual
Ammonia as N	50	49.0	98	50	49.4	98.8	0.8	20	88.9-107	

## QC Type: MS and MSD

**QC Sample ID:** 18111194.01

Parameter	Sample Result	MS Spk Added	MS Result	MS % Rec	MSD Spk Added	MSD Result	MSD % Rec	RPD	RPD CtrlLimit	%Rec CtrlLimit	Qual
Ammonia as N	16.5	50	68.0	103	50	65.3	97.6	5.4	20	80-120	

# QUALITY CONTROL CERTIFICATE



**Job ID :** 18111354

**Date :** 12/12/2018

**Analysis :** Anions **Method :** EPA 300.0 **Reporting Units :** mg/Kg

**QC Batch ID :** Qb18112811 **Created Date :** 11/27/18 **Created By :** RRaval

**Samples in This QC Batch :** 18111354.01,02,03

**Sample Preparation :** PB18112806 **Prep Method :** EPA 300.0 **Prep Date :** 11/27/18 17:00 **Prep By :** RRaval

## QC Type: Method Blank

Parameter	CAS #	Result	Units	D.F.	RptLimit	Qual
Nitrate/Nitrite as N		BRL	mg/Kg	1	1	
Nitrate-N		BRL	mg/Kg	1	1	
Nitrite-N		BRL	mg/Kg	1	1	

## QC Type: LCS and LCSD

Parameter	LCS Spk Added	LCS Result	LCS % Rec	LCSD Spk Added	LCSD Result	LCSD % Rec	RPD	RPD CtrlLimit	%Recovery CtrlLimit	Qual
Nitrate/Nitrite as N	20	20.61	103	20	20.82	104	1	20	90-110	
Nitrate-N	10	9.91	99.1	10	9.92	99.2	0.1	20	90-110	
Nitrite-N	10	10.7	107	10	10.9	109	1.6	20	90-110	

## QC Type: MS and MSD

**QC Sample ID:** 18111194.01

Parameter	Sample Result	MS Spk Added	MS Result	MS % Rec	MSD Spk Added	MSD Result	MSD % Rec	RPD	RPD CtrlLimit	%Rec CtrlLimit	Qual
Nitrate/Nitrite as N	4.8	20	24.5	98.5						80-120	
Nitrate-N	3.48	10	12.1	86.6						80-120	
Nitrite-N	1.32	10	12.4	111						80-120	

# QUALITY CONTROL CERTIFICATE



**Job ID :** 18111354

**Date :** 12/12/2018

**Analysis :** Corrosivity, pH

**Method :** SW-846 9045D

**Reporting Units :** s.u.

**QC Batch ID :** Qb18112833

**Created Date :** 11/28/18

**Created By :** KRSaranya

**Samples in This QC Batch :** 18111354.01,02,03

**QC Type:** Duplicate

**QC Sample ID:** 18111401.01

Parameter	QCSample Result	Sample Result	Units	RPD	RPD CtrlLimit	Qual
pH	11.10	11.1	s.u.	0	5	

**QC Type:** LCS and LCSD

Parameter	LCS Assigned	LCS Result	LCSD Assigned	LCSD Result	RPD	RPD CtrlLimit	Tolerance	Qual
pH	4.0	4.00					98.75-101.25	

Refer to the Definition page for terms.

# QUALITY CONTROL CERTIFICATE



**Job ID :** 18111354

**Date :** 12/12/2018

**Analysis :** Total Recoverable Metals **Method :** SW-846 6010C **Reporting Units :** mg/Kg

**QC Batch ID :** Qb18112906 **Created Date :** 11/28/18 **Created By :** BRena

**Samples in This QC Batch :** 18111354.01,02,03

**Digestion :** PB18112851 **Prep Method :** SW-846 3050B **Prep Date :** 11/28/18 10:45 **Prep By :** Mwisman

## QC Type: Method Blank

Parameter	CAS #	Result	Units	D.F.	RptLimit		Qual
Calcium	7440-70-2	BRL	mg/Kg	1	0.5		
Magnesium	7439-95-4	BRL	mg/Kg	1	0.5		
Sodium	7440-23-5	BRL	mg/Kg	1	5		

## QC Type: LCS and LCSD

Parameter	LCS Spk Added	LCS Result	LCS % Rec	LCSD Spk Added	LCSD Result	LCSD % Rec	RPD	RPD CtrlLimit	%Recovery CtrlLimit	Qual
Calcium	25	25.30	101	25	25.60	103	1	20	81-116	
Magnesium	25	24.70	99	25	24.80	99	0.2	20	80-115	
Sodium	25	28.40	113	25	28.30	113	0.2	20	83-118	

## QC Type: MS and MSD

**QC Sample ID:** 18111357.04

Parameter	Sample Result	MS Spk Added	MS Result	MS % Rec	MSD Spk Added	MSD Result	MSD % Rec	RPD	RPD CtrlLimit	%Rec CtrlLimit	Qual
Calcium	1810.00	25	1820.00	53.3						75-125	M2
Magnesium	744.00	25	774.00	123						75-125	
Sodium	95.00	25	114.00	75.2						75-125	

# QUALITY CONTROL CERTIFICATE



**Job ID :** 18111354

**Date :** 12/12/2018

**Analysis :** Total Kjeldahl Nitrogen      **Method :** EPA 351.4      **Reporting Units :** mg/Kg

**QC Batch ID :** Qb18120426      **Created Date :** 12/04/18      **Created By :** Sgarcia

**Samples in This QC Batch :** 18111354.01,02,03

**Sample Preparation :** PB18120429      **Prep Method :** EPA 351.4      **Prep Date :** 12/04/18 07:30      **Prep By :** Sgarcia

## QC Type: Method Blank

Parameter	CAS #	Result	Units	D.F.	RptLimit	Qual
TKN		BRL	mg/Kg	1	5	

## QC Type: LCS and LCSD

Parameter	LCS Spk Added	LCS Result	LCS % Rec	LCSD Spk Added	LCSD Result	LCSD % Rec	RPD	RPD CtrlLimit	%Recovery CtrlLimit	Qual
TKN	50	48.5	97	50	47.1	94.2	2.9	20	80-115	

## QC Type: MS and MSD

**QC Sample ID:** 18111354.01

Parameter	Sample Result	MS Spk Added	MS Result	MS % Rec	MSD Spk Added	MSD Result	MSD % Rec	RPD	RPD CtrlLimit	%Rec CtrlLimit	Qual
TKN	180.4	250	418.3	95.2	250	397.8	87	4.2	20	80-120	

# QUALITY CONTROL CERTIFICATE



**Job ID :** 18111354

**Date :** 12/12/2018

**Analysis :** Available Metals - Mehlich 3 Extraction **Method :** SW-846 6010C **Reporting Units :** mg/Kg

**QC Batch ID :** Qb18120456 **Created Date :** 12/04/18 **Created By :** BRena

**Samples in This QC Batch :** 18111354.01,02,03

**Digestion :** PB18120428 **Prep Method :** USDA 4D6 **Prep Date :** 12/03/18 15:30 **Prep By :** JYou

## QC Type: Method Blank

Parameter	CAS #	Result	Units	D.F.	RptLimit	Qual
Phosphorus	7723-14-0	BRL	mg/Kg	1	1	
Sulfur	7704-34-9	BRL	mg/Kg	1	1	

## QC Type: Duplicate

**QC Sample ID:** 18111354.01

Parameter	QCSample Result	Sample Result	Units	RPD	RPD CtrlLimit	Qual
Phosphorus	BRL	BRL	mg/Kg	0	20	
Sulfur	2.86	1.91	mg/Kg	39.9	20	R5

# QUALITY CONTROL CERTIFICATE



**Job ID :** 18111354

**Date :** 12/12/2018

**Analysis :** Available Metals - Mehlich 3 Extraction **Method :** SW-846 6010C **Reporting Units :** mg/Kg

**QC Batch ID :** Qb18120457 **Created Date :** 12/04/18 **Created By :** BRena

**Samples in This QC Batch :** 18111354.01,02,03

**Digestion :** PB18120447 **Prep Method :** USDA 4D6 **Prep Date :** 12/03/18 15:30 **Prep By :** JYou

QC Type: Method Blank							
Parameter	CAS #	Result	Units	D.F.	RptLimit		Qual
Calcium	7440-70-2	0.242	mg/Kg	1	0.2		B3
Magnesium	7439-95-4	BRL	mg/Kg	1	0.2		
Potassium	7440-09-7	BRL	mg/Kg	1	2		
Sodium	7440-23-5	16.3	mg/Kg	1	0.2		B1

QC Type: Duplicate							
QC Sample ID: 18111354.01							
Parameter	QCSample Result	Sample Result	Units	RPD	CtrlLimit		Qual
Calcium	3750.0	3860.0	mg/Kg	2.9	20		
Magnesium	239.0	234.0	mg/Kg	2.1	20		
Potassium	192.0	175.0	mg/Kg	9.3	20		
Sodium	19.1	15.5	mg/Kg	20.8	20		R5

# QUALITY CONTROL CERTIFICATE



**Job ID :** 18111354

**Date :** 12/12/2018

**Analysis :** Sodium Adsorption Ratio **Method :** LA 29-B **Reporting Units :** meq/L

**QC Batch ID :** Qb18120458 **Created Date :** 12/04/18 **Created By :** BRena

**Samples in This QC Batch :** 18111354.01,02,03

**Sample Preparation :** PB18120426 **Prep Method :** LA 29-B **Prep Date :** 12/03/18 15:30 **Prep By :** JYou

## QC Type: Method Blank

Parameter	CAS #	Result	Units	D.F.	RptLimit	Qual
SAR		BRL	meq/L	1	0.1	

## QC Type: Duplicate

**QC Sample ID:** 18111354.01

Parameter	QCSample Result	Sample Result	Units	RPD	RPD CtrlLimit	Qual
SAR	0.01	BRL	meq/L	200	20	R5

# QUALITY CONTROL CERTIFICATE



**Job ID :** 18111354

**Date :** 12/12/2018

**Analysis :** Conductivity **Method :** ASTM D4940 **Reporting Units :** umho/cm

**QC Batch ID :** Qb18120481 **Created Date :** 11/04/18 **Created By :** LEBell

**Samples in This QC Batch :** 18111354.01,02,03

QC Type: Method Blank							
Parameter	CAS #	Result	Units	D.F.	RptLimit		Qual
Conductance		BRL	umho/cm	1	5		

QC Type: Duplicate							
QC Sample ID: 18111354.01							
Parameter	QCSample Result	Sample Result	Units	RPD	RPD CtrlLimit		Qual
Conductance	241.3	242.4	umho/cm	0.5	20		

QC Type: LCS and LCSD										
Parameter	LCS Spk Added	LCS Result	LCS % Rec	LCSD Spk Added	LCSD Result	LCSD % Rec	RPD	RPD CtrlLimit	%Recovery CtrlLimit	Qual
Conductance	100	100.1	100						90-110	

# QUALITY CONTROL CERTIFICATE



**Job ID :** 18111354

**Date :** 12/12/2018

**Analysis :** Dissolved Metals **Method :** SW-846 6010C **Reporting Units :** ppm

**QC Batch ID :** Qb18121076 **Created Date :** 12/04/18 **Created By :** BRena

**Samples in This QC Batch :** 18111354.01,02,03

**Digestion :** PB18121060 **Prep Method :** SW-846 3005A **Prep Date :** 12/03/18 15:20 **Prep By :** JYou

## QC Type: Method Blank

Parameter	CAS #	Result	Units	D.F.	RptLimit		Qual
Calcium	7440-70-2	BRL	ppm	1	0.5		
Magnesium	7439-95-4	BRL	ppm	1	0.5		
Sodium	7440-23-5	BRL	ppm	1	2.5		

## QC Type: Duplicate

**QC Sample ID:** 18111354.01

Parameter	QCSample Result	Sample Result	Units	RPD	RPD CtrLimit		Qual
Calcium	50.50	48.80	ppm	3.4			
Magnesium	6.43	6.26	ppm	2.7			
Sodium	0.35	0.78	ppm	76.1			R1



10100 East Fwy (I-10)  
Suite 100  
Houston, TX 77029  
713-453-6060  
1-877-478-6060 Toll Free  
713-453-6091 Fax  
ablabs.com

A&B JOB ID #  
18111354

5. Project #  
0435-3803

6. Project Name/Location  
Pedernales State Park

7. Reporting Requirement:

☐ TRRP Limits only ☐ TRRP Rpt. Package ☒ See Attached ☐ Standard Level II ☐ PST ☐ MDL ☐ EDD

8. Sampler's Name & Company (PLEASE PRINT)

Sampler's Signature & Date

Andrea Clements Intertek - PSI

Andrea Clements

9. Sample ID and Description

10. Sampling

11. Comp.

Grab

Water

Soil

Sludge

Oil

Drinking Water

Air

Other

No. of Containers

17. Analyses/Methods

Please reference Quoter#

18. REMARKS

19. RELINQUISHED BY

DATE

TIME

20. RECEIVED BY

DATE

TIME

21. KNOWN HAZARDS/COMMENTS

DATE

TIME

22. TEMPERATURE

°C

Thermometer ID

Initials

Intact: Y or N

A&B cannot accept verbal changes

Please FAX written changes to 713-453-6091

Samples will be disposed of after 30 days

A&B reserves the right to return samples

REPORT TO:

2. Company:

INVOICE TO:

3. PO # 0435-3803

3a. A&B Quote # 0418102405

4. Turnaround Time (Business Days)

Company: Intertek-PSI

Company: same as report to

Address: 3 Burwood Ln

Address: San Antonio, TX 78216

Address: Andrea Clements

Contact: 832-541-1340 / 210-342-9377

Address: 3 Burwood Ln

Address: same as report to

Address: San Antonio, TX 78216

Address: Andrea Clements

Contact: 832-541-1340 / 210-342-9377

Contact: 210-342-9401

Contact: 3 Burwood Ln

Contact: same as report to

Contact: San Antonio, TX 78216

Contact: Andrea Clements

Contact: 832-541-1340 / 210-342-9377

Contact: 210-342-9401

Contact: 3 Burwood Ln

Contact: same as report to

Contact: San Antonio, TX 78216

Contact: Andrea Clements

Contact: 832-541-1340 / 210-342-9377

Contact: 210-342-9401

Contact: 3 Burwood Ln

Contact: same as report to

Contact: San Antonio, TX 78216

Contact: Andrea Clements

Contact: 832-541-1340 / 210-342-9377

Contact: 210-342-9401

Contact: 3 Burwood Ln

Contact: same as report to

Contact: San Antonio, TX 78216

Contact: Andrea Clements

Contact: 832-541-1340 / 210-342-9377

Contact: 210-342-9401

Contact: 3 Burwood Ln

Contact: same as report to

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# A&B Labs Analytical Testing Quotation

Date: 10/24/2018

QUOTE ID: QT18102405

Revision Number: 0

## Quote To :

Client : Intertek-PSI

Contact : Andrea Clements

Address : 3 Burwood Lane, San Antonio, TX 78216

Phone : +1 832-541-6340 Fax :

Expiration Date : 01/23/2019

## Billing Information :

Company Name : Intertek-PSI

Billing Address : 3 Burwood Ln

Contact Person : John Langan, Andrea Clements

Phone : 210-342-9377

Email : john.langan@intertek.com

ProjectID : 0485-

Project Name : Pedernales WTP soil testing + Andrea.Clements@intertek.com

## Quoted By :

Contact : CustomerService

Project Manager : Scarpenter

Phone : (713) 453-6060

Fax : (713) 453-6091

Email : customerservice@ablabs.com

Created By : Gurusamy

Signed By :

Date :

*[Signature]*

10/31/18

Test Description	Matrix	Method	Qty	TAT	UPrice	Cost
Corrosivity, pH	Solid	SW-846 9045D	3	7 Days	\$ 10.00	\$ 30.00
Sodium Adsorption Ratio	Solid	LA 29-B	3	7 Days	\$ 100.00	\$ 300.00
Electrical Conductivity	Solid	ASTM D4940	3	7 Days	\$ 15.00	\$ 45.00
Water Soluble Anions_Nitrate, NO3 + NO2	Solid	EPA 300.0	3	7 Days	\$ 50.00	\$ 150.00
Ammonia as Nitrogen	Solid	EPA 350.3	3	7 Days	\$ 20.00	\$ 60.00
Total Kjeldahl Nitrogen	Solid	EPA 351.4	3	7 Days	\$ 35.00	\$ 105.00
Total Nitrogen	Solid	EPA 351.4/300	3	7 Days	\$ 60.00	\$ 180.00
Available Metals_B- Mehlich 3 Extraction_P,S	Solid	SW-846 6010C	3	7 Days	\$ 80.00	\$ 240.00
Available Metals - Mehlich 3 Extraction- Ca, Mg, Na, K	Solid	SW-846 6010C	3	7 Days	\$ 50.00	\$ 150.00
Total Metals-Na, Ca, Mg	Solid	SW-846 6010C	3	7 Days	\$ 40.00	\$ 120.00
% Moisture	Solid	SM 2540G	3	7 Days	\$ 10.00	\$ 30.00

SUB TOTAL : \$ 1,410.00

## Special Charges

Environmental Fee per job id	1	\$ 10.00	\$ 10.00
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7 day TAT ✓

TOTAL : \$ 1,420.00

Note : Specific methods & reporting units were communicated via email from andrea.clements@intertek.com on 10/24/2018 @ 3:19pm. For TCEQ application for waste water treatment plant permit soil for field to be irrigated w/ effluent water

----- Forwarded message -----

From: **Andrea Clements** <[andrea.clements@intertek.com](mailto:andrea.clements@intertek.com)>

Date: Wed, Oct 24, 2018 at 3:19 PM

Subject: quote request

To: [info@ablabs.com](mailto:info@ablabs.com) <[info@ablabs.com](mailto:info@ablabs.com)>

Hello,

We need a quote for soil sample analyses for the 12 parameters listed below for an effluent irrigated field from a water treatment plant seeking a TCEQ application. The TCEQ has specific requirements for the parameters, which I have bolded below from their instructions. Would your lab be able to meet these requirements?

b. Soil analyses

Provide analyses of the soil in the land application site(s) for

pH [**2:1 (v/v) water/soil mixture**];

electrical conductivity [**2:1 (v/v) water/soil mixture**];

sodium adsorption ratio (SAR) from a **water saturated paste** and its constituent parameters (water-soluble Na, Ca and Mg reported in **mg/L**);

total Kjeldahl nitrogen (TKN);

total nitrogen (organic-nitrogen + nitrate-nitrogen + ammonium-nitrogen);

nitrate-nitrogen (**from a 1 N KCl soil extract**);

potassium,

phosphorous;

calcium;

magnesium;

sulfur; and

sodium.

The nutrient parameters should be analyzed on a **plant-available basis**. Phosphorus shall be analyzed according to the **Mehlich III procedure with inductively coupled plasma** and potassium, calcium, magnesium, sodium, and sulfur may also be analyzed in the Mehlich III soil extract. Plant-available phosphorus, potassium, calcium, magnesium, sodium and sulfur shall be reported on a **dry weight basis in mg/kg**; electrical conductivity, in **mmho/cm [same as deciSiemens/meter (dS/m)]**; and pH, in

standard units. When reporting the results, include all information concerning fertilizer recommendations. Provide a copy of this plan to the analytical laboratory prior to sample analysis

Thank you in advance,

Andrea Clements

Environmental Scientist

Building & Construction

Intertek-PSI

Mobile +1 832-541-6340

Office +1 210-342-9377

Email [andrea.clements@intertek.com](mailto:andrea.clements@intertek.com)

[www.intertek.com/building](http://www.intertek.com/building)



Intertek-PSI, [3 Burwood Lane, San Antonio, TX 78216 \[maps.google.com\]](https://www.google.com/maps/place/Intertek-PSI,+3+Burwood+Lane,+San+Antonio,+TX+78216)



## Sample Condition Checklist

A&B JobID : <b>18111354</b>		Date Received : <b>11/27/2018</b>		Time Received : <b>12:10PM</b>	
Client Name : <b>Intertek - PSI</b>					
Temperature : <b>5.4-0.1CF=5.3°C</b>		Sample pH : <b>N/A</b>			
Thermometer ID : <b>1707629</b>		pH Paper ID : <b>N/A</b>			
	<b>Check Points</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	
1.	Cooler seal present and signed.		X		
2.	Sample(s) in a cooler.	X			
3.	If yes, ice in cooler.	X			
4.	Sample(s) received with chain-of-custody.	X			
5.	C-O-C signed and dated.	X			
6.	Sample(s) received with signed sample custody seal.		X		
7.	Sample containers arrived intact. (If no comment).	X			
8.	Matrix      Water      Soil      Liquid      Sludge      Solid      Cassette      Tube      Bulk      Badge      Food      Other : <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>				
9.	Sample(s) were received in appropriate container(s).	X			
10.	Sample(s) were received with proper preservative			X	
11.	All samples were logged or labeled.	X			
12.	Sample ID labels match C-O-C ID's	X			
13.	Bottle count on C-O-C matches bottles found.	X			
14.	Sample volume is sufficient for analyses requested.	X			
15.	Samples were received within the hold time.	X			
16.	VOA vials completely filled.			X	
17.	Sample accepted.	X			
18.	Has client been contacted about sub-out			X	
Comments : Include actions taken to resolve discrepancies/problem:					

Received by : ABarrera

Check in by/date : AHall / 11/27/2018



United States  
Department of  
Agriculture

**NRCS**

Natural  
Resources  
Conservation  
Service

A product of the National  
Cooperative Soil Survey,  
a joint effort of the United  
States Department of  
Agriculture and other  
Federal agencies, State  
agencies including the  
Agricultural Experiment  
Stations, and local  
participants

# Custom Soil Resource Report for **Blanco and Burnet Counties, Texas**



October 24, 2018

# Preface

---

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist ([http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2\\_053951](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951)).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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# How Soil Surveys Are Made

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Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

## Custom Soil Resource Report

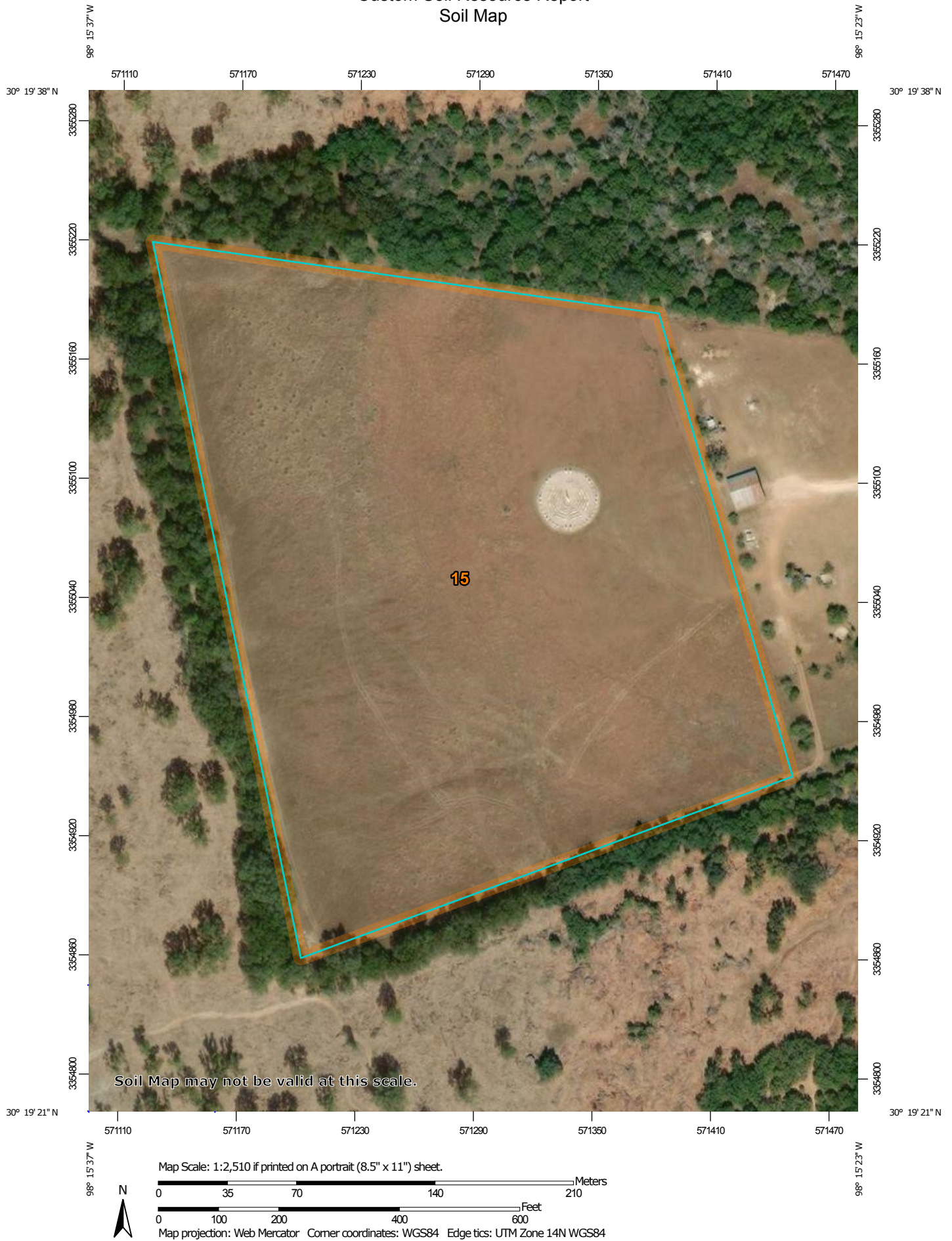
identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

# Soil Map

---


The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

# Custom Soil Resource Report Soil Map




## 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 1:31,700.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

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: Blanco and Burnet Counties, Texas

Survey Area Data: Version 15, Sep 14, 2018

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 2, 2016—Nov 30, 2017

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
15	Hensley loam, 1 to 3 percent slopes	19.1	100.0%
<b>Totals for Area of Interest</b>		<b>19.1</b>	<b>100.0%</b>

## Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

## Custom Soil Resource Report

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

## Blanco and Burnet Counties, Texas

### 15—Hensley loam, 1 to 3 percent slopes

#### Map Unit Setting

*National map unit symbol:* dk2j  
*Elevation:* 350 to 2,250 feet  
*Mean annual precipitation:* 24 to 40 inches  
*Mean annual air temperature:* 64 to 66 degrees F  
*Frost-free period:* 210 to 250 days  
*Farmland classification:* Not prime farmland

#### Map Unit Composition

*Hensley and similar soils:* 100 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Hensley

##### Setting

*Landform:* Plains  
*Down-slope shape:* Convex  
*Across-slope shape:* Linear  
*Parent material:* Residuum weathered from limestone

##### Typical profile

*H1 - 0 to 5 inches:* loam  
*H2 - 5 to 18 inches:* clay  
*H3 - 18 to 19 inches:* bedrock

##### Properties and qualities

*Slope:* 1 to 3 percent  
*Depth to restrictive feature:* 10 to 20 inches to lithic bedrock  
*Natural drainage class:* Well drained  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Salinity, maximum in profile:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Available water storage in profile:* Very low (about 2.9 inches)

##### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 4s  
*Hydrologic Soil Group:* D  
*Ecological site:* Redland 29-35" PZ (R081CY361TX)  
*Hydric soil rating:* No

# References

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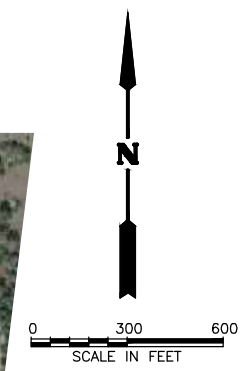
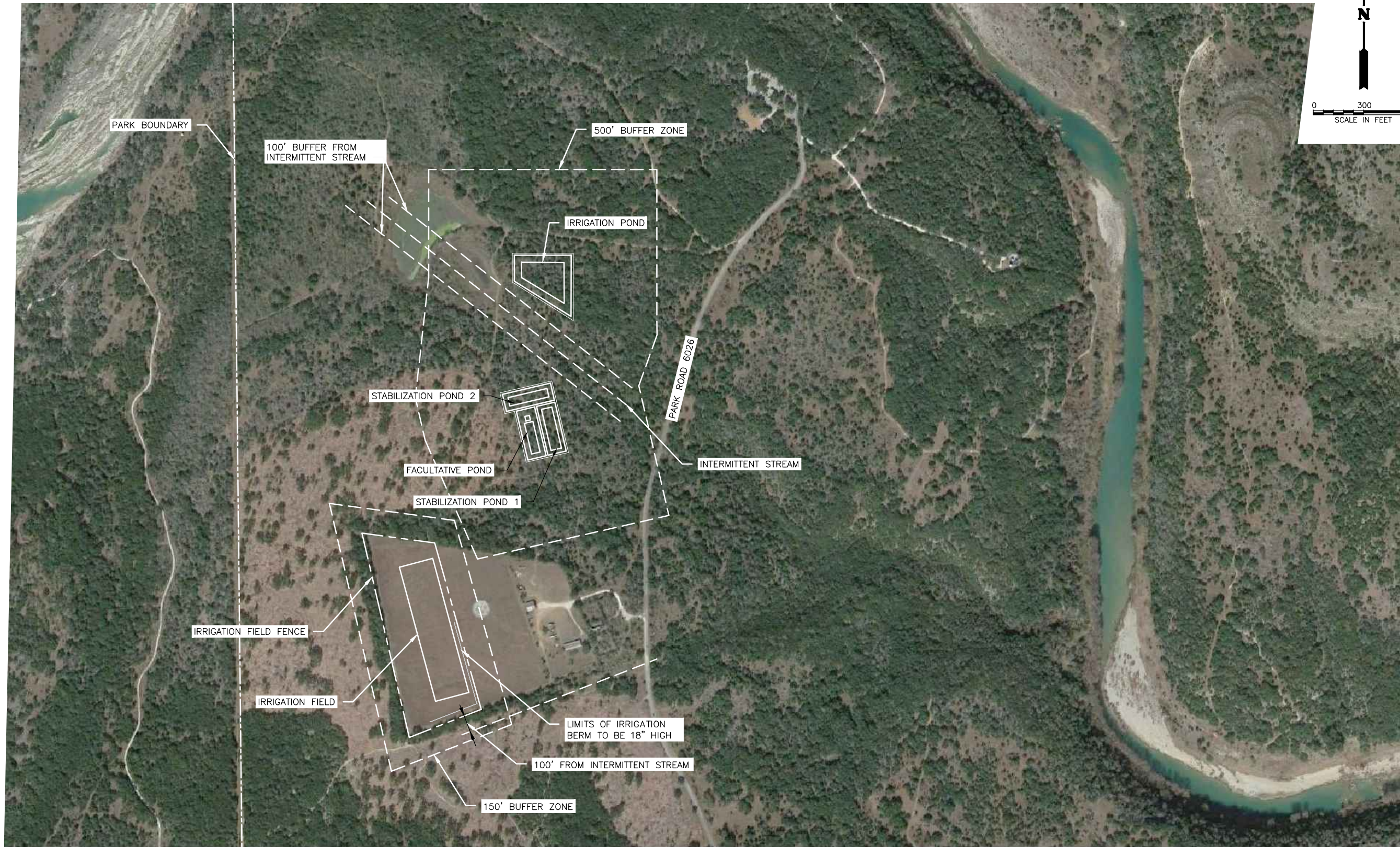
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- Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_053577](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577)
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- Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.
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- United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2\\_053374](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374)
- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084>

## Custom Soil Resource Report

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2\\_054242](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242)

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_053624](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624)

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. [http://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/nrcs142p2\\_052290.pdf](http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf)



NOTE:

1. THE INTERMITTENT STREAMS PROVIDE THE GENERAL DIRECTION OF RUN-OFF FLOW.
2. THE ENTIRE TREATMENT PLANT AND DISPOSAL AREA PROPERTY BOUNDARIES ARE OUTSIDE OF THE 100-YR FLOODPLAIN.

## BUFFER ZONE

**Texas Parks and Wildlife Department**  
**Pedernales Falls State Park Wastewater Treatment Facility**  
**Texas Land Application Permit (TLAP) –Renewal Application**

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**WASTEWATER TREATMENT PLANT**  
**CALCULATIONS**

FINAL WASTEWATER TREATMENT LAGOON SYSTEM VOLUMES

TPWD - Pedernales Falls State Park - Wastewater Volumes.

$$V = \frac{1}{3}h \left( A_{Low} + \sqrt{A_{Low} \times A_{Up}} + A_{Up} \right)$$

Input Needed

Facultative Lagoon

Anaerobic (Deep portion)

ft

ft

ft2

A<sub>Lower</sub> = 36 x 26 = 936.0

A<sub>Upper</sub> = 60 x 50 = 3,000.0

SWD =h = 8

V = 14,964.6 ft<sup>3</sup>

Aerobic (Surface portion)

ft

ft

ft2

A<sub>Lower</sub> = 240 x 50 = 12,000.0

A<sub>Upper</sub> = 288 x 98 = 28,224.0

SWD =h = 4

V = 78,170.0 ft<sup>3</sup>

V Total = 93,134.5 ft<sup>3</sup>

Note (Surface Acres):

0.65 Ac

Facultative Lagoon (Each)

Anaerobic (Deep portion)

ft

ft

ft2

A<sub>Lower</sub> = 264 x 74 = 19,536.0

A<sub>Upper</sub> = 288 x 98 = 28,224.0

SWD =h = 5

V = 118,735.9 ft<sup>3</sup>

0.65 Ac

# PRELIMINARY ENGINEERING DESIGN CAPACITY CALCULATIONS

<b>Calculation Form (Excel)</b> <b>Client:</b> <u>TPWD</u> <b>Project:</b> <u>Pedernales Falls State Park - Water and Wastewater Treatment Improvements PER</u> <b>Detail:</b> <u>Wastewater Treatment Plant Capacity Calculations</u>		<b>Job #</b> TPWD14051.04 <b>Calc By:</b> Archana Sharma, P.E. <b>Checked By:</b> <u>JCS</u> <b>Date:</b> 11/7/16 <b>Reviewed By:</b> <b>Calc.No.</b> _____ <b>Date:</b> ____/____/____ <b>Revision#</b> _____																																			
<b>Directions:</b> Complete one form for each calculation brief.																																					
<b>Calculation Brief Title:</b> <u>Wastewater Treatment Plant Capacity Calculations</u>																																					
<b>1.0 Purpose/Objective</b> To calculate the plant capacity for a new wastewater treatment facility at Pedernales Falls State Park																																					
<b>2.0 Procedure</b> The Pedernales Falls State Park currently has 11 septic systems for wastewater treatment. The PER will include an assessment of the existing septic systems and provide recommendations for a centralized wastewater treatment facility. The WWTP capacity is calculated using two approaches: <u>Approach 1</u> ) Based on flows identified in 30 TAC §217.32(a)(3) Table B.1 for domestic wastewater treatment systems; <u>Approach 2</u> ) Based on flows identified in 30 TAC §285.91 Table III. Wastewater Usage Rates																																					
<b>3.0 References/Data Sources</b> 1. 30 TAC §217.32(a)(3) Table B.1 Design Organic Loadings and Flows for a New Wastewater Treatment Facility Source 2. 30 TAC §285.91 Table III. Wastewater Usage Rates																																					
<b>4.0 Assumptions and Limitations</b>  <table style="width: 100%; border: none;"> <tr> <td style="width: 30%;">Park population (assumed overnight to be conservative)</td> <td style="width: 10%; text-align: center;">699 690</td> <td style="width: 60%;">per plant monitoring plan dated Nov 14, 2013 per TCEQ Water System Database</td> </tr> <tr> <td colspan="3">Per TPWD Staff (at Pedernales Falls State Park)</td> </tr> <tr> <td>Average Total park visitors =</td> <td style="text-align: center;">2500</td> <td></td> </tr> <tr> <td>Night time visitors =</td> <td style="text-align: center;">550</td> <td></td> </tr> <tr> <td>Day time visitors =</td> <td style="text-align: center;">1950</td> <td></td> </tr> </table> <p>The park has 11 septic systems at various locations in the park that would act as source of wastewater flow to the WWTP                  These include 7 restrooms, 2 residences, and 2 Recreational Vehicle dump sites (one site is at maintenance building area and other site is at camp grounds)</p>				Park population (assumed overnight to be conservative)	699 690	per plant monitoring plan dated Nov 14, 2013 per TCEQ Water System Database	Per TPWD Staff (at Pedernales Falls State Park)			Average Total park visitors =	2500		Night time visitors =	550		Day time visitors =	1950																				
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Average Total park visitors =	2500																																				
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Day time visitors =	1950																																				
<b>5.0 Calculations</b>  <b>Approach 1:</b> Chapter 217 SUBCHAPTER B: WASTEWATER TREATMENT FACILITY DESIGN REQUIREMENTS §§217.31 - 217.40 Effective December 4, 2015 <b>Figure: 30 TAC §217.32(a)(3)</b> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="width: 35%;">Table B.1. - Design Organic Loadings and Flows for a New Wastewater Treatment Facility Source</th> <th style="width: 10%;">Remarks</th> <th style="width: 20%;">Daily Wastewater Flow (gallons/person)</th> <th style="width: 20%;">Wastewater Strength (mg/l BOD5)</th> <th style="width: 15%;">Wastewater Strength (mg/l NH3-N)</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Recreational Parks</td> <td>Overnight User</td> <td style="text-align: center;">30</td> <td style="text-align: center;">200</td> <td style="text-align: center;">15-75</td> </tr> <tr> <td>Day User</td> <td style="text-align: center;">5</td> <td style="text-align: center;">100</td> <td style="text-align: center;">15-75</td> </tr> </tbody> </table> <table style="width: 100%; border: none; margin-top: 10px;"> <tr> <td style="width: 35%;">WWTP Average Daily Flow =</td> <td style="width: 10%; text-align: center;">21,000</td> <td style="width: 20%;">gallons per day</td> <td style="width: 35%;">for 699 park population</td> </tr> <tr> <td>WWTP Design Capacity =</td> <td style="text-align: center;"><b>31,500</b></td> <td>gallons per day</td> <td>per 30 TAC §217.32(a)(1) (B)</td> </tr> <tr> <td>WWTP Peak Capacity =</td> <td style="text-align: center;">126,000</td> <td>gallons per day</td> <td>peaking factor of 4.0 per 30 TAC §217.32(2). If flow equalization is provided, the peaking factor could be reduced</td> </tr> <tr> <td>BOD (Influent)</td> <td style="text-align: center;">200</td> <td>mg/L</td> <td>assumed</td> </tr> <tr> <td>NH3-N (Influent)</td> <td style="text-align: center;">60</td> <td>mg/L</td> <td>assumed</td> </tr> </table>				Table B.1. - Design Organic Loadings and Flows for a New Wastewater Treatment Facility Source	Remarks	Daily Wastewater Flow (gallons/person)	Wastewater Strength (mg/l BOD5)	Wastewater Strength (mg/l NH3-N)	Recreational Parks	Overnight User	30	200	15-75	Day User	5	100	15-75	WWTP Average Daily Flow =	21,000	gallons per day	for 699 park population	WWTP Design Capacity =	<b>31,500</b>	gallons per day	per 30 TAC §217.32(a)(1) (B)	WWTP Peak Capacity =	126,000	gallons per day	peaking factor of 4.0 per 30 TAC §217.32(2). If flow equalization is provided, the peaking factor could be reduced	BOD (Influent)	200	mg/L	assumed	NH3-N (Influent)	60	mg/L	assumed
Table B.1. - Design Organic Loadings and Flows for a New Wastewater Treatment Facility Source	Remarks	Daily Wastewater Flow (gallons/person)	Wastewater Strength (mg/l BOD5)	Wastewater Strength (mg/l NH3-N)																																	
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BOD (Influent)	200	mg/L	assumed																																		
NH3-N (Influent)	60	mg/L	assumed																																		

## Calculation Form (Excel)

Client: **TPWD**Project: **Pedernales Falls State Park - Water and Wastewater Treatment Improvements PER**Detail: **Wastewater Treatment Plant Capacity Calculations**

Directions: Complete one form for each calculation brief.

Job # TPWD14051.04 Calc By: Archana Sharma, P.E.

Checked By: **JCS** Date: 11/7/16

Date: May 2018 Calc.No. \_\_\_\_\_

Reviewed By: \_\_\_\_\_ Revision# \_\_\_\_\_

Date: \_\_\_\_/\_\_\_\_/\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

## Calculation Brief Title:

Wastewater Treatment Plant Capacity CalculationsApproach 2:

Chapter 285 On-Site Sewage Facilities

Subchapter I: Appendices

Effective Dec 27, 2012

**30 TAC §285.91 Table III. Wastewater Usage Rates**

Type of Facility	Usage Rate gallons/day (without water saving devices)	Usage Rate gallons/day (with water saving devices)
Parks (with bathhouse per person)	15	12
Parks (without bathhouse per person)	10	8
Single family dwelling (one or two bedrooms) - less than 2,500 square feet	300	240
Laundries (Self service per machine)	250	200

Day Visitors Usage Rate

19,500 gallons per day

for 1,950 day time visitors

Night Visitors Usage Rate

8,250 gallons per day

for 550 night time visitors

Residences Usage Rate

600 gallons per day

for 2 residences

Laundries

500 gallons per day

for 2 washer/driers located at maintenance building

WWTP Design Capacity

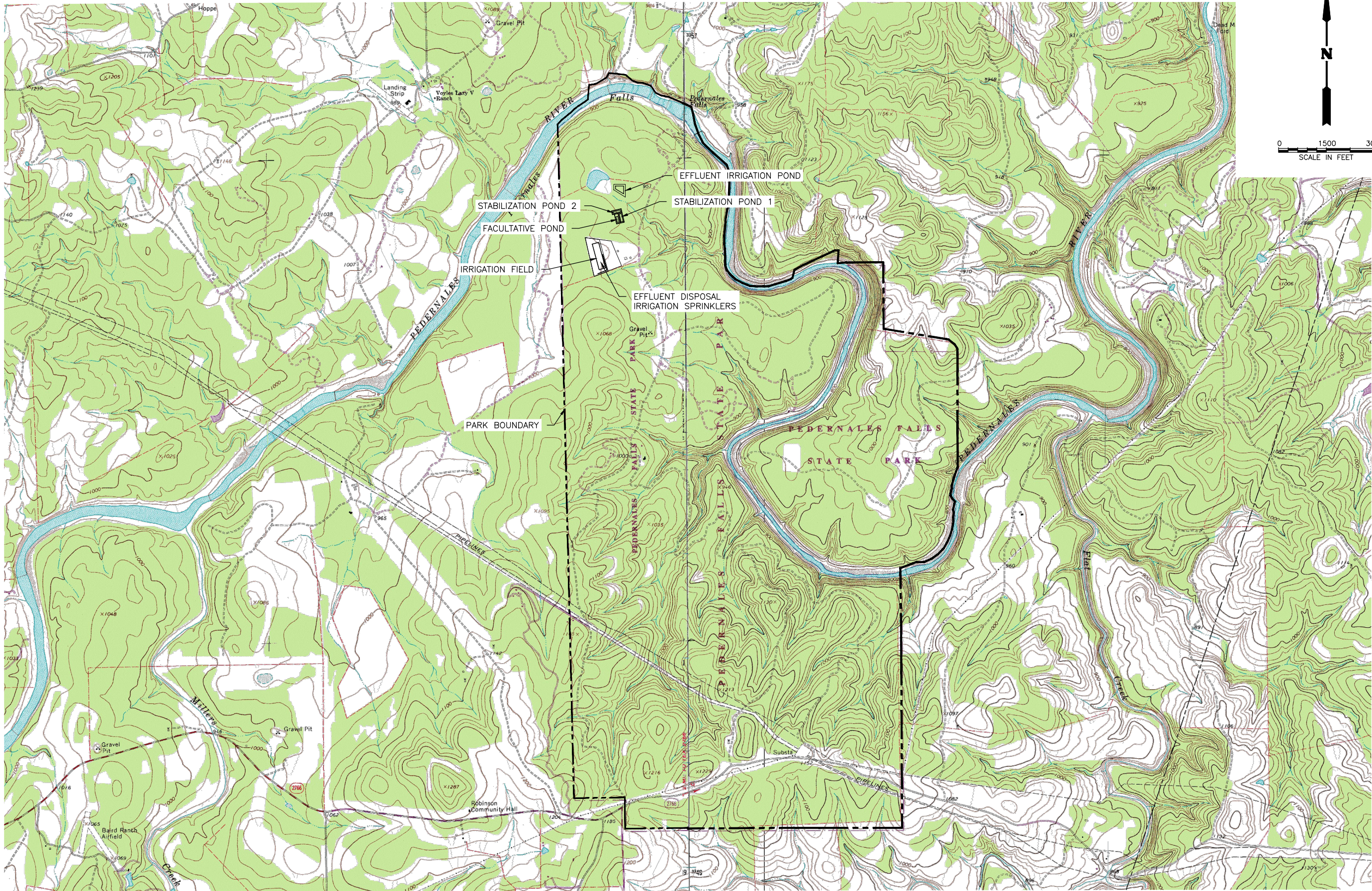
**28,850** gallons per day**6.0 Conclusions/Results****Approach 1: WWTP Design Capacity = 31,500 gallons per day**

Approach 2: WWTP Design Capacity = 28,850 gallons per day

# PRELIMINARY ENGINEERING DESIGN TREATMENT VOLUME CALCULATIONS

<b>Calculation Form (Excel)</b> Client: <b>TPWD</b> Project: <b>Pedernales Falls State Park - Water and Wastewater Treatment Improvements PER</b> Detail: <b>Wastewater Treatment Pond Calculations</b>		Job # <b>TPWD14051.04</b> Checked By: <b>JCS</b> Date: <b>May 2018</b> Reviewed By: <b>A. Sharma, P.E.</b> Date: <b>___/___/___</b>		Calc By: <b>A. Sharma, P.E.</b> Date: <b>4/22/17</b> Calc.No. <b>_____</b> Revision# <b>1</b> Date: <b>6/8/17</b>	
Directions: Complete one form for each calculation brief.					
Calculation Brief Title:		<b>Wastewater Treatment Plant Facultative and Stabilization Pond Design Calculations</b>			
1.0	<b>Purpose/Objective</b> To calculate the area of the facultative and stabilization ponds for wastewater treatment at Pedernales Falls SP				
2.0	<b>Procedure</b> Design based on 30 TCEQ Chapter 217, Sub Chapter H				
3.0	<b>References/Data Sources</b> 1. 30 TAC §217.201 - 217.213				
4.0	<b>Assumptions and Limitations</b> <div style="margin-left: 100px;">           1 acre = 43,560 square feet            1 cubic feet = 7.48 gallons         </div>				
5.0	<b>Calculations</b>				
	<div style="margin-left: 40px;"> <b>Facultative Lagoons PER Design</b>            Design Capacity 0.0315 MGD            31,500 gallons per day            Influent BOD 300 mg/L            Influent BOD Loading 79 ppd            Max organic loading 150 ppd per acre  <b>Required facultative pond surface area 0.60 acres</b>            26,136 sf            Efficiency 50%            Effluent BOD Loading 39.41 ppd            Length to Width Ratio 3:1            Width 94.00 ft            Length 282.00 ft  <b>Stabilization Ponds PER Design</b>            Number of Stabilization Ponds 2 minimum per TCEQ § 217.207 (c)            Max organic loading - 1st pond 75 ppd per acre            Max organic loading - series of ponds 35 ppd per acre            Influent BOD Loading 39.41 ppd  <b>Total Ponds Surface Area 1.20 acres</b>  <b>Required 1st Pond Surface Area 0.60 acres</b>  <b>Required 2nd Pond Surface Area 0.60 acres</b>  <b>Treated Effluent Storage Pond PER Design</b>            Number of Storage Pond 1            Required Surface Area 108,900 sf            Length 282 ft            Width 386 ft            SWD 7 ft            Storage Capacity 762,300 cu.ft            5.70 MG  <b>Storage Pond Area 2.50 acres</b> </div>				
	<div style="margin-left: 40px;">           Data Entry            per discussions with TCEQ            per TCEQ §217.205 (c)            water surface area            max per TCEQ §217.205 (e)            per TCEQ §217.205 (a) (1)            3*Width<sup>2</sup> = Area            per TCEQ § 217.207 (f)            per TCEQ § 217.207 (f)            per TCEQ § 217.207 (f) (1)            per Water Balance/Storage Calculations <a href="#">Pedernales Falls WWTP_Treated Effluent_Land App Calculations.xlsx</a>            assumed/set         </div>				
6.0	<b>Conclusions/Results</b> Required Facultative pond Surface Area 0.60 acres Required 1st Stabilization Pond Surface Area 0.60 acres Required 2nd Stabilization Pond Surface Area 0.60 acres Storage Pond Surface Area 2.50 acres				





NOTE: PEDERNALES FALLS STATE PARK HAS A CAMPGROUND WITH RESTROOMS, INCLUDING SEVERAL SHOWERS. THE PARK HAS A COUPLE OF SINGLE-FAMILY RESIDENCES AND RESTROOMS AT PARK HEADQUARTERS.

USGS MAP

Title: N/A

Credential: N/A

Provide a brief description of the need for a co-permittee: N/A

### 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. Core Data Form included in submittal

## 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: N/A

Last Name, First Name: Abbott, Stephen

Title: TCEQ Compliance Coordinator

Credential: N/A

Organization Name: Texas Parks and Wildlife Department

Mailing Address: 4200 Smith School Rd City, State, Zip Code: Austin, Texas, 78744

Phone No.: 512.389.4665

E-mail Address: stephen.abbott@twpd.texas.gov

Check one or both: ☒ Administrative Contact ☐ Technical Contact

B. Prefix: N/A

Last Name, First Name: Anderson, Dawn

Title: STV Project Manager

Credential: Texas Professional Engineer

Organization Name: STV

Mailing Address: 11757 Katy Freeway, Suite 1540 City, State, Zip Code: Houston, Texas, 77079

Phone No.: 214.796.9956

E-mail Address: anderson.dawn.stvinc.com

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: N/A

Last Name, First Name: Fleury, Benjamin

Title: Park Superintendent

Credential: N/A

Organization Name: TPWD/Pedernales Falls State Park

Mailing Address: 2585 Park Road 6026 City, State, Zip Code: Johnson City, Texas, 78636

Phone No.: 830.868.7304

E-mail Address: Benjamin.fleury@tpwd.texas.gov

B. Prefix: N/A

Last Name, First Name: Abbott, Stephen

Title: TCEQ Compliance Coordinator

Credential: N/A

Organization Name: Texas Parks and Wildlife Department

Mailing Address: 4200 Smith School Rd City, State, Zip Code: Austin, TX 78744

Phone No.: 512.389.4665

E-mail Address: stephen.abbott@twpd.texas.gov

## 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: N/A Last Name, First Name: Foust, Kathleen  
Title: Purchaser V Credential: CTPM, CTCM  
Organization Name: Texas Parks and Wildlife Department  
Mailing Address: 4200 Smith School Road City, State, Zip Code: Austin, TX 78744  
Phone No.: 512.389.8718 E-mail Address: kathleen.foust@tpwd.texas.gov

## 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: N/A Last Name, First Name: Piccolo, Daniel  
Title: Treatment Operator Credential: WW Treatment Class D Operator  
Organization Name: TPWD/Pedernales Falls State Park  
Mailing Address: 2585 Park Rd 6025 City, State, Zip Code: Johnson City, Texas 78636  
Phone No.: 830-330-0917 E-mail Address: Daniel.piccolo@tpwd.texas.gov

## Section 8. Public Notice Information (Instructions Page 27)

### A. Individual Publishing the Notices

Prefix: N/A Last Name, First Name: Anderson, Dawn  
Title: STV Project Manager Credential: Texas Professional Engineer  
Organization Name: STV  
Mailing Address: 11757 Katy Freeway, Suite 1540 City, State, Zip Code: Houston, TX 77079  
Phone No.: 214.796.9956 E-mail Address: anderson.dawn.stvinc.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: N/A Last Name, First Name: Fleury, Benjamin  
Title: Park Superintendent Credential: N/A

# 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. WQ0015708001**

**SOLICITUD.** Texas Parks and Wildlife Department, 4200 Smith School Road, Austin, Texas 78744 ha solicitado a la Comisión de Calidad Ambiental de Texas (TCEQ) para renovar el Permiso No.WQ0015708001 de disposición de aguas residuales para autorizar Parque estatal Pedernales Falls Planta de tratamiento de aguas residuales la disposición de aguas residuales tratadas en un volumen que no sobrepasa un flujo promedio diario de 31,500 galones por día por medio de riego superficial. La planta de sistema de lagunas naturalestratamiento de aguas domésticos residuales y el área de disposición están ubicados en 4.3 millas al norte de la intersección de Pedernales Falls Road y Park Road 6026, cerca de la ciudad de Johnson City en el Condado de Blanco, Texas. La TCEQ recibió esta solicitud el día 24 de febrero de 2025. La solicitud para el permiso estará disponible para leerla y copiarla en Parque estatal Pedernales Falls, Oficina de entrada principal, 2585 Park Road 6026, Johnson City en el Condado de Blanco, Texa, antes de la fecha de publicación de este aviso en el periódico. Este enlace a un mapa electrónico de la ubicación general del sitio o de la instalación es proporcionado como una cortesía y no es parte de la solicitud o del aviso. Para la ubicación exacta, consulte la solicitud. <https://gisweb.tceq.texas.gov/LocationMapper/?marker=-98.255555,30.330555&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 información adicional del Texas Park and Wildlife Department a la dirección indicada arriba o llamando a Benjamin Fleury al 830-868-7304.

Fecha de emisión \_\_\_\_\_ *[Date notice issued]*