Administrative Package Cover Page

This file contains the following documents:

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

Portada de Paquete Administrativo

Este archivo contiene los siguientes documentos:

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

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

PLAIN LANGUAGE SUMMARY FOR TPDES OR TLAP PERMIT APPLICATIONS

Plain Language Summary Template and Instructions for Texas Pollutant Discharge Elimination System (TPDES) and Texas Land Application (TLAP) Permit Applications

Applicants should use this template to develop a plain language summary as required by Title 30, Texas Administrative Code (30 TAC), Chapter 39, Subchapter H. Applicants may modify the template as necessary to accurately describe their facility as long as the summary includes the following information: (1) the function of the proposed plant or facility; (2) the expected output of the proposed plant or facility; (3) the expected pollutants that may be emitted or discharged by the proposed plant or facility; and (4) how the applicant will control those pollutants, so that the proposed plant will not have an adverse impact on human health or the environment.

Fill in the highlighted areas below to describe your facility and application in plain language. Instructions and examples are provided below. Make any other edits necessary to improve readability or grammar and to comply with the rule requirements.

If you are subject to the alternative language notice requirements in 30 TAC Section 39.426, **you must provide a translated copy of the completed plain language summary in the appropriate alternative language as part of your application package**. For your convenience, a Spanish template has been provided below.

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.

The City of Sherman (CN600418578) operates the Post Oak Wastewater Treatment Facility (RN101612448), an activated sludge wastewater treatment plant. The facility is located at 1800 E. FM Highway 1417, in Sherman, Grayson County, Texas 75090. The application is for a major amendment to increase the annual average discharge flow not to exceed 24 million gallons per day of domestic wastewater via Outfall 001, which is located on Post Oak Creek and to add a new outfall, Outfall 002, on a tributary of Deaver Creek with an annual average discharge flow not to exceed 16 million gallons per day.

Discharges from the facility are expected to contain five-day carbonaceous biochemical oxygen demand ($CBOD_5$), total suspended solids (TSS), ammonia nitrogen (NH_3-N), and *Escherichia coli*. Additional potential pollutants are included in the Domestic Technical Report 1.0, Section 7. Pollutant Analysis of Treated Effluent in the permit application package. Domestic wastewater is treated by an activated sludge process plant with two treatment trains. The north train treatment units are coarse screens, vortex grit removal system,

primary clarifiers, activated sludge basins, and secondary clarifiers. The south train treatment units are coarse screens, vortex grit removal system, fine screens, activated sludge basins, and membrane bioreactor basins. Secondary treated wastewater from the two trains is comingled and disinfected by an ultraviolet light system. Sludge process treatment units are sludge thickeners, anaerobic digesters, and dewatering screw presses.

PLANTILLA EN ESPAÑOL PARA SOLICITUDES ENMIENDAS DE TPDES

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 fedérale de la solicitud de permiso.

La Ciudad de Sherman (CN600418578) opera la Post Oak Wastewater Treatment Facility (RN101612448), una planta de lodos activados. La instalación está ubicada en 1800 E. FM Highway 1417, en Sherman, Condado de Grayson, Texas 75090. La solicitud es para una modificación para aumentar el flujo de descarga promedio anual para no exceder los 24 millones de galones por día de aguas residuales domésticas a través del desagüe 001, que se encuentra en Post Oak Creek y para agregar un nuevo desagüe, el desagüe 002, en un afluente de Deaver Creek con un flujo de descarga promedio anual que no exceda los 16 millones de galones por día.

Se espera que las descargas de la planta contengan demanda bioquímica de oxígeno carbonoso (CBOD5) de cinco días, sólidos suspendidos totales (TSS), nitrógeno amoniaco (NH3-N) y Escherichia coli. En el Informe Técnico Doméstico 1.0, Sección 7. Análisis de Contaminantes de Efluentes Tratados del paquete de solicitud de permiso se incluyen otros contaminantes potenciales. Las aguas residuales domésticas se tratan mediante una planta de procesamiento de lodos activados con dos trenes de tratamiento. Las unidades de tratamiento del tren norte son una rejilla de barras, desarenadores, clarificadores primarios, tanque de lodos activados, y clarificadores secundarios. Las unidades de tratamiento del tren sur son rejillas gruesas, sistema de eliminación de arena por vórtice, rejillas finas, tanque de lodos activados y tanques de biorreactores de membrana. Las aguas residuales tratadas secundariamente de los dos trenes se mezclan y desinfectan mediante un sistema de luz ultravioleta. Las unidades de tratamiento del proceso de lodos son espesadores de lodos, digestores anaeróbicos y prensas de tornillo de deshidratación.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

NOTICE OF RECEIPT OF APPLICATION AND INTENT TO OBTAIN WATER QUALITY PERMIT AMENDMENT

PERMIT NO. WQ0010329001

APPLICATION. City of Sherman, P.O. Box 1106, Sherman, Texas 75090, has applied to the Texas Commission on Environmental Quality (TCEQ) to amend Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0010329001 (EPA I.D. No. TX0024325) to authorize an increase in the discharge of treated wastewater for Outfall 001 to a volume not to exceed annual average flow of 24,000,000 gallons per day and the addition of new Outfall 002 to discharge treated wastewater at a volume not to exceed an annual average flow of 16,000,000 gallons per day. The domestic wastewater treatment facility is located at 1800 East Farm-to-Market Road 1417, near the city of Sherman, in Grayson County, Texas 75090. The discharge route is from the plant site via Outfall 001 to Post Oak Creek, thence to Choctaw Creek, thence to Red River Below Lake Texoma and via Outfall 002 to an unnamed tributary, thence to Deaver Creek, thence to Big Mineral Creek, thence to Lake Texoma. TCEQ received this application on February 19, 2025. The permit application will be available for viewing and copying at Sherman Public Library, 421 North Travis Street, Sherman, in Grayson 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/tpdes-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=-96.573611,33.601388&level=18

ALTERNATIVE LANGUAGE NOTICE. Alternative language notice in Spanish is available at: https://www.tceq.texas.gov/permitting/wastewater/pending-permits/tpdes-applications. El aviso de idioma alternativo en español está disponible en https://www.tceq.texas.gov/permitting/wastewater/pending-permits/tpdes-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.**

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

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

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

Further information may also be obtained from City of Sherman at the address stated above or by calling Mr. Nathan Whiddon, Wastewater and Laboratory Manager, at 903-892-7286.

Issuance Date: March 14, 2025

Comisión de Calidad Ambiental del Estado de Texas

AVISO DE RECIBO DE LA SOLICITUD Y
EL INTENTO DE OBTENER PERMISO PARA LA CALIDAD DEL AGUA
MODIFICACION

PERMISO NO. WQ0010329001

SOLICITUD. La Ciudad de Sherman, P.O. Box 1106, Sherman, Texas 75090, ha solicitado a la Comisión de Calidad Ambiental del Estado de Texas (TCEQ) para modificar el Permiso No. WQ0010329001 (EPA I.D. No. TX 0024325) del Sistema de Eliminación de Descargas de Contaminantes de Texas (TPDES) para autorizar la descarga de aguas residuales tratadas en un volumen que no sobrepasa un flujo promedio anual de 24,000,000 galones por día y a adición del nuevo emisario 002 para descargar aguas residuales tratadas en un volumen que no supere un flujo promedio anual de 16,000,000 de galones por día. La planta está ubicada en 1800 East Farm-to-Market Road 1417, cerca de la ciudad de Sherman, en el Condado de Grayson, Texas 75090. La ruta de descarga es del sitio de la planta a través del emisario 001 hasta Post Oak Creek, de allí a Choctaw Creek, de allí a Red River Below Lake Texoma y a través del emisario 002 hasta un afluente sin nombre, de allí a Deaver Creek, de allí a Big Mineral Creek, de allí al lago Texoma. La TCEQ recibió esta solicitud el 19 de febrero de 2025. La solicitud para el permiso estará disponible para leerla y copiarla en Biblioteca Pública de Sherman, 421 North Travis Street, Sherman, en el condado de Grayson, Texas, antes de la fecha de publicación de este aviso en el periódico. La solicitud (cualquier actualización y aviso inclusive) está disponible electrónicamente en la siguiente página web: https://www.tceq.texas.gov/permitting/wastewater/pending-permits/tpdes-applications. 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=-96.573611,33.601388&level=18

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

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.

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. Ademas, puede pedir que la TCEQ ponga su nombre en una or mas de las listas 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 especifico. Si desea que se agrega su nombre en una de las listas designe cual lista(s) y envia por correo su pedido a la Oficina del Secretario Principal de la TCEQ.

INFORMACIÓN DISPONIBLE EN LÍNEA. Para detalles sobre el estado de la solicitud, favor de visitar la Base de Datos Integrada de los Comisionados en www.tceq.texas.gov/goto/cid. Para buscar en la base de datos, utilizar el número de permiso para esta solicitud que aparece en la parte superior de este aviso.

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 la Ciudad de Sherman, a la dirección indicada arriba o llamando a Sr. Nathan Whiddon, Gerente de Aguas Residuales y Laboratorio, al 903-892-7286.

Fecha de emisión el 14 de marzo de 2025

Leah Whallon

From: Janet Sims <janet.sims@meadhunt.com>
Sent: Monday, March 3, 2025 8:44 AM
To: Leah Whallon; nathanw@cityofsherman.com
Cc: kylarc@cityofsherman.com
Subject: RE: Application to Amend Permit No. WQ0010329001; City of Sherman; Post Oak WWTP
Attachments: SHE Admin Rpt Revised Pages.pdf; Sherman WQ0010329001 Avery 5160 Labels.docx; Sherman WQ0010329001 Spanish NORI.docx

Follow Up Flag: Follow up
Flag Status: Flagged

Leah,
My client and I have reviewed your comments.
Below are our responses:

1. Administrative Report 1.0, Sections 4, 6, 8 – Attached are revised pages 4, 5, and 6 of the Administrative Report. The mailing address for Mr. Whiddon and Mr. Christison has been revised to P.O. Box 1106, Sherman TX 75091 in Sections 4, 6, and 8.
2. Administrative Report 1.1, Section 1 – As requested attached is a Microsoft Word document with the affected landowner list that is formatted for mailing labels (Avery 5160).
3. The portion of the NORI has been reviewed. No errors or omissions were found.
4. As requested, attached is the Spanish translation of the NORI. Please note the template that you provided does not allow the permit number in the title block to be added.

If additional information is required to declare the application administratively complete, please let me know.
Thanks,
Janet

Janet Sims
Senior Project Manager | Water/Wastewater
Direct: 512-735-1001 | Cell: 512-695-2468 | Transfer Files
Mead&Hunt
LinkedIn | Facebook | Instagram

From: Leah Whallon <Leah.Whallon@Tceq.Texas.Gov>
Sent: Thursday, February 27, 2025 4:27 PM
To: nathanw@cityofsherman.com
Cc: kylarc@cityofsherman.com; Janet Sims <janet.sims@meadhunt.com>
Subject: Application to Amend Permit No. WQ0010329001; City of Sherman; Post Oak WWTP

Good Afternoon,

Please see the attached Notice of Deficiency letter dated February 27, 2025 requesting additional information needed to declare the application administratively complete. Please send the complete response by March 13, 2025.

Please let me know if you have any questions.

Thank you,

Leah Whallon
Texas Commission on Environmental Quality
Water Quality Division
512-239-0084
leah.whallon@tceq.texas.gov

How is our customer service? Fill out our online customer satisfaction survey at www.tceq.texas.gov/customersurvey

If the co-applicant is currently a customer with the TCEQ, what is the Customer Number (CN)? You may search for your CN on the TCEQ website at: http://www15.tceq.texas.gov/crpub/

CN: **N/A**

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

Prefix: **N/A** Last Name, First Name: Click to enter text.

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

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

C. Core Data Form

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

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: **Mr.** Last Name, First Name: **Whiddon, Nathan**

Title: **Wastewater and Laboratory Manager** Credential: Click to enter text.

Organization Name: **City of Sherman**

Mailing Address: **P.O. Box 1106** City, State, Zip Code: **Sherman, TX 75091**

Phone No.: **(903) 892-7286** E-mail Address: **nathanw@cityofsherman.com**

Check one or both: ☒ Administrative Contact ☒ Technical Contact

B. Prefix: **Ms.** Last Name, First Name: **Sims, Janet**

Title: **Project Manager** Credential: Click to enter text.

Organization Name: **Mead & Hunt**

Mailing Address: **8217 Shoal Creek Boulevard, Suite 203** City, State, Zip Code: **Austin, TX 78757**

Phone No.: **(512) 735-1001** E-mail Address: **Janet.Sims@meadhunt.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: **Mr.** Last Name, First Name: **Philpott, Clint**

Title: **Assistant City Manager** Credential: **P.E.**

Organization Name: **City of Sherman**

Mailing Address: **220 West Mulberry** City, State, Zip Code: **Sherman, TX 75090**

Phone No.: **(903) 892-7203** E-mail Address: **clintp@cityofsherman.com**

B. Prefix: **Mr.** Last Name, First Name: **Flores, Zachary**

Title: **City Manager** Credential: **Ph.D.**

Organization Name: **City of Sherman**

Mailing Address: **220 West Mulberry** City, State, Zip Code: **Sherman, TX 75090**

Phone No.: **(903) 892-7205** E-mail Address: **zacharyf@cityofsherman.com**

Section 6. Billing Contact Information (Instructions Page 27)

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

Prefix: **Mr.** Last Name, First Name: **Whiddon, Nathan**

Title: **Wastewater and Laboratory Manager** Credential: Click to enter text.

Organization Name: **City of Sherman**

Mailing Address: **P.O. Box 1106** City, State, Zip Code: **Sherman, TX 75091**

Phone No.: **(903) 892-7286** E-mail Address: **nathanw@cityofsherman.com**

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

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

Prefix: **Mr.** Last Name, First Name: **Philpott, Clint**

Title: **Assistant City Manager** Credential: **P.E.**

Organization Name: **City of Sherman**

Mailing Address: **220 West Mulberry** City, State, Zip Code: **Sherman, TX 75090**

Phone No.: **(903) 892-7206** E-mail Address: **ClintP@cityofsherman.com**

Section 8. Public Notice Information (Instructions Page 27)

A. Individual Publishing the Notices

Prefix: **Mr.** Last Name, First Name: **Christison, Kylar**

Title: **Wastewater Project Manager** Credential: Click to enter text.

Organization Name: **City of Sherman**

Mailing Address: **P.O. Box 1106** City, State, Zip Code: **Sherman, TX 75091**

Phone No.: **(903) 892-7034** E-mail Address: **KylarC@cityofsherman.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: **Mr.** Last Name, First Name: **Whiddon, Nathan**

Title: **Wastewater and Laboratory Manager** Credential: Click to enter text.

Organization Name: **City of Sherman**

Mailing Address: **P.O. Box 1106** City, State, Zip Code: **Sherman, TX, 75091**

Phone No.: **(903) 892-7286** E-mail Address: **nathanw@cityofsherman.com**

D. Public Viewing Information

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

Public building name: **City Library**

Location within the building: **Front desk**

Physical Address of Building: **421 N. Travis**

City: **Sherman, TX** County: **Grayson**

Contact (Last Name, First Name): **Cannon, Lauren**

Phone No.: **(903) 892-7240** Ext.: Click to enter text.

E. Bilingual Notice Requirements

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

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

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

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

   ☒ Yes ☐ No

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

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

   ☒ Yes ☐ No

CITY OF SHERMAN
TPDES Permit No.
WQ0010329001

HMI SHERMAN 592 LLC
PO BOX 822044
RICHLAND HILLS TX 76182

SHERMAN LUELLA RV
PO BOX 822044
NORTH RICHLAND TX 76182

COOK NANCY GRAY TRUSTEE
NANCY GRAY COOK TRUST
283 DAVENPORT RD
SHERMAN TX 75090

TRIPLE G AND H LLC
ATTN JOHN YORK GRAHAM MANAGER
734 DEER MEADOW LN
SEADRIFT TX 77983

HAYNES MARTHA
1446 NW 23RD LN
ANKENY IA 50023

TA KIEU THI MONG AND TIEN NGOC THI TRAN
1823 COUNTRY RD 596
NAVADA TX 75173

BROWN LEWISVILLE RAILROAD FAMILY FIRST LP
PO BOX 29816
DALLAS TX 75229

STATE OF TEXAS TX DOT
ATTN RIGHT OF WAY
PO BOX 3067
DALLAS TX 75221

AUSTIN COLLEGE
900 N GRAND AVE
SHERMAN TX 75090

FORSTER JAMES E
447 KELSEY RD
DENISON TX 75021

MCCLELLAN AMY HINES
PO BOX 3027
MCKINNEY TX 75070

AMERICAN RESERVE SERVICES CORPORATION
1605 LBJ FREEWAY STE 700
DALLAS TX 75234

HMI SHERMAN 211 LLC
90 BOX 822044
NORTH RICHLAND HILLS TX 76182

PC COUNSELING & REHABILITATION LLC
NEWJERSEY LIMITED CO
17 MULBERRY ST
SICKLERVILLE NJ 08081

MAESTRO INVESTING GROUP LLC
2553 AUTUMN LN
FRISCO TX 75036

REAL ESTATE TEXOMA LLC
890 BEECHWOOD LN
FAIRVIEW TX 75069

CONRAD PROPERTIES LLC
509 E 1ST ST
PROSPER TX 75078

CONRAD RENTALS LLC
130 N PRESTON RD
PROSPER TX 75078

KUSE WAYNE CARL ETUX
ROXANN 1301 STATE HWY 289
SHERMAN TX 75092

CORONA RAFAEL AND CORONA SONIA
1241 MCMAHAN DR
LEWISVILLE TX 75077

Comisión de Calidad Ambiental del Estado de Texas

AVISO DE RECIBO DE LA SOLICITUD Y
EL INTENTO DE OBTENER PERMISO PARA LA CALIDAD DEL AGUA
MODIFICACION

PERMISO NO. WQoo_____

SOLICITUD. La Ciudad de Sherman, P.O. Box 1106, Sherman, Texas 75091, ha solicitado a la Comisión de Calidad Ambiental del Estado de Texas (TCEQ) para modificar el Permiso No. WQ0010329001 (EPA I.D. No. TX 0024325) del Sistema de Eliminación de Descargas de Contaminantes de Texas (TPDES) para autorizar la descarga de aguas residuales tratadas en un volumen que no sobrepasa un flujo promedio anual de 24,000,000 galones por día y a adición del nuevo emissário 002 para descargar aguas residuales tratadas en un volumen que no supere un flujo promedio anual de 16,000,000 de galones por día. La planta está ubicada en 1800 East Farm-to-Market Road 1417, cerca de la ciudad de Sherman, en el Condado de Grayson, Texas 75090. La ruta de descarga es del sitio de la planta a través del emissário 001 hasta Post Oak Creek, de allí a Choctaw Creek, de allí a Red River Below Lake Texoma y a través del emissário 002 a través de una tubería hasta un afluente sin nombre, de allí a Deaver Creek, de allí a Big Mineral Creek, de allí al lago Texoma. La TCEQ recibió esta solicitud el 19 de febrero de 2025. La solicitud para el permiso estará disponible para leerla y copiarla en Biblioteca Pública de Sherman, 421 North Travis Street, Sherman, en el condado de Grayson, Texas, 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=-96.573611,33.601388&level=18

[Include the following non-italicized sentence if the facility is located in the Coastal Management Program boundary and is an application for a major amendment which will increase the pollutant loads to coastal waters or would result in relocation of an outfall to a critical areas, or a renewal with such a major amendment. The Coastal Management Program boundary is the area along the Texas Coast of the Gulf of México as depicted on the map in 31 TAC §503.1 and includes part or all of the following counties: Cameron, Willacy, Kenedy, Kleberg, Nueces, San Patricio, Aransas, Refugio, Calhoun, Victoria, Jackson, Matagorda, Brazoria, Galveston, Harris, Chambers, Jefferson y Orange. If the application is for amendment that does ot meet the above description, do not include the sentence: El Director Ejecutivo de la TCEQ ha revisado esta medida para ver si está de acuerdo con los objetivos y las regulaciones del Programa de Administración Costero de Texas (CMP) de acuerdo con las regulaciones del Consejo Coordinador de la Costa (CCC) y ha determinado que la acción es conforme con las metas y regulaciones pertinentes del CMP.

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.

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. Ademas, puede pedir que la TCEQ ponga su nombre en una or mas de las listas 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 especifico. Si desea que se agrega su nombre en una de las listas designe cual lista(s) y envia 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 la Ciudad de Sherman, a la dirección indicada arriba o llamando a Sr. Nathan Whiddon, Gerente de Aguas Residuales y Laboratorio, al 903-892-7286.

Fecha de emisión _____ *[Date notice issued]*

Sherman
CLASSIC TOWN. BROAD HORIZON.

Post Oak Wastewater Treatment Facility

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

APPLICATION FOR MAJOR AMENDMENT

TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM
PERMIT NO. WQ0010329001

February 19, 2025

Mead & Hunt

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

DOMESTIC WASTEWATER PERMIT APPLICATION CHECKLIST

Complete and submit this checklist with the application.

APPLICANT NAME: **City of Sherman**

PERMIT NUMBER (If new, leave blank): WQ00 **10329001**

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

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

For TCEQ Use Only

Segment Number _____County _____
Expiration Date _____Region_____
Permit Number _____

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

DOMESTIC WASTEWATER PERMIT APPLICATION ADMINISTRATIVE REPORT 1.0

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

Section 1. Application Fees (Instructions Page 26)

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

Flow	New/Major Amendment	Renewal
<0.05 MGD	$350.00 ☐	$315.00 ☐
≥0.05 but <0.10 MGD	$550.00 ☐	$515.00 ☐
≥0.10 but <0.25 MGD	$850.00 ☐	$815.00 ☐
≥0.25 but <0.50 MGD	$1,250.00 ☐	$1,215.00 ☐
≥0.50 but <1.0 MGD	$1,650.00 ☐	$1,615.00 ☐
≥1.0 MGD	$2,050.00 ☒	$2,015.00 ☐

Minor Amendment (for any flow) $150.00 ☐

Payment Information:

Mailed Check/Money Order Number: Click to enter text.

Check/Money Order Amount: Click to enter text.

Name Printed on Check: Click to enter text.

EPAY Voucher Number: **748858/748859**

Copy of Payment Voucher enclosed? Yes ☒

Section 2. Type of Application (Instructions Page 26)

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

☒ Publicly-Owned Domestic Wastewater

☐ Privately-Owned Domestic Wastewater

☐ Conventional Wastewater Treatment

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

☒ Active ☐ Inactive

Your transaction is complete. Thank you for using TCEQ ePay.

Note: It may take up to 3 working days for this electronic payment to be processed and be reflected in the TCEQ ePay system. Print this receipt and the vouchers for your records. An email receipt has also been sent.

Transaction Information

Trace Number:	582EA000650995
Date:	02/11/2025 03:31 PM
Payment Method:	CC - Authorization 0000068831
ePay Actor:	KYLAR CHRISTISON
Actor Email:	kylarc@cityofsherman.com
IP:	67.60.177.98
TCEQ Amount:	$2,050.00
Texas.gov Price:	$2,096.38*

* This service is provided by Texas.gov, the official website of Texas. The price of this service includes funds that support the ongoing operations and enhancements of Texas.gov, which is provided by a third party in partnership with the State.

Payment Contact Information

Name:	KYLAR CHRISTISON
Company:	CITY OF SHERMAN
Address:	288 POST OAK RD, SHERMAN, TX 75091
Phone:	903-892-7034

Cart Items

Click on the voucher number to see the voucher details.

Voucher	Fee Description	AR Number	Amount
748858	WW PERMIT - FACILITY WITH FLOW >= 1.0 MGD - NEW AND MAJOR AMENDMENTS		$2,000.00
748859	30 TAC 305.53B WQ NOTIFICATION FEE		$50.00
		TCEQ Amount:	$2,050.00

ePay Again | Exit ePay

Note: It may take up to 3 working days for this electronic payment to be processed and be reflected in the TCEQ ePay system. Print this receipt for your records.

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

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

d. Check the box next to the appropriate application type

- ☐ New
- ☒ Major Amendment *with* Renewal
- ☐ Major Amendment *without* Renewal
- ☐ Renewal without changes
- ☐ Minor Amendment *with* Renewal
- ☐ Minor Amendment *without* Renewal
- ☐ Minor Modification of permit

e. For amendments or modifications, describe the proposed changes: **See Attachment A.**

f. For existing permits:

Permit Number: WQ00 **10329001**

EPA I.D. (TPDES only): TX **0024325**

Expiration Date: **August 19, 2025**

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

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

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

City of Sherman

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

If the applicant is currently a customer with the TCEQ, what is the Customer Number (CN)? You may search for your CN on the TCEQ website at http://www15.tceq.texas.gov/crpub/

CN: **600429583**

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

Prefix: **Mr.** Last Name, First Name: **Philpott, Clint**

Title: **Assistant City Manager** Credential: **P.E.**

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

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

N/A

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

If the co-applicant is currently a customer with the TCEQ, what is the Customer Number (CN)? You may search for your CN on the TCEQ website at: http://www15.tceq.texas.gov/crpub/

CN: **N/A**

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

Prefix: **N/A** Last Name, First Name: Click to enter text.

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

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

C. Core Data Form

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

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: **Mr.** Last Name, First Name: **Whiddon, Nathan**

Title: **Wastewater and Laboratory Manager** Credential: Click to enter text.

Organization Name: **City of Sherman**

Mailing Address: **288 Post Oak Road** City, State, Zip Code: **Sherman, TX 75090**

Phone No.: **(903) 892-7286** E-mail Address: **nathanw@cityofsherman.com**

Check one or both: ☒ Administrative Contact ☒ Technical Contact

B. Prefix: **Ms.** Last Name, First Name: **Sims, Janet**

Title: **Project Manager** Credential: Click to enter text.

Organization Name: **Mead & Hunt**

Mailing Address: **8217 Shoal Creek Boulevard, Suite 203** City, State, Zip Code: **Austin, TX 78757**

Phone No.: **(512) 735-1001** E-mail Address: **Janet.Sims@meadhunt.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: **Mr.** Last Name, First Name: **Philpott, Clint**

Title: **Assistant City Manager** Credential: **P.E.**

Organization Name: **City of Sherman**

Mailing Address: **220 West Mulberry** City, State, Zip Code: **Sherman, TX 75090**

Phone No.: **(903) 892-7203** E-mail Address: **clintp@cityofsherman.com**

B. Prefix: **Mr.** Last Name, First Name: **Flores, Zachary**

Title: **City Manager** Credential: **Ph.D.**

Organization Name: **City of Sherman**

Mailing Address: **220 West Mulberry** City, State, Zip Code: **Sherman, TX 75090**

Phone No.: **(903) 892-7205** E-mail Address: **zacharyf@cityofsherman.com**

Section 6. Billing Contact Information (Instructions Page 27)

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

Prefix: **Mr.** Last Name, First Name: **Whiddon, Nathan**

Title: **Wastewater and Laboratory Manager** Credential: Click to enter text.

Organization Name: **City of Sherman**

Mailing Address: **288 Post Oak Road** City, State, Zip Code: **Sherman, TX 75090**

Phone No.: **(903) 892-7286** E-mail Address: **nathanw@cityofsherman.com**

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

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

Prefix: **Mr.** Last Name, First Name: **Philpott, Clint**

Title: **Assistant City Manager** Credential: **P.E.**

Organization Name: **City of Sherman**

Mailing Address: **220 West Mulberry** City, State, Zip Code: **Sherman, TX 75090**

Phone No.: **(903) 892-7206** E-mail Address: **ClintP@cityofsherman.com**

Section 8. Public Notice Information (Instructions Page 27)

A. Individual Publishing the Notices

Prefix: **Mr.** Last Name, First Name: **Christison, Kylar**

Title: **Wastewater Project Manager** Credential: Click to enter text.

Organization Name: **City of Sherman**

Mailing Address: **288 Post Oak Road** City, State, Zip Code: **Sherman, TX 75090**

Phone No.: **(903) 892-7034** E-mail Address: **KylarC@cityofsherman.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: **Mr.** Last Name, First Name: **Whiddon, Nathan**

Title: **Wastewater and Laboratory Manager** Credential: Click to enter text.

Organization Name: **City of Sherman**

Mailing Address: **288 Post Oak Road** City, State, Zip Code: **Sherman, TX**

Phone No.: **(903) 892-7286** E-mail Address: **nathanw@cityofsherman.com**

D. Public Viewing Information

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

Public building name: **City Library**

Location within the building: **Front desk**

Physical Address of Building: **421 N. Travis**

City: **Sherman, TX** County: **Grayson**

Contact (Last Name, First Name): **Cannon, Lauren**

Phone No.: **(903) 892-7240** Ext.: Click to enter text.

E. Bilingual Notice Requirements

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

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

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

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

   ☒ Yes ☐ No

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

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

   ☒ Yes ☐ No

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

   ☐ Yes ☒ No

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

   ☐ Yes ☒ No

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

F. Plain Language Summary Template

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

Attachment: C

G. Public Involvement Plan Form

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

Attachment: D

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

A. If the site is currently regulated by TCEQ, provide the Regulated Entity Number (RN) issued to this site. **RN 101612448**

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

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

Post Oak Wastewater Treatment Facility

C. Owner of treatment facility: **City of Sherman**

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

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

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

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

Organization Name: **City of Sherman**

Mailing Address: **220 West Mulberry Street** City, State, Zip Code: **Sherman, TX 75090**

Phone No.: **(903) 892-7200** E-mail Address: Click to enter text.

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

Attachment: N/A

E. Owner of effluent disposal site:

Prefix: **N/A** Last Name, First Name: Click to enter text.

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

Organization Name: Click to enter text.

Mailing Address: Click to enter text. City, State, Zip Code: Click to enter text.

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

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

Attachment: Click to enter text.

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

Prefix: **N/A** Last Name, First Name: Click to enter text.

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

Organization Name: Click to enter text.

Mailing Address: Click to enter text. City, State, Zip Code: Click to enter text.

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

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

Attachment: Click to enter text.

Section 10. TPDES Discharge Information (Instructions Page 31)

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

☒ Yes ☐ No

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

Click to enter text.

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

☐ Yes ☒ No

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

See Attachment A.

City nearest the outfall(s): **Sherman, TX**

County in which the outfalls(s) is/are located: **Grayson**

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

☐ Yes ☒ No

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

☐ Authorization granted ☐ Authorization pending

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

Attachment: N/A

D. For all applications involving an average daily discharge of 5 MGD or more, provide the names of all counties located within 100 statute miles downstream of the point(s) of discharge: **Grayson, Fannin, Lamar, and Red River**

Section 11. TLAP Disposal Information (Instructions Page 32)

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

☐ Yes ☐ No **N/A**

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

N/A

B. City nearest the disposal site: Click to enter text.

C. County in which the disposal site is located: Click to enter text.

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

E. For **TLAPs**, please identify the nearest watercourse to the disposal site to which rainfall runoff might flow if not contained: Click to enter text.

Section 12. Miscellaneous Information (Instructions Page 32)

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

☐ Yes ☒ No

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

☐ Yes ☐ No ☒ Not Applicable

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

Click to enter text.

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

☐ Yes ☒ No

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

D. Do you owe any fees to the TCEQ?

☐ Yes ☒ No

If **yes**, provide the following information:

Account number: Click to enter text.

Amount past due: Click to enter text.

E. Do you owe any penalties to the TCEQ?

☐ Yes ☒ No

If **yes**, please provide the following information:

Enforcement order number: Click to enter text.

Amount past due: Click to enter text.

Section 13. Attachments (Instructions Page 33)

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

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

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

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

☐ Attachment 1 for Individuals as co-applicants

☒ Other Attachments. Please specify:

Attachments

A. Proposed Changes
B. Core Data Form
C. Plain Language Summary
D. Public Involvement Plan
E. USGS Map
F. Affected Landowner Information
G. Original Photographs
H. Buffer Zone Map
I. Treatment Process Description
J. Treatment Unit List
K. Process Flow Diagram
L. Site Drawing
M. Effluent Analysis Reports
N. General Highway Map
O. USDA NRCS Soil Map
P. FEMA Map
Q. Site Map
R. 100-year Frequency Flood Protection
S. Permit Justification
T. Design Calculations and Plant Features
U. Windrose
V. Solids Management Plan
W. Post Oak Creek Stream Study
X. Effluent Parameters above the MAL
Y. Biosolids Treatment Process Description
Z. Marketing and Distribution Plan
SPIF

Section 14. Signature Page (Instructions Page 34)

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

Permit Number: **WQ0010329001**

Applicant: **City of Sherman**

Certification:

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

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

Signatory name (typed or printed): **Clint Philpott, P.E.**

Signatory title: **Assistant City Manager**

Signature: Clint Philpott Date: 2/17/25

(Use blue ink)

Subscribed and Sworn to before me by the said Clint Philpott

on this 17th day of February, 20 25.

My commission expires on the 28th day of February, 20 25.

Notary Public

TERI FINE
NOTARY PUBLIC
STATE OF TEXAS
ID # 132771151
My Comm. Expires 10-28-2028

[SEAL]

Grayson
County, Texas

DOMESTIC WASTEWATER PERMIT APPLICATION ADMINISTRATIVE REPORT 1.0

The following information is required for new and amendment applications.

Section 1. Affected Landowner Information (Instructions Page 36)

A. Indicate by a check mark that the landowners map or drawing, with scale, includes the following information, as applicable: **See Attachment F.**

- ☒ The applicant's property boundaries
- ☒ The facility site boundaries within the applicant's property boundaries
- ☒ The distance the buffer zone falls into adjacent properties and the property boundaries of the landowners located within the buffer zone
- ☒ The property boundaries of all landowners surrounding the applicant's property (Note: if the application is a major amendment for a lignite mine, the map must include the property boundaries of all landowners adjacent to the new facility (ponds).)
- ☒ The point(s) of discharge and highlighted discharge route(s) clearly shown for one mile downstream
- ☒ The property boundaries of the landowners located on both sides of the discharge route for one full stream mile downstream of the point of discharge
- ☐ The property boundaries of the landowners along the watercourse for a one-half mile radius from the point of discharge if the point of discharge is into a lake, bay, estuary, or affected by tides
- ☐ The boundaries of the effluent disposal site (for example, irrigation area or subsurface drainfield site) and all evaporation/holding ponds within the applicant's property
- ☐ The property boundaries of all landowners surrounding the effluent disposal site
- ☐ The boundaries of the sludge land application site (for land application of sewage sludge for beneficial use) and the property boundaries of landowners surrounding the applicant's property boundaries where the sewage sludge land application site is located
- ☐ The property boundaries of landowners within one-half mile in all directions from the applicant's property boundaries where the sewage sludge disposal site (for example, sludge surface disposal site or sludge monofill) is located

B. ☒ Indicate by a check mark that a separate list with the landowners' names and mailing addresses cross-referenced to the landowner's map has been provided.

C. Indicate by a check mark in which format the landowners list is submitted:

☐ USB Drive ☒ Four sets of labels

D. Provide the source of the landowners' names and mailing addresses: **Grayson Central Appraisal District (2/14/2025)**

E. As required by *Texas Water Code § 5.115*, is any permanent school fund land affected by this application?

☐ Yes ☒ No

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

Click to enter text.

Section 2. Original Photographs (Instructions Page 38)

Provide original ground level photographs. Indicate with checkmarks that the following information is provided. **See Attachment G.**

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

Section 3. Buffer Zone Map (Instructions Page 38)

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

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

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

- ☒ Ownership **and existing Right-of-Way**
- ☐ Restrictive easement
- ☐ Nuisance odor control
- ☐ Variance

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

☒ Yes ☐ No

DOMESTIC WASTEWATER PERMIT APPLICATION

SUPPLEMENTAL PERMIT INFORMATION FORM (SPIF)

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

Attachment: SPIF

DOMESTIC WASTEWATER PERMIT APPLICATION CHECKLIST OF COMMON DEFICIENCIES

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

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

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

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

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

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

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

Things to Know:

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

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

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

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

Plain Language Summary ☒ Yes

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

DOMESTIC WASTEWATER PERMIT APPLICATION TECHNICAL REPORT 1.0

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

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

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

A. Existing/Interim I Phase

Design Flow (MGD): **See Attachment A.**

2-Hr Peak Flow (MGD): Click to enter text.

Estimated construction start date: Click to enter text.

Estimated waste disposal start date: Click to enter text.

B. Interim II Phase

Design Flow (MGD): Click to enter text.

2-Hr Peak Flow (MGD): Click to enter text.

Estimated construction start date: Click to enter text.

Estimated waste disposal start date: Click to enter text.

C. Final Phase

Design Flow (MGD): Click to enter text.

2-Hr Peak Flow (MGD): Click to enter text.

Estimated construction start date: Click to enter text.

Estimated waste disposal start date: Click to enter text.

D. Current Operating Phase

Provide the startup date of the facility: **1983**

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**.

See Attachment I.

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)
See Attachment J.		

C. Process Flow Diagram

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

Attachment: **See Attachment K**

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

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

	Outfall 001	Outfall 002
• Latitude:	**33.601441**	**33.620484**
• Longitude:	**-96.573860**	**-96.709439**

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

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

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: **L**

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

City of Sherman, City of Howe, and City of Knollwood

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
City of Sherman	City of Sherman	Publicly Owned	44,000
City of Howe	City of Howe	Publicly Owned	3,600
City of Knollwood	City of Knollwood	Publicly Owned	500

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**.

Click to enter text.

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.

The treatment units that are not in service will be assessed to determine if the units can be renovated or repurposed. Prior to conducting demolition of any treatment unit and disposal of materials, a closure plan will be submitted to TCEQ for review and approval.

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: **October 18, 2024**

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

Click to enter text.

B. Buffer zones

Have the buffer zone requirements been met?

☒ Yes ☐ No

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

Click to enter text.

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*.

Click to enter text.

D. Grit and grease treatment

1. Acceptance of grit and grease waste

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

☐ Yes ☒ No

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

2. Grit and grease processing

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

Click to enter text.

3. Grit disposal

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

☐ Yes ☐ No

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

Describe the method of grit disposal.

Click to enter text.

4. *Grease and decanted liquid disposal*

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

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

Click to enter text.

E. Stormwater management

1. *Applicability*

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

☒ Yes ☐ No

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

☒ Yes ☐ No

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

2. *MSGP coverage*

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

☐ Yes ☒ No

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

TXR05 Click to enter text. or TXRNE Click to enter text.

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

☐ Yes ☒ No

3. *Conditional exclusion*

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

☐ Yes ☒ No

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

Click to enter text.

4. ***Existing coverage in individual permit***

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

☐ Yes ☒ No

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

Click to enter text.

5. ***Zero stormwater discharge***

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

☒ Yes ☐ No

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

Stormwater that falls onto the treatment plant site is collected into the stormwater holding basin. The stormwater either evaporates or is pumped to the plant headworks for treatment. No untreated stormwater is discharge to surface water in the state.

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

6. ***Request for coverage in individual permit***

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

☐ Yes ☒ No

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

Click to enter text.

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

F. Discharges to the Lake Houston Watershed

Does the facility discharge in the Lake Houston watershed?

☐ Yes ☒ No

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

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

1. Acceptance of sludge from other WWTPs

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

☐ Yes ☒ No

If yes, attach sewage sludge solids management plan. See Example 5 of the 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_5 concentration of the sludge, and the design BOD_5 concentration of the influent from the collection system. Also note if this information has or has not changed since the last permit action.

Click to enter text.

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

2. Acceptance of septic waste

Is the facility accepting or will it accept septic waste?

☐ Yes ☒ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

If yes to any of the above, provide the date the plant started or is anticipated to start accepting septic waste, an estimate of monthly septic waste acceptance (gallons or millions of gallons), an estimate of the BOD_5 concentration of the septic waste, and the design BOD_5 concentration of the influent from the collection system. Also note if this information has or has not changed since the last permit action.

Click to enter text.

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

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

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

☐ Yes ☒ No

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

Click to enter text.

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

Is the facility in operation?

☒ Yes ☐ No

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

If yes, provide effluent analysis data for the listed pollutants. ***Wastewater treatment facilities*** complete Table 1.0(2). **W*ater 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 **See Attachment M.**

Pollutant	Average Conc.	Max Conc.	No. of Samples	Sample Type	Sample Date/Time
$CBOD_5$, mg/l	4.3	4.3	1	Comp.	7/18/2024 @07:50
Total Suspended Solids, mg/l	4.7	4.7	1	Comp.	7/18/2024 @07:50
Ammonia Nitrogen, mg/l	<0.20	<0.20	1	Comp.	7/18/2024 @07:50
Nitrate Nitrogen, mg/l	21.9	21.9	1	Comp.	7/18/2024 @07:50

Total Kjeldahl Nitrogen, mg/l	**1.18**	**1.18**	**1**	**Comp.**	**7/18/2024 @07:50**
Sulfate, mg/l	**177**	**177**	**1**	**Comp.**	**7/18/2024 @07:50**
Chloride, mg/l	**239**	**239**	**1**	**Comp.**	**7/18/2024 @07:50**
Total Phosphorus, mg/l	**5.42**	**5.42**	**1**	**Comp.**	**7/18/2024 @07:50**
pH, standard units	**7.2**	**7.2**	**1**	**Grab**	**7/18/2024 @07:50**
Dissolved Oxygen*, mg/l	**7.66**	**7.66**	**1**	**Grab**	**10/4/2024 @07:19**
Chlorine Residual, mg/l	**<0.10**	**<0.10**	**1**	**Grab**	**10/25/2024 @07:39**
E.coli (CFU/100ml) freshwater	**11**	**11**	**1**	**Grab**	**10/25/2024 @07:39**
Entercocci (CFU/100ml) saltwater	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
Total Dissolved Solids, mg/l	**1020**	**1020**	**1**	**Comp.**	**7/18/2024 @07:50**
Electrical Conductivity, µmohs/cm, †	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
Oil & Grease, mg/l	**<10**	**<10**	**1**	**Grab**	**7/18/2024 @07:45**
Alkalinity ($CaCO_3$)*, mg/l	**190**	**190**	**1**	**Comp.**	**7/18/2024 @07:50**

*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	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
Total Dissolved Solids, mg/l	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
pH, standard units	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
Fluoride, mg/l	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
Aluminum, mg/l	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
Alkalinity ($CaCO_3$), mg/l	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**

Section 8. Facility Operator (Instructions Page 50)

Facility Operator Name: **Jeff Rigdon**

Facility Operator's License Classification and Level: **WWOL A**

Facility Operator's License Number: **WW0047697**

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>= 1 MGD

- ☒ Serves >= 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 - **for emergency purposes only**
- ☒ Temporary Storage (< 2 years)
- ☐ Long Term Storage (>= 2 years)
- ☐ Methane or Biogas Recovery
- ☒ Other Treatment Process: **Anaerobic digestion**

C. Biosolids Management

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

Biosolids Management

Management Practice	Handler or Preparer Type	Bulk or Bag Container	Amount (dry metric tons)	Pathogen Reduction Options	Vector Attraction Reduction Option
Disposal in Landfill	On-Site Owner or Operator	Not Applicable	10,000 – 18,000 CY	N/A	N/A

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

D. Disposal site

Disposal site name: **Texoma Area Solid Waste Authority**

TCEQ permit or registration number: **2290**

County where disposal site is located: **Grayson**

E. Transportation method

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

Name of the hauler: **City of Sherman**

Hauler registration number: **25369**

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 **The City's authorization for Beneficial Land Use of Biosolids is for Class A/AB biosolids, which does not require a permit.**

B. Sludge processing authorization

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

Sludge Composting ☐ Yes ☒ No

Marketing and Distribution of sludge	☒	Yes	☐	No	**The City has authorization for Marketing and Distribution of Class A and Class AB Biosolids pursuant to Notification Authorization No. 720008.**
Sludge Surface Disposal or Sludge Monofill	☐	Yes	☒	No	
Temporary storage in sludge lagoons	☒	Yes	☐	No	

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

☒ Yes ☐ No

Section 11. Sewage Sludge Lagoons (Instructions Page 53)

Does this facility include sewage sludge lagoons?

☒ Yes ☐ No

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

A. Location information

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

- Original General Highway (County) Map:

  Attachment: **N**
- USDA Natural Resources Conservation Service Soil Map:

  Attachment: **O**
- Federal Emergency Management Map:

  Attachment: **P**
- Site map:

  Attachment: **Q**

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: **R**

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:

Protective measures consist of earthen embankments that are 15 feet wide across the top. The embankment top has a 6.5 feet freeboard above the 100-year flood elevation of 631.0 feet.

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: **<31.2**

Total Kjeldahl Nitrogen, mg/kg: **33,600**

Total Nitrogen (=nitrate nitrogen + TKN), mg/kg: **33,600**

Phosphorus, mg/kg: **6,940**

Potassium, mg/kg: **2,980**

pH, standard units: **7.0**

Ammonia Nitrogen mg/kg: **20,900**

Arsenic: **<15.6 mg/kg**

Cadmium: **<3.12 mg/kg**

Chromium: **68.4 mg/kg**

Copper: **721 mg/kg**

Lead: **29.7 mg/kg**

Mercury: **<0.781 mg/kg**

Molybdenum: **16.8 mg/kg**

Nickel: **49.7 mg/kg**

Selenium: **16.7 mg/kg**

Zinc: **1,150 mg/kg**

Total PCBs: **<1.120 mg/kg**

Provide the following information:

Volume and frequency of sludge to the lagoon(s): **Sludge is only placed into the sludge lagoon for emergency reasons and is stored temporarily. All previously placed sludge has been removed.**

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 $1x10^{-7}$ cm/sec?

☒ Yes ☐ No

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

A subsurface exploration was conducted in 2023 by ESC Southwest, LLP where two borings at the existing lagoons were drilled. The results indicate the presence of about 3-foot-thick fat clay fill material at the surface and meets the criteria for the soil liner, as defined by TCEQ Regulatory Guidance, Sept 2017. The coefficient of permeability for the clay soil encountered in the top 3 feet borings should be greater than $1x10^{-7}$ cm/sec.

Soil Property	TCEQ Requirements	B-28	B-29
Plasticity Index (PI)	>15	41	31
Liquid Limit (LL)	>30	65	53
Percent Passing No. 200 Sieve	>30%	88	77
Percent Passing 1-in Sieve	100	100	100

D. Site development plan

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

In the event of an emergency, sludge can be pumped directly from the anaerobic digesters through a pipeline into the lagoons.

Attach the following documents to the application.

- Plan view and cross-section of the sludge lagoon(s)

  Attachment: **R**
- Copy of the closure plan

  Attachment: **R**
- Copy of deed recordation for the site

  Attachment: **R**
- Size of the sludge lagoon(s) in surface acres and capacity in cubic feet and gallons

  Attachment: **R**
- Description of the method of controlling infiltration of groundwater and surface water from entering the site

  Attachment: **R**
- Procedures to prevent the occurrence of nuisance conditions

  Attachment: **R**

E. Groundwater monitoring

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

☐ Yes ☒ No

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

Attachment: Click to enter text.

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

A. Additional authorizations

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

☒ Yes ☐ No

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

Marketing and Distribution Sludge authorization 720008 for Class A and Class AB sludge.

B. Permittee enforcement status

Is the permittee currently under enforcement for this facility?

☐ Yes ☒ No

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

☐ Yes ☒ No

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

Click to enter text.

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

A. RCRA hazardous wastes

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

☐ Yes ☒ No

B. Remediation activity wastewater

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

☐ Yes ☒ No

C. Details about wastes received

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

Attachment: 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: **Clint Philpott, P.E.**

Title: **Assistant City Manager**

Signature: _____

Date: 2/17/25

DOMESTIC WASTEWATER PERMIT APPLICATION TECHNICAL REPORT 1.1

The following information is required for new and amendment major applications.

Section 1. Justification for Permit (Instructions Page 57)

A. Justification of permit need

Provide a detailed discussion regarding the need for any phase(s) not currently permitted. Failure to provide sufficient justification may result in the Executive Director recommending denial of the proposed phase(s) or permit.

See Attachment S.

B. Regionalization of facilities

For additional guidance, please review TCEQ's Regionalization Policy for Wastewater Treatment[1].

Provide the following information concerning the potential for regionalization of domestic wastewater treatment facilities:

1. Municipally incorporated areas

If the applicant is a city, then Item 1 is not applicable. Proceed to Item 2 Utility CCN areas.

Is any portion of the proposed service area located in an incorporated city?

☐ Yes ☐ No ☒ Not Applicable

If yes, within the city limits of: Click to enter text.

If yes, attach correspondence from the city.

Attachment: Click to enter text.

If consent to provide service is available from the city, attach a justification for the proposed facility and a cost analysis of expenditures that includes the cost of connecting to the city versus the cost of the proposed facility or expansion attached.

Attachment: Click to enter text.

2. Utility CCN areas

Is any portion of the proposed service area located inside another utility's CCN area?

☐ Yes ☒ No

[1] https://www.tceq.texas.gov/permitting/wastewater/tceq-regionalization-for-wastewater

If yes, attach a justification for the proposed facility and a cost analysis of expenditures that includes the cost of connecting to the CCN facilities versus the cost of the proposed facility or expansion.

Attachment: Click to enter text.

3. Nearby WWTPs or collection systems

Are there any domestic permitted wastewater treatment facilities or collection systems located within a three-mile radius of the proposed facility?

☐ Yes ☒ No

If yes, attach a list of these facilities and collection systems that includes each permittee's name and permit number, and an area map showing the location of these facilities and collection systems.

Attachment: Click to enter text.

If yes, attach proof of mailing a request for service to each facility and collection system, the letters requesting service, and correspondence from each facility and collection system.

Attachment: Click to enter text.

If the facility or collection system agrees to provide service, attach a justification for the proposed facility and a cost analysis of expenditures that includes the cost of connecting to the facility or collection system versus the cost of the proposed facility or expansion.

Attachment: Click to enter text.

Section 2. Proposed Organic Loading (Instructions Page 59)

Is this facility in operation?

☒ Yes ☐ No

If no, proceed to Item B, Proposed Organic Loading.

If yes, provide organic loading information in Item A, Current Organic Loading

A. Current organic loading

Facility Design Flow (flow being requested in application): **24 MGD**

Average Influent Organic Strength or BOD_5 Concentration in mg/l: **190**

Average Influent Loading (lbs/day = total average flow X average BOD_5 conc. X 8.34): **38,030**

Provide the source of the average organic strength or BOD_5 concentration.

Influent data from January 2021 through December 2024

B. Proposed organic loading

This table must be completed if this application is for a facility that is not in operation or if this application is to request an increased flow that will impact organic loading.

Table 1.1(1) – Design Organic Loading

Source	Total Average Flow (MGD)	Influent BOD5 Concentration (mg/l)
Municipality	**See Attachment S.**	
Subdivision		
Trailer park – transient		
Mobile home park		
School with cafeteria and showers		
School with cafeteria, no showers		
Recreational park, overnight use		
Recreational park, day use		
Office building or factory		
Motel		
Restaurant		
Hospital		
Nursing home		
Other		
TOTAL FLOW from all sources		
AVERAGE BOD_5 from all sources		

Section 3. Proposed Effluent Quality and Disinfection (Instructions Page 59)

A. Existing/Interim I Phase Design Effluent Quality

Biochemical Oxygen Demand (5-day), mg/l: Click to enter text.

Total Suspended Solids, mg/l: Click to enter text.

Ammonia Nitrogen, mg/l: Click to enter text. **See Attachment A.**

Total Phosphorus, mg/l: Click to enter text.

Dissolved Oxygen, mg/l: Click to enter text.

Other: Click to enter text.

B. Interim II Phase Design Effluent Quality

Biochemical Oxygen Demand (5-day), mg/l: Click to enter text.

Total Suspended Solids, mg/l: Click to enter text.

Ammonia Nitrogen, mg/l: Click to enter text. **See Attachment A.**

Total Phosphorus, mg/l: Click to enter text.

Dissolved Oxygen, mg/l: Click to enter text.

Other: Click to enter text.

C. Final Phase Design Effluent Quality

Biochemical Oxygen Demand (5-day), mg/l: Click to enter text.

Total Suspended Solids, mg/l: Click to enter text. **See Attachment A.**

Ammonia Nitrogen, mg/l: Click to enter text.

Total Phosphorus, mg/l: Click to enter text.

Dissolved Oxygen, mg/l: Click to enter text.

Other: Click to enter text.

D. Disinfection Method

Identify the proposed method of disinfection.

☐ Chlorine: Click to enter text. mg/l after Click to enter text. minutes detention time at peak flow

Dechlorination process: Click to enter text.

☒ Ultraviolet Light: **Existing/Interim I: 57; Interim II: 66; Final: 76** seconds contact time at peak flow

☐ Other: Click to enter text.

Section 4. Design Calculations (Instructions Page 59)

Attach design calculations and plant features for each proposed phase. Example 4 of the instructions includes sample design calculations and plant features.

Attachment: **T**

Section 5. Facility Site (Instructions Page 60)

A. 100-year floodplain

Will the proposed facilities be located above the 100-year frequency flood level?

☒ Yes ☐ No

If no, describe measures used to protect the facility during a flood event. Include a site map showing the location of the treatment plant within the 100-year frequency flood level. If applicable, provide the size and types of protective structures.

Provide the source(s) used to determine 100-year frequency flood plain.

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For a new or expansion of a facility, will a wetland or part of a wetland be filled?

☐ Yes ☒ No

If yes, has the applicant applied for a US Corps of Engineers 404 Dredge and Fill Permit?

☐ Yes ☐ No

If yes, provide the permit number: Click to enter text.

If no, provide the approximate date you anticipate submitting your application to the Corps: Click to enter text.

B. Wind rose

Attach a wind rose: **U**

Section 6. Permit Authorization for Sewage Sludge Disposal (Instructions Page 60)

A. Beneficial use authorization

Are you requesting to include authorization to land apply sewage sludge for beneficial use on property located adjacent to the wastewater treatment facility under the wastewater permit?

☐ Yes ☒ No

If yes, attach the completed **Application for Permit for Beneficial Land Use of Sewage Sludge (TCEQ Form No. 10451)**: **.**

B. Sludge processing authorization

Identify the sludge processing, storage or disposal options that will be conducted at the wastewater treatment facility:

☐ Sludge Composting

☒ Marketing and Distribution of sludge

☐ Sludge Surface Disposal or Sludge Monofill

If any of the above, sludge options are selected, attach the completed **Domestic Wastewater Permit Application: Sewage Sludge Technical Report (TCEQ Form No. 10056)**: **Form No. 10056 is attached.**

Section 7. Sewage Sludge Solids Management Plan (Instructions Page 61)

Attach a solids management plan to the application.

Attachment: V

The sewage sludge solids management plan must contain the following information:

- Treatment units and processes dimensions and capacities
- Solids generated at 100, 75, 50, and 25 percent of design flow
- Mixed liquor suspended solids operating range at design and projected actual flow
- Quantity of solids to be removed and a schedule for solids removal
- Identification and ownership of the ultimate sludge disposal site
- For facultative lagoons, design life calculations, monitoring well locations and depths, and the ultimate disposal method for the sludge from the facultative lagoon

An example of a sewage sludge solids management plan has been included as Example 5 of the instructions.

Outfall 001 to Post Oak Creek.

DOMESTIC WASTEWATER PERMIT APPLICATION WORKSHEET 2.0: RECEIVING WATERS

The following information is required for all TPDES permit applications.

Section 1. Domestic Drinking Water Supply (Instructions Page 64)

Is there a surface water intake for domestic drinking water supply located within 5 miles downstream from the point or proposed point of discharge?

☐ Yes ☒ No

If **no**, proceed it Section 2. **If yes**, provide the following:

Owner of the drinking water supply: Click to enter text.

Distance and direction to the intake: Click to enter text.

Attach a USGS map that identifies the location of the intake.

Attachment:

Section 2. Discharge into Tidally Affected Waters (Instructions Page 64)

Does the facility discharge into tidally affected waters?

☐ Yes ☒ No

If **no**, proceed to Section 3. **If yes**, complete the remainder of this section. If no, proceed to Section 3.

A. Receiving water outfall

Width of the receiving water at the outfall, in feet: Click to enter text.

B. Oyster waters

Are there oyster waters in the vicinity of the discharge?

☐ Yes ☐ No

If yes, provide the distance and direction from outfall(s).

Click to enter text.

C. Sea grasses

Are there any sea grasses within the vicinity of the point of discharge?

☐ Yes ☐ No

If yes, provide the distance and direction from the outfall(s).

Click to enter text.

Section 3. Classified Segments (Instructions Page 64)

Is the discharge directly into (or within 300 feet of) a classified segment?

☐ Yes ☒ No

If yes, this Worksheet is complete.

If no, complete Sections 4 and 5 of this Worksheet.

Section 4. Description of Immediate Receiving Waters (Instructions Page 65)

Name of the immediate receiving waters: **Post Oak Creek**

A. Receiving water type

Identify the appropriate description of the receiving waters.

☒ Stream

☐ Freshwater Swamp or Marsh

☐ Lake or Pond

Surface area, in acres: Click to enter text.

Average depth of the entire water body, in feet: Click to enter text.

Average depth of water body within a 500-foot radius of discharge point, in feet: Click to enter text.

☐ Man-made Channel or Ditch

☐ Open Bay

☐ Tidal Stream, Bayou, or Marsh

☐ Other, specify: Click to enter text.

B. Flow characteristics

If a stream, man-made channel or ditch was checked above, provide the following. For existing discharges, check one of the following that best characterizes the area *upstream* of the discharge. For new discharges, characterize the area *downstream* of the discharge (check one).

☐ Intermittent - dry for at least one week during most years

☒ Intermittent with Perennial Pools - enduring pools with sufficient habitat to maintain significant aquatic life uses

☐ Perennial - normally flowing

Check the method used to characterize the area upstream (or downstream for new dischargers).

☐ USGS flow records

☐ Historical observation by adjacent landowners

☐ Personal observation

☒ Other, specify: **USGS and personal observations.**

C. Downstream perennial confluences

List the names of all perennial streams that join the receiving water within three miles downstream of the discharge point.

Choctaw Creek

D. Downstream characteristics

Do the receiving water characteristics change within three miles downstream of the discharge (e.g., natural or man-made dams, ponds, reservoirs, etc.)?

☐ Yes ☒ No

If yes, discuss how.

Click to enter text.

E. Normal dry weather characteristics

Provide general observations of the water body during normal dry weather conditions.

The creek was clear with intermittent pools upstream of outfall. The water body downstream of outfall was a gently flowing stream with light brown, slightly turbid water.

Date and time of observation: **10/17/2024 @ 10:05 am**

Was the water body influenced by stormwater runoff during observations?

☐ Yes ☒ No

Section 5. General Characteristics of the Waterbody (Instructions Page 66)

A. Upstream influences

Is the immediate receiving water upstream of the discharge or proposed discharge site influenced by any of the following? Check all that apply.

☐ Oil field activities
☐ Upstream discharges
☐ Septic tanks
☒ Urban runoff
☒ Agricultural runoff
☐ Other(s), specify: Click to enter text.

B. Waterbody uses

Observed or evidences of the following uses. Check all that apply.

- ☒ Livestock watering
- ☐ Irrigation withdrawal
- ☐ Fishing
- ☐ Domestic water supply
- ☐ Park activities
- ☐ Contact recreation
- ☐ Non-contact recreation
- ☐ Navigation
- ☐ Industrial water supply
- ☐ Other(s), specify: Click to enter text.

C. Waterbody aesthetics

Check one of the following that best describes the aesthetics of the receiving water and the surrounding area.

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

DOMESTIC WASTEWATER PERMIT APPLICATION WORKSHEET 2.1: STREAM PHYSICAL CHARACTERISTICS

Required for new applications, major facilities, and applications adding an outfall.

Worksheet 2.1 is not required for discharges to intermittent streams or discharges directly to (or within 300 feet of) a classified segment.

Section 1. General Information (Instructions Page 66)

Date of study: **See Attachment W.** Time of study: Click to enter text.

Stream name: Click to enter text.

Location: Click to enter text.

Type of stream upstream of existing discharge or downstream of proposed discharge (check one).

☐ Perennial ☐ Intermittent with perennial pools

Section 2. Data Collection (Instructions Page 66)

Number of stream bends that are well defined: Click to enter text.

Number of stream bends that are moderately defined: Click to enter text.

Number of stream bends that are poorly defined: Click to enter text.

Number of riffles: Click to enter text.

Evidence of flow fluctuations (check one):

☐ Minor ☐ moderate ☐ severe

Indicate the observed stream uses and if there is evidence of flow fluctuations or channel obstruction/modification.

Stream transects

In the table below, provide the following information for each transect downstream of the existing or proposed discharges. Use a separate row for each transect.

Table 2.1(1) - Stream Transect Records

Stream type at transect Select riffle, run, glide, or pool. See Instructions, Definitions section.	**Transect location**	**Water surface width (ft)**	**Stream depths (ft)** at 4 to 10 points along each transect from the channel bed to the water surface. Separate the measurements with commas.
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.			

Section 3. Summarize Measurements (Instructions Page 66)

Streambed slope of entire reach, from USGS map in feet/feet: Click to enter text.

Approximate drainage area above the most downstream transect (from USGS map or county highway map, in square miles): Click to enter text.

Length of stream evaluated, in feet: Click to enter text.

Number of lateral transects made: Click to enter text.

Average stream width, in feet: Click to enter text.

Average stream depth, in feet: Click to enter text.

Average stream velocity, in feet/second: Click to enter text.

Instantaneous stream flow, in cubic feet/second: Click to enter text.

Indicate flow measurement method (type of meter, floating chip timed over a fixed distance, etc.): Click to enter text.

Size of pools (large, small, moderate, none): Click to enter text.

Maximum pool depth, in feet: Click to enter text.

DOMESTIC WASTEWATER PERMIT APPLICATION WORKSHEET 2.0: RECEIVING WATERS

The following information is required for all TPDES permit applications.

Section 1. Domestic Drinking Water Supply (Instructions Page 64)

Is there a surface water intake for domestic drinking water supply located within 5 miles downstream from the point or proposed point of discharge?

☐ Yes ☒ No

If **no**, proceed it Section 2. **If yes**, provide the following:

Owner of the drinking water supply: Click to enter text.

Distance and direction to the intake: Click to enter text.

Attach a USGS map that identifies the location of the intake.

Attachment:

Section 2. Discharge into Tidally Affected Waters (Instructions Page 64)

Does the facility discharge into tidally affected waters?

☐ Yes ☒ No

If **no**, proceed to Section 3. **If yes**, complete the remainder of this section. If no, proceed to Section 3.

A. Receiving water outfall

Width of the receiving water at the outfall, in feet: Click to enter text.

B. Oyster waters

Are there oyster waters in the vicinity of the discharge?

☐ Yes ☐ No

If yes, provide the distance and direction from outfall(s).

Click to enter text.

C. Sea grasses

Are there any sea grasses within the vicinity of the point of discharge?

☐ Yes ☐ No

If yes, provide the distance and direction from the outfall(s).

Click to enter text.

Section 3. Classified Segments (Instructions Page 64)

Is the discharge directly into (or within 300 feet of) a classified segment?

☐ Yes ☒ No

If yes, this Worksheet is complete.

If no, complete Sections 4 and 5 of this Worksheet.

Section 4. Description of Immediate Receiving Waters (Instructions Page 65)

Name of the immediate receiving waters: **Deaver Creek**

A. Receiving water type

Identify the appropriate description of the receiving waters.

☒ Stream

☐ Freshwater Swamp or Marsh

☐ Lake or Pond

Surface area, in acres: Click to enter text.

Average depth of the entire water body, in feet: Click to enter text.

Average depth of water body within a 500-foot radius of discharge point, in feet: Click to enter text.

☐ Man-made Channel or Ditch

☐ Open Bay

☐ Tidal Stream, Bayou, or Marsh

☐ Other, specify: Click to enter text.

B. Flow characteristics

If a stream, man-made channel or ditch was checked above, provide the following. For existing discharges, check one of the following that best characterizes the area *upstream* of the discharge. For new discharges, characterize the area *downstream* of the discharge (check one).

☒ Intermittent - dry for at least one week during most years

☐ Intermittent with Perennial Pools - enduring pools with sufficient habitat to maintain significant aquatic life uses

☐ Perennial - normally flowing

Check the method used to characterize the area upstream (or downstream for new dischargers).

☐ USGS flow records

☐ Historical observation by adjacent landowners

☐ Personal observation

☒ Other, specify: **USGS map**

C. Downstream perennial confluences

List the names of all perennial streams that join the receiving water within three miles downstream of the discharge point.

None

D. Downstream characteristics

Do the receiving water characteristics change within three miles downstream of the discharge (e.g., natural or man-made dams, ponds, reservoirs, etc.)?

☐ Yes ☒ No

If yes, discuss how.

Click to enter text.

E. Normal dry weather characteristics

Provide general observations of the water body during normal dry weather conditions.

Creek was not flowing and water was clear.

Date and time of observation: **December 20, 2024**

Was the water body influenced by stormwater runoff during observations?

☐ Yes ☒ No

Section 5. General Characteristics of the Waterbody (Instructions Page 66)

A. Upstream influences

Is the immediate receiving water upstream of the discharge or proposed discharge site influenced by any of the following? Check all that apply.

☐ Oil field activities
☐ Upstream discharges
☐ Septic tanks
☒ Urban runoff
☒ Agricultural runoff
☐ Other(s), specify: Click to enter text.

B. Waterbody uses

Observed or evidences of the following uses. Check all that apply.

- ☒ Livestock watering
- ☐ Irrigation withdrawal
- ☐ Fishing
- ☐ Domestic water supply
- ☐ Park activities
- ☐ Contact recreation
- ☐ Non-contact recreation
- ☐ Navigation
- ☐ Industrial water supply
- ☐ Other(s), specify: Click to enter text.

C. Waterbody aesthetics

Check one of the following that best describes the aesthetics of the receiving water and the surrounding area.

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

DOMESTIC WASTEWATER PERMIT APPLICATION WORKSHEET 4.0: POLLUTANT ANALYSIS REQUIREMENTS

The following **is required** for facilities with a permitted or proposed flow of **1.0 MGD or greater**, facilities with an approved **pretreatment** program, or facilities classified as a **major** facility. See instructions for further details.

This worksheet is not required minor amendments without renewal.

Section 1. Toxic Pollutants (Instructions Page 78)

For pollutants identified in Table 4.0(1), indicate the type of sample.

Grab ☒ Composite ☒

Date and time sample(s) collected: **See Attachment M.**

Table 4.0(1) – Toxics Analysis

Pollutant	AVG Effluent Conc. (µg/l)	MAX Effluent Conc. (µg/l)	Number of Samples	MAL (µg/l)
Acrylonitrile	**<50**	**<50**	**1**	50
Aldrin	**<0.01**	**<0.01**	**1**	0.01
Aluminum	**123**	**123**	**1**	2.5
Anthracene	**<10**	**<10**	**1**	10
Antimony	**<5**	**<5**	**1**	5
Arsenic	**2.05**	**2.05**	**1**	0.5
Barium	**49.6**	**49.6**	**1**	3
Benzene	**<10**	**<10**	**1**	10
Benzidine	**<50**	**<50**	**1**	50
Benzo(a)anthracene	**<5**	**<5**	**1**	5
Benzo(a)pyrene	**<5**	**<5**	**1**	5
Bis(2-chloroethyl)ether	**<10**	**<10**	**1**	10
Bis(2-ethylhexyl)phthalate	**<10**	**<10**	**1**	10
Bromodichloromethane	**<10**	**<10**	**1**	10
Bromoform	**<10**	**<10**	**1**	10
Cadmium	**<0.5**	**<0.5**	**1**	1
Carbon Tetrachloride	**<2**	**<2**	**1**	2
Carbaryl	**<5**	**<5**	**1**	5
Chlordane*	**<0.2**	**<0.2**	**1**	0.2
Chlorobenzene	**<10**	**<10**	**1**	10
Chlorodibromomethane	**<10**	**<10**	**1**	10

Pollutant	AVG Effluent Conc. (µg/l)	MAX Effluent Conc. (µg/l)	Number of Samples	MAL (µg/l)
Chloroform	**<10**	**<10**	**1**	10
Chlorpyrifos	**<0.05**	**<0.05**	**1**	0.05
Chromium (Total)	**<3**	**<3**	**1**	3
Chromium (Tri) **(*1)**	**<3**	**<3**	**1**	N/A
Chromium (Hex)	**<3**	**<3**	**1**	3
Copper	**7.41**	**7.41**	**1**	2
Chrysene	**<5**	**<5**	**1**	5
p-Chloro-m-Cresol	**<10**	**<10**	**1**	10
4,6-Dinitro-o-Cresol	**<50**	**<50**	**1**	50
p-Cresol	**<10**	**<10**	**1**	10
Cyanide **(*2)**	**<10**	**<10**	**1**	10
4,4'- DDD	**<0.1**	**<0.1**	**1**	0.1
4,4'- DDE	**<0.1**	**<0.1**	**1**	0.1
4,4'- DDT	**<0.02**	**<0.02**	**1**	0.02
2,4-D	**<0.7**	**<0.7**	**1**	0.7
Demeton (O and S)	**<0.2**	**<0.2**	**1**	0.20
Diazinon	**<0.1**	**<0.1**	**1**	0.5/0.1
1,2-Dibromoethane	**<10**	**<10**	**1**	10
m-Dichlorobenzene	**<10**	**<10**	**1**	10
o-Dichlorobenzene	**<10**	**<10**	**1**	10
p-Dichlorobenzene	**<10**	**<10**	**1**	10
3,3'-Dichlorobenzidine	**<5**	**<5**	**1**	5
1,2-Dichloroethane	**<10**	**<10**	**1**	10
1,1-Dichloroethylene	**<10**	**<10**	**1**	10
Dichloromethane	**<20**	**<20**	**1**	20
1,2-Dichloropropane	**<10**	**<10**	**1**	10
1,3-Dichloropropene	**<10**	**<10**	**1**	10
Dicofol	**<1**	**<1**	**1**	1
Dieldrin	**<0.02**	**<0.02**	**1**	0.02
2,4-Dimethylphenol	**<10**	**<10**	**1**	10
Di-n-Butyl Phthalate	**<10**	**<10**	**1**	10
Diuron	**<0.09**	**<0.09**	**1**	0.09
Endosulfan I (alpha)	**<0.01**	**<0.01**	**1**	0.01

Pollutant	AVG Effluent Conc. (µg/l)	MAX Effluent Conc. (µg/l)	Number of Samples	MAL (µg/l)
Endosulfan II (beta)	**<0.02**	**<0.02**	**1**	0.02
Endosulfan Sulfate	**<0.1**	**<0.1**	**1**	0.1
Endrin	**<0.02**	**<0.02**	**1**	0.02
Ethylbenzene	**<10**	**<10**	**1**	10
Fluoride	**3380**	**3380**	**1**	500
Guthion	**<0.1**	**<0.1**	**1**	0.1
Heptachlor	**<0.01**	**<0.01**	**1**	0.01
Heptachlor Epoxide	**<0.01**	**<0.01**	**1**	0.01
Hexachlorobenzene	**<5**	**<5**	**1**	5
Hexachlorobutadiene	**<10**	**<10**	**1**	10
Hexachlorocyclohexane (alpha)	**<0.05**	**<0.05**	**1**	0.05
Hexachlorocyclohexane (beta)	**<0.05**	**<0.05**	**1**	0.05
gamma-Hexachlorocyclohexane (Lindane)	**<0.05**	**<0.05**	**1**	0.05
Hexachlorocyclopentadiene	**<10**	**<10**	**1**	10
Hexachloroethane	**<20**	**<20**	**1**	20
Hexachlorophene	**<10**	**<10**	**1**	10
Lead	**<0.5**	**<0.5**	**1**	0.5
Malathion	**<0.1**	**<0.1**	**1**	0.1
Mercury	**<0.005**	**<0.005**	**1**	0.005
Methoxychlor	**<2**	**<2**	**1**	2
Methyl Ethyl Ketone	**<50**	**<50**	**1**	50
Mirex	**<0.02**	**<0.02**	**1**	0.02
Nickel	**2.11**	**2.11**	**1**	2
Nitrate-Nitrogen	**21900**	**21900**	**1**	100
Nitrobenzene	**<10**	**<10**	**1**	10
N-Nitrosodiethylamine	**<20**	**<20**	**1**	20
N-Nitroso-di-n-Butylamine	**<20**	**<20**	**1**	20
Nonylphenol	**<50**	**<50**	**1**	333
Parathion (ethyl)	**<0.1**	**<0.1**	**1**	0.1
Pentachlorobenzene	**<20**	**<20**	**1**	20
Pentachlorophenol	**<5**	**<5**	**1**	5
Phenanthrene	**<10**	**<10**	**1**	10

Pollutant	AVG Effluent Conc. (µg/l)	MAX Effluent Conc. (µg/l)	Number of Samples	MAL (µg/l)
Polychlorinated Biphenyls (PCB's) (*3)	<0.2	<0.2	1	0.2
Pyridine	<20	<20	1	20
Selenium	<5	<5	1	5
Silver	<0.5	<0.5	1	0.5
1,2,4,5-Tetrachlorobenzene	<20	<20	1	20
1,1,2,2-Tetrachloroethane	<10	<10	1	10
Tetrachloroethylene	<10	<10	1	10
Thallium	<0.5	<0.5	1	0.5
Toluene	<10	<10	1	10
Toxaphene	<0.3	<0.3	1	0.3
2,4,5-TP (Silvex)	<0.3	<0.3	1	0.3
Tributyltin (see instructions for explanation)	N/A	N/A	1	0.01
1,1,1-Trichloroethane	<10	<10	1	10
1,1,2-Trichloroethane	<10	<10	1	10
Trichloroethylene	<10	<10	1	10
2,4,5-Trichlorophenol	<50	<50	1	50
TTHM (Total Trihalomethanes)	<10	<10	1	10
Vinyl Chloride	<10	<10	1	10
Zinc	17.3	17.3	1	5

(*1) Determined by subtracting hexavalent Cr from total Cr.

(*2) Cyanide, amenable to chlorination or weak-acid dissociable.

(*3) The sum of seven PCB congeners 1242, 1254, 1221, 1232, 1248, 1260, and 1016.

Section 2. Priority Pollutants

For pollutants identified in Tables 4.0(2)A-E, indicate type of sample.

Grab ☒ Composite ☒

Date and time sample(s) collected: **See Attachment M.**

Table 4.0(2)A – Metals, Cyanide, and Phenols

Pollutant	AVG Effluent Conc. (µg/l)	MAX Effluent Conc. (µg/l)	Number of Samples	MAL (µg/l)
Antimony	**<5**	**<5**	**1**	5
Arsenic	**2.05**	**2.05**	**1**	0.5
Beryllium	**<0.5**	**<0.5**	**1**	0.5
Cadmium	**<0.5**	**<0.5**	**1**	1
Chromium (Total)	**<3**	**<3**	**1**	3
Chromium (Hex)	**<3**	**<3**	**1**	3
Chromium (Tri) **(*1)**	**<3**	**<3**	**1**	N/A
Copper	**7.41**	**7.41**	**1**	2
Lead	**<0.5**	**<0.5**	**1**	0.5
Mercury	**<0.005**	**<0.005**	**1**	0.005
Nickel	**2.11**	**2.11**	**1**	2
Selenium	**<5**	**<5**	**1**	5
Silver	**<0.5**	**<0.5**	**1**	0.5
Thallium	**<0.5**	**<0.5**	**1**	0.5
Zinc	**17.3**	**17.3**	**1**	5
Cyanide **(*2)**	**<10**	**<10**	**1**	10
Phenols, Total	**20.0**	**20.0**	**1**	10

(*1) Determined by subtracting hexavalent Cr from total Cr.

(*2) Cyanide, amenable to chlorination or weak-acid dissociable

Table 4.0(2)B – Volatile Compounds

Pollutant	AVG Effluent Conc. (µg/l)	MAX Effluent Conc. (µg/l)	Number of Samples	MAL (µg/l)
Acrolein	**<50**	**<50**	**1**	50
Acrylonitrile	**<50**	**<50**	**1**	50
Benzene	**<10**	**<10**	**1**	10
Bromoform	**<10**	**<10**	**1**	10
Carbon Tetrachloride	**<2**	**<2**	**1**	2
Chlorobenzene	**<10**	**<10**	**1**	10
Chlorodibromomethane	**<10**	**<10**	**1**	10
Chloroethane	**<50**	**<50**	**1**	50
2-Chloroethylvinyl Ether	**<10**	**<10**	**1**	10
Chloroform	**<10**	**<10**	**1**	10
Dichlorobromomethane [Bromodichloromethane]	**<10**	**<10**	**1**	10
1,1-Dichloroethane	**<10**	**<10**	**1**	10
1,2-Dichloroethane	**<10**	**<10**	**1**	10
1,1-Dichloroethylene	**<10**	**<10**	**1**	10
1,2-Dichloropropane	**<10**	**<10**	**1**	10
1,3-Dichloropropylene [1,3-Dichloropropene]	**<10**	**<10**	**1**	10
1,2-Trans-Dichloroethylene	**<10**	**<10**	**1**	10
Ethylbenzene	**<10**	**<10**	**1**	10
Methyl Bromide	**<50**	**<50**	**1**	50
Methyl Chloride	**<50**	**<50**	**1**	50
Methylene Chloride	**<20**	**<20**	**1**	20
1,1,2,2-Tetrachloroethane	**<10**	**<10**	**1**	10
Tetrachloroethylene	**<10**	**<10**	**1**	10
Toluene	**<10**	**<10**	**1**	10
1,1,1-Trichloroethane	**<10**	**<10**	**1**	10
1,1,2-Trichloroethane	**<10**	**<10**	**1**	10
Trichloroethylene	**<10**	**<10**	**1**	10
Vinyl Chloride	**<10**	**<10**	**1**	10

Table 4.0(2)C – Acid Compounds

Pollutant	AVG Effluent Conc. (µg/l)	MAX Effluent Conc. (µg/l)	Number of Samples	MAL (µg/l)
2-Chlorophenol	**<10**	**<10**	**1**	10
2,4-Dichlorophenol	**<10**	**<10**	**1**	10
2,4-Dimethylphenol	**<10**	**<10**	**1**	10
4,6-Dinitro-o-Cresol	**<50**	**<50**	**1**	50
2,4-Dinitrophenol	**<50**	**<50**	**1**	50
2-Nitrophenol	**<20**	**<20**	**1**	20
4-Nitrophenol	**<50**	**<50**	**1**	50
P-Chloro-m-Cresol	**<10**	**<10**	**1**	10
Pentalchlorophenol	**<5**	**<5**	**1**	5
Phenol	**<10**	**<10**	**1**	10
2,4,6-Trichlorophenol	**<10**	**<10**	**1**	10

Table 4.0(2)D – Base/Neutral Compounds

Pollutant	AVG Effluent Conc. (µg/l)	MAX Effluent Conc. (µg/l)	Number of Samples	MAL (µg/l)
Acenaphthene	**<10**	**<10**	**1**	10
Acenaphthylene	**<10**	**<10**	**1**	10
Anthracene	**<10**	**<10**	**1**	10
Benzidine	**<50**	**<50**	**1**	50
Benzo(a)Anthracene	**<5**	**<5**	**1**	5
Benzo(a)Pyrene	**<5**	**<5**	**1**	5
3,4-Benzofluoranthene	**<10**	**<10**	**1**	10
Benzo(ghi)Perylene	**<20**	**<20**	**1**	20
Benzo(k)Fluoranthene	**<5**	**<5**	**1**	5
Bis(2-Chloroethoxy)Methane	**<10**	**<10**	**1**	10
Bis(2-Chloroethyl)Ether	**<10**	**<10**	**1**	10
Bis(2-Chloroisopropyl)Ether	**<10**	**<10**	**1**	10
Bis(2-Ethylhexyl)Phthalate	**<10**	**<10**	**1**	10
4-Bromophenyl Phenyl Ether	**<10**	**<10**	**1**	10
Butyl benzyl Phthalate	**<10**	**<10**	**1**	10
2-Chloronaphthalene	**<10**	**<10**	**1**	10
4-Chlorophenyl phenyl ether	**<10**	**<10**	**1**	10
Chrysene	**<5**	**<5**	**1**	5
Dibenzo(a,h)Anthracene	**<5**	**<5**	**1**	5
1,2-(o)Dichlorobenzene	**<10**	**<10**	**1**	10
1,3-(m)Dichlorobenzene	**<10**	**<10**	**1**	10
1,4-(p)Dichlorobenzene	**<10**	**<10**	**1**	10
3,3-Dichlorobenzidine	**<5**	**<5**	**1**	5
Diethyl Phthalate	**<10**	**<10**	**1**	10
Dimethyl Phthalate	**<10**	**<10**	**1**	10
Di-n-Butyl Phthalate	**<10**	**<10**	**1**	10
2,4-Dinitrotoluene	**<10**	**<10**	**1**	10
2,6-Dinitrotoluene	**<10**	**<10**	**1**	10
Di-n-Octyl Phthalate	**<10**	**<10**	**1**	10
1,2-Diphenylhydrazine (as Azo-benzene)	**<20**	**<20**	**1**	20
Fluoranthene	**<10**	**<10**	**1**	10

Pollutant	AVG Effluent Conc. (µg/l)	MAX Effluent Conc. (µg/l)	Number of Samples	MAL (µg/l)
Fluorene	**<10**	**<10**	**1**	10
Hexachlorobenzene	**<5**	**<5**	**1**	5
Hexachlorobutadiene	**<10**	**<10**	**1**	10
Hexachlorocyclo-pentadiene	**<10**	**<10**	**1**	10
Hexachloroethane	**<20**	**<20**	**1**	20
Indeno(1,2,3-cd)pyrene	**<5**	**<5**	**1**	5
Isophorone	**<10**	**<10**	**1**	10
Naphthalene	**<10**	**<10**	**1**	10
Nitrobenzene	**<10**	**<10**	**1**	10
N-Nitrosodimethylamine	**<50**	**<50**	**1**	50
N-Nitrosodi-n-Propylamine	**<20**	**<20**	**1**	20
N-Nitrosodiphenylamine	**<20**	**<20**	**1**	20
Phenanthrene	**<10**	**<10**	**1**	10
Pyrene	**<10**	**<10**	**1**	10
1,2,4-Trichlorobenzene	**<10**	**<10**	**1**	10

Table 4.0(2)E – Pesticides

Pollutant	AVG Effluent Conc. (µg/l)	MAX Effluent Conc. (µg/l)	Number of Samples	MAL (µg/l)
Aldrin	**<0.01**	**<0.01**	**1**	0.01
alpha-BHC (Hexachlorocyclohexane)	**<0.05**	**<0.05**	**1**	0.05
beta-BHC (Hexachlorocyclohexane)	**<0.05**	**<0.05**	**1**	0.05
gamma-BHC (Hexachlorocyclohexane)	**<0.05**	**<0.05**	**1**	0.05
delta-BHC (Hexachlorocyclohexane)	**<0.05**	**<0.05**	**1**	0.05
Chlordane	**<0.2**	**<0.2**	**1**	0.2
4,4-DDT	**<0.02**	**<0.02**	**1**	0.02
4,4-DDE	**<0.1**	**<0.1**	**1**	0.1
4,4,-DDD	**<0.1**	**<0.1**	**1**	0.1
Dieldrin	**<0.02**	**<0.02**	**1**	0.02
Endosulfan I (alpha)	**<0.01**	**<0.01**	**1**	0.01
Endosulfan II (beta)	**<0.02**	**<0.02**	**1**	0.02
Endosulfan Sulfate	**<0.01**	**<0.01**	**1**	0.1
Endrin	**<0.02**	**<0.02**	**1**	0.02
Endrin Aldehyde	**<0.1**	**<0.1**	**1**	0.1
Heptachlor	**<0.01**	**<0.01**	**1**	0.01
Heptachlor Epoxide	**<0.01**	**<0.01**	**1**	0.01
PCB-1242	**<0.2**	**<0.2**	**1**	0.2
PCB-1254	**<0.2**	**<0.2**	**1**	0.2
PCB-1221	**<0.2**	**<0.2**	**1**	0.2
PCB-1232	**<0.2**	**<0.2**	**1**	0.2
PCB-1248	**<0.2**	**<0.2**	**1**	0.2
PCB-1260	**<0.2**	**<0.2**	**1**	0.2
PCB-1016	**<0.2**	**<0.2**	**1**	0.2
Toxaphene	**<0.3**	**<0.3**	**1**	0.3

* For PCBS, if all are non-detects, enter the highest non-detect preceded by a "<".

Section 3. Dioxin/Furan Compounds

A. Indicate which of the following compounds from may be present in the influent from a contributing industrial user or significant industrial user. Check all that apply.

☐ 2,4,5-trichlorophenoxy acetic acid

Common Name 2,4,5-T, CASRN 93-76-5

☐ 2-(2,4,5-trichlorophenoxy) propanoic acid

Common Name Silvex or 2,4,5-TP, CASRN 93-72-1

☐ 2-(2,4,5-trichlorophenoxy) ethyl 2,2-dichloropropionate

Common Name Erbon, CASRN 136-25-4

☐ 0,0-dimethyl 0-(2,4,5-trichlorophenyl) phosphorothioate

Common Name Ronnel, CASRN 299-84-3

☐ 2,4,5-trichlorophenol

Common Name TCP, CASRN 95-95-4

☐ hexachlorophene

Common Name HCP, CASRN 70-30-4

For each compound identified, provide a brief description of the conditions of its/their presence at the facility.

N/A

B. Do you know or have any reason to believe that 2,3,7,8 Tetrachlorodibenzo-P-Dioxin (TCDD) or any congeners of TCDD may be present in your effluent?

☐ Yes ☒ No

If **yes**, provide a brief description of the conditions for its presence.

Click to enter text.

C. If any of the compounds in Subsection A **or** B are present, complete Table 4.0(2)F.

For pollutants identified in Table 4.0(2)F, indicate the type of sample.

Grab ☐ Composite ☐

Date and time sample(s) collected: **N/A**

Table 4.0(2)F – Dioxin/Furan Compounds

Compound	Toxic Equivalency Factors	Wastewater Concentration (ppq)	Wastewater Equivalents (ppq)	Sludge Concentration (ppt)	Sludge Equivalents (ppt)	MAL (ppq)
2,3,7,8 TCDD	1					10
1,2,3,7,8 PeCDD	0.5					50
2,3,7,8 HxCDDs	0.1					50
1,2,3,4,6,7,8 HpCDD	0.01					50
2,3,7,8 TCDF	0.1					10
1,2,3,7,8 PeCDF	0.05					50
2,3,4,7,8 PeCDF	0.5					50
2,3,7,8 HxCDFs	0.1					50
2,3,4,7,8 HpCDFs	0.01					50
OCDD	0.0003					100
OCDF	0.0003					100
PCB 77	0.0001					0.5
PCB 81	0.0003					0.5
PCB 126	0.1					0.5
PCB 169	0.03					0.5
Total						

DOMESTIC WASTEWATER PERMIT APPLICATION WORKSHEET 5.0: TOXICITY TESTING REQUIREMENTS

The following **is required** for facilities with a current operating design flow of**1.0 MGD or greater**, with an EPA-approved **pretreatment** program (or those required to have one under 40 CFR Part 403), or are required to perform Whole Effluent Toxicity testing. See instructions for further details.

This worksheet is not required minor amendments without renewal.

Section 1. Required Tests (Instructions Page 88)

Indicate the number of 7-day chronic or 48-hour acute Whole Effluent Toxicity (WET) tests performed in the four and one-half years prior to submission of the application.

7-day Chronic: ***18 – Ceriodaphnia dubia & 18 – Pimephales promelas***

48-hour Acute: **N/A**

Section 2. Toxicity Reduction Evaluations (TREs)

Has this facility completed a TRE in the past four and a half years? Or is the facility currently performing a TRE?

☐ Yes ☒ No

If yes, describe the progress to date, if applicable, in identifying and confirming the toxicant.

Click to enter text.

Section 3. Summary of WET Tests

If the required biomonitoring test information has not been previously submitted via both the Discharge Monitoring Reports (DMRs) and the Table 1 (as found in the permit), provide a summary of the testing results for all valid and invalid tests performed over the past four and one-half years. Make additional copies of this table as needed.

Table 5.0(1) Summary of WET Tests

Test Date	Test Species	NOEC Survival	NOEC Sub-lethal
All tests performed have been previously submitted via both the DMR and Table 1 of the permit.			

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: **8**

Average Daily Flows, in MGD: **3.36*** ***Projected 2025 flows.**

Significant IUs – non-categorical:

Number of IUs: **2**

Average Daily Flows, in MGD: **0.410**

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.

Click to enter text.

C. Treatment plant pass through

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

☐ Yes ☒ No

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

Click to enter text.

D. Pretreatment program

Does your POTW have an approved pretreatment program?

☒ Yes ☐ No

If yes, complete Section 2 only of this Worksheet.

Is your POTW required to develop an approved pretreatment program?

☐ Yes ☐ No

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

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

E. Service Area Map

Attach a map indicating the service area of the POTW. The map should include the applicant's service area boundaries and the location of any known industrial users discharging to the POTW. Please see the instructions for guidance.

Attachment: N/A

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

A. Substantial modifications

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

☐ Yes ☒ No

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

Click to enter text.

B. Non-substantial modifications

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

☐ Yes ☒ No

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

Click to enter text.

C. Effluent parameters above the MAL

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

Table 6.0(1) – Parameters Above the MAL

Pollutant	Concentration	MAL	Units	Date
See Attachment X.				

D. Industrial user interruptions

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

☐ Yes ☒ No

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

Click to enter text.

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

A. General information

Company Name: Click to enter text.

SIC Code: Click to enter text.

Contact name: Click to enter text.

Address: Click to enter text.

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

Telephone number: Click to enter text.

Email address: Click to enter text.

B. Process information

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

Click to enter text.

C. Product and service information

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

Click to enter text.

D. Flow rate information

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

Process Wastewater:

Discharge, in gallons/day: Click to enter text.

Discharge Type: ☐ Continuous ☐ Batch ☐ Intermittent

Non-Process Wastewater:

Discharge, in gallons/day: Click to enter text.

Discharge Type: ☐ Continuous ☐ Batch ☐ Intermittent

E. Pretreatment standards

Is the SIU or CIU subject to technically based local limits as defined in the *i*nstructions?

☐ Yes ☐ No

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

☐ Yes ☐ No

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

Category: Subcategories: Click to enter text.

Click or tap here to enter text. Click to enter text.

Category: Click to enter text.

Subcategories: Click to enter text.

Category: Click to enter text.

Subcategories: Click to enter text.

Category: Click to enter text.

Subcategories: Click to enter text.

Category: Click to enter text.

Subcategories: Click to enter text.

F. Industrial user interruptions

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

☐ Yes ☐ No

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

Click to enter text.

CITY OF SHERMAN
POST OAK WASTEWATER TREATMENT FACILITY
TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT APPLICATION

ATTACHMENT	REFERENCE
A. Proposed Changes	Admin Report 1.0, Sections 2.e, and 10.B Tech Report 1.0, Section 1, and Tech Report 1.1, Section 3
B. Core Data Form	Admin Report 1.0, Section 3.C
C. Plain Language Summary	Admin Report 1.0, Section 8.F
D. Public Involvement Plan	Admin Report 1.0, Section 8.G
E. USGS Map	Admin Report 1.0, Section 13
F. Affected Landowner Information	Admin Report 1.1, Section 1
G. Original Photographs	Admin Report 1.1, Section 2
H. Buffer Zone Map	Admin Report 1.1, Section 3
I. Treatment Process Description	Tech Report 1.0, Section 2.A
J. Treatment Unit List	Tech Report 1.0, Section 2.B
K. Process Flow Diagram	Tech Report 1.0, Section 2.C
L. Site Drawing	Tech Report 1.0, Section 3
M. Effluent Pollutant Analysis	Tech Report 1.0, Section 7, and Worksheet 4.0
N. General Highway Map	Tech Report 1.0, Section 11.A
O. USDA NRCS Soil Map	Tech Report 1.0, Section 11.A
P. FEMA Map	Tech Report 1.0, Section 11.A
Q. Site Map	Tech Report 1.0, Section 11.A
R. Sludge Lagoon Site Description	Tech Report 1.0, Section 11.D
S. Permit Justification	Technical Report 1.1, Section 1.A
T. Design Calculation and Plant Features	Tech Report 1.1, Section 4
U. Windrose	Tech Report 1.1, Section 5.B
V. Solids Management Plan	Tech Report 1.1, Section 7
W. Post Oak Creek Stream Study	Worksheet 2.1
X. Effluent Parameters above the MAL	Worksheet 6.0, Section 2.C
Y. Biosolids Treatment Process Description	SSTR 1.0, Section 1.A
Z. Marketing and Distribution Plan	SSTR 3.0, Section C
SPIF	Supplemental Permit Information Form

Attachment A

Proposed Changes

Admin Report 1.0, Sections 2.e and 10.B

Tech Report 1.0, Section 1, and

Tech Report 1.1, Section 3

ATTACHMENT A
CITY OF SHERMAN
POST OAK WASTEWATER TREATMENT FACILITY
TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT APPLICATION
PROPOSED AMENDMENT REQUESTS

A major amendment is requested by the City of Sherman (City) to the TPDES Permit WQ0010329001 for the Post Oak Wastewater Treatment Facility (WWTF). The proposed amendments to the permit are as follows:

- Increase the annual average discharge flow for Outfall 001 to 24 million gallons per day (MGD).
- Revise the 2-hour peak flow for Outfall 001 in the Existing/Interim I Phase from 42 MGD to 32 MGD.
- Add a new outfall with an annual average discharge flow not to exceed 16 MGD.
- Revise the sludge reporting requirements.
- Incorporate pretreatment program modification approval.

Information regarding the proposed amendment requests is presented in this attachment.

INCREASE OF OUTFALL 001 DISCHARGE FLOW AND ADD OUTFALL 002

Due to increased population growth and industrial contributions, the City of Sherman will expand the treatment facilities at the Post Oak WWTF. The current treatment facility is a conventional activated sludge process plant that is permitted for 16 MGD. A second treatment train, south of the existing conventional treatment train is proposed. The south train will be a membrane bioreactor (MBR), designed to specifically treat a significant portion of the industrial contributions. The purpose of constructing the South train is to improve the treatment capabilities of the WWTF. Treated effluent from each train will be commingled prior to discharge via Outfall 001. Neither an increase in flow nor any changes to the permit requirements are requested for the current renovations.

The City, however, anticipates the wastewater flows due to population and industrial growth to exceed 16 MGD in 2028. Therefore, two phases of expansion to the WWTF are requested. A phase for an annual average flow not to exceed 20 MGD and a phase not to exceed 24 MGD, both to discharge via Outfall 001 is proposed. The expansions to the Post Oak WWTF will involve improvements to the conventional treatment train and an expansion to the MBR train.

The City is also requesting a second outfall (Outfall 002) that will be located on a tributary to Deaver Creek with an annual average flow not to exceed 16 MGD. The purpose for adding the second outfall is to provide treated effluent for indirect potable reuse. The combined flow from Outfalls 001 and 002 will not exceed the annual average flow specified for the active phase of Outfall 001. The descriptions of the discharge routes; permitted and proposed flows; justification for the proposed flows; and the permitted and proposed effluent quality limits are presented below.

Descriptions of Discharge Routes

The treated effluent is currently discharged via Outfall 001, which is located on Post Oak Creek. The proposed Outfall 002 is located on an unnamed tributary to Deaver Creek. The discharge route descriptions for Outfalls 001 and 002 are as follows:

- Outfall 001 – Treated effluent is discharged via Outfall 001 directly into Post Oak Creek; thence to Choctaw Creek; thence to the Red River below Lake Texoma in Segment No. 0202 of the Red River Basin.
- Outfall 002 – Treated effluent will be discharged via Outfall 002 into an unnamed tributary; thence to Deaver Creek; thence to Big Mineral Creek; thence to Lake Texoma in Segment No. 0203 of the Red River Basin.

Permitted and Proposed Flows

	Outfall 001			Outfall 002
	Interim I Phase	Interim II Phase	Final Phase	Final Phase
Design Flow (MGD)	16	20	24	16
2-Hr Peak Flow (MGD)	32	40	48	32
Estimated Construction Start Date	--	2027	2029	2027
Estimated Waste Disposal Start Date	--	2028	2030	2028

Because the proposed flows are expected to exceed 90% of the permit limitations of 16 million gallons per day in 2029 and 2031 the proposed future phases are justified.

Permitted and Proposed Effluent Quality Limits*

	Outfall 001			Outfall 002
	Interim I Phase	Interim II Phase	Final Phase	Final Phase
Biochemical Oxygen Demand (5-day), mg/L	10	7	7	7
Total Suspended Solids, mg/L	15	15	15	15
Ammonia Nitrogen, mg/L	2	2	2	2
Total Phosphorus, mg/L	--	--	--	--
Dissolved Oxygen, mg/L	6	6	6	6
Other	--	--	--	--

*The combined flow from Outfalls 001 and 002 will not exceed the annual average flow specified for the active phase of Outfall 001. The combined loading from carbonaceous biochemical oxygen demand (5-day), ammonia nitrogen, and total suspended solids from Outfalls 001 and 002 will not exceed the loading specified for the active phase of Outfall 001.

REVISED SLUDGE REPORT REQUIREMENTS

The City of Sherman prepares sludge reports in accordance with the schedules established in the TPDES permits. Annual reports are submitted by September 30th of each year. The City requests the reporting period specified in the permit to be revised to be September 1st of the previous year to August 31st of the current year, which is consistent with 30 TAC Sec. 312.48.

INCORPORATION OF PRETREATMENT PROGRAM MODIFICATION APPROVAL

The City received a letter acknowledging TCEQ has determined that the substantial program modification originally submitted on October 30, 2023, was technically complete. The modifications were to incorporate revised technically based local limits, as well as additional narrative revisions to the pretreatment program elements.

The City's legal authority and pretreatment program are in compliance with the current 40 CFR Part 403 regulations and 30 TAC Chapter 315, as amended.

Attachment B

Core Data Form

Admin Report 1.0, Section 3.C

TCEQ Use Only

TCEQ Core Data Form

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

SECTION I: General Information

1. Reason for Submission (*If other is checked please describe in space provided.*)

☐ New Permit, Registration or Authorization (*Core Data Form should be submitted with the program application.*)

☒ Renewal *(Core Data Form should be submitted with the renewal form)*

☐ Other

2. Customer Reference Number *(if issued)*	Follow this link to search for CN or RN numbers in Central Registry**	**3. Regulated Entity Reference Number** *(if issued)*
CN 600429583		**RN 101612448**

SECTION II: Customer Information

4. General Customer Information | **5. Effective Date for Customer Information Updates** (mm/dd/yyyy)

☐ New Customer ☐ Update to Customer Information ☐ Change in Regulated Entity Ownership
☐ Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)

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).

6. Customer Legal Name *(If an individual, print last name first: eg: Doe, John)* — *If new Customer, enter previous Customer below:*

City of Sherman

7. TX SOS/CPA Filing Number	**8. TX State Tax ID** (11 digits)	**9. Federal Tax ID** (9 digits)	**10. DUNS Number** *(if applicable)*
N/A	N/A	N/A	

11. Type of Customer: ☐ Corporation ☐ Individual Partnership: ☐ General ☐ Limited

Government: ☒ City ☐ County ☐ Federal ☐ Local ☐ State ☐ Other ☐ Sole Proprietorship ☐ Other:

12. Number of Employees

☐ 0-20 ☐ 21-100 ☐ 101-250 ☒ 251-500 ☐ 501 and higher

13. Independently Owned and Operated?

☒ **Yes** ☐ **No**

14. Customer Role (Proposed or Actual) – *as it relates to the Regulated Entity listed on this form. Please check one of the following*

☐ Owner ☐ Operator ☒ Owner & Operator
☐ Occupational Licensee ☐ Responsible Party ☐ VCP/BSA Applicant ☐ Other:

15. Mailing Address:	220 West Mulberry Street						
	City	Sherman	**State**	TX	**ZIP**	75091	**ZIP + 4**	1106

16. Country Mailing Information *(if outside USA)*	**17. E-Mail Address** *(if applicable)*

18. Telephone Number	19. Extension or Code	20. Fax Number *(if applicable)*
(903) 892-7206		( ) -

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.)*

Post Oak Wastewater Treatment Facility

23. Street Address of the Regulated Entity: ***(No PO Boxes)***	1800 East FM Highway 1417							
	City	Sherman	**State**	TX	**ZIP**	75090	**ZIP + 4**	
24. County	Grayson							

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

25. Description to Physical Location:	

26. Nearest City	**State**	**Nearest ZIP Code**
Sherman	TX	75090

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:	33.601388		**28. Longitude (W) In Decimal:**	96.573611	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
33	36	5.00	96	34	2500

29. Primary SIC Code (4 digits)	**30. Secondary SIC Code** (4 digits)	**31. Primary NAICS Code** (5 or 6 digits)	**32. Secondary NAICS Code** (5 or 6 digits)
4952	2213		

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

Treatment of domestic wastewater

34. Mailing Address:	**P.O. Box 1106**							
	City	**Sherman**	**State**	**TX**	**ZIP**	**75091**	**ZIP + 4**	
35. E-Mail Address:								

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

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.

☐ Dam Safety	☐ Districts	☐ Edwards Aquifer	☐ Emissions Inventory Air	☐ Industrial Hazardous Waste
☐ Municipal Solid Waste	☐ New Source Review Air	☐ OSSF	☐ Petroleum Storage Tank	☐ PWS
☐ Sludge	☐ Storm Water	☐ Title V Air	☐ Tires	☐ Used Oil
☐ Voluntary Cleanup	☒ Wastewater	☐ Wastewater Agriculture	☐ Water Rights	☐ Other:
	WQ0010329001			

SECTION IV: Preparer Information

40. Name:	Janet Sims	**41. Title:**	Senior Project Manager

42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(512) 735-1001		( ) -	Janet.Sims@meadhunt.com

SECTION V: Authorized Signature

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

Company:	City of Sherman	**Job Title:**	Assistant City Manager
Name *(In Print):*	Clint Philpott	**Phone:**	(903) 892- 7203
Signature:	Clint Philpott	**Date:**	2/17/25

Attachment C

Plain Language Summary

Admin Report 1.0, Section 8.F

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

PLAIN LANGUAGE SUMMARY FOR TPDES OR TLAP PERMIT APPLICATIONS

Plain Language Summary Template and Instructions for Texas Pollutant Discharge Elimination System (TPDES) and Texas Land Application (TLAP) Permit Applications

Applicants should use this template to develop a plain language summary as required by Title 30, Texas Administrative Code (30 TAC), Chapter 39, Subchapter H. Applicants may modify the template as necessary to accurately describe their facility as long as the summary includes the following information: (1) the function of the proposed plant or facility; (2) the expected output of the proposed plant or facility; (3) the expected pollutants that may be emitted or discharged by the proposed plant or facility; and (4) how the applicant will control those pollutants, so that the proposed plant will not have an adverse impact on human health or the environment.

Fill in the highlighted areas below to describe your facility and application in plain language. Instructions and examples are provided below. Make any other edits necessary to improve readability or grammar and to comply with the rule requirements.

If you are subject to the alternative language notice requirements in 30 TAC Section 39.426, **you must provide a translated copy of the completed plain language summary in the appropriate alternative language as part of your application package**. For your convenience, a Spanish template has been provided below.

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.

The City of Sherman (CN600418578) operates the Post Oak Wastewater Treatment Facility (RN101612448), an activated sludge wastewater treatment plant. The facility is located at 1800 E. FM Highway 1417, in Sherman, Grayson County, Texas 75090. The application is for a major amendment to increase the annual average discharge flow not to exceed 24 million gallons per day of domestic wastewater via Outfall 001, which is located on Post Oak Creek and to add a new outfall, Outfall 002, on a tributary of Deaver Creek with an annual average discharge flow not to exceed 16 million gallons per day.

Discharges from the facility are expected to contain five-day carbonaceous biochemical oxygen demand ($CBOD_5$), total suspended solids (TSS), ammonia nitrogen (NH_3-N), and *Escherichia coli*. Additional potential pollutants are included in the Domestic Technical Report 1.0, Section 7. Pollutant Analysis of Treated Effluent in the permit application package. Domestic wastewater is treated by an activated sludge process plant with two treatment trains. The north train treatment units are coarse screens, vortex grit removal system,

primary clarifiers, activated sludge basins, and secondary clarifiers. The south train treatment units are coarse screens, vortex grit removal system, fine screens, activated sludge basins, and membrane bioreactor basins. Secondary treated wastewater from the two trains is comingled and disinfected by an ultraviolet light system. Sludge process treatment units are sludge thickeners, anaerobic digesters, and dewatering screw presses.

PLANTILLA EN ESPAÑOL PARA SOLICITUDES ENMIENDAS DE TPDES

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 fedérale de la solicitud de permiso.

La Ciudad de Sherman (CN600418578) opera la Post Oak Wastewater Treatment Facility (RN101612448), una planta de lodos activados. La instalación está ubicada en 1800 E. FM Highway 1417, en Sherman, Condado de Grayson, Texas 75090. La solicitud es para una modificación para aumentar el flujo de descarga promedio anual para no exceder los 24 millones de galones por día de aguas residuales domésticas a través del desagüe 001, que se encuentra en Post Oak Creek y para agregar un nuevo desagüe, el desagüe 002, en un afluente de Deaver Creek con un flujo de descarga promedio anual que no exceda los 16 millones de galones por día.

Se espera que las descargas de la planta contengan demanda bioquímica de oxígeno carbonoso (CBOD5) de cinco días, sólidos suspendidos totales (TSS), nitrógeno amoniaco (NH3-N) y Escherichia coli. En el Informe Técnico Doméstico 1.0, Sección 7. Análisis de Contaminantes de Efluentes Tratados del paquete de solicitud de permiso se incluyen otros contaminantes potenciales. Las aguas residuales domésticas se tratan mediante una planta de procesamiento de lodos activados con dos trenes de tratamiento. Las unidades de tratamiento del tren norte son una rejilla de barras, desarenadores, clarificadores primarios, tanque de lodos activados, y clarificadores secundarios. Las unidades de tratamiento del tren sur son rejillas gruesas, sistema de eliminación de arena por vórtice, rejillas finas, tanque de lodos activados y tanques de biorreactores de membrana. Las aguas residuales tratadas secundariamente de los dos trenes se mezclan y desinfectan mediante un sistema de luz ultravioleta. Las unidades de tratamiento del proceso de lodos son espesadores de lodos, digestores anaeróbicos y prensas de tornillo de deshidratación.

Attachment D

Public Involvement Plan

Admin Report 1.0, Section 8.G

Texas Commission on Environmental Quality

Public Involvement Plan Form for Permit and Registration Applications

The Public Involvement Plan is intended to provide applicants and the agency with information about how public outreach will be accomplished for certain types of applications in certain geographical areas of the state. It is intended to apply to new activities; major changes at existing plants, facilities, and processes; and to activities which are likely to have significant interest from the public. This preliminary screening is designed to identify applications that will benefit from an initial assessment of the need for enhanced public outreach.

All applicable sections of this form should be completed and submitted with the permit or registration application. For instructions on how to complete this form, see TCEQ-20960-inst.

Section 1. Preliminary Screening

☐ New Permit or Registration Application

☒ New Activity – modification, registration, amendment, facility, etc. (see instructions)

If neither of the above boxes are checked, completion of the form is not required and does not need to be submitted.

Section 2. Secondary Screening

☒ Requires public notice,

☒ Considered to have significant public interest, **and**

☐ Located within any of the following geographical locations:

- Austin
- Dallas
- Fort Worth
- Houston
- San Antonio
- West Texas
- Texas Panhandle
- Along the Texas/Mexico Border
- Other geographical locations should be decided on a case-by-case basis

If all the above boxes are not checked, a Public Involvement Plan is not necessary. Stop after Section 2 and submit the form.

☒ Public Involvement Plan not applicable to this application. Provide **brief** explanation.

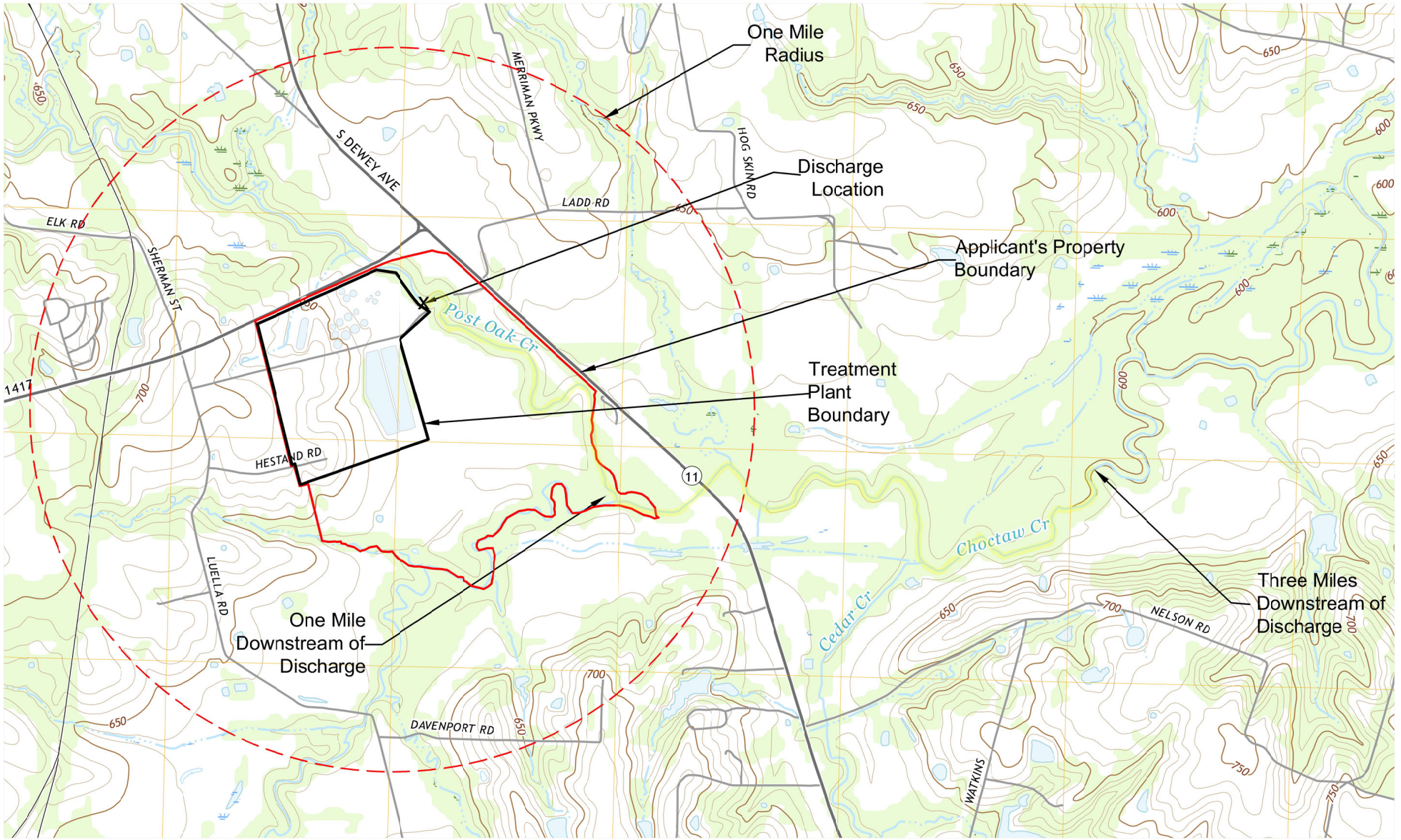
Sherman is not in the Dallas-Fort Worth Metropolitan Statistical Area.

Attachment E

USGS Map

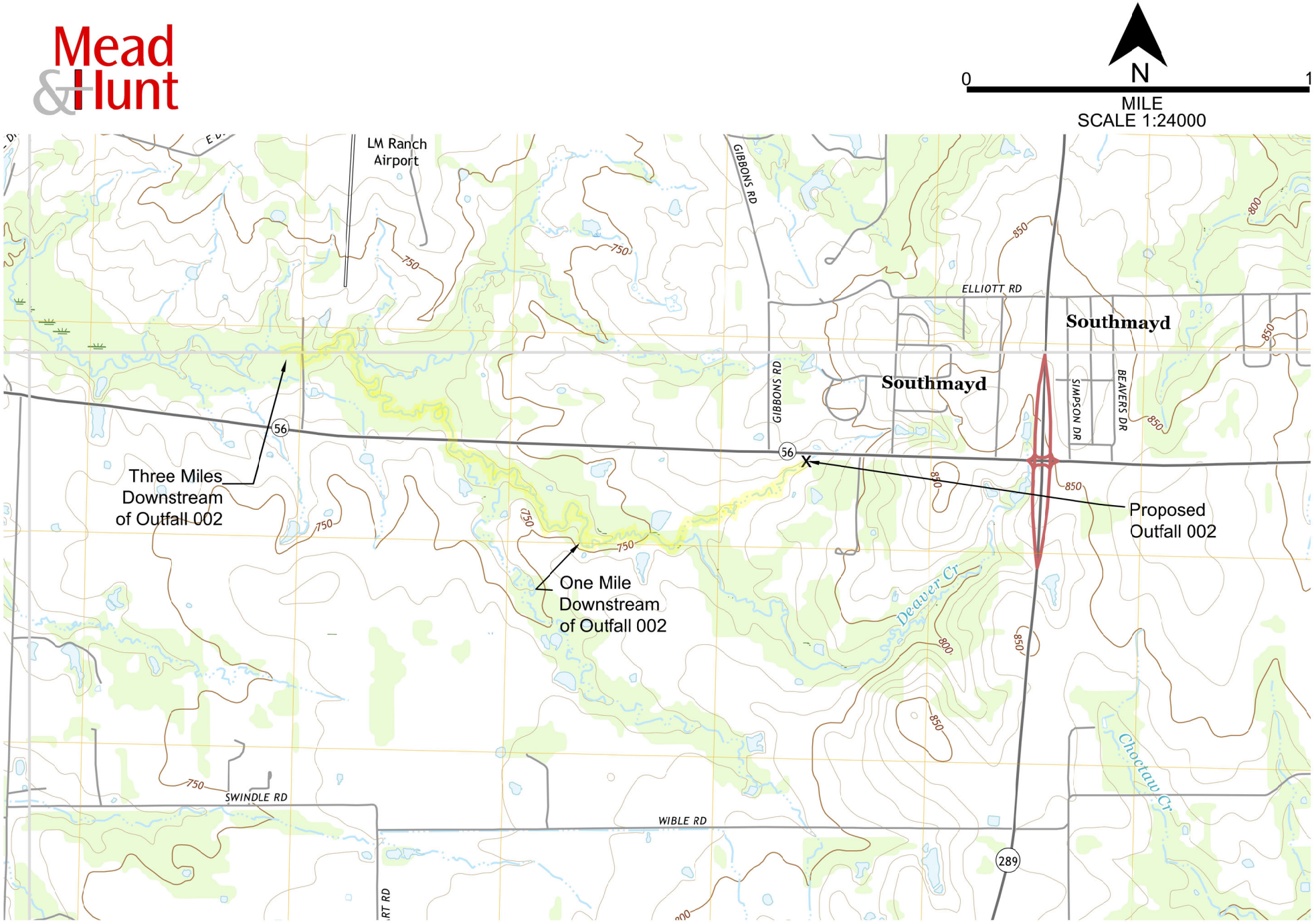
Admin Report 1.0, Section 13

Mead & Hunt



ATTACHMENT E.1
CITY OF SHERMAN - POST OAK WASTEWATER TREATMENT FACILITY
TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT APPLICATION
USGS MAP - OUTFALL 001

Mead & Hunt



ATTACHMENT E.2
CITY OF SHERMAN - POST OAK WASTEWATER TREATMENT FACILITY
TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT APPLICATION
USGS MAP - OUTFALL 002

Attachment F

Affected Landowner Information

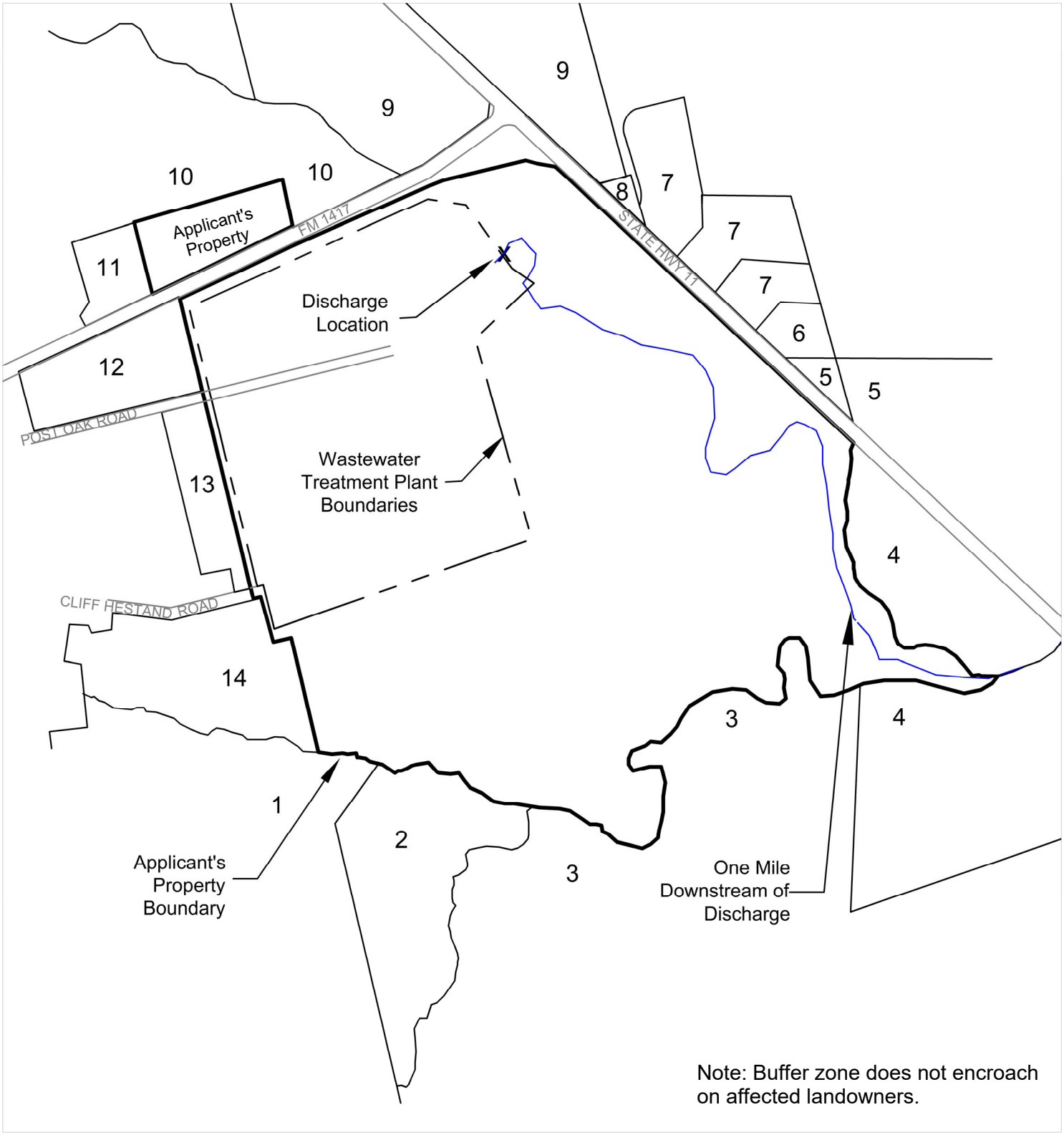
Tech Report 1.1, Section 1

Mead & Hunt

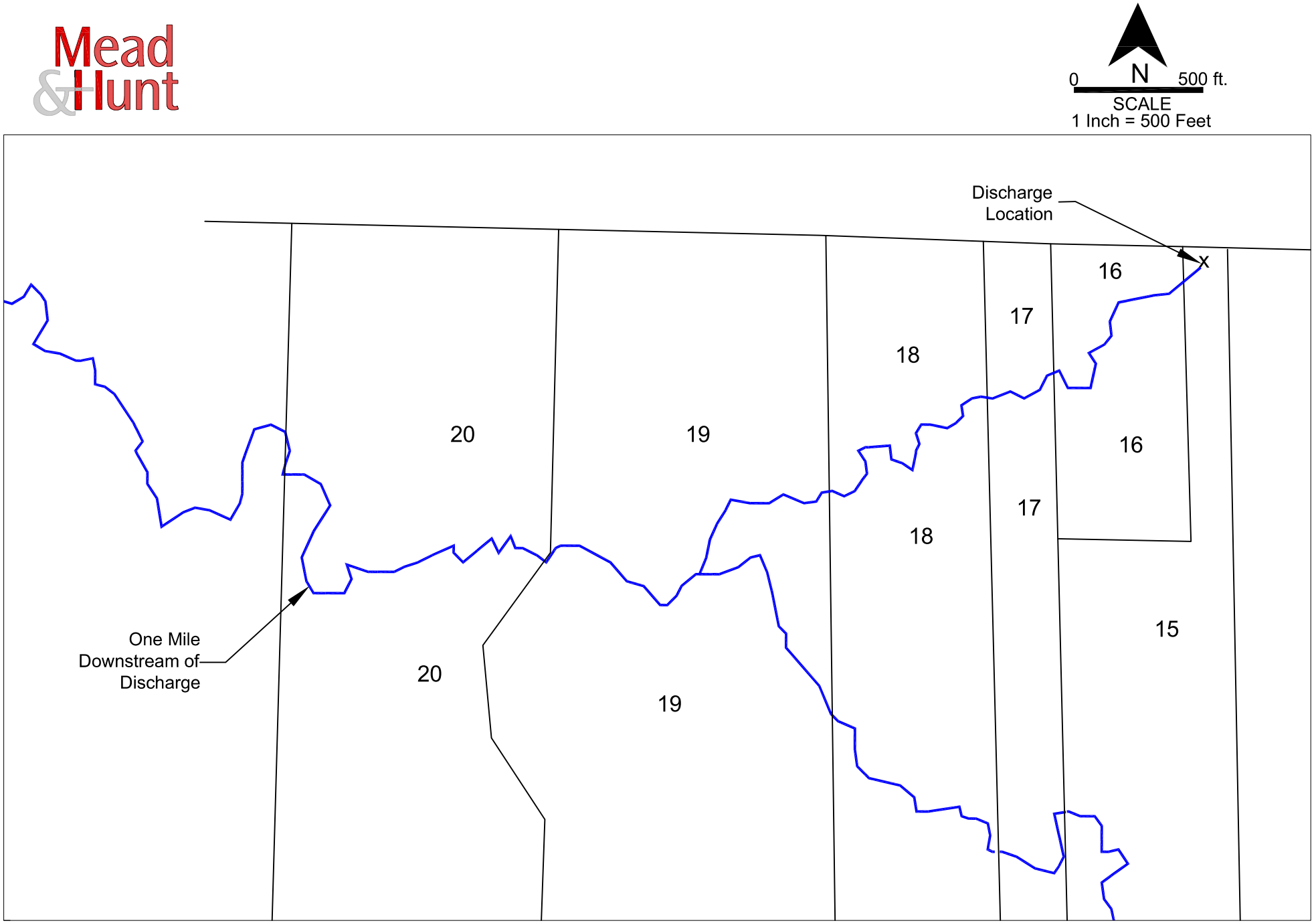
N

0 1,000 ft.

SCALE
1Inch = 1,000 Feet



ATTACHMENT F.1
CITY OF SHERMAN - POST OAK WASTEWATER TREATMENT FACILITY
TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT APPLICATION
AFFECTED LANDOWNER MAP



ATTACHMENT F.2
CITY OF SHERMAN - POST OAK WASTEWATER TREATMENT FACILITY
TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT APPLICATION
OUTFALL 002 - LANDOWNER MAP

ATTACHMENT F.3
CITY OF SHERMAN
POST OAK WASTEWATER TREATMENT FACILITY
TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT APPLICATION
AFFECTED LANDOWNER LIST

1 HMI SHERMAN 592 LLC
PO BOX 822044
RICHLAND HILLS, TX 76182

2 SHERMAN LUELLA RV
PO BOX 822044
NORTH RICHLAND TX 76182

3 COOK NANCY GRAY TRUSTEE
NANCY GRAY COOK TRUST
283 DAVENPORT RD
SHERMAN TX 75090

4 TRIPLE G AND H LLC
ATTN JOHN YORK GRAHAM MANAGER
734 DEER MEADOW LN
SEADRIFT TX 77983

5 HAYNES MARTHA
1446 NW 23RD LN
ANKENY IA 50023

6 TA KIEU THI MONG AND TIEN NGOC THI TRAN
1823 COUNTRY RD 596
NAVADA TX 75173

7 BROWN LEWISVILLE RAILROAD FAMILY FIRST LP
PO BOX 29816
DALLAS TX 75229

8 STATE OF TEXAS TX DOT
ATTN RIGHT OF WAY
PO BOX 3067
DALLAS TX 75221

9 AUSTIN COLLEGE
900 N GRAND AVE
SHERMAN TX 75090

10 FORSTER JAMES E
447 KELSEY RD
DENISON TX 75021

11 MCCLELLAN AMY HINES
PO BOX 3027
MCKINNEY TX 75070

12 AMERICAN RESERVE SERVICES CORPORATION
1605 LBJ FREEWAY STE 700
DALLAS TX 75234

13 HMI SHERMAN 211 LLC
90 BOX 822044
NORTH RICHLAND HILLS TX 76182

14 PC COUNSELING & REHABILITATION LLC
NEWJERSEY LIMITED CO
17 MULBERRY ST
SICKLERVILLE NJ 08081

15 MAESTRO INVESTING GROUP LLC
2553 AUTUMN LN
FRISCO TX 75036

16 REAL ESTATE TEXOMA LLC
890 BEECHWOOD LN
FAIRVIEW TX 75069

17 CONRAD PROPERTIES LLC
509 E 1ST ST
PROSPER TX 75078

18 CONRAD RENTALS LLC
130 N PRESTON RD
PROSPER TX 75078

19 KUSE WAYNE CARL ETUX
ROXANN 1301 STATE HWY 289
SHERMAN TX 75092

20 CORONA RAFAEL AND CORONA SONIA
1241 MCMAHAN DR
LEWISVILLE TX 75077

Attachment G

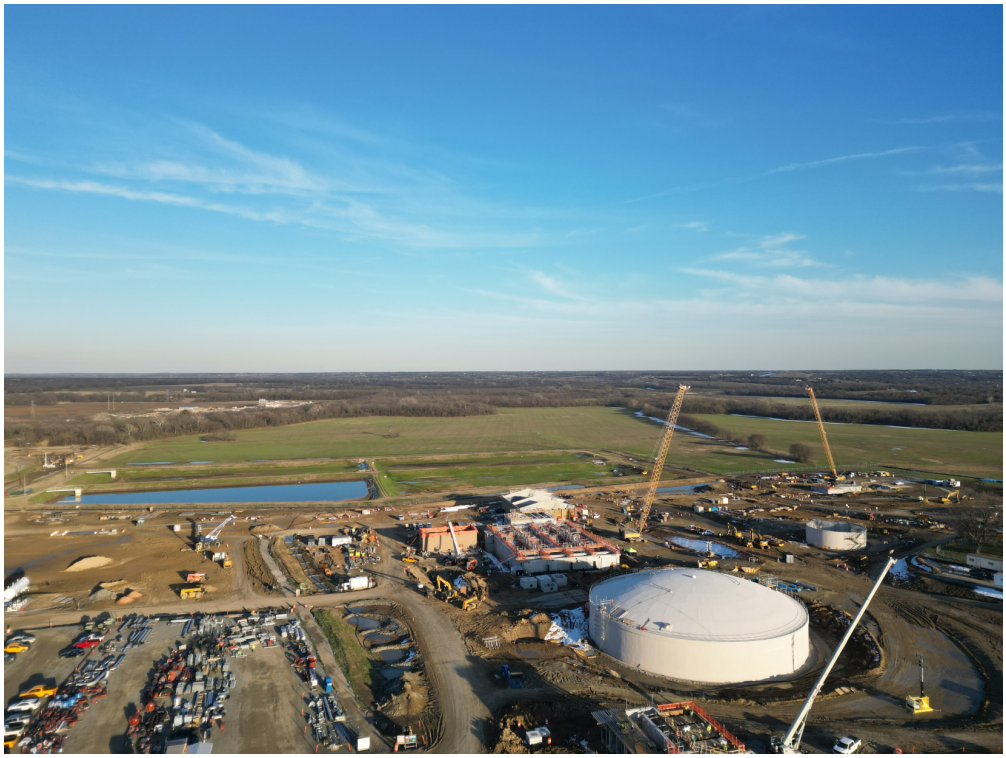
Original Photographs

Admin Report 1.1, Section 2

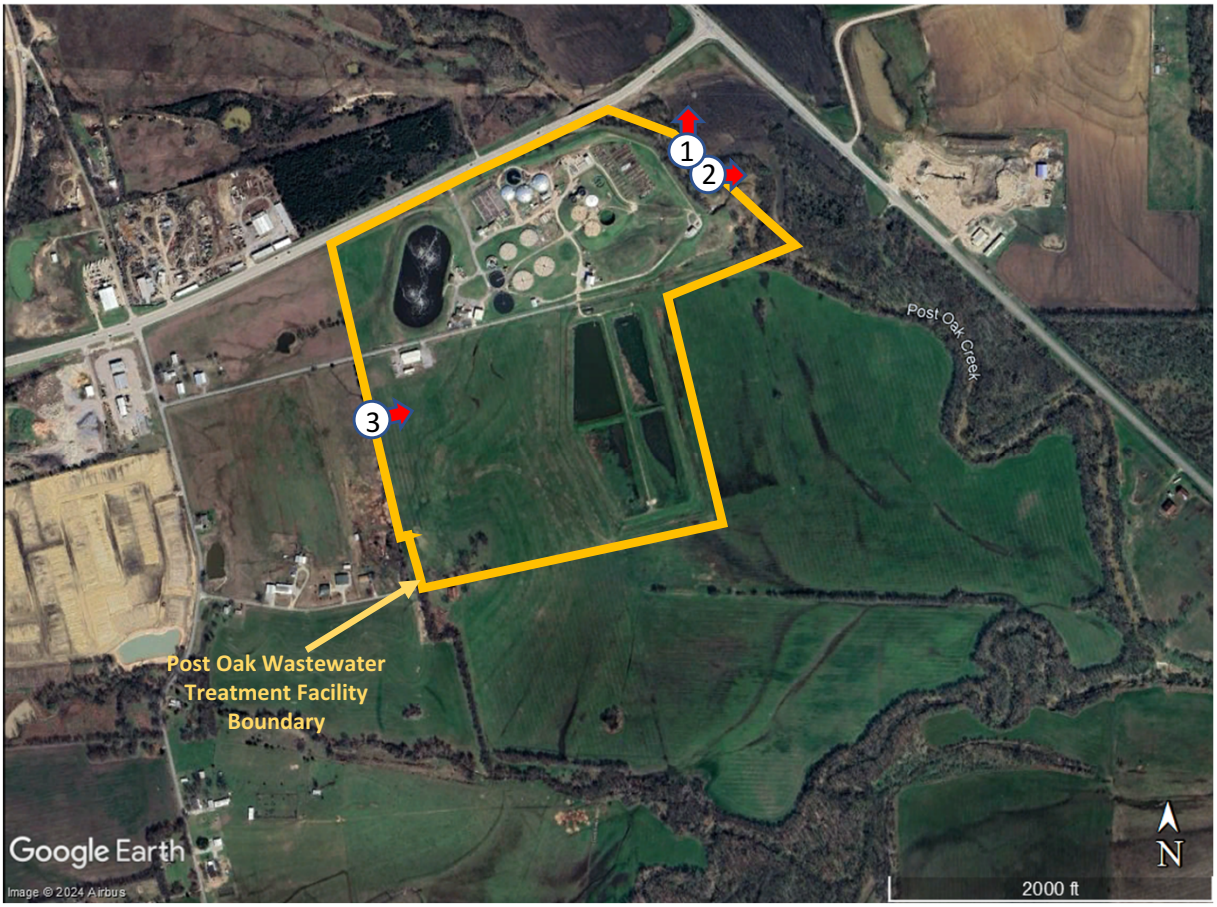
Photograph 1. – At Outfall 001 looking north, upstream.

Photograph 2. – At Outfall 001 looking south, downstream.

ATTACHMENT G.1
CITY OF SHERMAN
POST OAK WASTEWATER TREATMENT FACILITY
TEXAS POLLUTANT DISHARGE ELIMINATION SYSTEM PERMIT APPLICATION
PHOTOGRAPHS



Photograph 3. – Location of new facilities looking east . (Photo was taken during construction of the renovation for the Existing/Interim I facilities.



2 Photograph Location

ATTACHMENT G.2
CITY OF SHERMAN
POST OAK WASTEWATER TREATMENT FACILITY
TEXAS POLLUTANT DISHARGE ELIMINATION SYSTEM PERMIT APPLICATION
PHOTOGRAPHS

Photograph 4. – At Outfall 002 looking north, upstream.

Photograph 5. – At Outfall 002 looking south, downstream.

ATTACHMENT G.3
CITY OF SHERMAN
POST OAK WASTEWATER TREATMENT FACILITY
TEXAS POLLUTANT DISHARGE ELIMINATION SYSTEM PERMIT APPLICATION
PHOTOGRAPHS

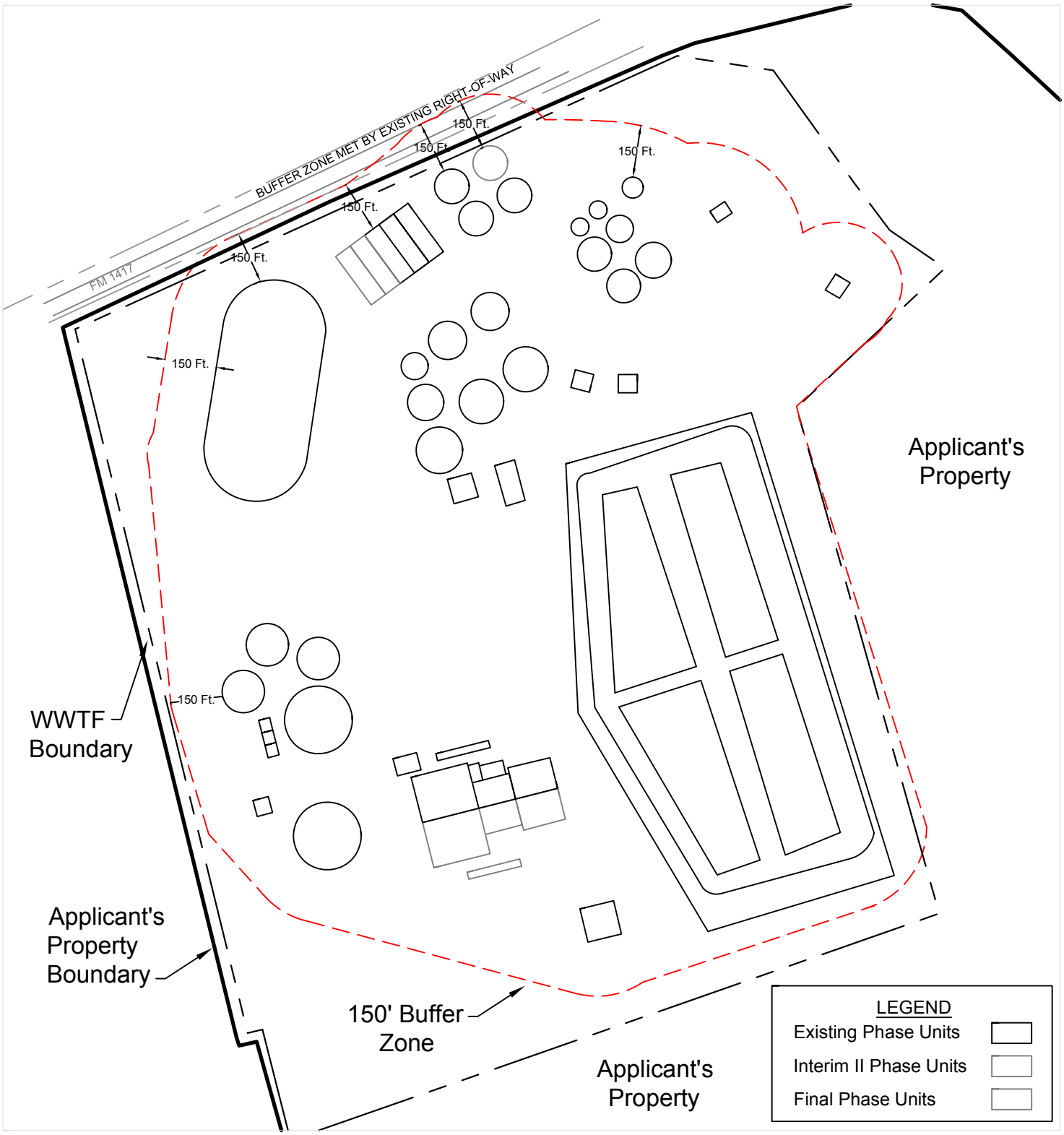
2 Photograph Location

ATTACHMENT G.4
CITY OF SHERMAN
POST OAK WASTEWATER TREATMENT FACILITY
TEXAS POLLUTANT DISHARGE ELIMINATION SYSTEM PERMIT APPLICATION
PHOTOGRAPHS

Attachment H

Buffer Zone Map

Admin Report 1.1, Section 3



ATTACHMENT H
CITY OF SHERMAN - POST OAK WASTEWATER TREATMENT FACILITY
TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT APPLICATION
BUFFER ZONE MAP

Attachment I
Treatment Process Description
Tech Report 1.0, Section 2.A

ATTACHMENT I
CITY OF SHERMAN
POST OAK WASTEWATER TREATMENT FACILITY
TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT APPLICATION
TREATMENT PROCESS DESCRIPTION

The Post Oak Wastewater Treatment Facility (WWTF) is an activated sludge process plant. The existing facility is permitted for an annual average flow of 16 million gallons per day (MGD). The proposed phases are for annual average flows of 20 MGD and 24 MGD. This document outlines the treatment processes for each phase.

Existing/Interim I Phase (16 MGD)

The WWTF receives wastewater through three interceptor lines and has two treatment trains. There are two interceptors on the northside that receive wastewater from residential, commercial, and some industrial sources. The south interceptor line is primarily industrial.

The North train is a traditional activated sludge process facility. It is operated in the conventional mode with nitrification. Treatment units for the North train are coarse screens, vortex grit system, a wet weather equalization basin, primary clarifiers, aeration basins, aeration blowers, and secondary clarifiers.

The South train is a membrane bioreactor (MBR) treatment process system. The treatment units for the South train consist of coarse screens, vortex grit removal system, fine screens, flow equalization basin, activated sludge basin with anoxic and aerobic zones, and membrane bioreactor basin.

Secondary treated effluents from the two trains are comingled. Prior to comingling, the secondary treated effluent from the north train may be filtered through effluent cloth media filters. The treatment unit for the comingled secondary treated effluent is an ultraviolet light disinfection system. After disinfection the effluent is discharged to Post Oak Creek.

Sludge generated in the trains is comingled, dewatered, and disposed at a TCEQ authorized landfill. The sludge handling treatment units for the north train are a gravity sludge thickener and anaerobic sludge digesters. The sludge handling treatment unit for the south train is a sludge storage tank and rotary drum thickener. Combined sludges are dewatered in screw press. The dewatered sludge is transported to the Texoma Area Solids Waste Authority by a registered hauler for disposal.

Interim II Phase (20 MGD)

The proposed additional treatment units for the 20 MGD facilities are additions to the North train. Two aeration basins and one secondary clarifier are proposed for the North train. Rotary drum thickeners, dewatering screw presses, and sludge storage tanks are proposed for the South train. An expansion to the ultraviolet light disinfection system is also proposed.

Final Phase (24 MGD)

The proposed additional treatment units for the 24 MGD facilities will include a 4 MGD MBR treatment process system to the South train. This will include addition of coarse screens, vortex grit removal system, fine screens, flow equalization basin, activated sludge basins with anoxic and aerobic zones, and membrane bioreactor basin.

Attachment J
Treatment Unit List
Tech Report 1.0, Section 2.B

ATTACHMENT J
CITY OF SHERMAN
POST OAK WASTEWATER TREATMENT FACILITY
TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT APPLICATION
TREATMENT UNIT LIST

Existing/Interim I Phase (16 MGD)

Treatment Unit	Number of Units	Dimensions (L x W x D)
North Treatment Train (12 MGD)		
Upstream Coarse Screen	3	2@ 24 MGD Capacity 1@ 21 MGD Capacity
Downstream Coarse Screen	2	16 MGD Capacity ea.
Vortex Grit System	2	30 MGD Capacity ea.
Wet Weather Equalization Basin	1	12 MG
Primary Clarifiers	3	1@ 125' Dia. X 12' SWD 1@ 96' Dia. X 9.5' SWD 1@ 70' X 8.6' SWD
Aeration Basins	3	150' x 50' x 18' SWD
Aeration Blowers	3	3,550 SCFM
Secondary Clarifiers	3	100' Dia. x 15' SWD
Effluent Cloth Media Filters	2	6 MGD Average ea., 12 MGD Peak 2-hour ea.
Anaerobic Digesters	3	2@ 100' Dia. X 25' SWD 1@ 80' Dia. X 20' SWD
South Treatment Train (4 MGD)		
Coarse Screens	2	8 MG ea.
Vortex Grit Removal System	1	8 MGD
Fine Screens (1 mm)	2	8.0 MGD ea.
Equalization Basin	1	4 MG Capacity
Activated Sludge basins with one anoxic zone and three aerobic zones	4	0.380 MG ea.
Membrane Bioreactor Basin	1	3 trains, 6 Membrane Cassettes/Train
North and South Combined Units		
UV Disinfection System	2	8 MGD avg. / 16 MGD 2-hour peak ea.
Cascade Aerator	1	----
Gravity Sludge Thickener	2	45’ Dia. X 18.33’ ea.
Dewatering Screw Press	2	56 gpm ea.
Emergency Storage Basins	4	Approximately 37 MG

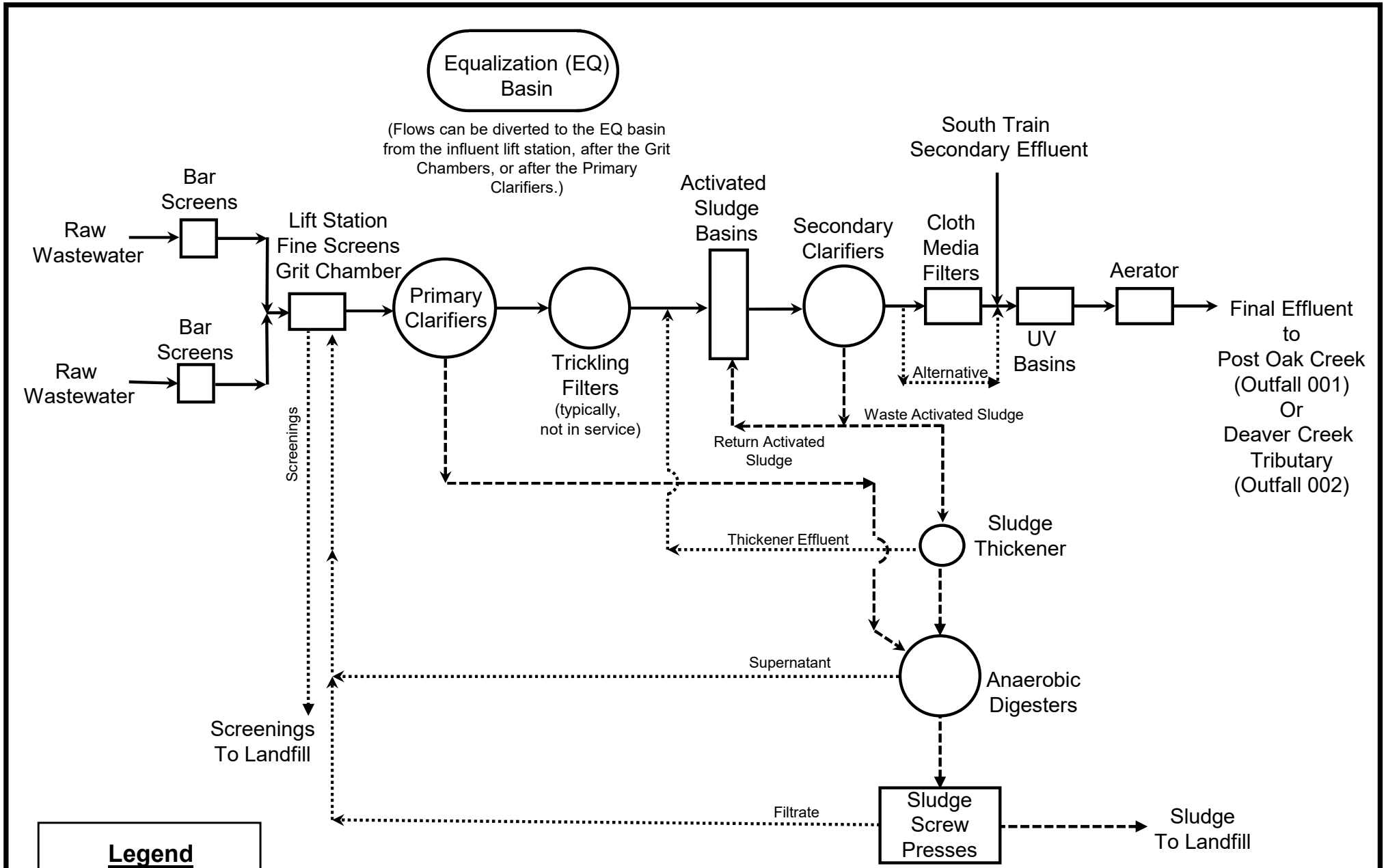
Interim II Phase (20 MGD) Additional Treatment Units

North Treatment Train (Additional 4 MGD Treatment Capacity)		
Aeration Basin	2	150' x 50' x 18' SWD
Secondary Clarifier	1	100' Dia. x 15' SWD
South Treatment Tain		
Rotary Drum Thickener	2	400 gpm ea.
Dewatering Screw Press	2	200 gpm ea.
Sludge Storage Tank	2	0.43 MG ea.
North and South Combined Units		
UV Disinfection System	2	8 MGD avg. / 16 MGD 2-hour peak ea.

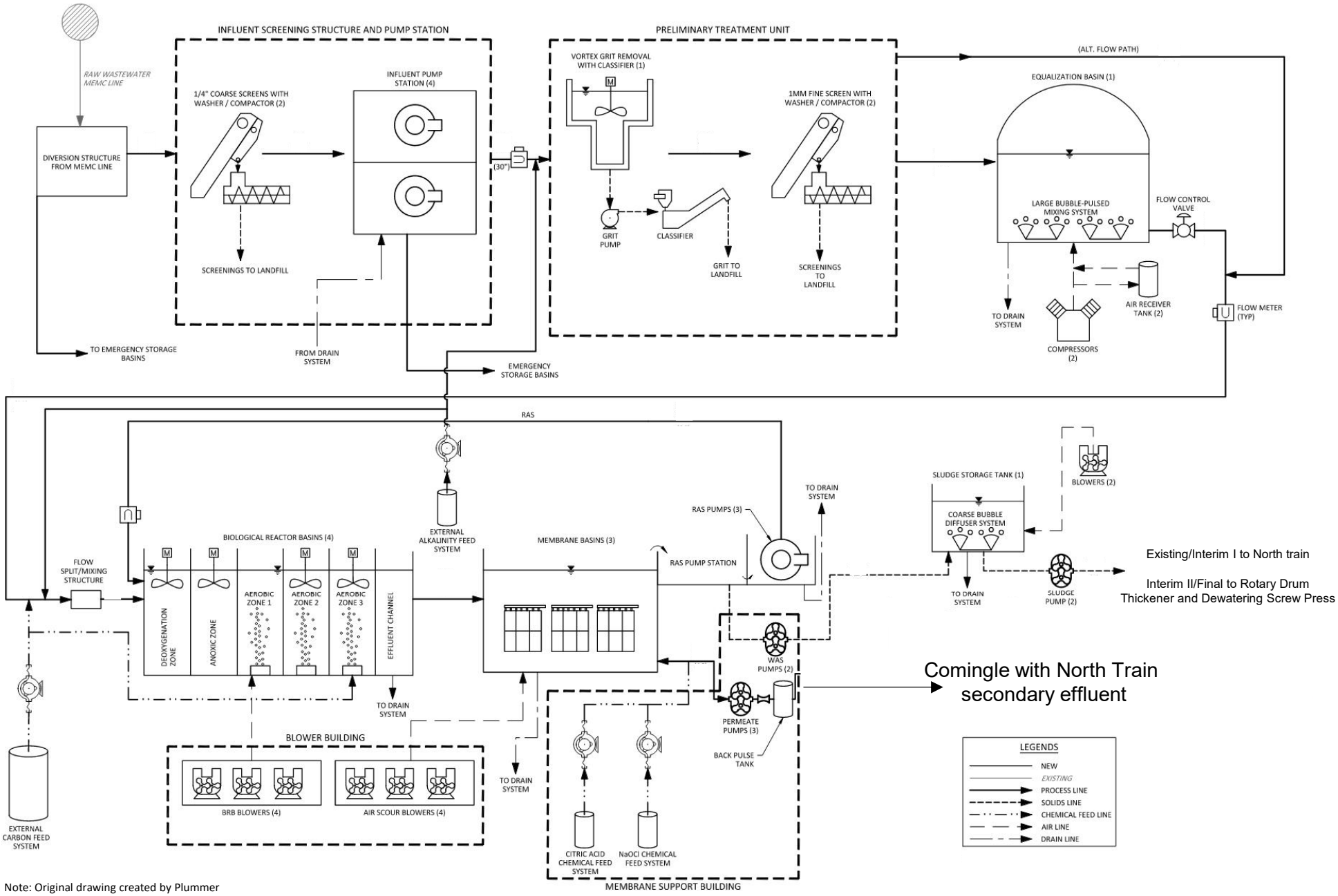
Final Phase (24 MGD) Additional Treatment Units

South Treatment Train (Additional 4 MGD Treatment Capacity)		
Coarse Screens	3	8 MG ea.
Vortex Grit Removal System	1	8 MGD
Fine Screens (1 mm)	2	8.0 MGD ea.
Equalization Basin	1	4 MG capacity
Activated Sludge basins with one anoxic zone and three aerobic zones	4	0.380 MG ea.
Membrane Bioreactor Basin	1	3 trains, 6 Membrane Cassettes /Train

Attachment K
Process Flow Diagram
Tech Report 1.0, Section 2.C



ATTACHMENT K.1
CITY OF SHERMAN
POST OAK WASTEWATER TREATMENT FACILITY
TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT
NORTH TRAIN PROCESS FLOW DIAGRAM – ALL PHASES



Note: Original drawing created by Plummer

ATTACHMENT K.2
CITY OF SHERMAN
POST OAK WASTEWATER TREATMENT FACILITY
TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT
SOUTH TRAIN PROCESS FLOW DIAGRAM – ALL PHASES

Attachment L

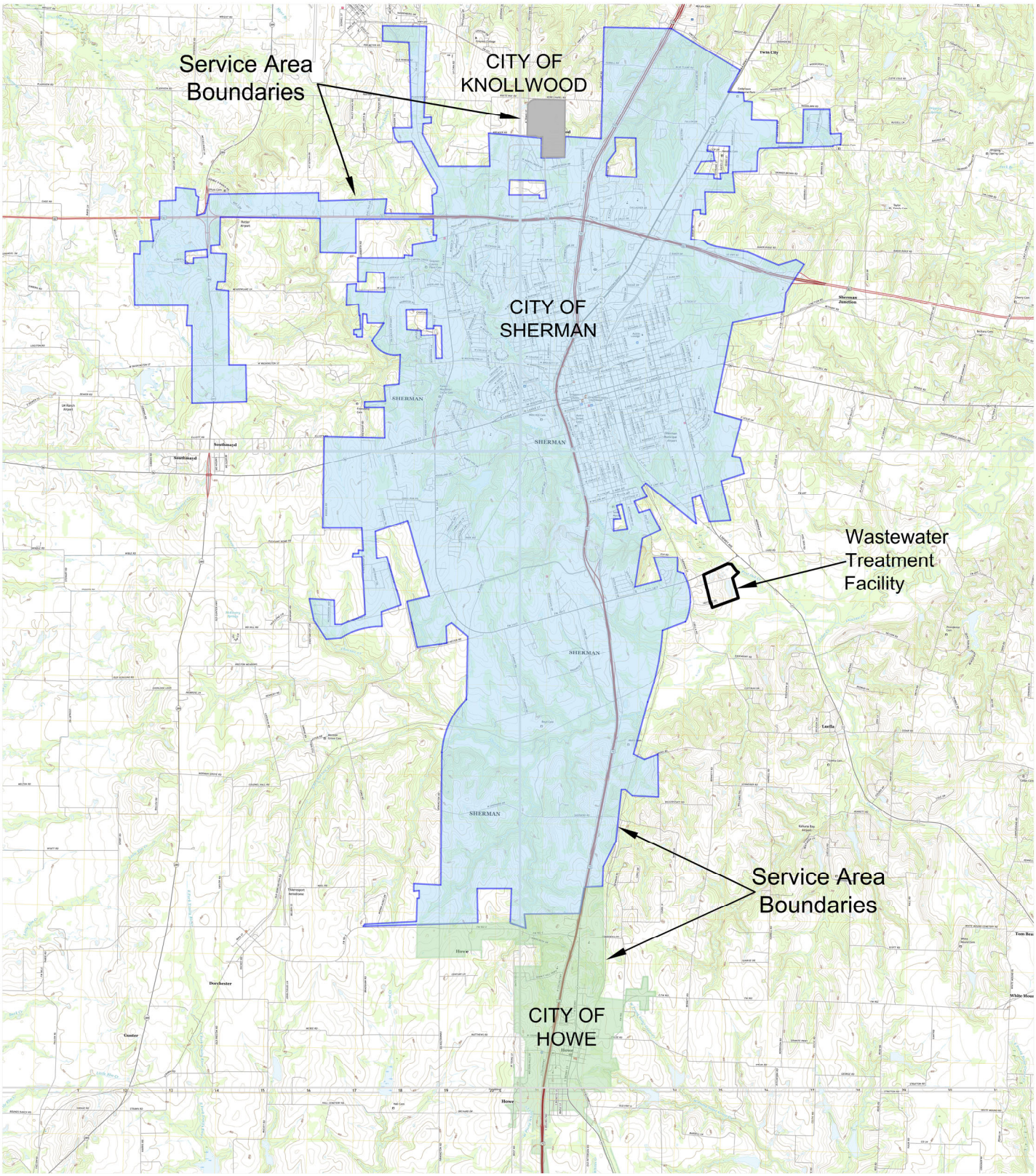
Site Drawing

Tech Report 1.0, Section 3

Mead & Hunt

0 N 10,000

SCALE
1 INCH = 10,000 FT.



ATTACHMENT L
CITY OF SHERMAN - POST OAK WASTEWATER TREATMENT FACILITY
TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT APPLICATION
SITE DRAWING

Attachment M

Effluent Pollutant Analysis

Tech Report 1.0, Section 7

Worksheet 4.0

5 DAY CBOD CALCULATIONS

Date Setup: 07/19/24
Time Setup: 8:04
Analyst: NM
In Incubator: 12:48

Date Read Back: 7/24/2024
Out of Incubator: 10:15
Analyst: JS

CBOD Quality Control Data

BOD Blanks	IDO mg/l	FDO mg/l	Depletion mg/l	Blank Depl. Check	Reportable Blank (mg/l)	Blank QC #
Blank	8.47	8.41	0.06	0.06		
Blank (dup)	8.50	8.41	0.09	0.09	0.08	0724-118-BLK

BOD Seed Control	mls seed control	IDO mg/l	FDO mg/l	Raw Seed Values	2/1 Rule Check	RPD Check	%	Seed Factor per mL
	3	8.47	7.63	0.84				
Seed	10	8.26	5.56	0.27	0.27	1 & 2	9.9	
Control	15	8.20	3.73	0.30	0.30	2 & 3	5.5	
	20	8.15	1.85	0.32	0.32	1 & 3	15.4	0.29
mls of seed added to each bottle ---------------->			3					

BOD Standards	mls standard	IDO mg/l	FDO mg/l	Raw Std. Values	2/1 Rule Check	RPD Check	%	Reported Standard
Standards	6	8.50	4.22	169.9	169.9	1 & 2	18.4	24.343
(LAB CHEM)	6	8.47	3.50	204.4	204.4	2 & 3	5.9	
0724-118-CTL	6	8.47	3.25	216.9	216.9	1 & 3	24.3	197.0

Batch ID: 071924-01 **Seed Factor -->** 0.88 **Standard ----->** 197 **Blank ----->** 0.08
Target --------> (167.5 - 228.5) **Target ---->** (< 0.20)

Precision: --> 0.0 **(% RPD)** **Control Limit =< 19**

Accuracy: ---> 99.5 **(% Recovery)** **(84.6 - 115.4)**

The lower the % RPD, the more precise the analysis.

The closer to 100 % recovery you get, the more accurate the standard analysis is.

Entered By:	JS	**Reviewed By:**		**Excel Check By:**	RG	**QC By:**	nm
Date:	7/24/2024	**Date:**		**Date:**	7/24/2024	**Date:**	7/24/2024

Comments:

Batch ID#: 071924-01

CBOD Sample Calculations

Sample Name	mls sample	IDO mg/l	FDO mg/l	Depletion mg/l	Raw BOD Data (mg/l)	2/1 Rule Check (mg/l)	Average of all 3 Dilutions	1 & 2 RPD Check	2 & 3 RPD Check	1 & 3 RPD Check	BOD Value (mg/l)
PO EFF	100.0	8.56	6.23	2.33	4.3	4.3	4.3				4.3
240719012	200.0	8.67	4.99	3.68	4.2	4.2	Average-->	4.3	4.3	4.4	
7/18	300.0	8.79	3.46	5.33	4.4	4.4	%RPD--->	3.4	5.8	2.4	
PO EFF	100.0	8.55	6.24	2.31	4.3	4.3	4.3				4.3
240719012	200.0	8.68	4.95	3.73	4.3	4.3	Average-->	4.3	4.3	4.3	
(Duplicate)	300.0	8.74	3.45	5.29	4.4	4.4	%RPD--->	0.2	3.1	2.9	
[redacted]	10.0	8.42	5.62	2.80	57.5	57.5	59.5				60
240718021	15.0	8.35	4.43	3.92	60.7	60.7	Average-->	59.1	60.4	58.8	
	20.0	8.31	3.42	4.89	60.1	60.1	%RPD--->	5.5	1.1	4.4	
				0.00			#DIV/0!				
				0.00			Average-->	#DIV/0!	#DIV/0!	#DIV/0!	
				0.00			%RPD--->	#######	#######	#######	
				0.00			#DIV/0!				
				0.00			Average-->	#DIV/0!	#DIV/0!	#DIV/0!	
				0.00			%RPD--->	#######	#######	#######	
				0.00			#DIV/0!				
				0.00			Average-->	#DIV/0!	#DIV/0!	#DIV/0!	
				0.00			%RPD--->	#######	#######	#######	

Entered By:	JS	**Reviewed By:**		**Excel Check By:**	RG	**QC Review By:**	nm
Date:	7/24/2024	**Date:**		**Date:**	7/24/2024	**Date:**	7/24/2024

Sherman Utilities Laboratory - Total/Volatile Suspended Solids QC Sheet (TSS, MLSS / VSS, MLVSS)

TSS Batch: TSS - D71824-01 (m-ddyy - #) VSS - D71824-01 (m-ddyy - #)

TSS Drying Cycles (103 - 105 °C)						VSS Drying Cycle (550 °C)					
Date/Time In		Temp In		Date/Time Out	Temp Out	Date/Time In		Temp In		Date/Time Out	Temp Out
#1 D71824	0910	Un 103.0 / 104.0 C		D71824	1020	#1 D71824	1135	Un 525 / 525 C		D71824 1156	Un 525 / 525 C
#2 D71824	1045	Un 103.0 / 104.0 C		D71824	1157	#2		Un / C			Un / C

Un: Uncorrected Temperature; C: Corrected Temperature

	TSS Duplicate	VSS Duplicate	LCS
Precision (RPD)	4.2	—	
Accuracy (% R)			100

S_1 = Sample S_2 = Sample Duplicate

$$\%RPD = \frac{S_1 - S_2}{S_1 + S_2} \times 200$$

$$TSS\ (mg/L) = \frac{C \times 1{,}000{,}000}{\text{volume filtered (mL)}}$$

$$VSS\ (mg/L) = \frac{C_{burn} \times 1{,}000{,}000}{\text{volume filtered (mL)}}$$

$$\%\ Ash = \frac{VSS}{TSS} \times 100$$

Batch QC Checks:

Did all samples filter in < 10 minutes?	(Y)	N	Na
Are changes in the last two dry weights <0.0005g?	(Y)	N	Na
Are residue weights ≥ 0.0025g and < 0.200g?	Y	(N)	Na

Drying Oven Used (mark one)	
Drying Oven #1 / Thermometer SN G153772	
Drying Oven #2 / Thermometer SN B206216	
Drying Oven #3 / Thermometer SN G153769	✓
Balance Used	
Ohaus Voyager Pro	
Muffle Furnace Used ** (mark one)	
IsoTemp Muffle Furnace	✓
Thermolyne Muffle Furnace	

** Used in the analysis of volatile solids

Batch Comments:

- * Maximum volume filtered - Anna Eff
- □ Maximum volume filtered in 10 minutes
- ^ Sample needs to be re-analyzed
- • Exceeded filtration time

Management Review By: 7.18.24

Analyst(s): DF Peer Reviewed by: KH 071824

Sherman Utilities Laboratory - Total/Volatile Suspended Solids Worksheet (TSS, MLSS / VSS, MLVSS)

Batch Number: TSS - 071824-01 (parameter - mmddyy - #)

Date / Time Batch Initiated: [1] 071824 / 0831 (mm-dd-yy / hhmm)

Analytical Methods: SM 2540 D (TSS) , SM 2540 E (VSS)

Sample ID	Sample #	Volume Filtered (mL)	Pipette Lot Used (if applicable)	Pan #	Filter Weight + Pan Weight (g) (A) Initial Wt.	(B1) Dry Wt. #1	(B2) Dry Wt. #2	(C) Residue Wt. (Bn - A)	Results TSS (mg/l)	Final TSS Result (mg/l)	VSS (mg/l)	Final VSS Result (mg/l)	Ash (%)	Process
Blank	0724-106-BLK	1000		3	0.1247	0.1246	0.1245	-0.0002						
Calik Cal-071824-01	↓ -CTL	500		4	0.1150	0.1649	0.1648	0.0498	99.6	100				
PO Inf 7-17	240718002	75		71	0.1248	0.1341	—	0.0093	—	124				✓
PO PC	004	125		72	0.1138	0.1201	—	0.0063	—	50.4				✓
PO BC	008	1000		73	0.1258	0.1308	—	0.0050	—	5.0				✓
PO AB	006	10		74	0.1141	0.1461	—	0.0320	—	3200				✓
					—	0.1461	0.1229	0.0232			—	2320	27.5	
PO RAS	007 * ^	3		A	0.1163	0.1379	—	0.0216	—	7200				✓
					—	0.1379	0.1221	0.0158			5266	5270	26.8	
PO Eff	013	1000		5	0.1255	0.1302	0.1301	0.0046	—	4.6				
PO Eff (Dup)	240718013-DUP	1000		6	0.1151	0.1200	0.1199	0.0048	—	4.8				
[redacted]	240717045	325 ^		7	0.1245	0.1272	0.1271	0.0026	—	8.0				✓
[redacted]	019	50		8	0.1248	0.1356	0.1354	0.0106	212	210				✓
[redacted]	020	1000		9	0.1159	0.1174	0.1173	0.0014 *	1.4	<2.5				✓
[redacted]	240718017	50		B	0.1235	0.1323	—	0.0088	176	176				✓
	↓				—	0.1323	0.1248	0.0075			—	160	14.8	
[redacted]	↓ 0			C	0.1163 sample not collected DF 071824									✓
[redacted]	240718019	475		10	0.1252	0.1510	0.1510	0.0258	5431	54.3				

DF 071824

Report Verification By: 7-24-24

[1] - This time will be used to determine if analysis was initiated before the EPA recommended holding time was exceeded

Sherman Utilities Laboratory - Ammonia Nitrogen Worksheet

Batch Number: NH- 071924-01 (parameter - (mmddyy - #))

Date / Time Batch Initiated: 071924 / 1214 (mm-dd-yy / hh:mm)

Analytical Method: SM 4500-NH3 D

Analyst: [signature]

Meter/Probe: Hach HQ430d / ISENH3181

NaOH Lot used: 230003

Sample Pipettor used: K256034E

NaOH Pippettor used: RU10087

Matrix Spike & Matrix Spike Dup	Prep Date: 071924		Pipettor Used: RU10087
	MS Standard Lot: A3363	mL MS Standard: 0.2	mL Sample: 99.8

Sample Name	Sample Number	Sample Vol. Analzyed (mL)	Dilution Factor	Amount NaOH Used (mL)	Initial Reading (mg/L)	Result** (mg/L)	% Recovery	RPD
Method Blank	0724-120-BLK	50	1	0.5	0.0153	<0.0500		
LCS (1 mg/L) A3017	-CTL	50	1	0.5	1.01	1.01	101	
LCS Dup (1 mg/L)	-CDP	50	1	0.5	1.04	1.04	104	2.9
MS (2 mg/L)	-SPK	50	1	0.8	2.11	2.11	96	
MSD (2 mg/L)	-SDP	50	1	0.8	2.08	2.08	94	1.4
ID of Spiked Sample	PO Eff 7.16 240717014							
PO Eff 7.16	240717014	50	1	0.8	0.0400	<0.20		
[redacted]								
PO Eff 7.17	240718014	50	1	0.8	0.0372	<0.20		
PO Eff 7.18	240719014	50	1	0.8	0.0341	<0.20		
[redacted]								
CCV (1 mg/L) Batch #	ICV/CCV.071924.01	50	1	0.5	2.05	2.05	102	
CCB	NA	50	1	0.5	0.0157	<0.0500		
PO Inf 7.16	240717003	5	10	0.5	1.87	18.7		
[redacted]								
PO Inf 7.17	240718003	5	10	0.5	2.33	23.3		
[redacted]								
PO Inf 7.18	240719003	5	10	0.5	2.32	23.2		
		DF 071924						
CCB	NA	50	1	0.5	0.0164	<0.0500		
CCV (1 mg/L) Batch #	ICV/CCV.071924.01	50	1	0.5	2.02	2.02	101	

** The result is the final calculation which includes the dilution factor and NaOH volume corrections.

Report Verification By: [signature] 7-24-24 / [signature] 7-25-24

Management Review By: [signature] 7.19.24

Peer Review By: DF 071924

64

Revision 1.3 08/02/2022

Form: NH Worksheet

City of Sherman
Dept. 7722- Treatment Service

Post Oak WWTP
Dissolved Oxygen Log

Sherman
CLASSIC TOWN. BROAD HORIZON.

Date	Time	Meter Type/ Number	D.O. (mg/L)/Temp.	Solubility	Initials
10/4/24	0719	ProYSI208/C	7.66/26.9	7.97	DI

City of Sherman
Dept. 7722- Treatment Service

Post Oak WWTP
Colorimeter- Spec Check Standard/ Chlorine Residual Log

Sherman
CLASSIC TOWN. BROAD HORIZON.

Standard Check

Date	Time	Meter #	Meter Range	Standard Kit Lot Number	Standard Kit Exp.	Spec. Check Standards Std # 1	Std. # 2	Std. # 3	Results Acceptable[1] Yes	No
10/25/24	0720	WQS	Low range	A4219	8/26	0.24	0.92	1.63	✓	

Analyst Name/ Signature		Peer Review Name/ Signature	
Derek Insall	Derek Insall	ERIK HARALDSEN	

Sample Collection

Location	Date	Time	Sampler Name/ Signature	
Effluent	10/25/24	0739	Derek Insall	Derek Insall

Sample Analysis

Standards Used/ Lot Numbers

Total Cl_2 DPD / Exp.	Potassium Iodide/ Exp.	Sodium Arsenite/ Exp.	Sulfuric Acid/ Exp.	Sodium Hydroxide/ Exp.
A3045 2/28	A0335 12/25	A4149 5/29	216050 11/26	Not needed

Date	Time	Pour 40 mLs into beaker ✓	Measure pH (SU)	Adjusted pH (6.0-7.0)	Measure Cl_2 Residual[3]	Add 3 drops KI Wait 1 min. ✓	Add 3 drops Sodium Arsenite ✓	Measure Mn Cl_2 Residual	Final Cl_2 Residual[2]
10/25/24	0750	✓	7.37	6.64	0.07	✓	✓	0.11	<0.10

Duplicate Sample Analysis

Date	Time	Pour 40 mLs into beaker ✓	Measure pH (SU)	Adjusted pH (6.0-7.0)	Measure Cl_2 Residual[3]	Add 3 drops KI Wait 1 min. ✓	Add 3 drops Sodium Arsenite ✓	Measure Mn Cl_2 Residual	Final Cl_2 Residual[2]
" "	" "	✓	7.37	6.64	0.07	✓	✓	0.11	<0.10

Analyst Name/ Signature		Peer Review Name/ Signature	
Derek Insall	Derek Insall	ERIK HARALDSEN	

[1] Compare actual readings to the standard values found on the standard kit or in the Chlorine Spec Check Standard Verification Log column labeled "New Std. Range."

[2] Subtract 'Mn Cl_2 Residual' from 'Cl_2 Residual.' Report Results that are less than 0.10 mg/l as <0.1.

[3] Measure first chlorine residual 3 minutes after DPD is added.

Method Used: Standard Methods for the Examination of Water and Wastewater, 23rd Edition, Method 4500-Cl G 2016

City of Sherman Utilities Laboratory
288 Post Oak Rd
Sherman, TX 75090

Post Oak WWTP
Nathan Whiddon
P.O. Box 1106
Sherman, TX 75091

COC# B24102503

Monday, October 28, 2024

Dear Client:

This final report includes results for sample(s) received by the City of Sherman Utilities Laboratory (COSUL) on 10/25/2024. The results presented in this report only apply to the analyses requested on the chain of custody document provided with the samples.

COSUL is accredited under NELAP and certifies that all reported results meet the NELAP requirements unless otherwise noted.

Due to the uncertainty of analytical measurements, the use of the measured values in this report for regulatory compliance must be evaluated by the client.

Thank you for selecting us for your analytical needs. If you have any questions regarding this report, please contact us at 903-892-7287.

Respectfully,

Nicole Moseley
Laboratory Supervisor

Post Oak WWTP
Nathan Whiddon
P.O. Box 1106
Sherman, TX 75091

LABORATORY REPORT

Customer Sample ID: PO ECOLI
Sample Collected: 10/25/24 07:39

Laboratory Sample ID: 241025016
Sample Received: 10/25/24 08:15

Parameter	Result	Units	Analyst	Analysis Date	Analysis Time	Runsheet	Method
E. coli	**11**	MPN/100 mL	MW	10/25/2024	11:49	1024-163	IDEXX Quanti Tray

Post Oak WWTP
Nathan Whiddon
P.O. Box 1106
Sherman, TX 75091

LABORATORY REPORT
QUALITY CONTROL SUMMARY

Runsheet: **1024-163 E. COLI MPN**

SampleCode	Description	Result	Units	Acceptable Range	Comments
1024-163-BLK	Blank	<1	MPN	< 1	
241025016-DUP-1024-163	Duplicate	0.1120	RLog	0.0000 - 0.2371	**

Range is only applicable to >10 MPN
** Duplicate counts were <10 MPN

Post Oak WWTP
Nathan Whiddon
P.O. Box 1106
Sherman, TX 75091

PRESERVATION and CHAIN OF CUSTODY

Sample conditions observed at receipt in part or in whole by:	**MW**		
Samples received iced?	**Yes**	Temperature at receipt?	**15.8 °C**
CoC form complete?	**Yes**	Bottle labels intact?	**Yes**
Adequate volume provided?	**Yes**	Samples received intact?	**Yes**
pH<2 for ammonia samples?	**NA**	Micro samples checked for neutralization of chlorine?	**NA**

Chain of Custody Record

Sherman

City of Sherman Utilities Laboratory (COSUL)
288 Post Oak Road, Sherman, Texas 75090
Ph: (903) 892-7287 Fax: (903) 868-3538

Report Options: ☐ Will Pick-up Laboratory Results ☐ Please E-mail Laboratory Results ☐ Please Mail Laboratory Results ☐ Please CC Project Contact ☐ Other: (Specify)

Turn Around Time: ☐ Normal ☐ Expedited ____% ☐ Other: (Specify)

Customer Comments or Special Instructions:

Payment Method: ☐ Submit Invoice

Payment Information (Lab Use Only): ☐ Pay Prior To Analysis With: ☐ Cash ☐ Check ☐ Credit Card

Chain of Custody #: B24102503 (Lab Use Only)

Customer Information

Customer Name: Post Oak WWTP
Contact: Nathan Whiddon
Customer Address: 1800 FM 1417 - E
City, State, Zip: Sherman TX 75090
County:
Phone: 903-892-7286
E-mail: nathan.whiddon@cityofsherman.com

Project Information (complete if different than customer information)

Project Name:
Project Address:
City, State, Zip:
County:
Water System ID:
Project #:
Contact:
Phone #:
Wastewater System ID:

Sample # (Lab Use Only)	Sample ID (Point of Collection)	Date Collected	Time Collected	Sample Type	Sample Matrix	Sample Preservation	# of Bottles	Type of Bottles	Chlorine Residuals (mg/L) Free	Chlorine Residuals (mg/L) Total	Drinking Water Sampling Information (If Applicable)	Analyses Requested	Lab Use Only
24102501C	Effluent	10/25/24	0789	G	WW	Ice	1	SP		<0.10		✓	

Sample Collection Information

Drinking Water Sampling Information (If Applicable): Routine Distribution (RT); Type of Sample Collected: Rural (RU), Special (SP), Construction (CN), Project (PR), Replacement (RP); Water Source: New (Groundwater), Surface Water, Well (GW), Public (PU); System Type: Private / Individual (IN)

Analyses Requested: Total Coliform / E. coli (SM 9223 B); Fecal Coliform (SM 9221 E); E.coli - MPN (Colilert / Colilert-18); BOD, (SM 5210 B); COD (SM 5220 D); TSS (SM 2540 D); VSS (SM 2540 E); Nitrate (SM 4500-NO3- D); Ammonia (SM 4500-NH3-G); Turbidity (SM 2130 B)

Lab Use Only: Subcontract Analyses; Reject Sample(s); Applicable Rejection Code(s)

Sampler's Name: (Print/Signature)	Derek Insall / Derek Insall	# of Bottles Collected: 1	Relinquished by: (Signature) Derek Insall	# of Bottles Relinquished: 1	Date/Time Relinquished: 10/25/24 0815
Received By: (Print/Signature)		Date/Time Received:	# of Bottles Received:	Relinquished by: (Signature)	# of Bottles Relinquished:	Date/Time Relinquished:
Received By: (Print/Signature)		Date/Time Received:	# of Bottles Received:	Relinquished by: (Signature)	# of Bottles Relinquished:	Date/Time Relinquished:
Received For Lab By: (Print/Signature)	M. Willeford / M. Willeford	Date/Time Received: 10/25/24 0815	# of Bottles Received: 1	Lab Comments:		

Sample Rejection Codes: (If Applicable) ☐1 - Exceeds Holding Time (EH) ☐2 - Insufficient Sample Volume (VO) ☐3 - Excessive Chlorine (CL) ☐4 - Broken Bottle (BR) ☐5 - Frozen Sample (FZ) ☐6 - Leaked in Transit (LT) ☐7 - Heavy Bacterial Growth (HB) ☐8 - Heavy Silt/Turbidity Present (ST) ☐9 - Lab Accident (LA) ☐10 - Other (OT) _____

Note: If a PWS, notify customer of TCEQ requirement to replace any rejected samples.

Sample Type(s): G - Grab, TC - Time Composite, FC - Flow Composite
Preservations: Refrig - Refrigerated, Ice - Iced down, None - Ambient, H_2SO_4 - Sulfuric Acid
Revision 1.6 - 07/2012

15.9 UN C
15.8

Sample Matrix: W - Drinking Water, WW - Wastewater, NP - Non-Potable, SL - Sludge
Type of Bottles: P - Plastic, G - Glass, SP - Sterile Polycarbonate Bottle w/ Sodium Thiosulfate

Form: COC-01

RECEIVED
Denise Stokes
8-2-24

Wednesday, July 31, 2024

City of Sherman
Chester Wilson
P.O. Box 1106
Sherman, TX 75091
Tel: (903) 892-7287 Fax: (903) 868-2535

Re: Project Name: Effluent
Project Number: COSIPT-24-2757
Project Location: WWTP 1800 E FM 1417 Sherman, TX 75092

SPL Inc received 20 liquid sample(s). The analysis performed were as follows:

Sample	Sample ID	Matrix	Collected	Analysis
24070279-001	Effluent	Liquid	7/17/2024 12:18	Field pH (Client Provided), Field Temperature (Client Supplied)
24070279-002	Effluent	Liquid	7/18/2024 07:58	Flow
24070279-003	Effluent	Liquid	7/18/2024 07:50	Orthophosphate, Total -P, Orthophosphate, Total -P, Dissolved, Phosphorus, Total - P, Dissolved
24070279-004	Effluent	Liquid	7/18/2024 07:45	N-Hexane Extractable Material, Silica Gel Treated N-Hexane Extractable Material
24070279-005	Effluent	Liquid	7/18/2024 07:06	Mercury, Low Level
24070279-006	Effluent	Liquid	7/18/2024 07:50	Phosphorus, Total - P, Total Kjeldahl Nitrogen, Total Nitrogen (Calculation), Total Organic Nitrogen (calculation)
24070279-007	Effluent	Liquid	7/18/2024 07:50	Total Dissolved Solids
24070279-008	Effluent	Liquid	7/18/2024 07:50	Tetramethylammonium Hydroxide / QAC
24070279-009	Effluent	Liquid	7/18/2024 07:50	Chloride, Fluoride, Nitrate - N, Nitrite - N, Sulfate
24070279-010	Effluent	Liquid	7/18/2024 07:50	Hexavalent Chromium
24070279-011	Effluent	Liquid	7/17/2024 07:38	Mercury, Low Level
24070279-012	Effluent	Liquid	7/18/2024 07:50	Alkalinity, Methylene Blue Active Substances
24070279-013	Effluent	Liquid	7/18/2024 07:50	Carbamates, Chlorophenoxy Acid Herbicides, Chlorpyrifos, Cresols, Hexachlorophene, PCBs, Pesticides, Pesticides, Organochlorine (617), Pesticides, Organophosphorous, Semi-Volatile Organic Compounds, TCDD
24070279-014	Effluent	Liquid	7/18/2024 07:50	Nonylphenol
24070279-015	Effluent	Liquid	7/18/2024 02:06	Total Trihalomethanes, Volatile Organic Compounds
24070279-016	Effluent	Liquid	7/18/2024 07:50	Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Trivalent Chromium, Zinc
24070279-017	Effluent	Liquid	7/18/2024 02:06	Cyanide, Amenable, Cyanide, Total
24070279-018	Effluent	Liquid	7/18/2024 07:50	Specific Conductance
24070279-019	Effluent	Liquid	7/18/2024 07:50	Silica, Silicate
24070279-020	Effluent	Liquid	7/18/2024 02:06	Phenols

REVIEWED
denises , 8/5/2024, 1:25:57 PM
Denise Stokes

REVIEWED
mattv , 8/14/2024, 12:15:45 PM
Matt Villarreal

To the best of my knowledge, all problems/ anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified via associated flags and/ or in the case narrative. The analyses and data met requirements of NELAP except where noted. All non-NELAP methods are identified accordingly and all estimated uncertainties of test results are within method or EPA specifications.

Respectfully submitted,

Cade Cassell
Project Manager

City of Sherman
Chester Wilson

Analytical Report

Project Name: **Effluent**

Customer Sample ID: **Effluent**
SPL Sample ID: 24070279-001 Matrix: **Liquid**
Sample Received: 7/18/2024 Sample Collected: **7/17/2024 12:18**

Parameter	MQL	SQL	Result	Units	Date Analyzed	Method	Analyst	Flags
Subcontract								
Field pH (Client Provided)								
Field pH	0.1	0.10	**7.20**	pH Units	07/17/24 12:18	SM 4500-H+B	Sub.	L-23
Field Temperature (Client Supplied)								
Field Temperature	0.1	0.1	**27.9**	°C	07/17/24 12:18	SM 2550B	Sub.	L-23

City of Sherman
Chester Wilson

Analytical Report

Project Name: **Effluent**

Customer Sample ID: **Effluent**
SPL Sample ID: 24070279-002 Matrix: **Liquid**
Sample Received: 7/18/2024 Sample Collected: **7/18/2024 07:58**

Parameter	MQL	SQL	Result	Units	Date Analyzed	Method	Analyst	Flags
Subcontract								
Flow								
Flow, Total	0.00001	0.00001	**6.9300**	mgd	07/18/24 07:58	Calculation	Sub.	E-1,L-23

City of Sherman
Chester Wilson

Analytical Report

Project Name: **Effluent**

Customer Sample ID: **Effluent**
SPL Sample ID: 24070279-003 Matrix: **Liquid**
Sample Received: 7/18/2024 Sample Collected: **7/18/2024 07:50**

Parameter	MQL	SQL	Result	Units	Date Analyzed	Method	Analyst	Flags
General Chemistry								
Orthophosphate, Total - P	10	100	**4650**	µg/L	07/18/24 15:00	SM 4500-P E	B.F.	D-1
Orthophosphate, Dissolved - P	10	100	**4520**	µg/L	07/18/24 15:00	SM 4500-P E	B.F.	D-1
Phosphorus, Total - P, Dissolved	10	100	**4780**	µg/L	07/22/24 16:20	SM 4500-P B,E	B.F.	D-1

City of Sherman
Chester Wilson

Analytical Report

Project Name: **Effluent**

Customer Sample ID: **Effluent**
SPL Sample ID: 24070279-004 Matrix: **Liquid**
Sample Received: 7/18/2024 Sample Collected: **7/18/2024 07:45**

Parameter	MQL	SQL	Result	Units	Date Analyzed	Method	Analyst	Flags
General Chemistry								
Oil and Grease (HEM)	10000	10000	ND	µg/L	07/23/24 10:00	1664	W.S.	
Non-polar Material (SGT-HEM)	10000	10000	ND	µg/L	07/24/24 11:00	1664	W.S.	

City of Sherman
Chester Wilson

Analytical Report

Project Name: **Effluent**

Customer Sample ID: **Effluent**
SPL Sample ID: 24070279-005 Matrix: **Liquid**
Sample Received: 7/18/2024 Sample Collected: **7/18/2024 07:06**

Parameter	MQL	SQL	Result	Units	Date Analyzed	Method	Analyst	Flags
Subcontract								
Mercury, Low Level								
Prepared by method 245.7 on 07/24/24 at 09:30								
Mercury	0.005	0.00500	ND	µg/L	07/25/24 14:19	245.7	Sub.	L-2

City of Sherman
Chester Wilson

Analytical Report

Project Name: **Effluent**

Customer Sample ID: **Effluent**
SPL Sample ID: 24070279-006 Matrix: **Liquid**
Sample Received: 7/18/2024 Sample Collected: **7/18/2024 07:50**

Parameter	MQL	SQL	Result	Units	Date Analyzed	Method	Analyst	Flags
General Chemistry								
Phosphorus, Total - P	10	100	**5420**	µg/L	07/22/24 16:00	SM 4500-P B,E	B.F.	D-1
Total Kjeldahl Nitrogen	100	100	**1180**	µg/L	07/25/24 09:15	SM 4500-NH3 B,D	B.F.	
Total Nitrogen	100	1000	**23680**	µg/L		Calculation		E-5,D-1
Total Organic Nitrogen	200	200	**1180**	µg/L		Calculation		E-5

City of Sherman
Chester Wilson

Analytical Report

Project Name: **Effluent**

Customer Sample ID: **Effluent**
SPL Sample ID: 24070279-007 Matrix: **Liquid**
Sample Received: 7/18/2024 Sample Collected: **7/18/2024 07:50**

Parameter	MQL	SQL	Result	Units	Date Analyzed	Method	Analyst	Flags
General Chemistry								
Total Dissolved Solids	50	50.0	**1020**	mg/L	07/18/24 15:55	SM 2540-C	K.V.	

City of Sherman
Chester Wilson

Analytical Report

Project Name: **Effluent**

Customer Sample ID: **Effluent**
SPL Sample ID: 24070279-008 Matrix: **Liquid**
Sample Received: 7/18/2024 Sample Collected: **7/18/2024 07:50**

Parameter	MQL	SQL	Result	Units	Date Analyzed	Method	Analyst	Flags
Subcontract								
Tetramethylammonium Hydroxide / QAC								
Extracted by method LCMS QAC on 07/22/24 at 08:01								
Tetramethylammonium Hydroxide	10	10.0	ND	µg/L	07/23/24 10:37	Cation IC / LCMS QAC	Sub.	E-1,L-2
Benzyldimethyldecylammonium	10	10.0	ND	µg/L	07/22/24 15:49	Cation IC / LCMS QAC	Sub.	L-2
Benzyldimethyldodecylammonium	10	10.0	ND	µg/L	07/22/24 15:49	Cation IC / LCMS QAC	Sub.	L-2
Benzyldimethylhexadecylammonium	10	10.0	ND	µg/L	07/22/24 15:49	Cation IC / LCMS QAC	Sub.	L-2
Benzyldimethyloctadecylammonium	10	10.0	ND	µg/L	07/22/24 15:49	Cation IC / LCMS QAC	Sub.	L-2
Benzyldimethyloctylammonium	10	10.0	ND	µg/L	07/22/24 15:49	Cation IC / LCMS QAC	Sub.	L-2
Benzyldimethyltetradecylammonium	10	10.0	ND	µg/L	07/22/24 15:49	Cation IC / LCMS QAC	Sub.	L-2
Cetylpyridinium	10	10.0	ND	µg/L	07/22/24 15:49	Cation IC / LCMS QAC	Sub.	L-2
Didecyldimethylammonium	10	10.0	ND	µg/L	07/22/24 15:49	Cation IC / LCMS QAC	Sub.	L-2
Didodecyldimethylammonium	10	10.0	ND	µg/L	07/22/24 15:49	Cation IC / LCMS QAC	Sub.	L-2,*
Dihexadecyldimethylammonium	15	15.0	ND	µg/L	07/22/24 15:49	Cation IC / LCMS QAC	Sub.	L-2,*
Dioctadecyldimethylammonium	10	10.0	ND	µg/L	07/22/24 15:49	Cation IC / LCMS QAC	Sub.	L-2,*
Dioctyldimethylammonium	10	10.0	ND	µg/L	07/22/24 15:49	Cation IC / LCMS QAC	Sub.	L-2
Ditetradecyldimethylammonium	10	10.0	ND	µg/L	07/22/24 15:49	Cation IC / LCMS QAC	Sub.	L-2,*
Octyldecyldimethylammonium	50	50.0	ND	µg/L	07/22/24 15:49	Cation IC / LCMS QAC	Sub.	L-2
Tetramethylammonium	25	25.0	ND	µg/L	07/22/24 15:49	Cation IC / LCMS QAC	Sub.	L-2
Tetrapropylammonium	10	10.0	ND	µg/L	07/22/24 15:49	Cation IC / LCMS QAC	Sub.	L-2

Surrogate	Result	Units	Spike Conc	Recovery	Rec Limits	Flags
d25-DADMAC	69.4	µg/L	250 µg/L	28%	60-140%	Q-7

City of Sherman
Chester Wilson

Analytical Report

Project Name: **Effluent**

Customer Sample ID: **Effluent**
SPL Sample ID: 24070279-009 Matrix: **Liquid**
Sample Received: 7/18/2024 Sample Collected: **7/18/2024 07:50**

Parameter	MQL	SQL	Result	Units	Date Analyzed	Method	Analyst	Flags
General Chemistry								
Chloride	1000	100000	**239000**	µg/L	07/19/24 11:46	300.0	W.S.	D-1
Fluoride	100	100	**3380**	µg/L	07/19/24 13:03	300.0	W.S.	
Nitrate - N	100	1000	**21900**	µg/L	07/19/24 12:01	300.0	W.S.	D-1
Nitrite - N	100	100	ND	µg/L	07/19/24 13:03	300.0	W.S.	
Sulfate	1000	10000	**177000**	µg/L	07/19/24 12:01	300.0	W.S.	D-1

City of Sherman
Chester Wilson

Analytical Report

Project Name: **Effluent**

Customer Sample ID: **Effluent**
SPL Sample ID: 24070279-010 Matrix: **Liquid**
Sample Received: 7/18/2024 Sample Collected: **7/18/2024 07:50**

Parameter	MQL	SQL	Result	Units	Date Analyzed	Method	Analyst	Flags
General Chemistry								
Chromium, Hexavalent	3	3.0	ND	µg/L	07/18/24 14:10	SM 3500-Cr-B	B.F.	

City of Sherman
Chester Wilson

Analytical Report

Project Name: **Effluent**

Customer Sample ID: **Effluent**
SPL Sample ID: 24070279-011 Matrix: **Liquid**
Sample Received: 7/18/2024 Sample Collected: **7/17/2024 07:38**

Parameter	MQL	SQL	Result	Units	Date Analyzed	Method	Analyst	Flags
Subcontract								
Mercury, Low Level								
Prepared by method 245.7 on 07/24/24 at 09:30								
Mercury	0.005	0.00500	ND	µg/L	07/25/24 15:09	245.7	Sub.	L-2

City of Sherman
Chester Wilson

Analytical Report

Project Name: **Effluent**

Customer Sample ID: **Effluent**
SPL Sample ID: 24070279-012 Matrix: **Liquid**
Sample Received: 7/18/2024 Sample Collected: **7/18/2024 07:50**

Parameter	MQL	SQL	Result	Units	Date Analyzed	Method	Analyst	Flags
General Chemistry								
Alkalinity, Total	10000	10000	**190000**	µg/L	07/22/24 08:30	SM 2320-B	B.F.	
MBAS	50	50	**81**	µg/L	07/19/24 08:00	SM 5540-C	B.F.	S-15

City of Sherman
Chester Wilson

Analytical Report

Project Name: **Effluent**

Customer Sample ID: **Effluent**
SPL Sample ID: 24070279-013 Matrix: **Liquid**
Sample Received: 7/18/2024 Sample Collected: **7/18/2024 07:50**

Parameter	MQL	SQL	Result	Units	Date Analyzed	Method	Analyst	Flags
Cresols								
Cresols	10	10.0	ND	µg/L		Calculation		E-5
PCBs								
Extracted by method 608.3 on 07/23/24 at 09:06								
Aroclor - 1016	0.2	0.2	ND	µg/L	07/24/24 13:00	608.3	T.R.	
Aroclor - 1221	0.2	0.2	ND	µg/L	07/24/24 13:00	608.3	T.R.	
Aroclor - 1232	0.2	0.2	ND	µg/L	07/24/24 13:00	608.3	T.R.	
Aroclor - 1242	0.2	0.2	ND	µg/L	07/24/24 13:00	608.3	T.R.	
Aroclor - 1248	0.2	0.2	ND	µg/L	07/24/24 13:00	608.3	T.R.	
Aroclor - 1254	0.2	0.2	ND	µg/L	07/24/24 13:00	608.3	T.R.	
Aroclor - 1260	0.2	0.2	ND	µg/L	07/24/24 13:00	608.3	T.R.	

Surrogate	Result	Units	Spike Conc	Recovery	Rec Limits
Decachlorobiphenyl	123	µg/L	100 µg/L	123%	50-140%

Pesticides

Extracted by method 608.3 on 07/23/24 at 09:06

Aldrin	0.01	0.01	ND	µg/L	07/23/24 20:20	608.3	B.M.M.	
alpha-BHC	0.05	0.05	ND	µg/L	07/23/24 20:20	608.3	B.M.M.	
beta-BHC	0.05	0.05	ND	µg/L	07/23/24 20:20	608.3	B.M.M.	
gamma-BHC (Lindane)	0.05	0.05	ND	µg/L	07/23/24 20:20	608.3	B.M.M.	
delta-BHC	0.05	0.05	ND	µg/L	07/23/24 20:20	608.3	B.M.M.	
Chlordane	0.2	0.20	ND	µg/L	07/23/24 20:20	608.3	B.M.M.	
4,4'-DDT	0.02	0.02	ND	µg/L	07/23/24 20:20	608.3	B.M.M.	
4,4'-DDE	0.1	0.1	ND	µg/L	07/23/24 20:20	608.3	B.M.M.	
4,4'-DDD	0.1	0.1	ND	µg/L	07/23/24 20:20	608.3	B.M.M.	
Dieldrin	0.02	0.02	ND	µg/L	07/23/24 20:20	608.3	B.M.M.	
alpha-Endosulfan (Endosulfan I)	0.01	0.01	ND	µg/L	07/23/24 20:20	608.3	B.M.M.	
beta-Endosulfan (Endosulfan II)	0.02	0.02	ND	µg/L	07/23/24 20:20	608.3	B.M.M.	
Endosulfan Sulfate	0.1	0.1	ND	µg/L	07/23/24 20:20	608.3	B.M.M.	
Endrin	0.02	0.02	ND	µg/L	07/23/24 20:20	608.3	B.M.M.	
Endrin Aldehyde	0.1	0.1	ND	µg/L	07/23/24 20:20	608.3	B.M.M.	
Heptachlor	0.01	0.01	ND	µg/L	07/23/24 20:20	608.3	B.M.M.	
Heptachlor Epoxide	0.01	0.01	ND	µg/L	07/23/24 20:20	608.3	B.M.M.	
Toxaphene	0.3	0.3	ND	µg/L	07/23/24 20:20	608.3	B.M.M.	

Surrogate	Result	Units	Spike Conc	Recovery	Rec Limits
Tetrachloro-m-xylene	71.3	µg/L	100 µg/L	71%	50-140%
Decachlorobiphenyl	86.8	µg/L	100 µg/L	87%	50-140%

City of Sherman
Chester Wilson

Analytical Report

Project Name: **Effluent**

Customer Sample ID: **Effluent**
SPL Sample ID: 24070279-013 Matrix: **Liquid**
Sample Received: 7/18/2024 Sample Collected: **7/18/2024 07:50**

Parameter	MQL	SQL	Result	Units	Date Analyzed	Method	Analyst	Flags
Chlorophenoxy Acid Herbicides								
Extracted by method 615 on 07/19/24 at 09:03								
2,4-D (2,4-Dichlorophenoxy acetic acid)	0.7	0.7	ND	µg/L	07/24/24 10:25	615	B.M.M.	
2,4,5-TP (Silvex)	0.3	0.3	ND	µg/L	07/24/24 10:25	615	B.M.M.	*
Surrogate			**Result**	**Units**	**Spike Conc**	**Recovery**	**Rec Limits**	
2,4-DCAA			904	ug/L	500 ug/L	181%	60-140%	Q-7
Semi-Volatile Organic Compounds								
Extracted by method 625.1 on 07/18/24 at 15:30								
2-Chlorophenol	10	10.0	ND	µg/L	07/18/24 20:43	625.1	R.B.	
2,4-Dichlorophenol	10	10.0	ND	µg/L	07/18/24 20:43	625.1	R.B.	
2,4-Dimethylphenol	10	10.0	ND	µg/L	07/18/24 20:43	625.1	R.B.	
4,6-Dinitro-o-Cresol (4,6-Dinitro-2-methyl phenol)	50	50.0	ND	µg/L	07/18/24 20:43	625.1	R.B.	
2,4-Dinitrophenol	50	50.0	ND	µg/L	07/18/24 20:43	625.1	R.B.	
2-Nitrophenol	20	20.0	ND	µg/L	07/18/24 20:43	625.1	R.B.	
4-Nitrophenol	50	50.0	ND	µg/L	07/18/24 20:43	625.1	R.B.	
p-Chloro-m-Cresol (4-Chloro-3-methylphenol)	10	10.0	ND	µg/L	07/18/24 20:43	625.1	R.B.	
Pentachlorophenol	5	5.00	ND	µg/L	07/18/24 20:43	625.1	R.B.	
Phenol	10	10.0	ND	µg/L	07/18/24 20:43	625.1	R.B.	
2,4,6-Trichlorophenol	10	10.0	ND	µg/L	07/18/24 20:43	625.1	R.B.	
Acenaphthene	10	10.0	ND	µg/L	07/18/24 20:43	625.1	R.B.	
Acenaphthylene	10	10.0	ND	µg/L	07/18/24 20:43	625.1	R.B.	
Anthracene	10	10.0	ND	µg/L	07/18/24 20:43	625.1	R.B.	
Benzidine	50	50.0	ND	µg/L	07/18/24 20:43	625.1	R.B.	
Benzo(a)Anthracene	5	5.00	ND	µg/L	07/18/24 20:43	625.1	R.B.	
Benzo(a)Pyrene	5	5.00	ND	µg/L	07/18/24 20:43	625.1	R.B.	
3,4-Benzofluoranthene (Benzo(b)Fluoranthene)	10	10.0	ND	µg/L	07/18/24 20:43	625.1	R.B.	
Benzo(g,h,i)Perylene	20	20.0	ND	µg/L	07/18/24 20:43	625.1	R.B.	
Benzo(k)Fluoranthene	5	5.00	ND	µg/L	07/18/24 20:43	625.1	R.B.	
Bis(2-chloroethoxy)Methane	10	10.0	ND	µg/L	07/18/24 20:43	625.1	R.B.	
Bis(2-chloroethyl)Ether	10	10.0	ND	µg/L	07/18/24 20:43	625.1	R.B.	
Bis(2-chloroisopropyl)Ether	10	10.0	ND	µg/L	07/18/24 20:43	625.1	R.B.	
Bis(2-ethylhexyl)Phthalate	10	10.0	ND	µg/L	07/18/24 20:43	625.1	R.B.	
4-Bromophenyl Phenyl Ether	10	10.0	ND	µg/L	07/18/24 20:43	625.1	R.B.	
Butylbenzyl Phthalate	10	10.0	ND	µg/L	07/18/24 20:43	625.1	R.B.	
2-Chloronaphthalene	10	10.0	ND	µg/L	07/18/24 20:43	625.1	R.B.	
4-Chlorophenyl Phenyl Ether	10	10.0	ND	µg/L	07/18/24 20:43	625.1	R.B.	
Chrysene	5	5.00	ND	µg/L	07/18/24 20:43	625.1	R.B.	
Dibenzo(a,h)Anthracene	5	5.00	ND	µg/L	07/18/24 20:43	625.1	R.B.	

City of Sherman
Chester Wilson

Analytical Report

Project Name: **Effluent**

Customer Sample ID: **Effluent**
SPL Sample ID: 24070279-013 Matrix: **Liquid**
Sample Received: 7/18/2024 Sample Collected: **7/18/2024 07:50**

Parameter	MQL	SQL	Result	Units	Date Analyzed	Method	Analyst	Flags
Semi-Volatile Organic Compounds								
3,3-Dichlorobenzidine	5	5.00	ND	µg/L	07/18/24 20:43	625.1	R.B.	
Diethyl Phthalate	10	10.0	ND	µg/L	07/18/24 20:43	625.1	R.B.	
Dimethyl Phthalate	10	10.0	ND	µg/L	07/18/24 20:43	625.1	R.B.	
Di-n-Butyl Phthalate	10	10.0	ND	µg/L	07/18/24 20:43	625.1	R.B.	
2,4-Dinitrotoluene	10	10.0	ND	µg/L	07/18/24 20:43	625.1	R.B.	
2,6-Dinitrotoluene	10	10.0	ND	µg/L	07/18/24 20:43	625.1	R.B.	
Di-n-Octyl Phthalate	10	10.0	ND	µg/L	07/18/24 20:43	625.1	R.B.	
Azobenzene (1,2-Diphenyl Hydrazine)	20	20.0	ND	µg/L	07/18/24 20:43	625.1	R.B.	
Fluoranthene	10	10.0	ND	µg/L	07/18/24 20:43	625.1	R.B.	
Fluorene	10	10.0	ND	µg/L	07/18/24 20:43	625.1	R.B.	
Hexachlorobenzene	5	5.00	ND	µg/L	07/18/24 20:43	625.1	R.B.	
Hexachlorobutadiene	10	10.0	ND	µg/L	07/18/24 20:43	625.1	R.B.	
Hexachlorocyclopentadiene	10	10.0	ND	µg/L	07/18/24 20:43	625.1	R.B.	
Hexachloroethane	20	20.0	ND	µg/L	07/18/24 20:43	625.1	R.B.	
Indeno(1,2,3-c,d)pyrene	5	5.00	ND	µg/L	07/18/24 20:43	625.1	R.B.	
Isophorone	10	10.0	ND	µg/L	07/18/24 20:43	625.1	R.B.	
Naphthalene	10	10.0	ND	µg/L	07/18/24 20:43	625.1	R.B.	
Nitrobenzene	10	10.0	ND	µg/L	07/18/24 20:43	625.1	R.B.	
N-Nitrosodimethylamine	50	50.0	ND	µg/L	07/18/24 20:43	625.1	R.B.	
N-Nitrosodi-n-Propylamine	20	20.0	ND	µg/L	07/18/24 20:43	625.1	R.B.	
N-Nitrosodiphenylamine	20	20.0	ND	µg/L	07/18/24 20:43	625.1	R.B.	
Phenanthrene	10	10.0	ND	µg/L	07/18/24 20:43	625.1	R.B.	
Pyrene	10	10.0	ND	µg/L	07/18/24 20:43	625.1	R.B.	
1,2,4-Trichlorobenzene	10	10.0	ND	µg/L	07/18/24 20:43	625.1	R.B.	
N-Nitrosodiethylamine	20	20.0	ND	µg/L	07/18/24 20:43	625.1	R.B.	
N-Nitroso-di-n-Butylamine	20	20.0	ND	µg/L	07/18/24 20:43	625.1	R.B.	
Pentachlorbenzene	20	20.0	ND	µg/L	07/18/24 20:43	625.1	R.B.	
Pyridine	20	20.0	ND	µg/L	07/18/24 20:43	625.1	R.B.	
1,2,4,5-Tetrachlorobenzene	20	20.0	ND	µg/L	07/18/24 20:43	625.1	R.B.	
2,4,5-Trichlorophenol	50	50.0	ND	µg/L	07/18/24 20:43	625.1	R.B.	
o-Cresol (2-Methylphenol)	10	10.0	ND	µg/L	07/18/24 20:43	625.1	R.B.	
p-Cresol (4-Methylphenol)	10	10.0	ND	µg/L	07/18/24 20:43	625.1	R.B.	S-16

Surrogate	Result	Units	Spike Conc	Recovery	Rec Limits	Flags
2-Fluorophenol	16.7	µg/L	100 µg/L	17%	21-100%	Q-7
Phenol-d6	9.53	µg/L	100 µg/L	10%	10-94%	Q-7
Nitrobenzene-d5	24.1	µg/L	50 µg/L	48%	35-114%	
2-Fluorobiphenyl	22.6	µg/L	50 µg/L	45%	43-116%	
2,4,6-Tribromophenol	91.1	µg/L	100 µg/L	91%	10-123%	

City of Sherman
Chester Wilson

Analytical Report

Project Name: **Effluent**

Customer Sample ID: **Effluent**
SPL Sample ID: 24070279-013 Matrix: **Liquid**
Sample Received: 7/18/2024 Sample Collected: **7/18/2024 07:50**

Parameter	MQL	SQL	Result	Units	Date Analyzed	Method	Analyst	Flags
Semi-Volatile Organic Compounds								
Surrogate			**Result**	**Units**	**Spike Conc**	**Recovery**	**Rec Limits**	
Terphenyl-d14			48.1	µg/L	50 µg/L	96%	33-141%	
TCDD								
Extracted by method 625.1 on 07/18/24 at 15:30								
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	10	10.0	ND	µg/L	07/18/24 20:43	625.1 Screen	R.B.	E-1
Hexachlorophene								
Extracted by method 625M on 07/24/24 at 09:11								
Hexachlorophene	10	10.0	ND	µg/L	07/25/24 17:44	625.1 (Mod)	R.B.	E-3
Surrogate			**Result**	**Units**	**Spike Conc**	**Recovery**	**Rec Limits**	
DCAA			18.8	µg/L	25 µg/L	75%	10-130%	
Subcontract								
Pesticides, Organophosphorous								
Extracted by method 614 on 07/22/24 at 13:00								
Demeton	0.2	0.200	ND	µg/L	07/24/24 22:22	614	Sub.	L-2,*
Diazinon	0.1	0.100	ND	µg/L	07/24/24 22:22	614	Sub.	L-2,*
Guthion (Azinphos Methyl)	0.1	0.100	ND	µg/L	07/24/24 22:22	614	Sub.	L-2
Malathion	0.1	0.100	ND	µg/L	07/24/24 22:22	614	Sub.	L-2,*
Parathion Ethyl	0.1	0.100	ND	µg/L	07/24/24 22:22	614	Sub.	L-2
Parathion Methyl	0.05	0.050	ND	µg/L	07/24/24 22:22	614	Sub.	L-2
Surrogate			**Result**	**Units**	**Spike Conc**	**Recovery**	**Rec Limits**	
Tributylphosphate			0.170	ug/L	1.96 ug/L	9%	0.1-148%	
Triphenylphosphate			0.375	ug/L	1.96 ug/L	19%	0.1-406%	
Pesticides, Organochlorine (617)								
Extracted by method 617 on 07/22/24 at 15:00								
Dicofol (Kelthane)	1	1.00	ND	µg/L	07/24/24 21:10	617	Sub.	L-2,*
Methoxychlor	2	2.00	ND	µg/L	07/24/24 21:10	617	Sub.	L-2
Mirex	0.02	0.020	ND	µg/L	07/24/24 21:10	617	Sub.	L-2,*
Surrogate			**Result**	**Units**	**Spike Conc**	**Recovery**	**Rec Limits**	
Decachlorobiphenyl			0.039	µg/L	0.0981 µg/L	40%	10-150%	
Tetrachloro-m-xylene			0.043	µg/L	0.0981 µg/L	44%	10-150%	
Chlorpyrifos								
Extracted by method 622 on 07/22/24 at 13:00								
Chlorpyrifos	0.05	0.050	ND	µg/L	07/25/24 22:22	622	Sub.	L-2,*
Carbamates								
Extracted by method 632 on 07/22/24 at 15:00								
Carbaryl	5	5.00	ND	µg/L	07/25/24 22:13	632	Sub.	L-2,*
Diuron	0.09	0.0900	ND	µg/L	07/25/24 22:13	632	Sub.	B-4,L-2,*,E-3

City of Sherman
Chester Wilson

Analytical Report

Project Name: **Effluent**

Customer Sample ID: **Effluent**
SPL Sample ID: 24070279-014 Matrix: **Liquid**
Sample Received: 7/18/2024 Sample Collected: **7/18/2024 07:50**

Parameter	MQL	SQL	Result	Units	Date Analyzed	Method	Analyst	Flags
Subcontract								
Nonylphenol								
Extracted by method ASTM D7065-11 on 07/29/24 at 08:45								
Nonylphenol	50	50.0	ND	µg/L	07/29/24 21:23	ASTM D7065-11	Sub.	L-2,E-3

City of Sherman
Chester Wilson

Analytical Report

Project Name: **Effluent**

Customer Sample ID: **Effluent**
SPL Sample ID: 24070279-015 Matrix: **Liquid**
Sample Received: 7/18/2024 Sample Collected: **7/18/2024 02:06**

Parameter	MQL	SQL	Result	Units	Date Analyzed	Method	Analyst	Flags
Total Trihalomethanes								
TTHM (Total Trihalomethanes)	10	10.0	ND	µg/L		Calculation		E-5
Volatile Organic Compounds								
Acrolein	50	50.0	ND	µg/L	07/19/24 21:40	624.1	V.D.L.	
Acrylonitrile	50	50.0	ND	µg/L	07/19/24 21:40	624.1	V.D.L.	
Benzene	10	10.0	ND	µg/L	07/19/24 21:40	624.1	V.D.L.	
Bromoform (Tribromomethane)	10	10.0	ND	µg/L	07/19/24 21:40	624.1	V.D.L.	
Carbon Tetrachloride (Tetrachloromethane)	2	2.0	ND	µg/L	07/19/24 21:40	624.1	V.D.L.	
Chlorobenzene	10	10.0	ND	µg/L	07/19/24 21:40	624.1	V.D.L.	
Chlorodibromomethane (Dibromochloromethane)	10	10.0	ND	µg/L	07/19/24 21:40	624.1	V.D.L.	
Chloroethane	50	50.0	ND	µg/L	07/19/24 21:40	624.1	V.D.L.	
2-Chloroethylvinyl Ether	10	10.0	ND	µg/L	07/19/24 21:40	624.1	V.D.L.	*
Chloroform	10	10.0	ND	µg/L	07/19/24 21:40	624.1	V.D.L.	
Dichlorobromomethane (Bromodichloromethane)	10	10.0	ND	µg/L	07/19/24 21:40	624.1	V.D.L.	
1,1-Dichloroethane	10	10.0	ND	µg/L	07/19/24 21:40	624.1	V.D.L.	
1,2-Dichloroethane	10	10.0	ND	µg/L	07/19/24 21:40	624.1	V.D.L.	
1,1-Dichloroethylene	10	10.0	ND	µg/L	07/19/24 21:40	624.1	V.D.L.	
1,2-Dichloropropane	10	10.0	ND	µg/L	07/19/24 21:40	624.1	V.D.L.	
Cis-1,3-dichloropropylene	10	10.0	ND	µg/L	07/19/24 21:40	624.1	V.D.L.	
trans 1,3-Dichloropropylene	10	10.0	ND	µg/L	07/19/24 21:40	624.1	V.D.L.	
Ethylbenzene	10	10.0	ND	µg/L	07/19/24 21:40	624.1	V.D.L.	
Methyl Bromide (Bromomethane)	50	50.0	ND	µg/L	07/19/24 21:40	624.1	V.D.L.	
Methyl Chloride (Chloromethane)	50	50.0	ND	µg/L	07/19/24 21:40	624.1	V.D.L.	
Methylene Chloride	20	20.0	ND	µg/L	07/19/24 21:40	624.1	V.D.L.	
1,1,2,2-Tetrachloroethane	10	10.0	ND	µg/L	07/19/24 21:40	624.1	V.D.L.	
Tetrachloroethylene	10	10.0	ND	µg/L	07/19/24 21:40	624.1	V.D.L.	
Toluene	10	10.0	ND	µg/L	07/19/24 21:40	624.1	V.D.L.	
1,2-Trans-Dichloroethylene	10	10.0	ND	µg/L	07/19/24 21:40	624.1	V.D.L.	
1,1,1-Trichloroethane	10	10.0	ND	µg/L	07/19/24 21:40	624.1	V.D.L.	
1,1,2-Trichloroethane	10	10.0	ND	µg/L	07/19/24 21:40	624.1	V.D.L.	
Trichloroethylene	10	10.0	ND	µg/L	07/19/24 21:40	624.1	V.D.L.	
Vinyl Chloride	10	10.0	ND	µg/L	07/19/24 21:40	624.1	V.D.L.	
Methyl Ethyl Ketone (2-Butanone)	50	50.0	ND	µg/L	07/19/24 21:40	624.1	V.D.L.	
1,2-Dibromoethane (EDB)	10	10.0	ND	µg/L	07/19/24 21:40	624.1	V.D.L.	
1,2-Dichlorobenzene	10	10.0	ND	µg/L	07/19/24 21:40	624.1	V.D.L.	

City of Sherman
Chester Wilson

Analytical Report

Project Name: **Effluent**

Customer Sample ID: **Effluent**
SPL Sample ID: 24070279-015 Matrix: **Liquid**
Sample Received: 7/18/2024 Sample Collected: **7/18/2024 02:06**

Parameter	MQL	SQL	Result	Units	Date Analyzed	Method	Analyst	Flags
Volatile Organic Compounds								
1,3-Dichlorobenzene	10	10.0	ND	µg/L	07/19/24 21:40	624.1	V.D.L.	
1,4-Dichlorobenzene	10	10.0	ND	µg/L	07/19/24 21:40	624.1	V.D.L.	

Surrogate	Result	Units	Spike Conc	Recovery	Rec Limits
Dibromofluoromethane	50.9	µg/L	50 µg/L	102%	86-118%
1,2 Dichloroethane-d4	50.1	µg/L	50 µg/L	100%	80-120%
Toluene-d8	48.1	µg/L	50 µg/L	96%	88-117%
4-Bromofluorobenzene	45.4	µg/L	50 µg/L	91%	86-115%

City of Sherman
Chester Wilson

Analytical Report

Project Name: **Effluent**

Customer Sample ID: **Effluent**
SPL Sample ID: 24070279-016 Matrix: **Liquid**
Sample Received: 7/18/2024 Sample Collected: **7/18/2024 07:50**

Parameter	MQL	SQL	Result	Units	Date Analyzed	Method	Analyst	Flags
General Chemistry								
Chromium, Trivalent	3	3.0	ND	µg/L		Calculation		E-5
Metals								
Digested by method 200.8 on 07/19/24 at 07:50								
Aluminum	2.5	2.50	**123**	µg/L	07/24/24 14:30	200.8	M.F.	
Antimony	5	5.0	ND	µg/L	07/24/24 14:30	200.8	M.F.	
Arsenic	0.5	0.50	**2.05**	µg/L	07/24/24 14:30	200.8	M.F.	
Barium	3	3.0	**49.6**	µg/L	07/24/24 14:30	200.8	M.F.	
Beryllium	0.5	0.50	ND	µg/L	07/24/24 14:30	200.8	M.F.	
Cadmium	0.5	0.50	ND	µg/L	07/24/24 14:30	200.8	M.F.	
Calcium	500	2500	**59000**	µg/L	07/24/24 14:34	200.8	M.F.	D-1
Chromium	3	3.0	ND	µg/L	07/24/24 14:30	200.8	M.F.	
Copper	0.5	0.50	**7.41**	µg/L	07/24/24 14:30	200.8	M.F.	
Iron	100	100	ND	µg/L	07/24/24 14:30	200.8	M.F.	
Lead	0.5	0.50	ND	µg/L	07/24/24 14:30	200.8	M.F.	
Magnesium	500	500.0	**17400**	µg/L	07/24/24 14:30	200.8	M.F.	
Manganese	0.5	0.50	**7.11**	µg/L	07/24/24 14:30	200.8	M.F.	
Molybdenum	1	1.00	**3.61**	µg/L	07/24/24 14:30	200.8	M.F.	
Nickel	0.5	0.50	**2.11**	µg/L	07/24/24 14:30	200.8	M.F.	
Potassium	1000	200.0	**12000**	µg/L	07/24/24 14:30	200.8	M.F.	C-1
Selenium	5	5.00	ND	µg/L	07/24/24 14:30	200.8	M.F.	
Silver	0.5	0.50	ND	µg/L	07/24/24 14:30	200.8	M.F.	
Sodium	500	5000	**254000**	µg/L	07/24/24 14:38	200.8	M.F.	D-1
Strontium	1	5.00	**582**	µg/L	07/24/24 14:34	200.8	M.F.	D-1
Thallium	0.5	0.50	ND	µg/L	07/24/24 14:30	200.8	M.F.	
Zinc	5	5.0	**17.3**	µg/L	07/24/24 14:30	200.8	M.F.	
Digested by method 245.1 on 07/22/24 at 08:29								
Mercury	0.2	0.20	ND	µg/L	07/22/24 16:00	245.1	K.E.L.	

City of Sherman
Chester Wilson

Analytical Report

Project Name: **Effluent**

Customer Sample ID: **Effluent**
SPL Sample ID: 24070279-017 Matrix: **Liquid**
Sample Received: 7/18/2024 Sample Collected: **7/18/2024 02:06**

Parameter	MQL	SQL	Result	Units	Date Analyzed	Method	Analyst	Flags
General Chemistry								
Cyanide, Amenable to Chlorination	10	10	ND	µg/L	07/26/24 10:00	SM 4500-CN G	A.T.	
Cyanide, Total	10	10	ND	µg/L	07/26/24 10:00	SM 4500-CN C,E	A.T.	

City of Sherman
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Analytical Report

Project Name: **Effluent**

Customer Sample ID: **Effluent**
SPL Sample ID: 24070279-018 Matrix: **Liquid**
Sample Received: 7/18/2024 Sample Collected: **7/18/2024 07:50**

Parameter	MQL	SQL	Result	Units	Date Analyzed	Method	Analyst	Flags
General Chemistry								
Conductivity	100	100	**1680**	µmhos/cm	07/23/24 10:45	120.1	B.F.	S-14

City of Sherman
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Analytical Report

Project Name: **Effluent**

Customer Sample ID: **Effluent**
SPL Sample ID: 24070279-019 Matrix: **Liquid**
Sample Received: 7/18/2024 Sample Collected: **7/18/2024 07:50**

Parameter	MQL	SQL	Result	Units	Date Analyzed	Method	Analyst	Flags
Subcontract								
Silica								
Silica	1000	1000	**15600**	µg/L	07/29/24 13:50	200.7 Calc	Sub.	L-2
Silicate								
Silicate	200	200	**7270**	µg/L	07/29/24 10:53	Calculation	Sub.	E-1,L-2

City of Sherman
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Analytical Report

Project Name: **Effluent**

Customer Sample ID: **Effluent**
SPL Sample ID: 24070279-020 Matrix: **Liquid**
Sample Received: 7/18/2024 Sample Collected: **7/18/2024 02:06**

Parameter	MQL	SQL	Result	Units	Date Analyzed	Method	Analyst	Flags
General Chemistry								
Phenols	5	5.0	**20.0**	µg/L	07/23/24 13:15	420.1	K.V.	

City of Sherman
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Sample Cross Reference

Project Name: **Effluent**

Customer ID:	Lab ID:	Test	Method	QCBatchID:
Effluent	24070279-003	Orthophosphate, Total -P, Dissolved	SM 4500-P E	PHOS_03241_L
		Orthophosphate, Total -P	SM 4500-P E	PHOS_03241_L
		Phosphorus, Total - P, Dissolved	SM 4500-P B,E	PHOS_03541_L
Effluent	24070279-004	Silica Gel Treated N-Hexane Extractable Material	1664	1664_00129AL
		N-Hexane Extractable Material	1664	ONG__00129_L
Effluent	24070279-005	Mercury, Low Level	245.7	SUB__51423_L
Effluent	24070279-006	Phosphorus, Total - P	SM 4500-P B,E	PHOS_03441_L
		Total Kjeldahl Nitrogen	SM 4500-NH3 B,D	TKN__06123_L
Effluent	24070279-007	Total Dissolved Solids	SM 2540-C	TDS__03031_L
Effluent	24070279-008	Tetramethylammonium Hydroxide / QAC	Cation IC / LCMS QAC	SUB__50723_L
Effluent	24070279-009	Nitrite - N	300.0	IC___03828_L
		Sulfate	300.0	IC___03828_L
		Fluoride	300.0	IC___03828_L
		Chloride	300.0	IC___03828_L
		Nitrate - N	300.0	IC___03828_L
Effluent	24070279-010	Hexavalent Chromium	SM 3500-Cr-B	HEXL_02436_L
Effluent	24070279-011	Mercury, Low Level	245.7	SUB__51423_L
Effluent	24070279-012	Alkalinity	SM 2320-B	ALKA_08327_L
		Methylene Blue Active Substances	SM 5540-C	MBAS_02622_L
Effluent	24070279-013	Semi-Volatile Organic Compounds	625.1	625__00833_L
		Chlorophenoxy Acid Herbicides	615	HERB_00125_L
		Hexachlorophene	625.1 (Mod)	HEXC_01620_L
		Pesticides	608.3	OCP__02734_L
		PCBs	608.3	PCB__02734_L
		Chlorpyrifos	622	SUB__50923_L
		Pesticides, Organophosphorous	614	SUB__51023_L
		Carbamates	632	SUB__51123_L
		Pesticides, Organochlorine (617)	617	SUB__51223_L
Effluent	24070279-014	Nonylphenol	ASTM D7065-11	SUB__51323_L
Effluent	24070279-015	Volatile Organic Compounds	624.1	VOC__33224_L
Effluent	24070279-016	Mercury	245.1	MERC_07154_L
		Zinc	200.8	META_01987_L
		Thallium	200.8	META_01987_L
		Strontium	200.8	META_01987_L
		Sodium	200.8	META_01987_L
		Silver	200.8	META_01987_L
		Selenium	200.8	META_01987_L
		Potassium	200.8	META_01987_L
		Aluminum	200.8	META_01987_L
		Molybdenum	200.8	META_01987_L
		Manganese	200.8	META_01987_L
		Barium	200.8	META_01987_L
		Nickel	200.8	META_01987_L
		Arsenic	200.8	META_01987_L
		Magnesium	200.8	META_01987_L
		Beryllium	200.8	META_01987_L

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Sample Cross Reference

Project Name: **Effluent**

Customer ID:	Lab ID:	Test	Method	QCBatchID:
		Cadmium	200.8	META_01987_L
		Calcium	200.8	META_01987_L
		Chromium	200.8	META_01987_L
		Copper	200.8	META_01987_L
		Iron	200.8	META_01987_L
		Lead	200.8	META_01987_L
		Antimony	200.8	META_01987_L
Effluent	24070279-017	Cyanide, Amenable	SM 4500-CN G	CYAN_00132_L
		Cyanide, Total	SM 4500-CN C,E	CYAN_00132_L
Effluent	24070279-018	Specific Conductance	120.1	COND_11322_L
Effluent	24070279-019	Silica	200.7 Calc	SUB__50823_L
		Silicate	Calculation	SUB__50823_L
Effluent	24070279-020	Phenols	420.1	PHEN_00228_L

City of Sherman
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QC Summary

Project Name: **Effluent**

QC Type	Parameter	Result	Reference Value	Spike Conc	Rec	Rec Limits	RPD	RPD Limits	Flags
QCBatchID 1664_00129AL									
Blank	Non-polar Material (SGT-HEM)	ND mg/L							
LCS	Non-polar Material (SGT-HEM)	14.3 mg/L		20 mg/L	72%	64-132%			
LCSD	Non-polar Material (SGT-HEM)	13.0 mg/L		20 mg/L	65%	64-132%	9.5%	0-34%	
MS	Non-polar Material (SGT-HEM)	12.9 mg/L	ND	19.6 mg/L	66%	64-132%			
MSD	Non-polar Material (SGT-HEM)	13.3 mg/L	ND	19.6 mg/L	68%	64-132%	3.1%	0-34%	
QCBatchID ALKA_08327_L									
Blank	Alkalinity, Total	ND mg/L							
LCS	Alkalinity, Total	96.0 mg/L		100 mg/L	96%	90-110%			
LCSD	Alkalinity, Total	100 mg/L		100 mg/L	100%	90-110%	4.1%	0-20%	
MS	Alkalinity, Total	290 mg/L	190 mg/L	100 mg/L	100%	80-120%			
MSD	Alkalinity, Total	288 mg/L	190 mg/L	100 mg/L	100%	80-120%	0.7%	0-20%	
QCBatchID COND_11322_L									
Blank	Conductivity	ND µmhos/cm							
LCS	Conductivity	505 µmhos/cm		500 µmhos/cm	101%	90-110%			
LCSD	Conductivity	505 µmhos/cm		500 µmhos/cm	101%	90-110%	0.0%	0-25%	
Replicate	Conductivity	318 µmhos/cm	315 µmhos/cm				0.9%	0-25%	
QCBatchID CYAN_00132_L									
Blank	Cyanide, Amenable to Chlorination	ND mg/L							
	Cyanide, Total	ND mg/L							
LCS	Cyanide	0.189 mg/L		0.2 mg/L	95%	90-110%			
	Cyanide, Total	0.19 mg/L		0.2 mg/L	95%	90-110%			
LCSD	Cyanide	0.188 mg/L		0.2 mg/L	94%	90-110%	0.5%	0-20%	
	Cyanide, Total	0.19 mg/L		0.2 mg/L	94%	90-110%	1.1%	0-20%	
MS	Cyanide	0.187 mg/L	ND	0.2 mg/L	94%	80-120%			
	Cyanide, Total	0.19 mg/L	ND	0.2 mg/L	95%	80-120%			
MSD	Cyanide	0.186 mg/L	ND	0.2 mg/L	93%	80-120%	0.5%	0-20%	
	Cyanide, Total	0.19 mg/L	ND	0.2 mg/L	95%	80-120%	0.0%	0-20%	
QCBatchID HEXL_02436_L									
Blank	Chromium, Hexavalent	ND mg/L							
LCS	Chromium, Hexavalent	0.053 mg/L		0.05 mg/L	106%	90-110%			
LCSD	Chromium, Hexavalent	0.054 mg/L		0.05 mg/L	108%	90-110%	1.9%	0-20%	
MS	Chromium, Hexavalent	0.500 mg/L	ND	0.5 mg/L	100%	80-120%			

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QC Summary

Project Name: **Effluent**

QC Type	Parameter	Result	Reference Value	Spike Conc	Rec	Rec Limits	RPD	RPD Limits	Flags
QCBatchID HEXL_02436_L									
MSD	Chromium, Hexavalent	0.480 mg/L	ND	0.5 mg/L	96%	80-120%	4.1%	0-20%	
QCBatchID IC___03828_L									
Blank	Chloride	ND mg/L							
	Fluoride	ND mg/L							
	Nitrate - N	ND mg/L							
	Nitrite - N	ND mg/L							
	Sulfate	ND mg/L							
LCS	Chloride	2.79 mg/L		3 mg/L	93%	90-110%			
	Fluoride	1.87 mg/L		2 mg/L	94%	90-110%			
	Sulfate	14.4 mg/L		15 mg/L	96%	90-110%			
	Nitrate - N	2.88 mg/L		3 mg/L	96%	90-110%			
	Nitrite - N	2.88 mg/L		3 mg/L	96%	90-110%			
LCSD	Chloride	2.78 mg/L		3 mg/L	93%	90-110%	0.4%	0-20%	
	Fluoride	1.88 mg/L		2 mg/L	94%	90-110%	0.5%	0-20%	
	Sulfate	14.4 mg/L		15 mg/L	96%	90-110%	0.2%	0-20%	
	Nitrate - N	2.90 mg/L		3 mg/L	97%	90-110%	0.7%	0-20%	
	Nitrite - N	2.90 mg/L		3 mg/L	97%	90-110%	0.7%	0-20%	
MS	Chloride	4.29 mg/L	1.48 mg/L	3 mg/L	94%	80-120%			
	Fluoride	1.90 mg/L	ND	2 mg/L	95%	80-120%			
	Sulfate	16.4 mg/L	1.6 mg/L	15 mg/L	98%	80-120%			
	Nitrate - N	2.98 mg/L	ND	3 mg/L	99%	80-120%			
	Nitrite - N	2.96 mg/L	ND	3 mg/L	99%	80-120%			
MSD	Chloride	4.24 mg/L	1.48 mg/L	3 mg/L	92%	80-120%	1.2%	0-20%	
	Fluoride	1.90 mg/L	ND	2 mg/L	95%	80-120%	0.0%	0-20%	
	Sulfate	16.2 mg/L	1.6 mg/L	15 mg/L	97%	80-120%	1.2%	0-20%	
	Nitrate - N	2.97 mg/L	ND	3 mg/L	99%	80-120%	0.3%	0-20%	
	Nitrite - N	2.93 mg/L	ND	3 mg/L	98%	80-120%	1.0%	0-20%	
QCBatchID MBAS_02622_L									
Blank	MBAS	ND mg/L							
LCS	MBAS	0.47 mg/L		0.5 mg/L	94%	90-110%			
LCSD	MBAS	0.47 mg/L		0.5 mg/L	94%	90-110%	0.0%	0-20%	
MS	MBAS	0.59 mg/L	0.08 mg/L	0.5 mg/L	118%	80-120%			
MSD	MBAS	0.56 mg/L	0.08 mg/L	0.5 mg/L	112%	80-120%	5.2%	0-20%	
QCBatchID ONG__00129_L									
Blank	Oil and Grease (HEM)	ND mg/L							
LCS	Oil and Grease (HEM)	33.2 mg/L		40 mg/L	83%	78-114%			
LCSD	Oil and Grease (HEM)	34.1 mg/L		40 mg/L	85%	78-114%	2.7%	0-18%	
MS	Oil and Grease (HEM)	31.4 mg/L	ND	39.2 mg/L	80%	78-114%			
MSD	Oil and Grease (HEM)	35.7 mg/L	ND	39.2 mg/L	91%	78-114%	12.8%	0-18%	
QCBatchID PHEN_00228_L									
Blank	Phenols	ND mg/L							

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QC Summary

Project Name: **Effluent**

QC Type	Parameter	Result	Reference Value	Spike Conc	Rec	Rec Limits	RPD	RPD Limits	Flags
QCBatchID PHEN_00228_L									
LCS	Phenols	0.103 mg/L		0.1 mg/L	103%	90-110%			
LCSD	Phenols	0.100 mg/L		0.1 mg/L	100%	90-110%	3.0%	0-20%	
MS	Phenols	0.109 mg/L	0.02 mg/L	0.1 mg/L	109%	80-120%			
MSD	Phenols	0.111 mg/L	0.02 mg/L	0.1 mg/L	111%	80-120%	1.8%	0-20%	
QCBatchID PHOS_03241_L									
Blank	Orthophosphate, Dissolved - P	ND mg/L							
	Orthophosphate, Total - P	ND mg/L							
LCS	Orthophosphate, Dissolved - P	0.51 mg/L		0.5 mg/L	101%	90-110%			
	Orthophosphate, Total - P	0.51 mg/L		0.5 mg/L	101%	90-110%			
LCSD	Orthophosphate, Dissolved - P	0.50 mg/L		0.5 mg/L	100%	90-110%	2.0%	0-20%	
	Orthophosphate, Total - P	0.50 mg/L		0.5 mg/L	100%	90-110%	2.0%	0-20%	
MS	Orthophosphate, Dissolved - P	9.59 mg/L	5 mg/L	5 mg/L	92%	80-120%			
	Orthophosphate, Total - P	9.59 mg/L	5 mg/L	5 mg/L	92%	80-120%			
MSD	Orthophosphate, Dissolved - P	9.76 mg/L	5 mg/L	5 mg/L	95%	80-120%	1.8%	0-20%	
	Orthophosphate, Total - P	9.76 mg/L	5 mg/L	5 mg/L	95%	80-120%	1.8%	0-20%	
QCBatchID PHOS_03441_L									
Blank	Phosphorus, Total - P	ND mg/L							
LCS	Phosphorus, Total - P	0.47 mg/L		0.5 mg/L	94%	90-110%			
LCSD	Phosphorus, Total - P	0.47 mg/L		0.5 mg/L	93%	90-110%	0.9%	0-20%	
MS	Phosphorus, Total - P	0.62 mg/L	0.12 mg/L	0.5 mg/L	100%	80-120%			
MSD	Phosphorus, Total - P	0.63 mg/L	0.12 mg/L	0.5 mg/L	102%	80-120%	1.4%	0-20%	
QCBatchID PHOS_03541_L									
Blank	Phosphorus, Total - P, Dissolved	ND mg/L							
LCS	Phosphorus, Total - P, Dissolved	0.49 mg/L		0.5 mg/L	99%	90-110%			
LCSD	Phosphorus, Total - P, Dissolved	0.48 mg/L		0.5 mg/L	96%	90-110%	2.5%	0-20%	
MS	Phosphorus, Total - P, Dissolved	9.56 mg/L	4.78 mg/L	5 mg/L	96%	80-120%			
MSD	Phosphorus, Total - P, Dissolved	9.42 mg/L	4.78 mg/L	5 mg/L	93%	80-120%	1.5%	0-20%	
QCBatchID TDS__03031_L									
Blank	Total Dissolved Solids	ND mg/L							
LCS	Total Dissolved Solids	995 mg/L		1000 mg/L	100%	90-110%			
LCSD	Total Dissolved Solids	980 mg/L		1000 mg/L	98%	90-110%	1.5%	0-5%	
Replicate	Total Dissolved Solids	2290 mg/L	2280 mg/L				0.4%	0-5%	

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QC Summary

Project Name: **Effluent**

QC Type	Parameter	Result	Reference Value	Spike Conc	Rec	Rec Limits	RPD	RPD Limits	Flags
QCBatchID TKN__06123_L									
Blank	Total Kjeldahl Nitrogen	ND mg/L							
LCS	Total Kjeldahl Nitrogen	9.20 mg/L		10 mg/L	92%	90-110%			
LCSD	Total Kjeldahl Nitrogen	9.90 mg/L		10 mg/L	99%	90-110%	7.3%	0-20%	
MS	Total Kjeldahl Nitrogen	8.75 mg/L	0.64 mg/L	10 mg/L	81%	80-120%			
MSD	Total Kjeldahl Nitrogen	10.2 mg/L	0.64 mg/L	10 mg/L	96%	80-120%	15.3%	0-20%	
QCBatchID MERC_07154_L									
Blank	Mercury	ND mg/L							
LCS	Mercury	0.0097 mg/L		0.01 mg/L	97%	85-115%			
LCSD	Mercury	0.0100 mg/L		0.01 mg/L	100%	85-115%	3.1%	0-20%	
MS	Mercury	0.0097 mg/L	ND	0.01 mg/L	97%	80-120%			
MSD	Mercury	0.0103 mg/L	ND	0.01 mg/L	103%	80-120%	6.0%	0-20%	
QCBatchID META_01987_L									
Blank	Aluminum	ND mg/L							
	Antimony	ND mg/L							
	Arsenic	ND mg/L							
	Barium	ND mg/L							
	Beryllium	ND mg/L							
	Cadmium	ND mg/L							
	Calcium	ND mg/L							
	Chromium	ND mg/L							
	Copper	ND mg/L							
	Iron	ND mg/L							
	Lead	ND mg/L							
	Magnesium	ND mg/L							
	Manganese	ND mg/L							
	Molybdenum	ND mg/L							
	Nickel	ND mg/L							
	Potassium	ND mg/L							
	Selenium	ND mg/L							
	Silver	ND mg/L							
	Sodium	ND mg/L							
	Strontium	ND mg/L							
	Thallium	ND mg/L							
	Zinc	ND mg/L							
LCS	Aluminum	1.09 mg/L		1.1 mg/L	99%	85-115%			
	Antimony	0.104 mg/L		0.1 mg/L	104%	85-115%			
	Arsenic	0.1060 mg/L		0.1 mg/L	106%	85-115%			
	Barium	0.103 mg/L		0.1 mg/L	103%	85-115%			
	Beryllium	0.0994 mg/L		0.1 mg/L	99%	85-115%			
	Cadmium	0.1042 mg/L		0.1 mg/L	104%	85-115%			
	Calcium	10.1 mg/L		10.1 mg/L	100%	85-115%			
	Chromium	0.103 mg/L		0.1 mg/L	103%	85-115%			

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QC Summary

Project Name: **Effluent**

QC Type	Parameter	Result	Reference Value	Spike Conc	Rec	Rec Limits	RPD	RPD Limits	Flags
QCBatchID	**META_01987_L**								
	Copper	0.1017 mg/L		0.1 mg/L	102%	85-115%			
	Iron	10.1 mg/L		10.1 mg/L	100%	85-115%			
	Lead	0.0921 mg/L		0.1 mg/L	92%	85-115%			
	Magnesium	10.1 mg/L		10.1 mg/L	100%	85-115%			
	Manganese	0.1028 mg/L		0.1 mg/L	103%	85-115%			
	Molybdenum	0.0989 mg/L		0.1 mg/L	99%	85-115%			
	Nickel	0.1033 mg/L		0.1 mg/L	103%	85-115%			
	Potassium	11.2 mg/L		11 mg/L	102%	85-115%			
	Selenium	0.1031 mg/L		0.1 mg/L	103%	85-115%			
	Silver	0.1041 mg/L		0.1 mg/L	104%	85-115%			
	Sodium	10.2 mg/L		10.1 mg/L	101%	85-115%			
	Strontium	0.0974 mg/L		0.1 mg/L	97%	85-115%			
	Thallium	0.1048 mg/L		0.1 mg/L	105%	85-115%			
	Zinc	0.104 mg/L		0.1 mg/L	104%	85-115%			
LCSD	Aluminum	1.10 mg/L		1.1 mg/L	100%	85-115%	1.0%	0-20%	
	Antimony	0.108 mg/L		0.1 mg/L	108%	85-115%	3.3%	0-20%	
	Arsenic	0.1080 mg/L		0.1 mg/L	108%	85-115%	1.9%	0-20%	
	Barium	0.107 mg/L		0.1 mg/L	107%	85-115%	3.5%	0-20%	
	Beryllium	0.1022 mg/L		0.1 mg/L	102%	85-115%	2.8%	0-20%	
	Cadmium	0.1056 mg/L		0.1 mg/L	106%	85-115%	1.3%	0-20%	
	Calcium	10.1 mg/L		10.1 mg/L	100%	85-115%	0.3%	0-20%	
	Chromium	0.104 mg/L		0.1 mg/L	104%	85-115%	1.2%	0-20%	
	Copper	0.1012 mg/L		0.1 mg/L	101%	85-115%	0.5%	0-20%	
	Iron	10.2 mg/L		10.1 mg/L	101%	85-115%	0.8%	0-20%	
	Lead	0.0964 mg/L		0.1 mg/L	96%	85-115%	4.6%	0-20%	
	Magnesium	10.2 mg/L		10.1 mg/L	101%	85-115%	1.0%	0-20%	
	Manganese	0.1038 mg/L		0.1 mg/L	104%	85-115%	1.0%	0-20%	
	Molybdenum	0.1022 mg/L		0.1 mg/L	102%	85-115%	3.3%	0-20%	
	Nickel	0.1048 mg/L		0.1 mg/L	105%	85-115%	1.4%	0-20%	
	Potassium	11.1 mg/L		11 mg/L	101%	85-115%	1.0%	0-20%	
	Selenium	0.1051 mg/L		0.1 mg/L	105%	85-115%	2.0%	0-20%	
	Silver	0.1073 mg/L		0.1 mg/L	107%	85-115%	3.0%	0-20%	
	Sodium	10.2 mg/L		10.1 mg/L	101%	85-115%	0.0%	0-20%	
	Strontium	0.0991 mg/L		0.1 mg/L	99%	85-115%	1.7%	0-20%	
	Thallium	0.1048 mg/L		0.1 mg/L	105%	85-115%	0.0%	0-20%	
	Zinc	0.103 mg/L		0.1 mg/L	103%	85-115%	0.8%	0-20%	
MS	Aluminum	6.07 mg/L	0.4959 mg/L	5.5 mg/L	101%	80-120%			
	Antimony	0.501 mg/L	ND	0.5 mg/L	100%	80-120%			
	Arsenic	0.5484 mg/L	0.003 mg/L	0.5 mg/L	109%	80-120%			
	Barium	0.532 mg/L	0.028 mg/L	0.5 mg/L	101%	80-120%			
	Beryllium	0.5449 mg/L	ND	0.5 mg/L	109%	80-120%			
	Cadmium	0.5181 mg/L	ND	0.5 mg/L	104%	80-120%			
	Calcium	420 mg/L	361 mg/L	50.5 mg/L	117%	80-120%			
	Chromium	0.529 mg/L	ND	0.5 mg/L	106%	80-120%			

City of Sherman
Chester Wilson

QC Summary

Project Name: **Effluent**

QC Type	Parameter	Result	Reference Value	Spike Conc	Rec	Rec Limits	RPD	RPD Limits	Flags
QCBatchID	**META_01987_L**								
	Copper	0.5384 mg/L	0.0325 mg/L	0.5 mg/L	101%	80-120%			
	Iron	47.3 mg/L	0.53 mg/L	50.5 mg/L	93%	80-120%			
	Lead	0.4592 mg/L	ND	0.5 mg/L	92%	80-120%			
	Magnesium	63.3 mg/L	12.5 mg/L	50.5 mg/L	101%	80-120%			
	Manganese	0.6056 mg/L	0.0794 mg/L	0.5 mg/L	105%	80-120%			
	Molybdenum	0.5340 mg/L	0.0163 mg/L	0.5 mg/L	104%	80-120%			
	Nickel	0.5483 mg/L	0.0229 mg/L	0.5 mg/L	105%	80-120%			
	Potassium	230 mg/L	173 mg/L	55 mg/L	103%	80-120%			
	Selenium	0.5377 mg/L	0.0069 mg/L	0.5 mg/L	106%	80-120%			
	Silver	0.4941 mg/L	ND	0.5 mg/L	99%	80-120%			
	Sodium	80.4 mg/L	29.5 mg/L	50.5 mg/L	101%	80-120%			
	Strontium	0.9150 mg/L	0.42 mg/L	0.5 mg/L	99%	80-120%			
	Thallium	0.5168 mg/L	0.0005 mg/L	0.5 mg/L	103%	80-120%			
	Zinc	0.589 mg/L	0.062 mg/L	0.5 mg/L	106%	80-120%			
MSD	Aluminum	6.08 mg/L	0.4959 mg/L	5.5 mg/L	102%	80-120%	0.2%	0-20%	
	Antimony	0.520 mg/L	ND	0.5 mg/L	104%	80-120%	3.7%	0-20%	
	Arsenic	0.5574 mg/L	0.003 mg/L	0.5 mg/L	111%	80-120%	1.6%	0-20%	
	Barium	0.553 mg/L	0.028 mg/L	0.5 mg/L	105%	80-120%	3.9%	0-20%	
	Beryllium	0.5208 mg/L	ND	0.5 mg/L	104%	80-120%	4.5%	0-20%	
	Cadmium	0.5232 mg/L	ND	0.5 mg/L	105%	80-120%	1.0%	0-20%	
	Calcium	420 mg/L	361 mg/L	50.5 mg/L	117%	80-120%	0.1%	0-20%	
	Chromium	0.526 mg/L	ND	0.5 mg/L	105%	80-120%	0.6%	0-20%	
	Copper	0.5329 mg/L	0.0325 mg/L	0.5 mg/L	100%	80-120%	1.0%	0-20%	
	Iron	47.0 mg/L	0.53 mg/L	50.5 mg/L	92%	80-120%	0.6%	0-20%	
	Lead	0.4597 mg/L	ND	0.5 mg/L	92%	80-120%	0.1%	0-20%	
	Magnesium	63.7 mg/L	12.5 mg/L	50.5 mg/L	101%	80-120%	0.6%	0-20%	
	Manganese	0.6045 mg/L	0.0794 mg/L	0.5 mg/L	105%	80-120%	0.2%	0-20%	
	Molybdenum	0.5493 mg/L	0.0163 mg/L	0.5 mg/L	107%	80-120%	2.8%	0-20%	
	Nickel	0.5421 mg/L	0.0229 mg/L	0.5 mg/L	104%	80-120%	1.1%	0-20%	
	Potassium	236 mg/L	173 mg/L	55 mg/L	114%	80-120%	2.4%	0-20%	
	Selenium	0.5535 mg/L	0.0069 mg/L	0.5 mg/L	109%	80-120%	2.9%	0-20%	
	Silver	0.5279 mg/L	ND	0.5 mg/L	106%	80-120%	6.6%	0-20%	
	Sodium	80.8 mg/L	29.5 mg/L	50.5 mg/L	102%	80-120%	0.5%	0-20%	
	Strontium	0.9399 mg/L	0.42 mg/L	0.5 mg/L	104%	80-120%	2.7%	0-20%	
	Thallium	0.5398 mg/L	0.0005 mg/L	0.5 mg/L	108%	80-120%	4.4%	0-20%	
	Zinc	0.571 mg/L	0.062 mg/L	0.5 mg/L	102%	80-120%	3.1%	0-20%	
QCBatchID	**625__00833_L**								
Blank	N-Nitrosodimethylamine	ND µg/L							
	Bis(2-chloroethyl)Ether	ND µg/L							
	Phenol	ND µg/L							
	2-Chlorophenol	ND µg/L							
	Bis(2-chloroisopropyl)Ether	ND µg/L							
	o-Cresol (2-Methylphenol)	ND µg/L							
	p-Cresol (4-Methylphenol)	ND µg/L							

City of Sherman
Chester Wilson

QC Summary

Project Name: **Effluent**

QC Type	Parameter	Result	Reference Value	Spike Conc	Rec	Rec Limits	RPD	RPD Limits	Flags
QCBatchID 625__00833_L									
	N-Nitrosodi-n-Propylamine	ND µg/L							
	Hexachloroethane	ND µg/L							
	Nitrobenzene	ND µg/L							
	Isophorone	ND µg/L							
	2-Nitrophenol	ND µg/L							
	2,4-Dimethylphenol	ND µg/L							
	Bis(2-chloroethoxy)Methane	ND µg/L							
	1,2,4-Trichlorobenzene	ND µg/L							
	2,4-Dichlorophenol	ND µg/L							
	Naphthalene	ND µg/L							
	Hexachlorobutadiene	ND µg/L							
	p-Chloro-m-Cresol (4-Chloro-3-methylphenol)	ND µg/L							
	Hexachlorocyclopentadiene	ND µg/L							
	2,4,6-Trichlorophenol	ND µg/L							
	2-Chloronaphthalene	ND µg/L							
	Dimethyl Phthalate	ND µg/L							
	2,6-Dinitrotoluene	ND µg/L							
	Acenaphthylene	ND µg/L							
	Acenaphthene	ND µg/L							
	2,4-Dinitrophenol	ND µg/L							
	2,4-Dinitrotoluene	ND µg/L							
	4-Nitrophenol	ND µg/L							
	Diethyl Phthalate	ND µg/L							
	Fluorene	ND µg/L							
	4-Chlorophenyl Phenyl Ether	ND µg/L							
	Azobenzene (1,2-Diphenyl Hydrazine)	ND µg/L							
	4,6-Dinitro-o-Cresol (4,6-Dinitro-2-methyl phenol)	ND µg/L							
	N-Nitrosodiphenylamine	ND µg/L							
	4-Bromophenyl Phenyl Ether	ND µg/L							
	Hexachlorobenzene	ND µg/L							
	Pentachlorophenol	ND µg/L							
	Phenanthrene	ND µg/L							
	Anthracene	ND µg/L							
	Di-n-Butyl Phthalate	ND µg/L							
	Fluoranthene	ND µg/L							
	Pyrene	ND µg/L							
	Butylbenzyl Phthalate	ND µg/L							
	Benzo(a)Anthracene	ND µg/L							
	Chrysene	ND µg/L							
	Bis(2-ethylhexyl)Phthalate	ND µg/L							

City of Sherman
Chester Wilson

QC Summary

Project Name: **Effluent**

QC Type	Parameter	Result	Reference Value	Spike Conc	Rec	Rec Limits	RPD	RPD Limits	Flags
QCBatchID 625__00833_L									
	Di-n-Octyl Phthalate	ND µg/L							
	3,4-Benzofluoranthene	ND µg/L							
	Benzo(k)Fluoranthene	ND µg/L							
	Benzo(a)Pyrene	ND µg/L							
	Indeno(1,2,3-c,d)pyrene	ND µg/L							
	Dibenzo(a,h)Anthracene	ND µg/L							
	Benzo(g,h,i)Perylene	ND µg/L							
	Benzidine	ND µg/L							
	3,3-Dichlorobenzidine	ND µg/L							
	N-Nitrosodiethylamine	ND µg/L							
	N-Nitroso-di-n-Butylamine	ND µg/L							
	Pentachlorbenzene	ND µg/L							
	Pyridine	ND µg/L							
	1,2,4,5-Tetrachlorobenzene	ND µg/L							
	2,4,5-Trichlorophenol	ND µg/L							
Surrogate		**Result**		**Spike Conc**	**Recovery**	**Rec Limits**			
	2-Fluorophenol	29.4 µg/L		100 µg/L	29%	21-100%			
	Phenol-d6	17.6 µg/L		100 µg/L	18%	10-94%			
	Nitrobenzene-d5	38.7 µg/L		50 µg/L	77%	35-114%			
	2-Fluorobiphenyl	35.7 µg/L		50 µg/L	71%	43-116%			
	2,4,6-Tribromophenol	83.7 µg/L		100 µg/L	84%	10-123%			
	Terphenyl-d14	40.1 µg/L		50 µg/L	80%	33-141%			
LCS	N-Nitrosodimethylamine	14.6 µg/L		50 µg/L	29%	10-86%			
	Bis(2-chloroethyl)Ether	38.7 µg/L		50 µg/L	77%	41-114%			
	Phenol	11.2 µg/L		50 µg/L	22%	10-79%			
	2-Chlorophenol	33.0 µg/L		50 µg/L	66%	29-115%			
	Bis(2-chloroisopropyl)Ether	38.4 µg/L		50 µg/L	77%	40-122%			
	o-Cresol (2-Methylphenol)	28.2 µg/L		50 µg/L	56%	27-111%			
	p-Cresol (4-Methylphenol)	25.8 µg/L		50 µg/L	52%	22-108%			
	N-Nitrosodi-n-Propylamine	40.6 µg/L		50 µg/L	81%	38-127%			
	Hexachloroethane	35.7 µg/L		50 µg/L	71%	49-95%			
	Nitrobenzene	39.3 µg/L		50 µg/L	79%	42-115%			
	Isophorone	40.4 µg/L		50 µg/L	81%	38-130%			
	2-Nitrophenol	40.1 µg/L		50 µg/L	80%	37-128%			
	2,4-Dimethylphenol	35.8 µg/L		50 µg/L	72%	52-100%			
	Bis(2-chloroethoxy)Methane	39.0 µg/L		50 µg/L	78%	42-121%			
	1,2,4-Trichlorobenzene	36.6 µg/L		50 µg/L	73%	46-101%			
	2,4-Dichlorophenol	38.6 µg/L		50 µg/L	77%	37-124%			
	Naphthalene	37.5 µg/L		50 µg/L	75%	46-103%			
	Hexachlorobutadiene	36.4 µg/L		50 µg/L	73%	51-92%			
	p-Chloro-m-Cresol (4-Chloro-3-methylphenol)	39.6 µg/L		50 µg/L	79%	39-131%			
	Hexachlorocyclopentadiene	34.4 µg/L		50 µg/L	69%	38-122%			
	2,4,6-Trichlorophenol	40.9 µg/L		50 µg/L	82%	44-125%			

City of Sherman
Chester Wilson

QC Summary

Project Name: **Effluent**

QC Type	Parameter	Result	Reference Value	Spike Conc	Rec	Rec Limits	RPD	RPD Limits	Flags
QCBatchID 625__00833_L									
	2,4,5-Trichlorophenol	40.7 µg/L		50 µg/L	81%	44-129%			
	2-Chloronaphthalene	38.4 µg/L		50 µg/L	77%	43-113%			
	Dimethyl Phthalate	42.0 µg/L		50 µg/L	84%	60-104%			
	2,6-Dinitrotoluene	44.5 µg/L		50 µg/L	89%	43-136%			
	Acenaphthylene	39.2 µg/L		50 µg/L	78%	42-120%			
	Acenaphthene	39.5 µg/L		50 µg/L	79%	43-120%			
	2,4-Dinitrophenol	42.5 µg/L		50 µg/L	85%	17-150%			
	2,4-Dinitrotoluene	44.6 µg/L		50 µg/L	89%	34-148%			
	4-Nitrophenol	15.2 µg/L		50 µg/L	30%	10-92%			
	Diethyl Phthalate	43.8 µg/L		50 µg/L	88%	64-105%			
	Fluorene	40.3 µg/L		50 µg/L	81%	41-121%			
	4-Chlorophenyl Phenyl Ether	40.1 µg/L		50 µg/L	80%	42-118%			
	Azobenzene (1,2-Diphenyl Hydrazine)	43.3 µg/L		50 µg/L	87%	48-126%			
	4,6-Dinitro-o-Cresol (4,6-Dinitro-2-methyl phenol)	49.6 µg/L		50 µg/L	99%	36-149%			
	N-Nitrosodiphenylamine	44.1 µg/L		50 µg/L	88%	32-156%			
	4-Bromophenyl Phenyl Ether	42.3 µg/L		50 µg/L	85%	45-121%			
	Hexachlorobenzene	41.7 µg/L		50 µg/L	83%	45-118%			
	Pentachlorophenol	45.2 µg/L		50 µg/L	90%	37-149%			
	Phenanthrene	41.7 µg/L		50 µg/L	83%	46-120%			
	Anthracene	41.7 µg/L		50 µg/L	83%	48-122%			
	Di-n-Butyl Phthalate	46.8 µg/L		50 µg/L	94%	58-121%			
	Fluoranthene	42.5 µg/L		50 µg/L	85%	52-119%			
	Pyrene	43.5 µg/L		50 µg/L	87%	56-127%			
	Butylbenzyl Phthalate	47.7 µg/L		50 µg/L	95%	59-129%			
	Benzo(a)Anthracene	44.1 µg/L		50 µg/L	88%	46-134%			
	Chrysene	39.0 µg/L		50 µg/L	78%	46-129%			
	Bis(2-ethylhexyl)Phthalate	50.5 µg/L		50 µg/L	101%	56-135%			
	Di-n-Octyl Phthalate	51.4 µg/L		50 µg/L	103%	51-140%			
	3,4-Benzofluoranthene (Benzo(b)Fluoranthene)	45.2 µg/L		50 µg/L	90%	45-132%			
	Benzo(k)Fluoranthene	44.5 µg/L		50 µg/L	89%	42-127%			
	Benzo(a)Pyrene	45.2 µg/L		50 µg/L	90%	45-132%			
	Indeno(1,2,3-c,d)pyrene	44.2 µg/L		50 µg/L	88%	36-139%			
	Dibenzo(a,h)Anthracene	42.5 µg/L		50 µg/L	85%	31-142%			
	Benzo(g,h,i)Perylene	44.0 µg/L		50 µg/L	88%	32-145%			

City of Sherman
Chester Wilson

QC Summary

Project Name: **Effluent**

QC Type	Parameter	Result	Reference Value	Spike Conc	Rec	Rec Limits	RPD	RPD Limits	Flags
QCBatchID 625__00833_L									
Surrogate		**Result**		**Spike Conc**	**Recovery**	**Rec Limits**			
	2-Fluorophenol	35.5 µg/L		100 µg/L	35%	21-100%			
	Phenol-d6	22.1 µg/L		100 µg/L	22%	10-94%			
	Nitrobenzene-d5	39.5 µg/L		50 µg/L	79%	35-114%			
	2-Fluorobiphenyl	38.7 µg/L		50 µg/L	77%	43-116%			
	2,4,6-Tribromophenol	97.7 µg/L		100 µg/L	98%	10-123%			
	Terphenyl-d14	37.9 µg/L		50 µg/L	76%	33-141%			
LCSD	N-Nitrosodimethylamine	14.3 µg/L		50 µg/L	29%	10-86%	2.1%	0-30%	
	Bis(2-chloroethyl)Ether	38.4 µg/L		50 µg/L	77%	41-114%	0.8%	0-30%	
	Phenol	11.0 µg/L		50 µg/L	22%	10-79%	1.8%	0-30%	
	2-Chlorophenol	32.6 µg/L		50 µg/L	65%	29-115%	1.2%	0-30%	
	Bis(2-chloroisopropyl)Ether	38.5 µg/L		50 µg/L	77%	40-122%	0.3%	0-30%	
	o-Cresol (2-Methylphenol)	28.2 µg/L		50 µg/L	56%	27-111%	0.0%	0-30%	
	p-Cresol (4-Methylphenol)	25.7 µg/L		50 µg/L	51%	22-108%	0.4%	0-30%	
	N-Nitrosodi-n-Propylamine	40.7 µg/L		50 µg/L	81%	38-127%	0.2%	0-30%	
	Hexachloroethane	35.7 µg/L		50 µg/L	71%	49-95%	0.0%	0-30%	
	Nitrobenzene	39.3 µg/L		50 µg/L	79%	42-115%	0.0%	0-30%	
	Isophorone	40.9 µg/L		50 µg/L	82%	38-130%	1.2%	0-30%	
	2-Nitrophenol	40.5 µg/L		50 µg/L	81%	37-128%	1.0%	0-30%	
	2,4-Dimethylphenol	36.7 µg/L		50 µg/L	73%	52-100%	2.5%	0-30%	
	Bis(2-chloroethoxy)Methane	39.5 µg/L		50 µg/L	79%	42-121%	1.3%	0-30%	
	1,2,4-Trichlorobenzene	36.9 µg/L		50 µg/L	74%	46-101%	0.8%	0-30%	
	2,4-Dichlorophenol	38.7 µg/L		50 µg/L	77%	37-124%	0.3%	0-30%	
	Naphthalene	38.1 µg/L		50 µg/L	76%	46-103%	1.6%	0-30%	
	Hexachlorobutadiene	36.7 µg/L		50 µg/L	73%	51-92%	0.8%	0-30%	
	p-Chloro-m-Cresol (4-Chloro-3-methylphenol)	40.2 µg/L		50 µg/L	80%	39-131%	1.5%	0-30%	
	Hexachlorocyclopentadiene	34.3 µg/L		50 µg/L	69%	38-122%	0.3%	0-30%	
	2,4,6-Trichlorophenol	42.5 µg/L		50 µg/L	85%	44-125%	3.8%	0-30%	
	2,4,5-Trichlorophenol	41.6 µg/L		50 µg/L	83%	44-129%	2.2%	0-30%	
	2-Chloronaphthalene	38.9 µg/L		50 µg/L	78%	43-113%	1.3%	0-30%	
	Dimethyl Phthalate	43.5 µg/L		50 µg/L	87%	60-104%	3.5%	0-30%	
	2,6-Dinitrotoluene	45.7 µg/L		50 µg/L	91%	43-136%	2.7%	0-30%	
	Acenaphthylene	40.2 µg/L		50 µg/L	80%	42-120%	2.5%	0-30%	
	Acenaphthene	39.7 µg/L		50 µg/L	79%	43-120%	0.5%	0-30%	
	2,4-Dinitrophenol	44.8 µg/L		50 µg/L	90%	17-150%	5.3%	0-30%	
	2,4-Dinitrotoluene	46.3 µg/L		50 µg/L	93%	34-148%	3.7%	0-30%	
	4-Nitrophenol	15.6 µg/L		50 µg/L	31%	10-92%	2.6%	0-30%	
	Diethyl Phthalate	45.3 µg/L		50 µg/L	91%	64-105%	3.4%	0-30%	
	Fluorene	41.6 µg/L		50 µg/L	83%	41-121%	3.2%	0-30%	
	4-Chlorophenyl Phenyl Ether	41.4 µg/L		50 µg/L	83%	42-118%	3.2%	0-30%	
	Azobenzene (1,2-Diphenyl Hydrazine)	43.5 µg/L		50 µg/L	87%	48-126%	0.5%	0-30%	

City of Sherman
Chester Wilson

QC Summary

Project Name: **Effluent**

QC Type	Parameter	Result	Reference Value	Spike Conc	Rec	Rec Limits	RPD	RPD Limits	Flags
QCBatchID 625__00833_L									
	4,6-Dinitro-o-Cresol (4,6-Dinitro-2-methyl phenol)	51.0 µg/L		50 µg/L	102%	36-149%	2.8%	0-30%	
	N-Nitrosodiphenylamine	44.6 µg/L		50 µg/L	89%	32-156%	1.1%	0-30%	
	4-Bromophenyl Phenyl Ether	42.5 µg/L		50 µg/L	85%	45-121%	0.5%	0-30%	
	Hexachlorobenzene	42.0 µg/L		50 µg/L	84%	45-118%	0.7%	0-30%	
	Pentachlorophenol	46.7 µg/L		50 µg/L	93%	37-149%	3.3%	0-30%	
	Phenanthrene	42.6 µg/L		50 µg/L	85%	46-120%	2.1%	0-30%	
	Anthracene	42.6 µg/L		50 µg/L	85%	48-122%	2.1%	0-30%	
	Di-n-Butyl Phthalate	48.5 µg/L		50 µg/L	97%	58-121%	3.6%	0-30%	
	Fluoranthene	44.0 µg/L		50 µg/L	88%	52-119%	3.5%	0-30%	
	Pyrene	43.3 µg/L		50 µg/L	87%	56-127%	0.5%	0-30%	
	Butylbenzyl Phthalate	49.2 µg/L		50 µg/L	98%	59-129%	3.1%	0-30%	
	Benzo(a)Anthracene	45.6 µg/L		50 µg/L	91%	46-134%	3.3%	0-30%	
	Chrysene	39.8 µg/L		50 µg/L	80%	46-129%	2.0%	0-30%	
	Bis(2-ethylhexyl)Phthalate	52.9 µg/L		50 µg/L	106%	56-135%	4.6%	0-30%	
	Di-n-Octyl Phthalate	55.4 µg/L		50 µg/L	111%	51-140%	7.5%	0-30%	
	3,4-Benzofluoranthene (Benzo(b)Fluoranthene)	45.6 µg/L		50 µg/L	91%	45-132%	0.9%	0-30%	
	Benzo(k)Fluoranthene	45.0 µg/L		50 µg/L	90%	42-127%	1.1%	0-30%	
	Benzo(a)Pyrene	46.1 µg/L		50 µg/L	92%	45-132%	2.0%	0-30%	
	Indeno(1,2,3-c,d)pyrene	50.5 µg/L		50 µg/L	101%	36-139%	13.3%	0-30%	
	Dibenzo(a,h)Anthracene	48.0 µg/L		50 µg/L	96%	31-142%	12.2%	0-30%	
	Benzo(g,h,i)Perylene	50.4 µg/L		50 µg/L	101%	32-145%	13.6%	0-30%	
Surrogate		**Result**		**Spike Conc**	**Recovery**	**Rec Limits**			
	2-Fluorophenol	34.1 µg/L		100 µg/L	34%	21-100%			
	Phenol-d6	21.6 µg/L		100 µg/L	22%	10-94%			
	Nitrobenzene-d5	38.8 µg/L		50 µg/L	78%	35-114%			
	2-Fluorobiphenyl	38.2 µg/L		50 µg/L	76%	43-116%			
	2,4,6-Tribromophenol	99.0 µg/L		100 µg/L	99%	10-123%			
	Terphenyl-d14	38.6 µg/L		50 µg/L	77%	33-141%			
MS	N-Nitrosodimethylamine	13.2 µg/L	ND	50 µg/L	26%	10-86%			
	Bis(2-chloroethyl)Ether	37.8 µg/L	ND	50 µg/L	76%	41-114%			
	Phenol	9.42 µg/L	ND	50 µg/L	19%	10-79%			
	2-Chlorophenol	30.8 µg/L	ND	50 µg/L	62%	29-115%			
	Bis(2-chloroisopropyl)Ether	37.9 µg/L	ND	50 µg/L	76%	40-122%			
	o-Cresol (2-Methylphenol)	25.3 µg/L	ND	50 µg/L	51%	27-111%			
	p-Cresol (4-Methylphenol)	22.3 µg/L	ND	50 µg/L	45%	22-108%			
	N-Nitrosodi-n-Propylamine	38.8 µg/L	ND	50 µg/L	78%	38-127%			
	Hexachloroethane	35.7 µg/L	ND	50 µg/L	71%	49-95%			
	Nitrobenzene	39.0 µg/L	ND	50 µg/L	78%	42-115%			
	Isophorone	39.0 µg/L	ND	50 µg/L	78%	38-130%			
	2-Nitrophenol	39.3 µg/L	ND	50 µg/L	79%	37-128%			
	2,4-Dimethylphenol	36.8 µg/L	ND	50 µg/L	74%	52-100%			
	Bis(2-chloroethoxy)Methane	37.9 µg/L	ND	50 µg/L	76%	42-121%			

City of Sherman
Chester Wilson

QC Summary

Project Name: **Effluent**

QC Type	Parameter	Result	Reference Value	Spike Conc	Rec	Rec Limits	RPD	RPD Limits	Flags
QCBatchID 625__00833_L									
	1,2,4-Trichlorobenzene	35.8 µg/L	ND	50 µg/L	72%	46-101%			
	2,4-Dichlorophenol	37.4 µg/L	ND	50 µg/L	75%	37-124%			
	Naphthalene	36.9 µg/L	ND	50 µg/L	74%	46-103%			
	Hexachlorobutadiene	35.9 µg/L	ND	50 µg/L	72%	51-92%			
	p-Chloro-m-Cresol (4-Chloro-3-methylphenol)	37.9 µg/L	ND	50 µg/L	76%	39-131%			
	Hexachlorocyclopentadiene	33.4 µg/L	ND	50 µg/L	67%	38-122%			
	2,4,6-Trichlorophenol	40.4 µg/L	ND	50 µg/L	81%	44-125%			
	2,4,5-Trichlorophenol	40.3 µg/L	ND	50 µg/L	81%	44-129%			
	2-Chloronaphthalene	37.0 µg/L	ND	50 µg/L	74%	43-113%			
	Dimethyl Phthalate	41.4 µg/L	ND	50 µg/L	83%	60-104%			
	2,6-Dinitrotoluene	43.5 µg/L	ND	50 µg/L	87%	43-136%			
	Acenaphthylene	38.2 µg/L	ND	50 µg/L	76%	42-120%			
	Acenaphthene	38.4 µg/L	ND	50 µg/L	77%	43-120%			
	2,4-Dinitrophenol	46.0 µg/L	ND	50 µg/L	92%	17-150%			
	2,4-Dinitrotoluene	43.9 µg/L	ND	50 µg/L	88%	34-148%			
	4-Nitrophenol	13.8 µg/L	ND	50 µg/L	28%	10-92%			
	Diethyl Phthalate	42.5 µg/L	ND	50 µg/L	85%	64-105%			
	Fluorene	40.0 µg/L	ND	50 µg/L	80%	41-121%			
	4-Chlorophenyl Phenyl Ether	39.4 µg/L	ND	50 µg/L	79%	42-118%			
	Azobenzene (1,2-Diphenyl Hydrazine)	40.9 µg/L	ND	50 µg/L	82%	48-126%			
	4,6-Dinitro-o-Cresol (4,6-Dinitro-2-methyl phenol)	48.7 µg/L	ND	50 µg/L	97%	36-149%			
	N-Nitrosodiphenylamine	42.2 µg/L	ND	50 µg/L	84%	32-156%			
	4-Bromophenyl Phenyl Ether	40.2 µg/L	ND	50 µg/L	80%	45-121%			
	Hexachlorobenzene	39.7 µg/L	ND	50 µg/L	79%	45-118%			
	Pentachlorophenol	47.7 µg/L	ND	50 µg/L	95%	37-149%			
	Phenanthrene	40.2 µg/L	ND	50 µg/L	80%	46-120%			
	Anthracene	40.4 µg/L	ND	50 µg/L	81%	48-122%			
	Di-n-Butyl Phthalate	45.6 µg/L	ND	50 µg/L	91%	58-121%			
	Fluoranthene	41.3 µg/L	ND	50 µg/L	83%	52-119%			
	Pyrene	43.9 µg/L	ND	50 µg/L	88%	56-127%			
	Butylbenzyl Phthalate	49.0 µg/L	ND	50 µg/L	98%	59-129%			
	Benzo(a)Anthracene	43.5 µg/L	ND	50 µg/L	87%	46-134%			
	Chrysene	38.0 µg/L	ND	50 µg/L	76%	46-129%			
	Bis(2-ethylhexyl)Phthalate	53.1 µg/L	ND	50 µg/L	106%	56-135%			
	Di-n-Octyl Phthalate	54.2 µg/L	ND	50 µg/L	108%	51-140%			
	3,4-Benzofluoranthene (Benzo(b)Fluoranthene)	43.9 µg/L	ND	50 µg/L	88%	45-132%			
	Benzo(k)Fluoranthene	43.5 µg/L	ND	50 µg/L	87%	42-127%			
	Benzo(a)Pyrene	44.3 µg/L	ND	50 µg/L	89%	45-132%			
	Indeno(1,2,3-c,d)pyrene	45.8 µg/L	ND	50 µg/L	92%	36-139%			
	Dibenzo(a,h)Anthracene	43.4 µg/L	ND	50 µg/L	87%	31-142%			

City of Sherman
Chester Wilson

QC Summary

Project Name: **Effluent**

QC Type	Parameter	Result	Reference Value	Spike Conc	Rec	Rec Limits	RPD	RPD Limits	Flags
QCBatchID 625__00833_L									
	Benzo(g,h,i)Perylene	45.6 µg/L	ND	50 µg/L	91%	32-145%			
Surrogate		**Result**		**Spike Conc**	**Recovery**	**Rec Limits**			
	2-Fluorophenol	29.3 µg/L		100 µg/L	29%	21-100%			
	Phenol-d6	17.7 µg/L		100 µg/L	18%	10-94%			
	Nitrobenzene-d5	38.5 µg/L		50 µg/L	77%	35-114%			
	2-Fluorobiphenyl	37.6 µg/L		50 µg/L	75%	43-116%			
	2,4,6-Tribromophenol	96.9 µg/L		100 µg/L	97%	10-123%			
	Terphenyl-d14	36.5 µg/L		50 µg/L	73%	33-141%			
MSD	N-Nitrosodimethylamine	12.2 µg/L	ND	50 µg/L	24%	10-86%	7.9%	0-30%	
	Bis(2-chloroethyl)Ether	31.5 µg/L	ND	50 µg/L	63%	41-114%	18.2%	0-30%	
	Phenol	8.70 µg/L	ND	50 µg/L	17%	10-79%	8.0%	0-30%	
	2-Chlorophenol	24.0 µg/L	ND	50 µg/L	48%	29-115%	24.8%	0-30%	
	Bis(2-chloroisopropyl)Ether	31.7 µg/L	ND	50 µg/L	63%	40-122%	17.8%	0-30%	
	o-Cresol (2-Methylphenol)	20.5 µg/L	ND	50 µg/L	41%	27-111%	21.0%	0-30%	
	p-Cresol (4-Methylphenol)	18.8 µg/L	ND	50 µg/L	38%	22-108%	17.0%	0-30%	
	N-Nitrosodi-n-Propylamine	32.8 µg/L	ND	50 µg/L	66%	38-127%	16.8%	0-30%	
	Hexachloroethane	29.0 µg/L	ND	50 µg/L	58%	49-95%	20.7%	0-30%	
	Nitrobenzene	34.4 µg/L	ND	50 µg/L	69%	42-115%	12.5%	0-30%	
	Isophorone	34.2 µg/L	ND	50 µg/L	68%	38-130%	13.1%	0-30%	
	2-Nitrophenol	33.8 µg/L	ND	50 µg/L	68%	37-128%	15.0%	0-30%	
	2,4-Dimethylphenol	30.8 µg/L	ND	50 µg/L	62%	52-100%	17.8%	0-30%	
	Bis(2-chloroethoxy)Methane	33.4 µg/L	ND	50 µg/L	67%	42-121%	12.6%	0-30%	
	1,2,4-Trichlorobenzene	31.4 µg/L	ND	50 µg/L	63%	46-101%	13.1%	0-30%	
	2,4-Dichlorophenol	31.9 µg/L	ND	50 µg/L	64%	37-124%	15.9%	0-30%	
	Naphthalene	32.6 µg/L	ND	50 µg/L	65%	46-103%	12.4%	0-30%	
	Hexachlorobutadiene	30.5 µg/L	ND	50 µg/L	61%	51-92%	16.3%	0-30%	
	p-Chloro-m-Cresol (4-Chloro-3-methylphenol)	33.3 µg/L	ND	50 µg/L	67%	39-131%	12.9%	0-30%	
	Hexachlorocyclopentadiene	30.9 µg/L	ND	50 µg/L	62%	38-122%	7.8%	0-30%	
	2,4,6-Trichlorophenol	36.8 µg/L	ND	50 µg/L	74%	44-125%	9.3%	0-30%	
	2,4,5-Trichlorophenol	36.2 µg/L	ND	50 µg/L	72%	44-129%	10.7%	0-30%	
	2-Chloronaphthalene	33.1 µg/L	ND	50 µg/L	66%	43-113%	11.1%	0-30%	
	Dimethyl Phthalate	38.5 µg/L	ND	50 µg/L	77%	60-104%	7.3%	0-30%	
	2,6-Dinitrotoluene	40.3 µg/L	ND	50 µg/L	81%	43-136%	7.6%	0-30%	
	Acenaphthylene	34.8 µg/L	ND	50 µg/L	70%	42-120%	9.3%	0-30%	
	Acenaphthene	34.6 µg/L	ND	50 µg/L	69%	43-120%	10.4%	0-30%	
	2,4-Dinitrophenol	42.5 µg/L	ND	50 µg/L	85%	17-150%	7.9%	0-30%	
	2,4-Dinitrotoluene	42.1 µg/L	ND	50 µg/L	84%	34-148%	4.2%	0-30%	
	4-Nitrophenol	15.6 µg/L	ND	50 µg/L	31%	10-92%	12.2%	0-30%	
	Diethyl Phthalate	40.4 µg/L	ND	50 µg/L	81%	64-105%	5.1%	0-30%	
	Fluorene	37.0 µg/L	ND	50 µg/L	74%	41-121%	7.8%	0-30%	
	4-Chlorophenyl Phenyl Ether	36.1 µg/L	ND	50 µg/L	72%	42-118%	8.7%	0-30%	
	Azobenzene (1,2-Diphenyl Hydrazine)	37.1 µg/L	ND	50 µg/L	74%	48-126%	9.7%	0-30%	

City of Sherman
Chester Wilson

QC Summary

Project Name: **Effluent**

QC Type	Parameter	Result	Reference Value	Spike Conc	Rec	Rec Limits	RPD	RPD Limits	Flags
QCBatchID 625__00833_L									
	4,6-Dinitro-o-Cresol (4,6-Dinitro-2-methyl phenol)	47.2 µg/L	ND	50 µg/L	94%	36-149%	3.1%	0-30%	
	N-Nitrosodiphenylamine	38.6 µg/L	ND	50 µg/L	77%	32-156%	8.9%	0-30%	
	4-Bromophenyl Phenyl Ether	36.7 µg/L	ND	50 µg/L	73%	45-121%	9.1%	0-30%	
	Hexachlorobenzene	36.3 µg/L	ND	50 µg/L	73%	45-118%	9.0%	0-30%	
	Pentachlorophenol	46.0 µg/L	ND	50 µg/L	92%	37-149%	3.6%	0-30%	
	Phenanthrene	37.7 µg/L	ND	50 µg/L	75%	46-120%	6.4%	0-30%	
	Anthracene	37.9 µg/L	ND	50 µg/L	76%	48-122%	6.4%	0-30%	
	Di-n-Butyl Phthalate	45.6 µg/L	ND	50 µg/L	91%	58-121%	0.0%	0-30%	
	Fluoranthene	42.1 µg/L	ND	50 µg/L	84%	52-119%	1.9%	0-30%	
	Pyrene	36.6 µg/L	ND	50 µg/L	73%	56-127%	18.1%	0-30%	
	Butylbenzyl Phthalate	45.1 µg/L	ND	50 µg/L	90%	59-129%	8.3%	0-30%	
	Benzo(a)Anthracene	40.6 µg/L	ND	50 µg/L	81%	46-134%	6.9%	0-30%	
	Chrysene	36.0 µg/L	ND	50 µg/L	72%	46-129%	5.4%	0-30%	
	Bis(2-ethylhexyl)Phthalate	50.6 µg/L	ND	50 µg/L	101%	56-135%	4.8%	0-30%	
	Di-n-Octyl Phthalate	55.6 µg/L	ND	50 µg/L	111%	51-140%	2.6%	0-30%	
	3,4-Benzofluoranthene (Benzo(b)Fluoranthene)	42.0 µg/L	ND	50 µg/L	84%	45-132%	4.4%	0-30%	
	Benzo(k)Fluoranthene	41.6 µg/L	ND	50 µg/L	83%	42-127%	4.5%	0-30%	
	Benzo(a)Pyrene	41.8 µg/L	ND	50 µg/L	84%	45-132%	5.8%	0-30%	
	Indeno(1,2,3-c,d)pyrene	38.1 µg/L	ND	50 µg/L	76%	36-139%	18.4%	0-30%	
	Dibenzo(a,h)Anthracene	36.9 µg/L	ND	50 µg/L	74%	31-142%	16.2%	0-30%	
	Benzo(g,h,i)Perylene	36.5 µg/L	ND	50 µg/L	73%	32-145%	22.2%	0-30%	
Surrogate		**Result**		**Spike Conc**	**Recovery**	**Rec Limits**			
	2-Fluorophenol	25.6 µg/L		100 µg/L	26%	21-100%			
	Phenol-d6	16.6 µg/L		100 µg/L	17%	10-94%			
	Nitrobenzene-d5	31.9 µg/L		50 µg/L	64%	35-114%			
	2-Fluorobiphenyl	32.8 µg/L		50 µg/L	66%	43-116%			
	2,4,6-Tribromophenol	89.0 µg/L		100 µg/L	89%	10-123%			
	Terphenyl-d14	38.0 µg/L		50 µg/L	76%	33-141%			
QCBatchID HERB_00125_L									
Blank	2,4-D (2,4-Dichlorophenoxy acetic acid)	ND µg/L							
	2,4,5-TP (Silvex)	ND µg/L							
Surrogate		**Result**		**Spike Conc**	**Recovery**	**Rec Limits**			
	2,4-DCAA	445 µg/L		500 µg/L	89%	60-140%			
LCS	2,4-D (2,4-Dichlorophenoxy acetic acid)	465 µg/L		500 µg/L	93%	60-140%			
	2,4,5-TP (Silvex)	445 µg/L		500 µg/L	89%	60-140%			
Surrogate		**Result**		**Spike Conc**	**Recovery**	**Rec Limits**			
	2,4-DCAA	481 µg/L		500 µg/L	96%	60-140%			
LCSD	2,4-D (2,4-Dichlorophenoxy acetic acid)	479 µg/L		500 µg/L	96%	60-140%	3.0%	0-25%	

City of Sherman
Chester Wilson

QC Summary

Project Name: **Effluent**

QC Type	Parameter	Result	Reference Value	Spike Conc	Rec	Rec Limits	RPD	RPD Limits	Flags
QCBatchID	**HERB_00125_L**								
	2,4,5-TP (Silvex)	463 µg/L		500 µg/L	93%	60-140%	4.0%	0-25%	
Surrogate		**Result**		**Spike Conc**	**Recovery**	**Rec Limits**			
	2,4-DCAA	488 µg/L		500 µg/L	98%	60-140%			
MS	2,4-D (2,4-Dichlorophenoxy acetic acid)	446 µg/L	ND	500 µg/L	89%	60-140%			
	2,4,5-TP (Silvex)	423 µg/L	ND	500 µg/L	85%	60-140%			
Surrogate		**Result**		**Spike Conc**	**Recovery**	**Rec Limits**			
	2,4-DCAA	379 µg/L		500 µg/L	76%	60-140%			
MSD	2,4-D (2,4-Dichlorophenoxy acetic acid)	474 µg/L	ND	500 µg/L	95%	60-140%	6.1%	0-25%	
	2,4,5-TP (Silvex)	451 µg/L	ND	500 µg/L	90%	60-140%	6.4%	0-25%	
Surrogate		**Result**		**Spike Conc**	**Recovery**	**Rec Limits**			
	2,4-DCAA	422 µg/L		500 µg/L	84%	60-140%			
QCBatchID	**HEXC_01620_L**								
Blank	Hexachlorophene	ND µg/L							
Surrogate		**Result**		**Spike Conc**	**Recovery**	**Rec Limits**			
	DCAA	18.5 µg/L		25 µg/L	74%	10-130%			
LCS	Hexachlorophene	23.1 µg/L		25 µg/L	92%	10-130%			
Surrogate		**Result**		**Spike Conc**	**Recovery**	**Rec Limits**			
	DCAA	17.9 µg/L		25 µg/L	72%	10-130%			
LCSD	Hexachlorophene	23.1 µg/L		25 µg/L	92%	10-130%	0.0%	0-40%	
Surrogate		**Result**		**Spike Conc**	**Recovery**	**Rec Limits**			
	DCAA	17.9 µg/L		25 µg/L	72%	10-130%			
MS	Hexachlorophene	23.8 µg/L	ND	25 µg/L	95%	10-130%			
Surrogate		**Result**		**Spike Conc**	**Recovery**	**Rec Limits**			
	DCAA	19.2 µg/L		25 µg/L	77%	10-130%			
MSD	Hexachlorophene	22.3 µg/L	ND	25 µg/L	89%	10-130%	6.5%	0-40%	
Surrogate		**Result**		**Spike Conc**	**Recovery**	**Rec Limits**			
	DCAA	22.1 µg/L		25 µg/L	88%	10-130%			
QCBatchID	**OCP__02734_L**								
Blank	alpha-BHC	ND µg/L							
	gamma-BHC (Lindane)	ND µg/L							
	beta-BHC	ND µg/L							
	delta-BHC	ND µg/L							
	Heptachlor	ND µg/L							
	Aldrin	ND µg/L							
	Heptachlor Epoxide	ND µg/L							
	alpha-Endosulfan (Endosulfan I)	ND µg/L							
	4,4'-DDE	ND µg/L							
	Dieldrin	ND µg/L							
	Endrin	ND µg/L							

City of Sherman
Chester Wilson

QC Summary

Project Name: **Effluent**

QC Type	Parameter	Result	Reference Value	Spike Conc	Rec	Rec Limits	RPD	RPD Limits	Flags
QCBatchID	**OCP__02734_L**								
	4,4'-DDD	ND µg/L							
	beta-Endosulfan (Endosulfan II)	ND µg/L							
	4,4'-DDT	ND µg/L							
	Endrin Aldehyde	ND µg/L							
	Endosulfan Sulfate	ND µg/L							
	Toxaphene	ND µg/L							
	Chlordane	ND µg/L							
Surrogate		**Result**		**Spike Conc**	**Recovery**	**Rec Limits**			
	Tetrachloro-m-xylene	74.4 µg/L		100 µg/L	74%	50-140%			
	Decachlorobiphenyl	88.7 µg/L		100 µg/L	89%	50-140%			
LCS	alpha-BHC	74.9 µg/L		100 µg/L	75%	40-140%			
	gamma-BHC (Lindane)	80.6 µg/L		100 µg/L	81%	40-140%			
	beta-BHC	83.0 µg/L		100 µg/L	83%	40-140%			
	delta-BHC	77.5 µg/L		100 µg/L	78%	40-140%			
	Heptachlor	84.3 µg/L		100 µg/L	84%	40-140%			
	Aldrin	80.7 µg/L		100 µg/L	81%	45-140%			
	Heptachlor Epoxide	85.3 µg/L		100 µg/L	85%	40-140%			
	alpha-Endosulfan (Endosulfan I)	90.1 µg/L		100 µg/L	90%	45-140%			
	4,4'-DDE	85.0 µg/L		100 µg/L	85%	40-140%			
	Dieldrin	86.9 µg/L		100 µg/L	87%	40-140%			
	Endrin	88.0 µg/L		100 µg/L	88%	40-140%			
	4,4'-DDD	83.6 µg/L		100 µg/L	84%	40-140%			
	beta-Endosulfan (Endosulfan II)	86.8 µg/L		100 µg/L	87%	40-140%			
	4,4'-DDT	87.2 µg/L		100 µg/L	87%	40-140%			
	Endosulfan Sulfate	71.8 µg/L		100 µg/L	72%	40-140%			
Surrogate		**Result**		**Spike Conc**	**Recovery**	**Rec Limits**			
	Tetrachloro-m-xylene	69.2 µg/L		100 µg/L	69%	50-140%			
	Decachlorobiphenyl	82.5 µg/L		100 µg/L	83%	50-140%			
LCSD	alpha-BHC	72.7 µg/L		100 µg/L	73%	40-140%	3.0%	0-35%	
	gamma-BHC (Lindane)	79.8 µg/L		100 µg/L	80%	40-140%	1.0%	0-35%	
	beta-BHC	83.2 µg/L		100 µg/L	83%	40-140%	0.2%	0-35%	
	delta-BHC	78.4 µg/L		100 µg/L	78%	40-140%	1.2%	0-35%	
	Heptachlor	81.6 µg/L		100 µg/L	82%	40-140%	3.3%	0-35%	
	Aldrin	77.7 µg/L		100 µg/L	78%	45-140%	3.8%	0-35%	
	Heptachlor Epoxide	84.2 µg/L		100 µg/L	84%	40-140%	1.3%	0-25%	
	alpha-Endosulfan (Endosulfan I)	89.3 µg/L		100 µg/L	89%	45-140%	0.9%	0-25%	
	4,4'-DDE	83.4 µg/L		100 µg/L	83%	40-140%	1.9%	0-35%	
	Dieldrin	86.0 µg/L		100 µg/L	86%	40-140%	1.0%	0-35%	
	Endrin	87.6 µg/L		100 µg/L	88%	40-140%	0.5%	0-35%	
	4,4'-DDD	83.7 µg/L		100 µg/L	84%	40-140%	0.1%	0-35%	

City of Sherman
Chester Wilson

QC Summary

Project Name: **Effluent**

QC Type	Parameter	Result	Reference Value	Spike Conc	Rec	Rec Limits	RPD	RPD Limits	Flags
QCBatchID	**OCP__02734_L**								
	beta-Endosulfan (Endosulfan II)	88.0 µg/L		100 µg/L	88%	40-140%	1.4%	0-35%	
	4,4'-DDT	86.5 µg/L		100 µg/L	87%	40-140%	0.8%	0-35%	
	Endosulfan Sulfate	77.5 µg/L		100 µg/L	78%	40-140%	7.6%	0-35%	
Surrogate		**Result**		**Spike Conc**	**Recovery**	**Rec Limits**			
	Tetrachloro-m-xylene	66.9 µg/L		100 µg/L	67%	50-140%			
	Decachlorobiphenyl	89.4 µg/L		100 µg/L	89%	50-140%			
MS	alpha-BHC	61.2 µg/L	ND	100 µg/L	61%	40-140%			
	gamma-BHC (Lindane)	65.8 µg/L	ND	100 µg/L	66%	40-140%			
	beta-BHC	72.8 µg/L	ND	100 µg/L	73%	40-140%			
	delta-BHC	71.7 µg/L	ND	100 µg/L	72%	40-140%			
	Heptachlor	79.2 µg/L	ND	100 µg/L	79%	40-140%			
	Aldrin	68.6 µg/L	ND	100 µg/L	69%	45-140%			
	Heptachlor Epoxide	80.4 µg/L	ND	100 µg/L	81%	40-140%			
	alpha-Endosulfan (Endosulfan I)	83.2 µg/L	ND	100 µg/L	83%	45-140%			
	4,4'-DDE	83.9 µg/L	ND	100 µg/L	84%	40-140%			
	Dieldrin	83.8 µg/L	ND	100 µg/L	84%	40-140%			
	Endrin	87.7 µg/L	ND	100 µg/L	88%	40-140%			
	4,4'-DDD	80.2 µg/L	ND	100 µg/L	80%	40-140%			
	beta-Endosulfan (Endosulfan II)	81.2 µg/L	ND	100 µg/L	81%	40-140%			
	4,4'-DDT	81.6 µg/L	ND	100 µg/L	82%	40-140%			
	Endosulfan Sulfate	75.6 µg/L	ND	100 µg/L	76%	40-140%			
Surrogate		**Result**		**Spike Conc**	**Recovery**	**Rec Limits**			
	Tetrachloro-m-xylene	68.0 µg/L		100 µg/L	68%	50-140%			
	Decachlorobiphenyl	81.0 µg/L		100 µg/L	81%	50-140%			
MSD	alpha-BHC	55.3 µg/L	ND	100 µg/L	55%	40-140%	10.1%	0-35%	
	gamma-BHC (Lindane)	59.2 µg/L	ND	100 µg/L	59%	40-140%	10.6%	0-35%	
	beta-BHC	66.4 µg/L	ND	100 µg/L	66%	40-140%	9.3%	0-35%	
	delta-BHC	64.7 µg/L	ND	100 µg/L	65%	40-140%	10.3%	0-35%	
	Heptachlor	71.3 µg/L	ND	100 µg/L	71%	40-140%	10.5%	0-35%	
	Aldrin	61.7 µg/L	ND	100 µg/L	62%	45-140%	10.6%	0-35%	
	Heptachlor Epoxide	71.4 µg/L	ND	100 µg/L	71%	40-140%	11.9%	0-25%	
	alpha-Endosulfan (Endosulfan I)	74.1 µg/L	ND	100 µg/L	74%	45-140%	11.6%	0-25%	
	4,4'-DDE	74.2 µg/L	ND	100 µg/L	74%	40-140%	12.3%	0-35%	
	Dieldrin	74.6 µg/L	ND	100 µg/L	75%	40-140%	11.6%	0-35%	
	Endrin	78.3 µg/L	ND	100 µg/L	78%	40-140%	11.3%	0-35%	
	4,4'-DDD	71.3 µg/L	ND	100 µg/L	71%	40-140%	11.7%	0-35%	
	beta-Endosulfan (Endosulfan II)	71.9 µg/L	ND	100 µg/L	72%	40-140%	12.1%	0-35%	
	4,4'-DDT	72.3 µg/L	ND	100 µg/L	72%	40-140%	12.1%	0-35%	
	Endosulfan Sulfate	63.3 µg/L	ND	100 µg/L	63%	40-140%	17.7%	0-35%	

City of Sherman
Chester Wilson

QC Summary

Project Name: **Effluent**

QC Type	Parameter	Result	Reference Value	Spike Conc	Rec	Rec Limits	RPD	RPD Limits	Flags
QCBatchID OCP__02734_L									
Surrogate		**Result**		**Spike Conc**	**Recovery**	**Rec Limits**			
	Tetrachloro-m-xylene	67.7 µg/L		100 µg/L	68%	50-140%			
	Decachlorobiphenyl	79.8 µg/L		100 µg/L	80%	50-140%			
QCBatchID PCB__02734_L									
Blank	Aroclor - 1016	ND µg/L							
	Aroclor - 1221	ND µg/L							
	Aroclor - 1232	ND µg/L							
	Aroclor - 1242	ND µg/L							
	Aroclor - 1248	ND µg/L							
	Aroclor - 1254	ND µg/L							
	Aroclor - 1260	ND µg/L							
Surrogate		**Result**		**Spike Conc**	**Recovery**	**Rec Limits**			
	Decachlorobiphenyl	77.2 µg/L		100 µg/L	77%	50-140%			
LCS	Aroclor - 1016	89.3 µg/L		100 µg/L	89%	50-140%			
	Aroclor - 1260	93.4 µg/L		100 µg/L	93%	40-140%			
Surrogate		**Result**		**Spike Conc**	**Recovery**	**Rec Limits**			
	Decachlorobiphenyl	92.1 µg/L		100 µg/L	92%	50-140%			
LCSD	Aroclor - 1016	87.3 µg/L		100 µg/L	87%	50-140%	2.3%	0-35%	
	Aroclor - 1260	91.8 µg/L		100 µg/L	92%	40-140%	1.8%	0-35%	
Surrogate		**Result**		**Spike Conc**	**Recovery**	**Rec Limits**			
	Decachlorobiphenyl	93.2 µg/L		100 µg/L	93%	50-140%			
MS	Aroclor - 1016	90.6 µg/L	ND	100 µg/L	91%	50-140%			
	Aroclor - 1260	86.1 µg/L	ND	100 µg/L	86%	40-140%			
Surrogate		**Result**		**Spike Conc**	**Recovery**	**Rec Limits**			
	Decachlorobiphenyl	111 µg/L		100 µg/L	111%	50-140%			
MSD	Aroclor - 1016	102 µg/L	ND	100 µg/L	102%	50-140%	11.4%	0-35%	
	Aroclor - 1260	98.7 µg/L	ND	100 µg/L	99%	40-140%	13.7%	0-35%	
Surrogate		**Result**		**Spike Conc**	**Recovery**	**Rec Limits**			
	Decachlorobiphenyl	114 µg/L		100 µg/L	114%	50-140%			
QCBatchID VOC__33224_L									
Blank	Methyl Chloride (Chloromethane)	ND µg/L							
	Vinyl Chloride	ND µg/L							
	Methyl Bromide (Bromomethane)	ND µg/L							
	Chloroethane	ND µg/L							
	Acrolein	ND µg/L							
	1,1-Dichloroethylene	ND µg/L							
	Methylene Chloride	ND µg/L							
	Acrylonitrile	ND µg/L							
	1,2-Trans-Dichloroethylene	ND µg/L							
	1,1-Dichloroethane	ND µg/L							

City of Sherman
Chester Wilson

QC Summary

Project Name: **Effluent**

QC Type	Parameter	Result	Reference Value	Spike Conc	Rec	Rec Limits	RPD	RPD Limits	Flags
QCBatchID	**VOC__33224_L**								
	Methyl Ethyl Ketone (2-Butanone)	ND µg/L							
	Chloroform	ND µg/L							
	1,1,1-Trichloroethane	ND µg/L							
	Carbon Tetrachloride (Tetrachloromethane)	ND µg/L							
	Benzene	ND µg/L							
	1,2-Dichloroethane	ND µg/L							
	Trichloroethylene	ND µg/L							
	1,2-Dichloropropane	ND µg/L							
	Dichlorobromomethane (Bromodichloromethane)	ND µg/L							
	2-Chloroethylvinyl Ether	ND µg/L							
	Cis-1,3-dichloropropylene	ND µg/L							
	Toluene	ND µg/L							
	trans 1,3-Dichloropropylene	ND µg/L							
	1,1,2-Trichloroethane	ND µg/L							
	Tetrachloroethylene	ND µg/L							
	1,2-Dibromoethane (EDB)	ND µg/L							
	Chlorodibromomethane (Dibromochloromethane)	ND µg/L							
	Chlorobenzene	ND µg/L							
	Ethylbenzene	ND µg/L							
	Bromoform (Tribromomethane)	ND µg/L							
	1,1,2,2-Tetrachloroethane	ND µg/L							
	1,2-Dichlorobenzene	ND µg/L							
	1,3-Dichlorobenzene	ND µg/L							
	1,4-Dichlorobenzene	ND µg/L							
Surrogate		**Result**		**Spike Conc**	**Recovery**	**Rec Limits**			
	Dibromofluoromethane	48.3 µg/L		50 µg/L	97%	86-118%			
	1,2 Dichloroethane-d4	50.2 µg/L		50 µg/L	100%	80-120%			
	Toluene-d8	51.6 µg/L		50 µg/L	103%	88-117%			
	4-Bromofluorobenzene	47.7 µg/L		50 µg/L	95%	86-115%			
LCS	Methyl Chloride (Chloromethane)	55.0 µg/L		50 µg/L	110%	10-273%			
	Vinyl Chloride	54.7 µg/L		50 µg/L	109%	10-251%			
	Methyl Bromide (Bromomethane)	48.8 µg/L		50 µg/L	98%	10-242%			
	Chloroethane	65.6 µg/L		50 µg/L	131%	14-230%			
	Trichlorofluoromethane	54.2 µg/L		50 µg/L	108%	17-181%			
	1,1-Dichloroethylene	54.3 µg/L		50 µg/L	109%	10-243%			
	Methylene Chloride	50.0 µg/L		50 µg/L	100%	10-221%			
	1,2-Trans-Dichloroethylene	54.6 µg/L		50 µg/L	109%	54-156%			
	1,1-Dichloroethane	57.1 µg/L		50 µg/L	114%	59-155%			
	Chloroform	51.4 µg/L		50 µg/L	103%	51-138%			

City of Sherman
Chester Wilson

QC Summary

Project Name: **Effluent**

QC Type	Parameter	Result	Reference Value	Spike Conc	Rec	Rec Limits	RPD	RPD Limits	Flags
QCBatchID	**VOC_33224_L**								
	1,1,1-Trichloroethane	55.1 µg/L		50 µg/L	110%	52-162%			
	Carbon Tetrachloride (Tetrachloromethane)	50.1 µg/L		50 µg/L	100%	70-140%			
	1,2-Dichloroethane	50.4 µg/L		50 µg/L	101%	49-155%			
	Benzene	50.5 µg/L		50 µg/L	101%	37-151%			
	Trichloroethylene	50.4 µg/L		50 µg/L	101%	71-157%			
	1,2-Dichloropropane	50.8 µg/L		50 µg/L	102%	10-210%			
	Dichlorobromomethane (Bromodichloromethane)	55.0 µg/L		50 µg/L	110%	35-155%			
	Toluene	51.6 µg/L		50 µg/L	103%	47-150%			
	trans 1,3-Dichloropropylene	46.8 µg/L		50 µg/L	94%	17-183%			
	1,1,2-Trichloroethane	52.2 µg/L		50 µg/L	104%	52-150%			
	Cis-1,3-dichloropropene	49.7 µg/L		50 µg/L	99%	10-227%			
	Tetrachloroethylene	50.1 µg/L		50 µg/L	100%	64-148%			
	Chlorodibromomethane (Dibromochloromethane)	48.7 µg/L		50 µg/L	97%	53-149%			
	Chlorobenzene	51.1 µg/L		50 µg/L	102%	37-160%			
	Ethylbenzene	51.9 µg/L		50 µg/L	104%	37-162%			
	Bromoform (Tribromomethane)	45.1 µg/L		50 µg/L	90%	45-169%			
	1,1,2,2-Tetrachloroethane	48.6 µg/L		50 µg/L	97%	46-157%			
	1,3-Dichlorobenzene	51.1 µg/L		50 µg/L	102%	59-156%			
	1,4-Dichlorobenzene	49.7 µg/L		50 µg/L	99%	18-190%			
	1,2-Dichlorobenzene	51.4 µg/L		50 µg/L	103%	18-190%			
Surrogate		**Result**		**Spike Conc**	**Recovery**	**Rec Limits**			
	Dibromofluoromethane	53.9 µg/L		50 µg/L	108%	86-118%			
	1,2 Dichloroethane-d4	50.0 µg/L		50 µg/L	100%	80-120%			
	Toluene-d8	50.5 µg/L		50 µg/L	101%	88-117%			
	4-Bromofluorobenzene	49.5 µg/L		50 µg/L	99%	86-115%			
LCSD	Methyl Chloride (Chloromethane)	53.3 µg/L		50 µg/L	107%	10-273%	3.1%	0-25%	
	Vinyl Chloride	53.9 µg/L		50 µg/L	108%	10-251%	1.5%	0-25%	
	Methyl Bromide (Bromomethane)	48.2 µg/L		50 µg/L	96%	10-242%	1.2%	0-25%	
	Chloroethane	61.0 µg/L		50 µg/L	122%	14-230%	7.3%	0-25%	
	Trichlorofluoromethane	53.1 µg/L		50 µg/L	106%	17-181%	2.1%	0-25%	
	1,1-Dichloroethylene	53.7 µg/L		50 µg/L	107%	10-243%	1.1%	0-25%	
	Methylene Chloride	48.9 µg/L		50 µg/L	98%	10-221%	2.2%	0-25%	
	1,2-Trans-Dichloroethylene	53.7 µg/L		50 µg/L	107%	54-156%	1.7%	0-25%	
	1,1-Dichloroethane	55.9 µg/L		50 µg/L	112%	59-155%	2.1%	0-25%	
	Chloroform	50.5 µg/L		50 µg/L	101%	51-138%	1.8%	0-25%	
	1,1,1-Trichloroethane	54.8 µg/L		50 µg/L	110%	52-162%	0.5%	0-25%	
	Carbon Tetrachloride (Tetrachloromethane)	49.7 µg/L		50 µg/L	99%	70-140%	0.8%	0-25%	
	1,2-Dichloroethane	50.0 µg/L		50 µg/L	100%	49-155%	0.8%	0-25%	
	Benzene	49.7 µg/L		50 µg/L	99%	37-151%	1.6%	0-25%	

City of Sherman
Chester Wilson

QC Summary

Project Name: **Effluent**

QC Type	Parameter	Result	Reference Value	Spike Conc	Rec	Rec Limits	RPD	RPD Limits	Flags
QCBatchID	**VOC__33224_L**								
	Trichloroethylene	50.0 µg/L		50 µg/L	100%	71-157%	0.8%	0-25%	
	1,2-Dichloropropane	49.9 µg/L		50 µg/L	100%	10-210%	1.8%	0-25%	
	Dichlorobromomethane (Bromodichloromethane)	54.2 µg/L		50 µg/L	108%	35-155%	1.5%	0-25%	
	Toluene	50.6 µg/L		50 µg/L	101%	47-150%	2.0%	0-25%	
	trans 1,3-Dichloropropylene	46.7 µg/L		50 µg/L	93%	17-183%	0.2%	0-25%	
	1,1,2-Trichloroethane	52.1 µg/L		50 µg/L	104%	52-150%	0.2%	0-25%	
	Cis-1,3-dichloropropene	49.4 µg/L		50 µg/L	99%	10-227%	0.6%	0-25%	
	Tetrachloroethylene	49.4 µg/L		50 µg/L	99%	64-148%	1.4%	0-25%	
	Chlorodibromomethane (Dibromochloromethane)	48.4 µg/L		50 µg/L	97%	53-149%	0.6%	0-25%	
	Chlorobenzene	50.1 µg/L		50 µg/L	100%	37-160%	2.0%	0-25%	
	Ethylbenzene	50.9 µg/L		50 µg/L	102%	37-162%	1.9%	0-25%	
	Bromoform (Tribromomethane)	45.1 µg/L		50 µg/L	90%	45-169%	0.0%	0-25%	
	1,1,2,2-Tetrachloroethane	48.1 µg/L		50 µg/L	96%	46-157%	1.0%	0-25%	
	1,3-Dichlorobenzene	51.1 µg/L		50 µg/L	102%	59-156%	0.0%	0-25%	
	1,4-Dichlorobenzene	49.6 µg/L		50 µg/L	99%	18-190%	0.2%	0-25%	
	1,2-Dichlorobenzene	51.2 µg/L		50 µg/L	102%	18-190%	0.4%	0-25%	
Surrogate		**Result**		**Spike Conc**	**Recovery**	**Rec Limits**			
	Dibromofluoromethane	53.2 µg/L		50 µg/L	106%	86-118%			
	1,2 Dichloroethane-d4	50.1 µg/L		50 µg/L	100%	80-120%			
	Toluene-d8	49.9 µg/L		50 µg/L	100%	88-117%			
	4-Bromofluorobenzene	49.0 µg/L		50 µg/L	98%	86-115%			
MS	Methyl Chloride (Chloromethane)	53.7 µg/L	ND	50 µg/L	107%	10-273%			
	Vinyl Chloride	55.1 µg/L	ND	50 µg/L	110%	10-251%			
	Methyl Bromide (Bromomethane)	45.9 µg/L	ND	50 µg/L	92%	10-242%			
	Chloroethane	50.1 µg/L	ND	50 µg/L	100%	14-230%			
	Trichlorofluoromethane	53.6 µg/L	ND	50 µg/L	107%	17-181%			
	1,1-Dichloroethylene	54.0 µg/L	ND	50 µg/L	108%	10-243%			
	Methylene Chloride	49.1 µg/L	ND	50 µg/L	98%	10-221%			
	1,2-Trans-Dichloroethylene	54.1 µg/L	ND	50 µg/L	108%	54-156%			
	1,1-Dichloroethane	56.5 µg/L	ND	50 µg/L	113%	59-155%			
	Chloroform	50.8 µg/L	ND	50 µg/L	102%	51-138%			
	1,1,1-Trichloroethane	54.6 µg/L	ND	50 µg/L	109%	52-162%			
	Carbon Tetrachloride (Tetrachloromethane)	49.9 µg/L	ND	50 µg/L	100%	70-140%			
	1,2-Dichloroethane	50.7 µg/L	ND	50 µg/L	101%	49-155%			
	Benzene	50.3 µg/L	ND	50 µg/L	101%	37-151%			
	Trichloroethylene	49.9 µg/L	ND	50 µg/L	100%	71-157%			
	1,2-Dichloropropane	50.3 µg/L	ND	50 µg/L	101%	10-210%			
	Dichlorobromomethane (Bromodichloromethane)	54.1 µg/L	ND	50 µg/L	108%	35-155%			
	Toluene	51.7 µg/L	ND	50 µg/L	103%	47-150%			

City of Sherman
Chester Wilson

QC Summary

Project Name: **Effluent**

QC Type	Parameter	Result	Reference Value	Spike Conc	Rec	Rec Limits	RPD	RPD Limits	Flags
QCBatchID	**VOC__33224_L**								
	trans 1,3-Dichloropropylene	46.3 µg/L	ND	50 µg/L	93%	17-183%			
	1,1,2-Trichloroethane	52.4 µg/L	ND	50 µg/L	105%	52-150%			
	Cis-1,3-dichloropropene	49.1 µg/L	ND	50 µg/L	98%	10-227%			
	Tetrachloroethylene	49.3 µg/L	ND	50 µg/L	99%	64-148%			
	Chlorodibromomethane (Dibromochloromethane)	48.1 µg/L	ND	50 µg/L	96%	53-149%			
	Chlorobenzene	50.4 µg/L	ND	50 µg/L	101%	37-160%			
	Ethylbenzene	51.6 µg/L	ND	50 µg/L	103%	37-162%			
	Bromoform (Tribromomethane)	45.0 µg/L	ND	50 µg/L	90%	45-169%			
	1,1,2,2-Tetrachloroethane	50.2 µg/L	ND	50 µg/L	100%	46-157%			
	1,3-Dichlorobenzene	51.0 µg/L	ND	50 µg/L	102%	59-156%			
	1,4-Dichlorobenzene	49.2 µg/L	ND	50 µg/L	98%	18-190%			
	1,2-Dichlorobenzene	51.4 µg/L	ND	50 µg/L	103%	18-190%			
Surrogate		**Result**		**Spike Conc**	**Recovery**	**Rec Limits**			
	Dibromofluoromethane	53.8 µg/L		50 µg/L	108%	86-118%			
	1,2 Dichloroethane-d4	50.2 µg/L		50 µg/L	100%	80-120%			
	Toluene-d8	49.9 µg/L		50 µg/L	100%	88-117%			
	4-Bromofluorobenzene	49.2 µg/L		50 µg/L	98%	86-115%			
MSD	Methyl Chloride (Chloromethane)	54.6 µg/L	ND	50 µg/L	109%	10-273%	1.7%	0-25%	
	Vinyl Chloride	54.9 µg/L	ND	50 µg/L	110%	10-251%	0.4%	0-25%	
	Methyl Bromide (Bromomethane)	47.6 µg/L	ND	50 µg/L	95%	10-242%	3.6%	0-25%	
	Chloroethane	48.9 µg/L	ND	50 µg/L	98%	14-230%	2.4%	0-25%	
	Trichlorofluoromethane	53.2 µg/L	ND	50 µg/L	106%	17-181%	0.8%	0-25%	
	1,1-Dichloroethylene	53.7 µg/L	ND	50 µg/L	107%	10-243%	0.6%	0-25%	
	Methylene Chloride	48.1 µg/L	ND	50 µg/L	96%	10-221%	2.1%	0-25%	
	1,2-Trans-Dichloroethylene	53.8 µg/L	ND	50 µg/L	108%	54-156%	0.6%	0-25%	
	1,1-Dichloroethane	55.5 µg/L	ND	50 µg/L	111%	59-155%	1.8%	0-25%	
	Chloroform	49.9 µg/L	ND	50 µg/L	100%	51-138%	1.8%	0-25%	
	1,1,1-Trichloroethane	54.9 µg/L	ND	50 µg/L	110%	52-162%	0.6%	0-25%	
	Carbon Tetrachloride (Tetrachloromethane)	50.2 µg/L	ND	50 µg/L	100%	70-140%	0.6%	0-25%	
	1,2-Dichloroethane	49.5 µg/L	ND	50 µg/L	99%	59-155%	2.4%	0-25%	
	Benzene	49.8 µg/L	ND	50 µg/L	100%	37-151%	1.0%	0-25%	
	Trichloroethylene	50.2 µg/L	ND	50 µg/L	100%	71-157%	0.6%	0-25%	
	1,2-Dichloropropane	50.1 µg/L	ND	50 µg/L	100%	10-210%	0.4%	0-25%	
	Dichlorobromomethane (Bromodichloromethane)	53.6 µg/L	ND	50 µg/L	107%	35-155%	0.9%	0-25%	
	Toluene	51.9 µg/L	ND	50 µg/L	104%	47-150%	0.4%	0-25%	
	trans 1,3-Dichloropropylene	46.3 µg/L	ND	50 µg/L	93%	17-183%	0.0%	0-25%	
	1,1,2-Trichloroethane	51.8 µg/L	ND	50 µg/L	104%	52-150%	1.2%	0-25%	
	Cis-1,3-dichloropropene	49.0 µg/L	ND	50 µg/L	98%	10-227%	0.2%	0-25%	
	Tetrachloroethylene	50.9 µg/L	ND	50 µg/L	102%	64-148%	3.2%	0-25%	

City of Sherman
Chester Wilson

QC Summary

Project Name: **Effluent**

QC Type	Parameter	Result	Reference Value	Spike Conc	Rec	Rec Limits	RPD	RPD Limits	Flags
QCBatchID VOC__33224_L									
	Chlorodibromomethane (Dibromochloromethane)	48.0 µg/L	ND	50 µg/L	96%	53-149%	0.2%	0-25%	
	Chlorobenzene	50.6 µg/L	ND	50 µg/L	101%	37-160%	0.4%	0-25%	
	Ethylbenzene	52.1 µg/L	ND	50 µg/L	104%	37-162%	1.0%	0-25%	
	Bromoform (Tribromomethane)	45.0 µg/L	ND	50 µg/L	90%	45-169%	0.0%	0-25%	
	1,1,2,2-Tetrachloroethane	50.0 µg/L	ND	50 µg/L	100%	46-157%	0.4%	0-25%	
	1,3-Dichlorobenzene	51.6 µg/L	ND	50 µg/L	103%	59-156%	1.2%	0-25%	
	1,4-Dichlorobenzene	50.2 µg/L	ND	50 µg/L	100%	18-190%	2.0%	0-25%	
	1,2-Dichlorobenzene	51.9 µg/L	ND	50 µg/L	104%	18-190%	1.0%	0-25%	
Surrogate		**Result**		**Spike Conc**	**Recovery**	**Rec Limits**			
	Dibromofluoromethane	53.0 µg/L		50 µg/L	106%	86-118%			
	1,2 Dichloroethane-d4	49.8 µg/L		50 µg/L	100%	80-120%			
	Toluene-d8	50.3 µg/L		50 µg/L	101%	88-117%			
	4-Bromofluorobenzene	49.7 µg/L		50 µg/L	99%	86-115%			
QCBatchID SUB__50723_L									
Blank	Tetramethylammonium Hydroxide	ND µg/L							
	Benzyldimethyldecylammonium	ND µg/L							
	Benzyldimethyldodecylammonium	ND µg/L							
	Benzyldimethylhexadecylammonium	ND µg/L							
	Benzyldimethyloctadecylammonium	ND µg/L							
	Benzyldimethyloctylammonium	ND µg/L							
	Benzyldimethyltetradecylammonium	ND µg/L							
	Cetylpyridinium	ND µg/L							
	Didecyldimethylammonium	ND µg/L							
	Didodecyldimethylammonium	ND µg/L							
	Dihexadecyldimethylammonium	ND µg/L							
	Dioctadecyldimethylammonium	ND µg/L							
	Dioctyldimethylammonium	ND µg/L							
	Ditetradecyldimethylammonium	ND µg/L							
	Octyldecyldimethylammonium	ND µg/L							
	Tetramethylammonium	ND µg/L							
	Tetrapropylammonium	ND µg/L							

City of Sherman
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QC Summary

Project Name: **Effluent**

QC Type	Parameter	Result	Reference Value	Spike Conc	Rec	Rec Limits	RPD	RPD Limits	Flags
QCBatchID	**SUB__50723_L**								
Surrogate		**Result**		**Spike Conc**	**Recovery**	**Rec Limits**			
	d25-DADMAC	145 µg/L		250 µg/L	58%	60-140%			Q-7
LCS	Benzyldimethyldecylammonium	50.8 µg/L		50 µg/L	102%	60-140%			
	Benzyldimethyldodecylammonium	49.1 µg/L		50 µg/L	98%	60-140%			
	Benzyldimethylhexadecylammonium	55.2 µg/L		50 µg/L	110%	60-140%			
	Benzyldimethyloctadecylammonium	54.2 µg/L		50 µg/L	108%	60-140%			
	Benzyldimethyloctylammonium	59.2 µg/L		50 µg/L	118%	60-140%			
	Benzyldimethyltetradecylammonium	55.4 µg/L		50 µg/L	111%	60-140%			
	Cetylpyridinium	47.6 µg/L		50 µg/L	95%	60-140%			
	Didecyldimethylammonium	38.0 µg/L		50 µg/L	76%	60-140%			
	Didodecyldimethylammonium	37.2 µg/L		50 µg/L	74%	60-140%			
	Dihexadecyldimethylammonium	30.1 µg/L		50 µg/L	60%	60-140%			
	Dioctadecyldimethylammonium	20.7 µg/L		50 µg/L	41%	60-140%			Q-7
	Dioctyldimethylammonium	45.9 µg/L		50 µg/L	92%	60-140%			
	Ditetradecyldimethylammonium	35.6 µg/L		50 µg/L	71%	60-140%			
	Octyldecyldimethylammonium	33.5 µg/L		50 µg/L	67%	60-140%			
	Tetramethylammonium	491 µg/L		500 µg/L	98%	60-140%			
	Tetrapropylammonium	41.0 µg/L		50 µg/L	82%	60-140%			
Surrogate		**Result**		**Spike Conc**	**Recovery**	**Rec Limits**			
	d25-DADMAC	179 µg/L		250 µg/L	72%	60-140%			
LCSD	Benzyldimethyldecylammonium	59.4 µg/L		50 µg/L	119%	60-140%	15.6%	0-30%	
	Benzyldimethyldodecylammonium	58.2 µg/L		50 µg/L	116%	60-140%	17.0%	0-30%	
	Benzyldimethylhexadecylammonium	66.2 µg/L		50 µg/L	132%	60-140%	18.1%	0-30%	
	Benzyldimethyloctadecylammonium	65.0 µg/L		50 µg/L	130%	60-140%	18.1%	0-30%	
	Benzyldimethyloctylammonium	69.1 µg/L		50 µg/L	138%	60-140%	15.4%	0-30%	
	Benzyldimethyltetradecylammonium	65.9 µg/L		50 µg/L	132%	60-140%	17.3%	0-30%	
	Cetylpyridinium	56.0 µg/L		50 µg/L	112%	60-140%	16.2%	0-30%	
	Didecyldimethylammonium	45.6 µg/L		50 µg/L	91%	60-140%	18.2%	0-30%	
	Didodecyldimethylammonium	44.9 µg/L		50 µg/L	90%	60-140%	18.8%	0-30%	

City of Sherman
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QC Summary

Project Name: **Effluent**

QC Type	Parameter	Result	Reference Value	Spike Conc	Rec	Rec Limits	RPD	RPD Limits	Flags
QCBatchID	**SUB__50723_L**								
	Dihexadecyldimethylammonium	34.6 µg/L		50 µg/L	69%	60-140%	13.9%	0-30%	
	Dioctadecyldimethylammonium	22.5 µg/L		50 µg/L	45%	60-140%	8.3%	0-30%	Q-7
	Dioctyldimethylammonium	55.6 µg/L		50 µg/L	111%	60-140%	19.1%	0-30%	
	Ditetradecyldimethylammonium	42.6 µg/L		50 µg/L	85%	60-140%	17.9%	0-30%	
	Octyldecyldimethylammonium	40.6 µg/L		50 µg/L	81%	60-140%	19.2%	0-30%	
	Tetramethylammonium	563 µg/L		500 µg/L	113%	60-140%	13.7%	0-30%	
	Tetrapropylammonium	47.5 µg/L		50 µg/L	95%	60-140%	14.7%	0-30%	
Surrogate		**Result**		**Spike Conc**	**Recovery**	**Rec Limits**			
	d25-DADMAC	175 µg/L		250 µg/L	70%	60-140%			
MS	Benzyldimethyldecylammonium	544 µg/L	ND	500 µg/L	109%	50-150%			
	Benzyldimethyldodecylammonium	513 µg/L	ND	500 µg/L	103%	50-150%			
	Benzyldimethylhexadecylammonium	377 µg/L	ND	500 µg/L	75%	50-150%			
	Benzyldimethyloctadecylammonium	351 µg/L	ND	500 µg/L	70%	50-150%			
	Benzyldimethyloctylammonium	635 µg/L	ND	500 µg/L	127%	50-150%			
	Benzyldimethyltetradecylammonium	475 µg/L	ND	500 µg/L	95%	50-150%			
	Cetylpyridinium	361 µg/L	ND	500 µg/L	72%	50-150%			
	Didecyldimethylammonium	297 µg/L	ND	500 µg/L	59%	50-150%			
	Didodecyldimethylammonium	234 µg/L	ND	500 µg/L	47%	50-150%			Q-7
	Dihexadecyldimethylammonium	147 µg/L	ND	500 µg/L	29%	50-150%			Q-7
	Dioctadecyldimethylammonium	81.9 µg/L	ND	500 µg/L	16%	50-150%			Q-7
	Dioctyldimethylammonium	463 µg/L	ND	500 µg/L	93%	50-150%			
	Ditetradecyldimethylammonium	249 µg/L	ND	500 µg/L	50%	50-150%			Q-7
	Octyldecyldimethylammonium	300 µg/L	ND	500 µg/L	60%	50-150%			
	Tetramethylammonium	309 µg/L	ND	500 µg/L	62%	50-150%			
	Tetrapropylammonium	396 µg/L	ND	500 µg/L	79%	50-150%			
Surrogate		**Result**		**Spike Conc**	**Recovery**	**Rec Limits**			
	d25-DADMAC	112 µg/L		250 µg/L	45%	60-140%			Q-7
MSD	Benzyldimethyldecylammonium	587 µg/L	ND	500 µg/L	117%	50-150%	7.6%	0-30%	
	Benzyldimethyldodecylammonium	555 µg/L	ND	500 µg/L	111%	50-150%	7.9%	0-30%	
	Benzyldimethylhexadecylammonium	401 µg/L	ND	500 µg/L	80%	50-150%	6.2%	0-30%	

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QC Summary

Project Name: **Effluent**

QC Type	Parameter	Result	Reference Value	Spike Conc	Rec	Rec Limits	RPD	RPD Limits	Flags
QCBatchID SUB__50723_L									
	Benzyldimethyloctadecylammonium	382 µg/L	ND	500 µg/L	76%	50-150%	8.5%	0-30%	
	Benzyldimethyloctylammonium	694 µg/L	ND	500 µg/L	139%	50-150%	8.9%	0-30%	
	Benzyldimethyltetradecylammonium	499 µg/L	ND	500 µg/L	100%	50-150%	4.9%	0-30%	
	Cetylpyridinium	385 µg/L	ND	500 µg/L	77%	50-150%	6.4%	0-30%	
	Didecyldimethylammonium	319 µg/L	ND	500 µg/L	64%	50-150%	7.1%	0-30%	
	Didodecyldimethylammonium	257 µg/L	ND	500 µg/L	51%	50-150%	9.4%	0-30%	
	Dihexadecyldimethylammonium	174 µg/L	ND	500 µg/L	35%	50-150%	16.8%	0-30%	Q-7
	Dioctadecyldimethylammonium	103 µg/L	ND	500 µg/L	21%	50-150%	22.8%	0-30%	Q-7
	Dioctyldimethylammonium	518 µg/L	ND	500 µg/L	104%	50-150%	11.2%	0-30%	
	Ditetradecyldimethylammonium	266 µg/L	ND	500 µg/L	53%	50-150%	6.6%	0-30%	
	Octyldecyldimethylammonium	339 µg/L	ND	500 µg/L	68%	50-150%	12.2%	0-30%	
	Tetramethylammonium	336 µg/L	ND	500 µg/L	67%	50-150%	8.4%	0-30%	
	Tetrapropylammonium	444 µg/L	ND	500 µg/L	89%	50-150%	11.4%	0-30%	
Surrogate		**Result**		**Spike Conc**	**Recovery**	**Rec Limits**			
	d25-DADMAC	126 µg/L		250 µg/L	50%	60-140%			Q-7
QCBatchID SUB__50823_L									
Blank	Silica	ND mg/L							
	Silicate	ND mg/L							
QCBatchID SUB__50923_L									
Blank	Chlorpyrifos	ND µg/L							
Surrogate		**Result**		**Spike Conc**	**Recovery**	**Rec Limits**			
	Tributylphosphate	181 ug/L		1000 ug/L	18%	0.1-115%			
	Triphenylphosphate	342 ug/L		1000 ug/L	34%	0.1-115%			
LCS	Chlorpyrifos	405 µg/L		1000 µg/L	41%	0-128%			
Surrogate		**Result**		**Spike Conc**	**Recovery**	**Rec Limits**			
	Tributylphosphate	481 ug/L		1000 ug/L	48%	0.1-115%			
	Triphenylphosphate	432 ug/L		1000 ug/L	43%	0.1-115%			
LCSD	Chlorpyrifos	384 µg/L		1000 µg/L	38%	0-128%	5.3%	0-30%	
Surrogate		**Result**		**Spike Conc**	**Recovery**	**Rec Limits**			
	Tributylphosphate	450 ug/L		1000 ug/L	45%	0.1-115%			
	Triphenylphosphate	348 ug/L		1000 ug/L	35%	0.1-115%			
MS	Chlorpyrifos	304 µg/L	ND	1000 µg/L	30%	80-120%			Q-7
Surrogate		**Result**		**Spike Conc**	**Recovery**	**Rec Limits**			
	Tributylphosphate	397 ug/L		1000 ug/L	40%	0.1-115%			
	Triphenylphosphate	469 ug/L		1000 ug/L	47%	0.1-115%			
MSD	Chlorpyrifos	279 µg/L	ND	1000 µg/L	28%	80-120%	8.6%	0-30%	Q-7

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QC Summary

Project Name: **Effluent**

QC Type	Parameter	Result	Reference Value	Spike Conc	Rec	Rec Limits	RPD	RPD Limits	Flags
QCBatchID SUB__50923_L									
Surrogate		**Result**		**Spike Conc**	**Recovery**	**Rec Limits**			
	Tributylphosphate	323 ug/L		1000 ug/L	32%	0.1-115%			
	Triphenylphosphate	398 ug/L		1000 ug/L	40%	0.1-115%			
QCBatchID SUB__51023_L									
Blank	Demeton	ND µg/L							
	Diazinon	ND µg/L							
	Guthion (Azinphos Methyl)	ND µg/L							
	Malathion	ND µg/L							
	Parathion Ethyl	ND µg/L							
	Parathion Methyl	ND µg/L							
Surrogate		**Result**		**Spike Conc**	**Recovery**	**Rec Limits**			
	Tributylphosphate	181 ug/L		2000 ug/L	9%	0.1-148%			
	Triphenylphosphate	342 ug/L		2000 ug/L	17%	0.1-406%			
LCS	Guthion (Azinphos Methyl)	437 µg/L		1000 µg/L	44%	0-183%			
	Demeton	332 µg/L		1000 µg/L	33%	0-118%			
	Diazinon	450 µg/L		1000 µg/L	45%	12-120%			
	Malathion	418 µg/L		1000 µg/L	42%	7-144%			
	Parathion Ethyl	370 µg/L		1000 µg/L	37%	6-144%			
	Parathion Methyl	375 µg/L		1000 µg/L	38%	7-150%			
Surrogate		**Result**		**Spike Conc**	**Recovery**	**Rec Limits**			
	Tributylphosphate	481 ug/L		2000 ug/L	24%	0.1-148%			
	Triphenylphosphate	432 ug/L		2000 ug/L	22%	0.1-406%			
LCSD	Guthion (Azinphos Methyl)	422 µg/L		1000 µg/L	42%	0-183%	3.5%	0-30%	
	Demeton	312 µg/L		1000 µg/L	31%	0-118%	6.2%	0-30%	
	Diazinon	417 µg/L		1000 µg/L	42%	12-120%	7.6%	0-30%	
	Malathion	391 µg/L		1000 µg/L	39%	7-144%	6.7%	0-30%	
	Parathion Ethyl	358 µg/L		1000 µg/L	36%	6-144%	3.3%	0-30%	
	Parathion Methyl	356 µg/L		1000 µg/L	36%	7-150%	5.2%	0-30%	
Surrogate		**Result**		**Spike Conc**	**Recovery**	**Rec Limits**			
	Tributylphosphate	450 ug/L		2000 ug/L	23%	0.1-148%			
	Triphenylphosphate	348 ug/L		2000 ug/L	17%	0.1-406%			
MS	Guthion (Azinphos Methyl)	391 µg/L	ND	1000 µg/L	39%	30-150%			
	Demeton	247 µg/L	ND	1000 µg/L	25%	30-150%			Q-7
	Diazinon	341 µg/L	ND	1000 µg/L	34%	30-150%			
	Malathion	330 µg/L	ND	1000 µg/L	33%	30-150%			
	Parathion Ethyl	361 µg/L	ND	1000 µg/L	36%	30-150%			
	Parathion Methyl	379 µg/L	ND	1000 µg/L	38%	30-150%			
Surrogate		**Result**		**Spike Conc**	**Recovery**	**Rec Limits**			
	Tributylphosphate	397 ug/L		2000 ug/L	20%	0.1-148%			
	Triphenylphosphate	469 ug/L		2000 ug/L	23%	0.1-406%			
MSD	Guthion (Azinphos Methyl)	375 µg/L	ND	1000 µg/L	38%	30-150%	4.2%	0-30%	
	Demeton	203 µg/L	ND	1000 µg/L	20%	30-150%	19.6%	0-30%	Q-7
	Diazinon	289 µg/L	ND	1000 µg/L	29%	30-150%	16.5%	0-30%	Q-7

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QC Summary

Project Name: **Effluent**

QC Type	Parameter	Result	Reference Value	Spike Conc	Rec	Rec Limits	RPD	RPD Limits	Flags
QCBatchID SUB__51023_L									
	Malathion	290 µg/L	ND	1000 µg/L	29%	30-150%	12.9%	0-30%	Q-7
	Parathion Ethyl	313 µg/L	ND	1000 µg/L	31%	30-150%	14.2%	0-30%	
	Parathion Methyl	320 µg/L	ND	1000 µg/L	32%	30-150%	16.9%	0-30%	
Surrogate		**Result**		**Spike Conc**	**Recovery**	**Rec Limits**			
	Tributylphosphate	323 ug/L		2000 ug/L	16%	0.1-148%			
	Triphenylphosphate	398 ug/L		2000 ug/L	20%	0.1-406%			
QCBatchID SUB__51123_L									
Blank	Carbaryl	ND µg/L							
	Diuron	62.0 µg/L							
LCS	Carbaryl	889 µg/L		1000 µg/L	89%	17-131%			
	Diuron	28.0 µg/L		1000 µg/L	03%	0-156%			
LCSD	Carbaryl	804 µg/L		1000 µg/L	80%	17-131%	10.0%	0-30%	
	Diuron	663 µg/L		1000 µg/L	%	0-156%			Q-12
MS	Carbaryl	0.0133 µg/L	ND	1000 µg/L	00%	0-215%			Q-7
	Diuron	0.169 µg/L	ND	1000 µg/L	00%	0-148%			Q-7
MSD	Carbaryl	1.78 µg/L	ND	1000 µg/L	%	0-215%			Q-12
	Diuron	0.172 µg/L	ND	1000 µg/L	00%	0-148%	1.8%	0-30%	Q-7
QCBatchID SUB__51223_L									
Blank	Dicofol (Kelthane)	ND µg/L							
	Methoxychlor	ND µg/L							
	Mirex	ND µg/L							
Surrogate		**Result**		**Spike Conc**	**Recovery**	**Rec Limits**			
	Decachlorobiphenyl	55.2 µg/L		100 µg/L	55%	10-150%			
	Tetrachloro-m-xylene	47.9 µg/L		100 µg/L	48%	10-150%			
LCS	Dicofol (Kelthane)	129 µg/L		100 µg/L	129%	0-140%			
	Methoxychlor	94.8 µg/L		100 µg/L	95%	34-135%			
	Mirex	73.7 µg/L		100 µg/L	74%	21-126%			
Surrogate		**Result**		**Spike Conc**	**Recovery**	**Rec Limits**			
	Decachlorobiphenyl	55.3 µg/L		100 µg/L	55%	10-150%			
	Tetrachloro-m-xylene	45.6 µg/L		100 µg/L	46%	10-150%			
LCSD	Dicofol (Kelthane)	128 µg/L		100 µg/L	128%	0-140%	0.8%	0-30%	
	Methoxychlor	96.1 µg/L		100 µg/L	96%	34-135%	1.4%	0-30%	
	Mirex	72.6 µg/L		100 µg/L	73%	21-126%	1.5%	0-30%	
Surrogate		**Result**		**Spike Conc**	**Recovery**	**Rec Limits**			
	Decachlorobiphenyl	49.6 µg/L		100 µg/L	50%	10-150%			
	Tetrachloro-m-xylene	45.2 µg/L		100 µg/L	45%	10-150%			
MS	Dicofol (Kelthane)	1.46 µg/L	ND	1 µg/L	146%	70-130%			Q-7
	Methoxychlor	0.822 µg/L	ND	1 µg/L	82%	70-130%			
	Mirex	0.465 µg/L	ND	1 µg/L	47%	70-130%			Q-7
Surrogate		**Result**		**Spike Conc**	**Recovery**	**Rec Limits**			
	Decachlorobiphenyl	0.400 µg/L		0.995 µg/L	40%	10-150%			
	Tetrachloro-m-xylene	0.396 µg/L		0.995 µg/L	40%	10-150%			

City of Sherman
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QC Summary

Project Name: **Effluent**

QC Type	Parameter	Result	Reference Value	Spike Conc	Rec	Rec Limits	RPD	RPD Limits	Flags
QCBatchID SUB__51223_L									
MSD	Dicofol (Kelthane)	1.47 µg/L	ND	1 µg/L	147%	70-130%	0.7%	0-30%	Q-7
	Methoxychlor	0.765 µg/L	ND	1 µg/L	77%	70-130%	7.2%	0-30%	
	Mirex	0.385 µg/L	ND	1 µg/L	39%	70-130%	18.8%	0-30%	Q-7
Surrogate		**Result**		**Spike Conc**	**Recovery**	**Rec Limits**			
	Decachlorobiphenyl	0.326 µg/L		1 µg/L	33%	10-150%			
	Tetrachloro-m-xylene	0.390 µg/L		1 µg/L	39%	10-150%			
QCBatchID SUB__51323_L									
Blank	Nonylphenol	ND µg/L							
LCS	Nonylphenol	67.1 µg/L		150 µg/L	45%	56-112%			Q-7
LCSD	Nonylphenol	109 µg/L		150 µg/L	73%	56-112%	47.6%	0-30%	Q-7
QCBatchID SUB__51423_L									
Blank	Mercury	ND ng/L							
LCS	Mercury	26.3 ng/L		25 ng/L	105%	76-113%			
LCSD	Mercury	25.9 ng/L		25 ng/L	104%	76-113%	1.5%	0-20%	
MS	Mercury	24.2 ng/L	ND	26.6 ng/L	91%	67-111%			
MSD	Mercury	24.8 ng/L	ND	26.6 ng/L	93%	67-111%	2.5%	0-18%	

City of Sherman
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Case Narrative

Project Name: **Effluent**

*	Refer to QC section and / or Case Narrative
B-4	Analyte detected in blank.
C-1	SDL / SQL lowered by means of initial sample aliquot adjustment.
D-1	Elevated reporting limit(s) due to dilution. Dilution resulted from sample matrix interference, high target analyte(s), high non-target analyte(s) or a combination thereof.
E-1	Not covered under scope of NELAP accreditation.
E-3	Not available under scope of NELAP accreditation.
E-5	Calculation not available under scope of NELAP accreditation.
L-2	Analysis performed by SPL Kilgore, 2600 Dudley Rd. Kilgore TX 75662 - Lab ID- T104704201
L-23	Analytical data provided by client
Q-12	Recovery is not reported due to sample matrix interference, high target analyte(s), high non-target analyte(s) or a combination thereof.
Q-7	Recovery and/or RPD outside desirable limits.
S-14	Result automatically temperature corrected to 25°C.
S-15	Reported as MBAS, calculated as LAS, mol wt 340
S-16	m-Cresol (3-methylphenol) and/ or p-Cresol (4-Methylphenol) reported as p-Cresol (4-Methylphenol)
ppm	Parts per million = mg/Kg or mg/L
ppb	Parts per billion = ug/Kg or ug/L
MQL	Method quantitation limit
SDL	Sample detection limit (reflects any laboratory adjustments made to the sample during analysis such as dry weight or dilutions)
SQL	Sample quantitation limit (reflects any laboratory adjustments made to the sample during analysis such as dry weight or dilutions
ND	Analyte not detected at or above SQL
LCS/LCSD	Laboratory control spike / Laboratory control spike duplicate
MS/MSD	Matrix spike / Matrix spike duplicate
RPD	Relative percent difference
Sub	Analysis performed by subcontract laboratory

Solid samples submitted to the laboratory for analysis by SW-846 Method 8260 should be collected by SW-846 Method 5035. Those samples in which concentrations are less than or equal to 200 ug/kg should be collected in accordance with SW-846 Method 5035, Section 6.2.1. For samples with higher concentrations (> 200 ug/kg), collect samples by SW-846 Method 5035, Section 6.2.2 or 6.2.3. Sample results may not accurately reflect volatile concentrations if collection is not performed according to the referenced methodologies.

Solid samples submitted to the laboratory for analysis by TNRCC Method 1005 should be collected in accordance to the methodology. Those samples in which concentrations of C6 to C12 are known to be absent, or fall under the Petroleum Storage Tank (PST) rule, may be collected in bulk sample jars in accordance with TNRCC Method 1005, Revision 3 clarifications. For samples with concentrations of C6 to C12, or where knowledge of the site does not exist, collect samples by TNRCC Method 1005, Section 6.1. Sample results may not accurately reflect TPH concentrations if collection is not performed according to the referenced methodologies.

Solid sample results reported on a dry weight basis for all applicable analysis, unless otherwise noted. Dry weight calculations based upon % solids obtained as outlined in EPA method 5035 section 7.5.

Herbicides Ending CCV Percent Drift for Silvex for SPL batch ID Herb-00125-L was outside SPL QC limits.

City of Sherman
Chester Wilson

Sample Preservation Verification

Project Name: **Effluent**

Receipt temp: **2.7 °C on Ice**
Receipt method: **Courier**
Custody seal intact: **Yes**
All samples / labels received intact: **Yes**

Customer Sample ID: **Effluent**
SPL Sample ID: **24070279-001**
Collected: **07/17/24 12:18**
Collected By: **WWTP Staff**
Collector Affiliation:
Matrix: **Liquid**

Bottle Type	Count	Collection Method	Parts / Interval	Indicated / Observed Preservation	pH
N/A	0	Grab		None	-

Customer Sample ID: **Effluent**
SPL Sample ID: **24070279-002**
Collected: **07/17/24 08:00 until 07/18/24 07:58**
Collected By: **WWTP Staff**
Collector Affiliation:
Matrix: **Liquid**

Bottle Type	Count	Collection Method	Parts / Interval	Indicated / Observed Preservation	pH
N/A	0	Meter		None	-

Customer Sample ID: **Effluent**
SPL Sample ID: **24070279-003**
Collected: **07/17/24 08:00 until 07/18/24 07:50**
Collected By: **WWTP Staff**
Collector Affiliation:
Matrix: **Liquid**

Bottle Type	Count	Collection Method	Parts / Interval	Indicated / Observed Preservation	pH
500 mL Plastic	1	Flow Composite	24 hour	Temp	-

Customer Sample ID: **Effluent**
SPL Sample ID: **24070279-004**
Collected: **07/18/24 07:45**
Collected By: **WWTP Staff**
Collector Affiliation:
Matrix: **Liquid**

Bottle Type	Count	Collection Method	Parts / Interval	Indicated / Observed Preservation	pH
500 mL Amber	4	Grab		H2SO4	*

** Preservation verified at analysis*

Customer Sample ID: **Effluent**
SPL Sample ID: **24070279-005**
Collected: **07/17/24 07:39 until 07/18/24 07:06**
Collected By: **WWTP Staff**
Collector Affiliation:
Matrix: **Liquid**

Bottle Type	Count	Collection Method	Parts / Interval	Indicated / Observed Preservation	pH
500 mL Glass	4	Mult Part Grab	4 part	HCl	-

Collected on 07/17/24 @ 07:39, 14:10, 20:08 and on 07/18/24 @ 07:06.

City of Sherman
Chester Wilson

Sample Preservation Verification

Project Name: **Effluent**

Customer Sample ID: **Effluent** | Collected By: **WWTP Staff**
SPL Sample ID: **24070279-006** | Collector Affiliation:
Collected: **07/17/24 08:00 until 07/18/24 07:50** | Matrix: **Liquid**

Bottle Type	Count	Collection Method	Parts / Interval	Indicated / Observed Preservation	pH
500 mL Plastic	1	Flow Composite	24 hour	H2SO4	<2

Customer Sample ID: **Effluent** | Collected By: **WWTP Staff**
SPL Sample ID: **24070279-007** | Collector Affiliation:
Collected: **07/17/24 08:00 until 07/18/24 07:50** | Matrix: **Liquid**

Bottle Type	Count	Collection Method	Parts / Interval	Indicated / Observed Preservation	pH
1000 mL Plastic	1	Flow Composite	24 hour	Temp	-

Customer Sample ID: **Effluent** | Collected By: **WWTP Staff**
SPL Sample ID: **24070279-008** | Collector Affiliation:
Collected: **07/17/24 08:00 until 07/18/24 07:50** | Matrix: **Liquid**

Bottle Type	Count	Collection Method	Parts / Interval	Indicated / Observed Preservation	pH
250 mL Plastic	1	Flow Composite	24 hour	Temp	-

Customer Sample ID: **Effluent** | Collected By: **WWTP Staff**
SPL Sample ID: **24070279-009** | Collector Affiliation:
Collected: **07/17/24 08:00 until 07/18/24 07:50** | Matrix: **Liquid**

Bottle Type	Count	Collection Method	Parts / Interval	Indicated / Observed Preservation	pH
500 mL Plastic	1	Flow Composite	24 hour	Temp	-

Customer Sample ID: **Effluent** | Collected By: **WWTP Staff**
SPL Sample ID: **24070279-010** | Collector Affiliation:
Collected: **07/17/24 08:00 until 07/18/24 07:50** | Matrix: **Liquid**

Bottle Type	Count	Collection Method	Parts / Interval	Indicated / Observed Preservation	pH
250 mL Plastic	1	Flow Composite	24 hour	Temp	-

Customer Sample ID: **Effluent** | Collected By: **WWTP Staff**
SPL Sample ID: **24070279-011** | Collector Affiliation:
Collected: **07/17/24 07:38** | Matrix: **Liquid**

Bottle Type	Count	Collection Method	Parts / Interval	Indicated / Observed Preservation	pH
500 mL Glass	1	Mercury, Field Blank		Temp	-

City of Sherman
Chester Wilson

Sample Preservation Verification

Project Name: **Effluent**

Customer Sample ID: **Effluent** | Collected By: **WWTP Staff**
SPL Sample ID: **24070279-012** | Collector Affiliation:
Collected: **07/17/24 08:00 until 07/18/24 07:50** | Matrix: **Liquid**

Bottle Type	Count	Collection Method	Parts / Interval	Indicated / Observed Preservation	pH
500 mL Plastic	1	Flow Composite	24 hour	Temp	-

Customer Sample ID: **Effluent** | Collected By: **WWTP Staff**
SPL Sample ID: **24070279-013** | Collector Affiliation:
Collected: **07/17/24 08:00 until 07/18/24 07:50** | Matrix: **Liquid**

Bottle Type	Count	Collection Method	Parts / Interval	Indicated / Observed Preservation	pH
1000 mL Amber	18	Flow Composite	24 hour	Temp	-

Customer Sample ID: **Effluent** | Collected By: **WWTP Staff**
SPL Sample ID: **24070279-014** | Collector Affiliation:
Collected: **07/17/24 08:00 until 07/18/24 07:50** | Matrix: **Liquid**

Bottle Type	Count	Collection Method	Parts / Interval	Indicated / Observed Preservation	pH
1000 mL Amber	2	Time Composite	24 hour	H2SO4	<2

Customer Sample ID: **Effluent** | Collected By: **WWTP Staff**
SPL Sample ID: **24070279-015** | Collector Affiliation:
Collected: **07/17/24 07:30 until 07/18/24 02:06** | Matrix: **Liquid**

Bottle Type	Count	Collection Method	Parts / Interval	Indicated / Observed Preservation	pH
VOA Vial	8	Mult Part Grab	4 part	Temp	-

Collected on 07/17/24 @ 07:30, 14:06, 20:12 and on 07/18/24 @ 02:06.

Customer Sample ID: **Effluent** | Collected By: **WWTP Staff**
SPL Sample ID: **24070279-016** | Collector Affiliation:
Collected: **07/17/24 08:00 until 07/18/24 07:50** | Matrix: **Liquid**

Bottle Type	Count	Collection Method	Parts / Interval	Indicated / Observed Preservation	pH
250 mL Plastic	1	Flow Composite	24 hour	HNO3	<2

Customer Sample ID: **Effluent** | Collected By: **WWTP Staff**
SPL Sample ID: **24070279-017** | Collector Affiliation:
Collected: **07/17/24 07:30 until 07/18/24 02:06** | Matrix: **Liquid**

Bottle Type	Count	Collection Method	Parts / Interval	Indicated / Observed Preservation	pH
250 mL Plastic	4	Mult Part Grab	4 part	NaOH	>12

Collected on 07/17/24 @ 07:30, 14:06, 20:12 and on 07/18/24 @ 02:06.

City of Sherman
Chester Wilson

Sample Preservation Verification

Project Name: **Effluent**

Customer Sample ID: **Effluent** Collected By: **WWTP Staff**
SPL Sample ID: **24070279-018** Collector Affiliation:
Collected: **07/17/24 08:00 until 07/18/24 07:50** Matrix: **Liquid**

Bottle Type	Count	Collection Method	Parts / Interval	Indicated / Observed Preservation	pH
250 mL Plastic	1	Flow Composite	24 hour	Temp	-

Customer Sample ID: **Effluent** Collected By: **WWTP Staff**
SPL Sample ID: **24070279-019** Collector Affiliation:
Collected: **07/17/24 08:00 until 07/18/24 07:50** Matrix: **Liquid**

Bottle Type	Count	Collection Method	Parts / Interval	Indicated / Observed Preservation	pH
250 mL Plastic	1	Flow Composite	24 hour	Temp	-

Customer Sample ID: **Effluent** Collected By: **WWTP Staff**
SPL Sample ID: **24070279-020** Collector Affiliation:
Collected: **07/17/24 07:30 until 07/18/24 02:06** Matrix: **Liquid**

Bottle Type	Count	Collection Method	Parts / Interval	Indicated / Observed Preservation	pH
250 ml Amber	4	Mult Part Grab	4 part	H2SO4	<2

Collected on 07/17/24 @ 07:30, 14:06, 20:12 and on 07/18/24 @ 02:06.

Sample conditions at time of receipt at laboratory verified in part or in whole by:

R.L.M.

Sherman
CLASSIC TOWN, BROAD HORIZONS

City of Sherman
P.O Box 1106
Sherman, TX 75091
903-868-2516

Industrial Pretreatment

CHAIN-OF-CUSTODY RECORD

Facility: WWTP, 1800 E FM 1417, Sherman, TX 75092

Billing: (●) City of Sherman ( ) Industry

Project Number: COSIPT-24-2757

Sampler(s): WWTP Staff (WWTP Staff)

ID: Effluent

Signature: Derek Snell

Turn Around Time: (●) 7-10 Days ( ) 5-7 Days ( ) RUSH

Lab Sample ID 24070279	Sample ID.	Sample Date/Time	Sample Type	Container Type, # of cont.	Sample Matrix	Bottle # and Preservative	Analysis	Comments
001	Effluent	Date: 7/17/24 Time: 1218	GRAB	N/A	WW	None	pH = 7.20 su ; Temperature = 27.9 °C	
002	Effluent	Date: 7/17/24 Time: 0800 Date: 7/18/24 Time: 0758	METER	N/A	WW	None	Flow 6.93 mgd	See attached field data sheet for calculations
003	Effluent ✓	Date: 7/17/24 Time: 0800 Date: 7/18/24 Time: 0750 Date: Time: Date: Time:	24-FC	500 ml Plastic 1	W/W	1 < or = 6 Deg C	Orthophosphate, Dissolved; Orthophosphate, Total; Phosphorus, Dissolved	Report in ug/l.
004	Effluent ✓	Date: 7/18/24 Time: 0745 Date: Time: Date: Time: Date: Time:	GRAB	500 mL Amber 4	W/W	2 H2SO4 to pH < 2 and < or = 6 Deg C	Oil and Grease (HEM); Oil/Grease / TPH	SINGLE GRAB Report in ug/l.
005	Effluent ✓	Date: 7/17/24 Time: 0734 Date: 7/17/24 Time: 1410 Date: 7/17/24 Time: 2002 (B) Date: 7/18/24 Time: 0706	4-PG	Glass, Mercury Kit 4	W/W	3 HCl to a pH of < 2 & < or = to 6 Deg C	Mercury, Low Level	Effluent only. Report in ug/l.
006	Effluent ✓	Date: 7/17/24 Time: 0800 Date: 7/18/24 Time: 0750 Date: Time: Date: Time:	24-FC	500 ml Plastic 1	W/W	4 H2S04 to a pH of < 2 & < or = to 6 Deg C	Phosphorus, Total; TON; Total Kjeldahl Nitrogen; Total Nitrogen	Report in ug/l.
007	Effluent ✓	Date: 7/17/24 Time: 0800 Date: 7/18/24 Time: 0750 Date: Time: Date: Time:	24-FC	1000 ml Plastic 1	W/W	5 < or = 6 Deg C	Total Dissolved Solids	Report in mg/l.

Sheet 1 of 4

IPTF-036.3-GRAB ONLY

COC #: 2757

Documentation

PROJECT DESCRIPTION: **Effluent**

Sherman
CLASSIC TOWN, BROAD HORIZONS

City of Sherman
P.O Box 1106
Sherman, TX 75091
903-868-2516

Industrial Pretreatment

CHAIN-OF-CUSTODY RECORD

Lab Sample ID 24070279	Sample ID.	Sample Date/Time	Sample Type	Container Type, # of cont.	Sample Matrix	Bottle # and Preservative	Analysis	Comments
008	Effluent	Date: 7/17/24 Time: 0800 Date: 7/18/24 Time: 0750 Date: Time: Date: Time:	24-FC	250 ml Plastic 1	WW	6 < or = 6 Deg C	TMAH/Quaternary Ammonia Compounds	Report in ug/l.
009	Effluent	Date: 7/17/24 Time: 0800 Date: 7/18/24 Time: 0750 Date: Time: Date: Time:	24-FC	500 ml Plastic 1	WW	7 < or = 6 Deg C	Chloride,Total; Fluoride; Nitrate - N; Nitrate Nitrogen; Nitrite - N; Sulfate, Total	Report in ug/l.
010	Effluent	Date: 7/17/24 Time: 0800 Date: 7/18/24 Time: 0750 Date: Time: Date: Time:	24-FC	250 ml Plastic 1	WW	8 < or = 6 Deg C	Chromium, Hexavalent	Report in ug/l.
011	Effluent	Date: 7/17/24 Time: 0738 Date: Time: Date: Time: Date: Time:	Field Blank	Glass, Mercury Kit 1	WW	9 < or = 6 Deg C	Mercury-Hg Field Blank	Sterile water is tranferred from full bottle to empty bottle. Two bottles total.
012	Effluent	Date: 7/17/24 Time: 0800 Date: 7/18/24 Time: 0750 Date: Time: Date: Time:	24-FC	500 ml Plastic 1	WW	10 6 Deg C	Alkalinity, Total as CaCO3; MBAS	Report in ug/l.
013	Effluent	Date: 7/17/24 Time: 0800 Date: 7/18/24 Time: 0750 Date: Time: Date: Time:	24-FC	1000 mL Amber 18	WW	11 6 Deg C	Priority Pollutants (625.1, 608.3, 614, 622, 632, 615, 617)	Priority pollutants, (625,608,614,622,632,615,617). Report in ug/l. See attached pollutant list.
014	Effluent	Date: 7/17/24 Time: 0800 Date: 7/18/24 Time: 0750 Date: Time: Date: Time:	24-TC	1000 mL Amber 2	WW	12 6 Deg C	Nonylphenol	Report in ug/l.

IPTF-036.3-GRAB ONLY

COC #: 2757

Sheet 2 of 4

Sherman
CLASSIC TOWN. BROAD HORIZ.

City of Sherman
P.O Box 1106
Sherman, TX 75091
903-868-2516

Industrial Pretreatment

CHAIN-OF-CUSTODY RECORD

Lab Sample ID 24070279	Sample ID.	Sample Date/Time	Sample Type	Container Type, # of cont.	Sample Matrix	Bottle # and Preservative	Analysis	Comments
015	Effluent ✓	Date: 7/17/24 Time: 0730 Date: 7/17/24 Time: 1406 Date: 7/17/24 Time: 2012 Date: 7-18-24 Time: 0206	4-PG	40 ml VOA Glass 8	W/W	13 < or = 6 Deg C	Priority Pollutants (624.1)	Priority Pollutants (624.1) Report in ug/l. *See attached pollutant List. NOTE: Zero Headspace in VOA's
016	Effluent ✓	Date: 7/17/24 Time: 0800 Date: 7/18/24 Time: 0750 Date: Time: Date: Time:	24-FC	250 ml Plastic 1	W/W	14 HNO3 to pH < 2 and < or = to 6 Deg C	Aluminum, Total; Antimony, Total; Arsenic, Total; Barium, Total; Beryllium, Total; Cadmium, Total; Calcium, Total; Chromium, Total; Chromium, Trivalent; Copper, Total; Iron, Total; Lead, Total; Magnesium, Total; Manganese, Total; Mercury, Total; Molybdenum, Total; Nickel, Total; Potassium, Total; Selenium, Total; Silver, Total; Sodium, Total; Strontium, Total; Thallium, Total; Zinc, Total	Effluent Only. Report in ug/l.
017	Effluent ✓	Date: 7/17/24 Time: 0730 Date: 7/17/24 Time: 1406 Date: 7/17/24 Time: 2012 Date: 7-18-24 Time: 0206	4-PG	250 ml Plastic 4	W/W	15 NaOH to pH > 10 & < or = 6 Deg C	Cyanide, Available; Cyanide, Total	Y N Y N CL2 O ~~Sulfide O=O~~ CL2 O ~~Sulfide O=O~~ CL2 O ~~Sulfide O=O~~ CL2 O ~~Sulfide O=O~~ DF 7/18/24
018	Effluent ✓	Date: 7/17/24 Time: 0800 Date: 7/18/24 Time: 0750 Date: Time: Date: Time:	24-FC	250 ml Plastic 1	W/W	16 < or = 6 Deg C	Conductivity	Effluent only. Report in ug/l.
019	Effluent ✓	Date: 7/17/24 Time: 0800 Date: 7/18/24 Time: 0750 Date: Time: Date: Time:	24-FC	250 ml Plastic 1	W/W	17 < or = 6 Deg C	Reactive Silica; Silica	Effluent only. Report in ug/l.
020	Effluent ✓	Date: 7/17/24 Time: 0730 Date: 7/17/24 Time: 1406 Date: 7/17/24 Time: 2012 Date: 7-18-24 Time: 0206	4-PG	250 ml Amber 4	W/W	18 H2SO4 to pH < 2 and < or = 6 Deg C	Phenol, Total	Report in ug/l.

Sheet 3 of 4

IPTF-036.3-GRAB ONLY

COC #: 2757

Documentation

PROJECT DESCRIPTION: **Effluent**

24070279

Sherman
CLASSIC TOWN. BRIGHT FUTURE

City of Sherman
P.O Box 1106
Sherman, TX 75091
903-868-2516

Industrial Pretreatment

CHAIN-OF-CUSTODY RECORD

Relinquished by:	Affiliation:	Date/Time:	Received by:	Affiliation:	Date/Time:
Derek Ingram III	COS	Date: 7/18/24 Time: 0843	Tim Beauchamp	COS	Date: 7/18/24 Time: 0843
Tim Beauchamp	COS	Date: 7/18/24 Time: 1300	Joe L. McCoy Jr.	Fulton Yarns	Date: 18 JUL 24 Time: 1300
Joe L. McCoy Jr.	Fulton Yarns	Date: 18JUL24 Time: 1346	RM MLCantley		Date: 7/18/24 Time: 1346

REMARKS:
PP Effluent samples

LABORATORY:
SPL Labs

RECVD.BY: RLM TEMP: 2.7
Custody Seal Broken: Yes___ No___ N/A___

IPTF-036.3-GRAB ONLY

COC #: 2757

Sheet 4 of 4

Documentation

PROJECT DESCRIPTION: **Effluent**

SPL

Supplemental Sample Receipt Checklist

Client: City of Sherman
Date Received: 7/18/24
Project: COSIPT-24-2757
Received By: KLM
SPL Project ID: 24070279

Thermometer ID: PCA-401
Correction Factor: 0.3 °C
Observed cooler Temperature: 2.4 °C
Corrected cooler Temperature: 2.7 °C

Samples Received on Ice:	(Y)	N	
Proper bottles received in good condition:	(Y)	N	
Samples received match COC:	(Y)	N	
Bottles filled with adequate volume:	(Y)	N	
Samples appropriately preserved*:	(Y)	N	
Samples received within hold time:	(Y)	N	
VOA vials filled properly:	(Y)	N	NA
Custody Seal Present:	(Y)	N	
Custody Seal Intact:	(Y)	N	NA

Note:
*Samples needing thermal preservation that are sampled within 2 hours of receipt and received on ice are acceptable even if the measured temperature is higher than the allowable.

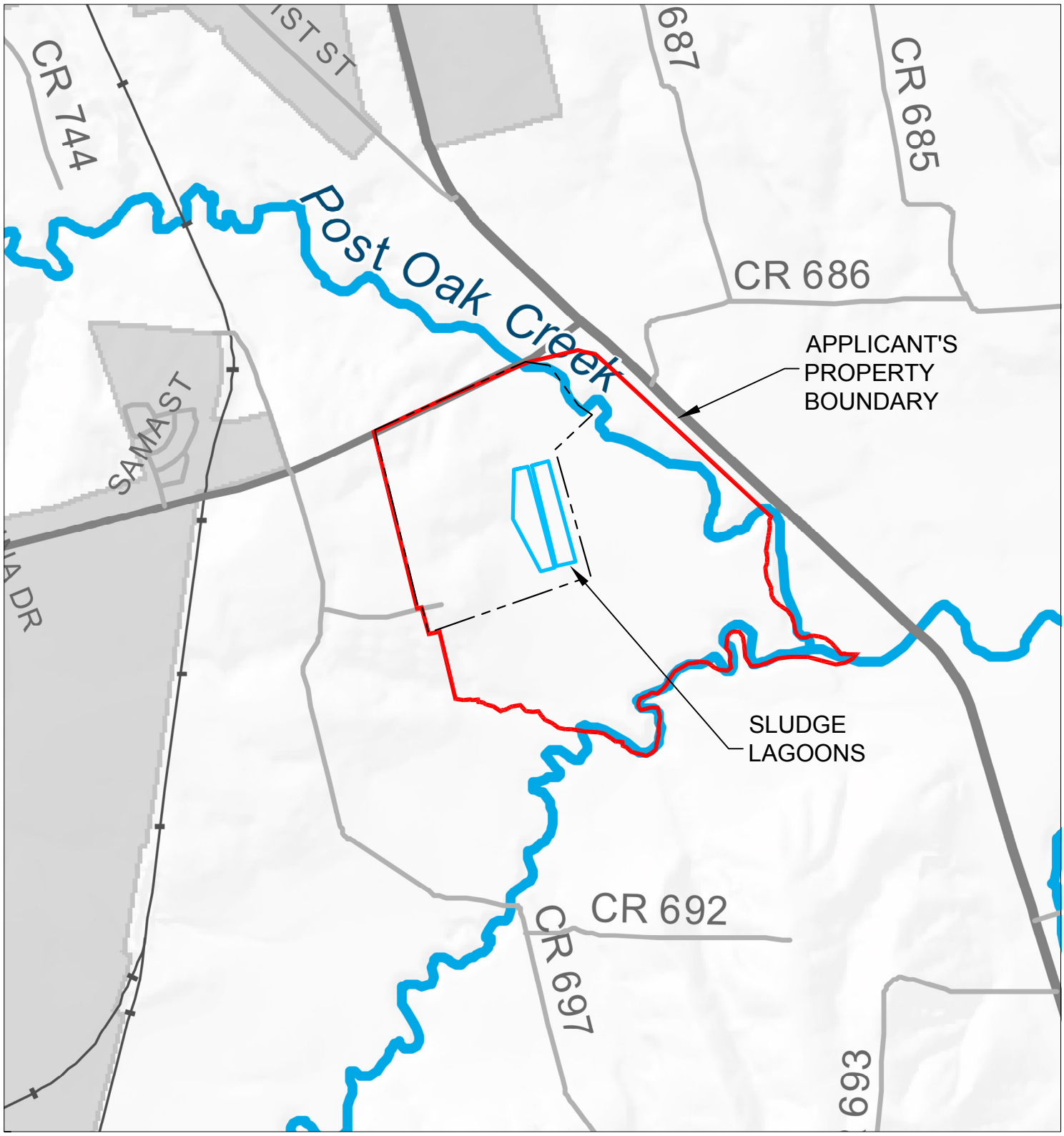
Comments:

SSRC v0.0
Effective 1/04/24
SPL - Plano
Page 1 of 1

Attachment N

General Highway Map

Tech Report 1.0, Section 11.A



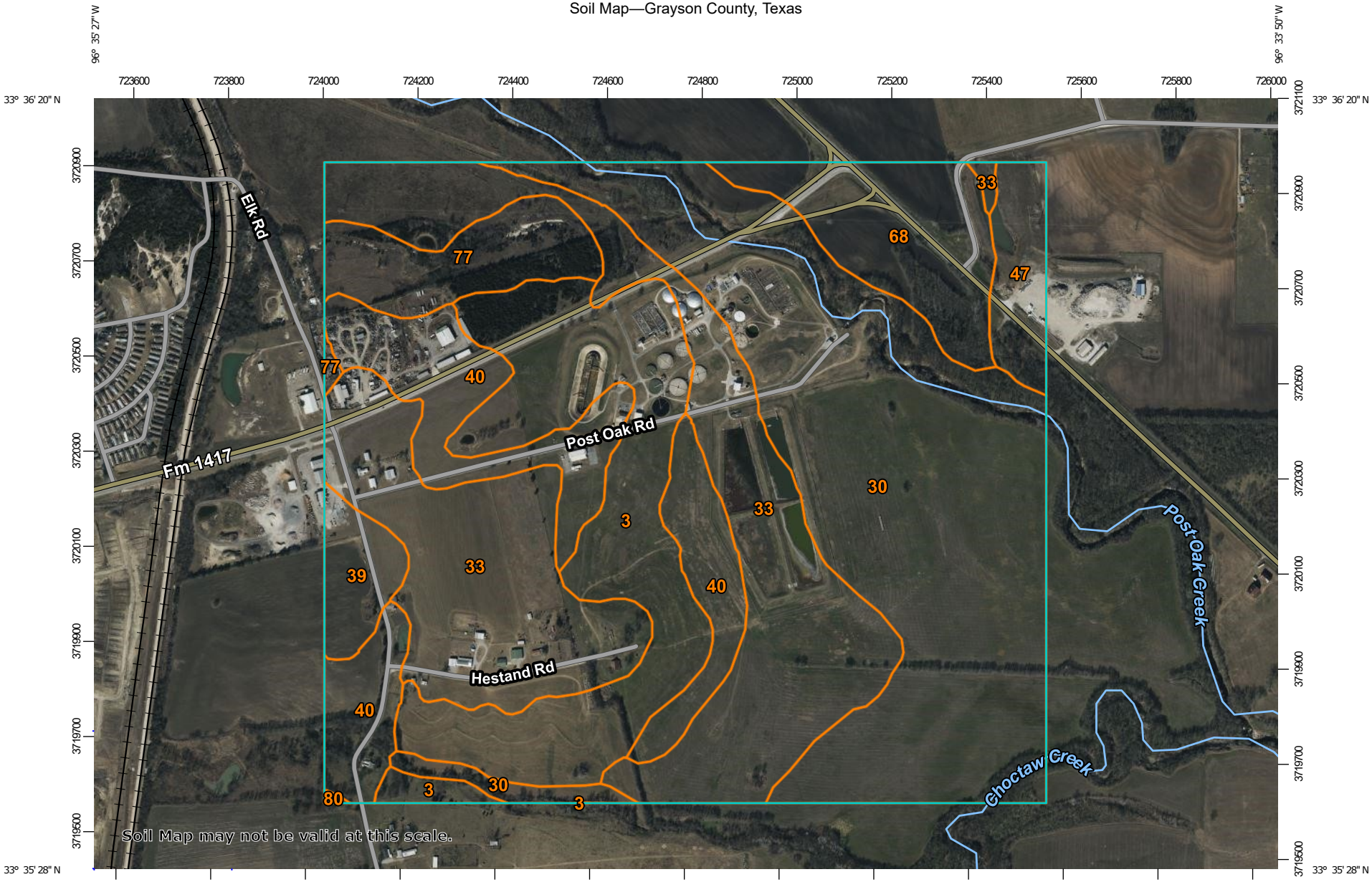
ATTACHMENT N
CITY OF SHERMAN - POST OAK WASTEWATER TREATMENT FACILITY
TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT APPLICATION
GENERAL HIGHWAY COUNTY MAP

Attachment O

USDA NRCS Soil Map

Tech Report 1.0, Section 11.A

Soil Map—Grayson County, Texas



Map Scale: 1:11,400 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 150 300 600 900

Feet: 0 500 1000 2000 3000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 14N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

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: Grayson County, Texas
Survey Area Data: Version 21, Aug 30, 2024

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

Date(s) aerial images were photographed: Jan 22, 2022—Jan 25, 2022

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
3	Altoga clay loam, 5 to 8 percent slopes	78.1	15.3%
30	Elbon soils, frequently flooded	155.4	30.5%
33	Fairlie and Houston Black clays, 1 to 3 percent slopes	139.0	27.3%
39	Heiden clay, 1 to 3 percent slopes	10.7	2.1%
40	Heiden clay, 3 to 5 percent slopes	57.9	11.4%
47	Lewisville silty clay, 3 to 5 percent slopes, eroded	12.9	2.5%
68	Tinn clay, 0 to 1 percent slopes, occasionally flooded	31.9	6.3%
77	Whitewright-Eddy-Howe complex, 5 to 12 percent slopes	22.9	4.5%
80	Wilson silty clay loam, 1 to 3 percent slopes	0.2	0.0%
Totals for Area of Interest		**509.2**	**100.0%**

Attachment P

FEMA Map

Tech Report 1.0, Section 11.A

National Flood Hazard Layer FIRMette

FEMA

96°34'59"W 33°36'8"N

96°34'21"W 33°35'38"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 1/8/2025 at 9:46 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Attachment Q

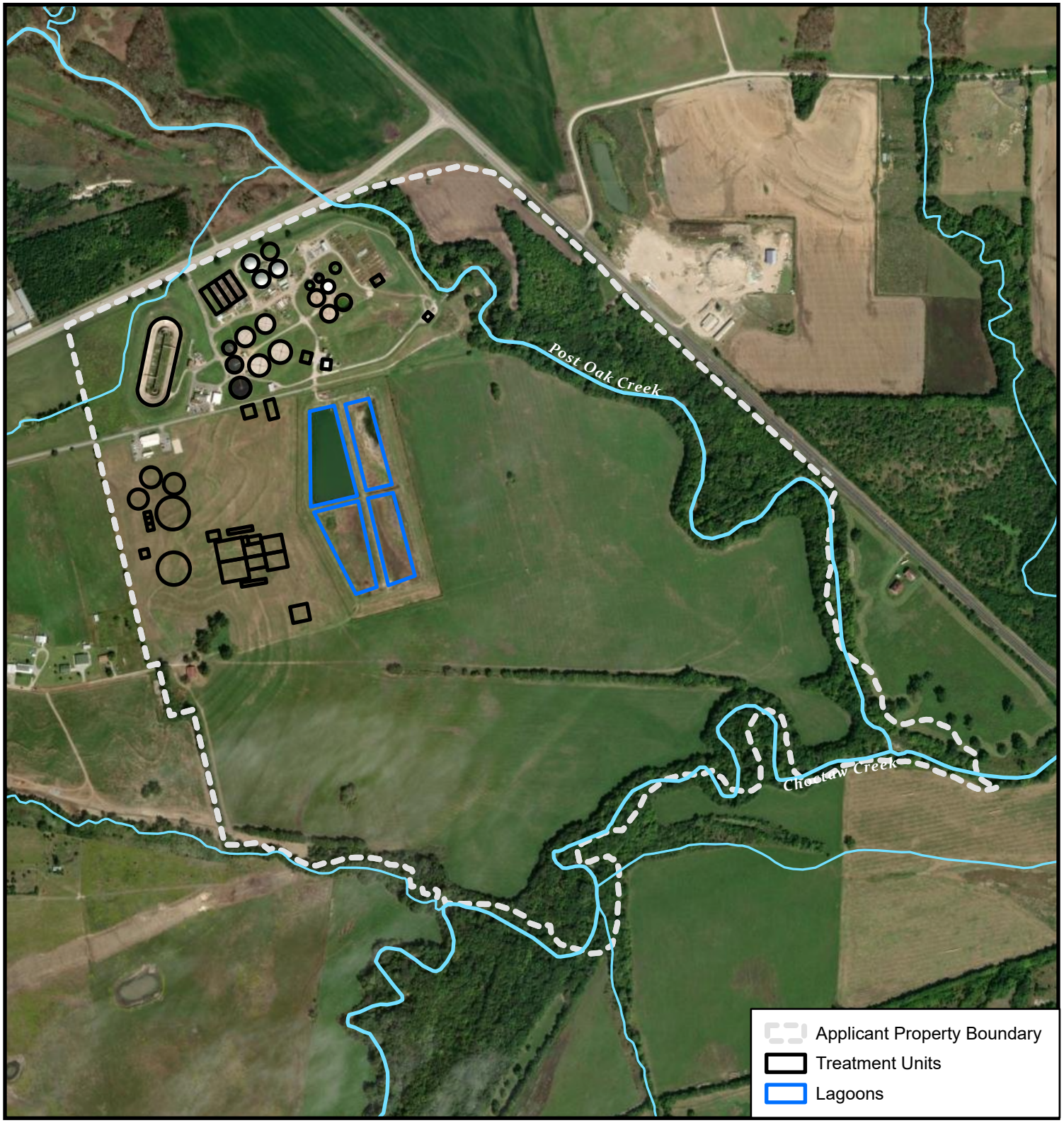
Site Map

Tech Report 1.0, Section 11.A

Mead & Hunt

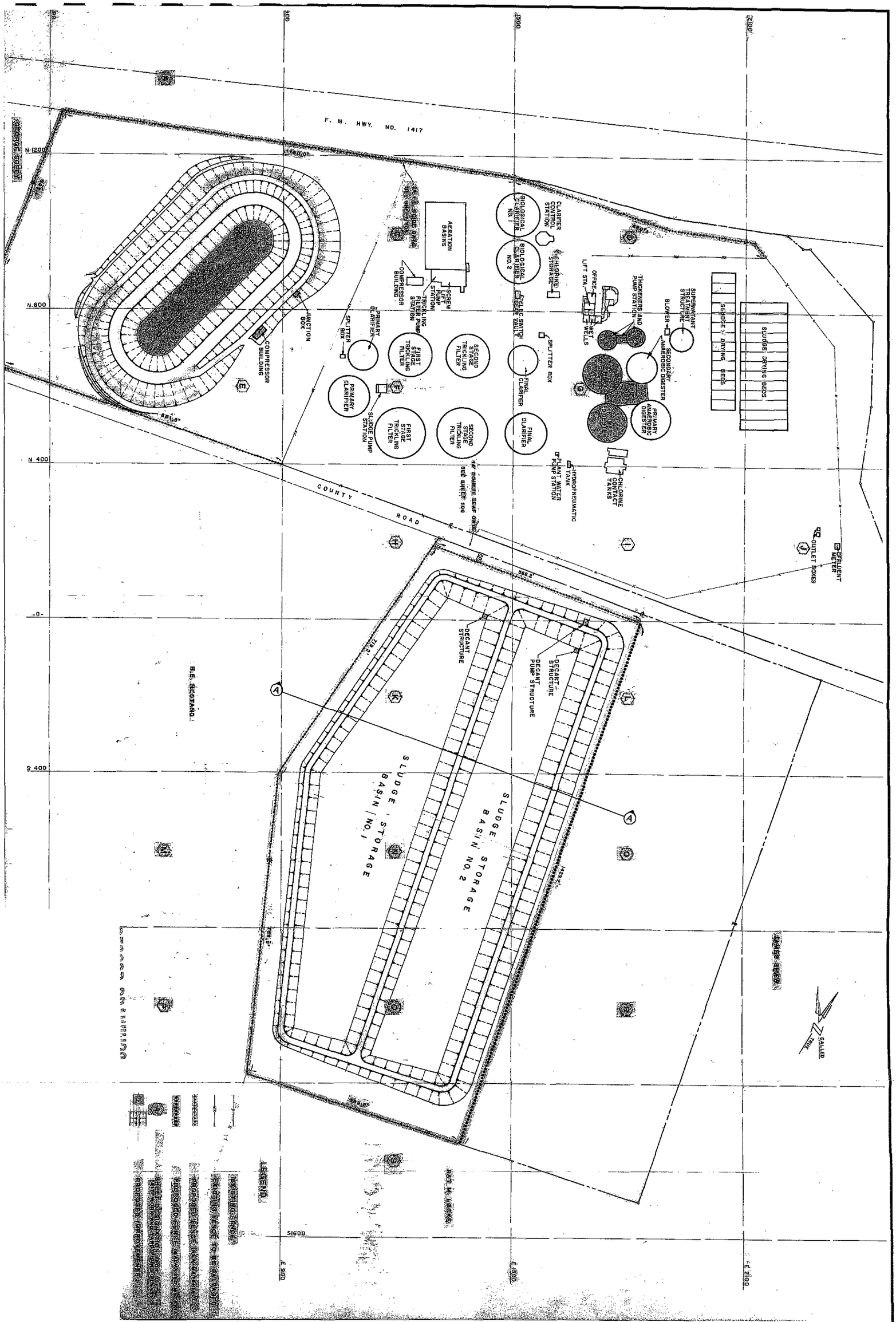
N

0 0.07 0.15 0.3 Miles



ATTACHMENT Q
CITY OF SHERMAN - POST OAK WASTEWATER TREATMENT FACILITY
TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT APPLICATION
SITE MAP

Attachment R
100-Year Frequency Flood Protection
Tech Report 1.0, Section 11.A



CITY OF SHERMAN

POST OAK CREEK WASTEWATER TREATMENT PLANT PERMIT RENEWAL

SLUDGE BASIN PLAN

No.	DATE	REVISION	BY

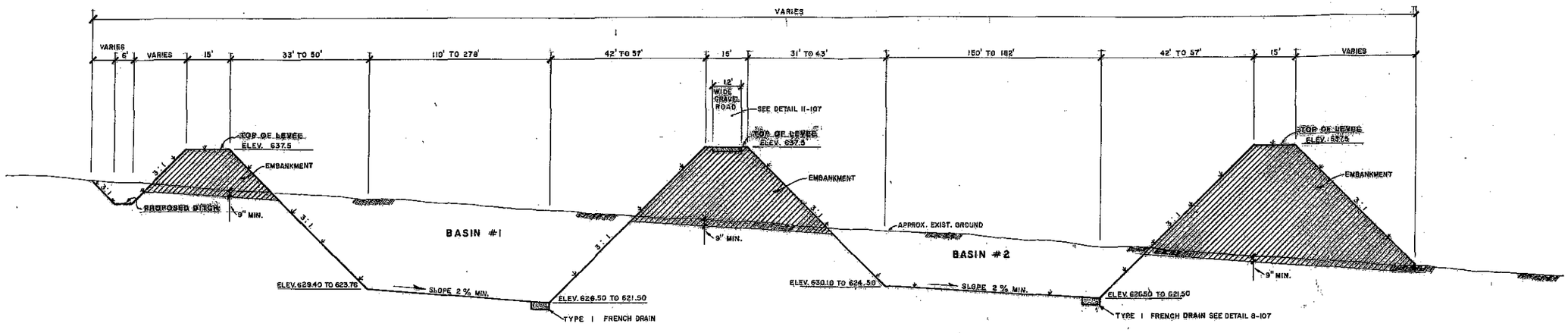
PERMIT RENEWAL

SCALE: 1"=40'

PROJECT No. 09139
DATE: MAY 2010
DESIGNED: FMI
DRAWN: FMI
CHECKED: FMI

SHEET 1
TOTAL SHEETS:

FREEMAN-MILLICAN, INC.
ENGINEERS - ARCHITECTS - PLANNERS
13225 GREENVILLE AVE, SUITE 121 DALLAS, TX 75243 PH: 214.503.0555 TX REG ENG FIRM F-2527



SECTION A-A

TYPICAL SLUDGE BASIN SECTION

NO SCALE

TECHNICAL REPORT 1.0, 9, a

CITY OF SHERMAN

POST OAK CREEK WASTEWATER TREATMENT PLANT PERMIT RENEWAL

TYPICAL SLUDGE BASIN SECTION

No.	DATE	REVISION	BY

FREEMAN-MILLICAN, INC.
ENGINEERS - ARCHITECTS - PLANNERS
1226 GREENVILLE AVE. SUITE 131 DALLAS, TX. 75206 PH: 214.823.2666 TX REGISTRATION F-2427

PERMIT RENEWAL

SCALE: H:1" =40'

PROJECT No. 09139
DATE: MAY 2010
DESIGNED: FMI
DRAWN: FMI
CHECKED: FMI

SHEET 2
TOTAL SHEETS:

013131

W.W.T.P.
John Kitchen
Survey

WARRANTY DEED VOL 2413 PAGE 321

THE STATE OF TEXAS §
§ **KNOW ALL MEN BY THESE PRESENTS:**
COUNTY OF GRAYSON §

That the undersigned, **JAMES H. SHAW** of the City of Sherman, Grayson County, Texas (hereinafter called *"Grantors"*), for and in consideration of the sum of Two Thousand Five Hundred Dollars and No Cents ($2,500.00) and the benefit to be derived by the people of the City of Sherman, Grayson County, Texas, has granted, transferred and conveyed, and does hereby **GRANT, TRANSFER and CONVEY** unto the **CITY OF SHERMAN, TEXAS**, a municipal corporation (referred to herein as *"Grantee"*), its successors and assigns, all of the following described real property in Grayson County, Texas, to-wit:

All that certain tract or parcel of land, situated in Grayson County, Texas, a part of the John Kitchen Survey, Abstract No. 673, and more particularly described as follows:

BEGINNING at the Southwest corner of a 9-acre tract of land conveyed by H. B. Francis and wife, Annie Francis, to Jno. M. Locke by deed dated February 16, 1935, and of record in Vol. 377, at page 69, of the Deed Records of said County;

THENCE in a Northerly direction with the West line of said 9-acre tract for a distance of 1462 feet to its Northwest corner, a point in the channel of Postoak Creek and in the North line of a tract of land described as "First Tract" in a deed from Mrs. M. E. Chisholm, executrix, to H. B. Francis, dated May 11, 1921, and of record in Vol. 302, at page 352, of said Deed Records;

THENCE in a Westerly direction with the North line of said Francis tract for a distance of 150 feet;

THENCE in a Southerly direction, parallel with the West line of said 9-acre tract for a distance of 1462 feet to a point in the North line of another tract of land formerly owned by John M. Locke;

THENCE in an Easterly direction with said John M. Locke North line for a distance of 150 feet to the place of beginning, containing 5 acres of land, more or less, and being the same property conveyed by H. B. Francis and wife, Annie Francis, to R. W. Nevill by deed dated February 16, 1935, and of record in Vol. 377, at page 68, of said Deed Records.

VOL 2413 PAGE 322

TO HAVE AND TO HOLD the above described premises, together with all and singular the rights and appurtenances thereto in anywise belonging unto the said Grantee, its successors and assigns forever; and Grantor does hereby behind himself, his heirs, executors, administrators, successors, and assigns to **WARRANT AND FOREVER DEFEND**, all and singular, the said premises unto the said Grantee, its successors and assigns, against every person whomsoever claiming or to claim the same or any part thereof.

IN TESTIMONY WHEREOF, witness the execution hereof on this 31 day of July, A.D., 1995.

James H. Shaw

JAMES H. SHAW

VOL 2413 PAGE 323

ACKNOWLEDGEMENT

THE STATE OF TEXAS §
§
COUNTY OF GRAYSON §

BEFORE ME, the undersigned authority, on this day personally appeared **JAMES H. SHAW**, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE this the 31 day of July, A.D., 1995.

Rita V. Gaither
My Commission Expires
11-03-95

Rita V. Gaither
NOTARY PUBLIC IN AND FOR THE STATE OF TEXAS

FILED FOR RECORD
95 AUG 21 AM 9:11
SARA JACKSON
COUNTY CLERK
GRAYSON COUNTY, TX

Filed for record and recorded August 21, 1995 at _____M.
Sara Jackson, Grayson County Clerk
By Rachel C. Preston, Deputy

022294

VOL 2512 PAGE 612

WARRANTY DEED

THE STATE OF TEXAS §
§ **KNOW ALL MEN BY THESE PRESENTS:**
COUNTY OF GRAYSON §

That the undersigned, **JAMES EUGENE FARMER** of the City of Whitewright, Grayson County, Texas (hereinafter called *"Grantor"*), for and in consideration of the sum of **TEN DOLLARS AND NO CENTS ($10.00)** and other valuable consideration to the undersigned paid by the Grantee herein named, the receipt of which is hereby acknowledged, has granted, transferred and conveyed, and does hereby **GRANT, TRANSFER and CONVEY** unto the **CITY OF SHERMAN, TEXAS**, a municipal corporation (referred to herein as *"Grantee"*), its successors and assigns, all of the following described real property situated in the County of Grayson, State of Texas, to-wit:

BEING part of the John Kitchen Survey, Abstract No. 673, part of the Winford Bailey Survey, Abstract No. 64, and part of the Winford Bailey Survey, Abstract No. 66, and being all of a 9 acre tract of land conveyed by H. B. Francis and wife, Annie Francis, to Jno. M. Locke by deed dated February 16th, 1935, recorded in Volume 377, Page 69, Deed Records, Grayson County, Texas, and also being part of a 110.62 acre tract of land conveyed by The Dallas Joint Stock Land Bank of Dallas, Texas to Jno. M. Locke by deed dated June 23rd, 1932, recorded in Volume 363, Page 7, said Deed Records, and also being the 110.877 acres of land conveyed by Mary Delle Locke Fleming and Lucy Locke to James E. Farmer and wife, Lorianna Farmer, by Warranty Deed dated April 10, 1993, recorded in Volume 2270, Page 478, said Deed Records, and being more particularly described by metes and bounds as follows:

BEGINNING at a ½" steel rod set in the center of a public road known as Ladd Road, said rod maintaining the Northwest corner of the said 9 acre tract and the Northeast corner of a 5 acre tract of land conveyed by Beatrice Daniels to James H. Shaw and wife, Moverine Shaw, by deed dated September 8th, 1978, said Deed Records;

THENCE North 75°28'30" East with the center of said road a distance of 735.39 feet to a point in the West right-of-way line of State Highway No. 11;

THENCE South 14°45'17" East a distance of 10.03 feet to an angle point in said right-of-way line;

117

THENCE North 75°02'00" East a distance of 248.60 feet to an angle point in said right-of-way line;

THENCE South 47°11'00" East, continuing with said West right-of-way line, a distance of 1580.82 feet to the most Northerly corner of a 28.354 acre tract of land, described as Tract Two, conveyed by George Bradley and wife, Lorene Bradley, to Melton Graham, Trustee, by deed dated July 24th, 1985, recorded in Volume 1761, Page 37, said Deed Records;

THENCE in a Southerly direction with the West line of said 28.354 acre tract, meandering along or near the East bank of Post Oak Creek, the following calls and distances:

South 16°00'00" East, a distance of 55.60 feet;
South 41°42'00" East, a distance of 67.50 feet;
South 22°28'00" East, a distance of 45.20 feet;
South 11°50'00" East, a distance of 233.40 feet;
South 00°27'00" East, a distance of 426.22 feet;
South 07°15'00" East, a distance of 273.10 feet;
South 17°28'00" East, a distance of 42.20 feet;

THENCE South 21°38'00" East a distance of 487.90 feet to a point in the center of said Post Oak Creek;

THENCE South 46°32'16" East with the center of said creek a distance of 195.51 feet to the point of intersection with the center of Choctaw Creek;

THENCE in a Northwesterly direction with the center of said Choctaw Creek the following calls and distances:

South 75°36'44" West, a distance of 240.54 feet;
South 86°46'26" West, a distance of 140.89 feet;
South 70°23'22" West, a distance of 117.43 feet;
South 63°02'11" West, a distance of 142.19 feet;
South 87°31'42" West, a distance of 133.15 feet;
North 51°20'19" West, a distance of 34.64 feet;
North 01°26'18" West, a distance of 294.21 feet;
North 42°26'56" West, a distance of 102.24 feet;
North 63°54'59" West, a distance of 113.17 feet;
South 79°29'40" West, a distance of 56.86 feet;

THENCE North, leaving said Choctaw Creek, and continuing for a total distance of 148.13 feet to a ½" steel rod set in the South line of the said Bailey Survey, Abstract No. 66, said rod maintaining an ell corner of a 191 acre tract of land conveyed by H. E. Hestand and wife, Martha Janette Hestand, to Haskell Edmond Hestand Jr. by deed dated April 28th, 1983, recorded in Volume 1643, Page 568, said Deed Records;

THENCE North 87°52'13" West with an old fence along said South line a distance of 2348.33 feet to a ½" steel rod set at an ell corner of said 191 acre tract;

THENCE North 13°32'35" West with an old fence a distance of 320.57 feet to a chain link fence corner in the North line of said Bailey Survey and the South line of the said Kitchen Survey, said post maintaining the Southwest corner of a 38.373 acre tract of land conveyed in judgement by Haskell Edmond Hestand Jr. to the City of Sherman, Texas, recorded in Volume 1950, Page 432, said Deed Records;

THENCE North 74°52'37" East with said South line a distance of 1221.31 feet to a ½" steel rod set at the Southeast corner of the said 5 acre tract;

THENCE North 14°25'03" West with the East line of the said 5 acre tract a distance of 1462.00 feet to the **POINT OF BEGINNING** and containing 110.877 acres of land, more or less;

LESS AND EXCEPT a 14.34 acre tract previously conveyed out of said 110.877 acre tract by Warranty Deed dated April 8, 1996, from James Eugene Farmer to the City of Sherman, Texas, recorded in Volume 2459, Page 241, Deed Records, Grayson County, Texas, leaving a remainder of 96.537 acres of land, more or less.

TO HAVE AND TO HOLD the above described premises, together with all and singular the rights and appurtenances thereto, including any mineral interests, in anywise belonging, unto the said Grantee, its successors and assigns forever; and Grantor does hereby bind himself, his heirs, executors, administrators, successors, and assigns to **WARRANT AND FOREVER DEFEND**, all and singular, the said premises unto the said Grantee, its successors and assigns, against every person whomsoever claiming or to claim the same or any part thereof.

IN TESTIMONY WHEREOF, witness the execution hereof on this 22 day of November, A.D., 1996.

JAMES EUGENE FARMER

FILED FOR RECORD DEC 18 1996
96 DEC 18 AM 9:50
SARA JACKSON
COUNTY CLERK
GRAYSON COUNTY, TX

ACKNOWLEDGMENT

THE STATE OF TEXAS §
§
COUNTY OF GRAYSON §

BEFORE ME, the undersigned authority, on this day personally appeared **JAMES EUGENE FARMER,** known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE this the 22 day of November, A.D., 1996.

RITA V. GAITHER
Notary Public, State of Texas
Commission Expires
11-3-99

Rita V. Gaither
NOTARY PUBLIC IN AND FOR THE STATE OF TEXAS

FILED FOR RECORD AND RECORDED DECEMBER 18, 1996, AT _____ M.
SARA JACKSON GRAYSON COUNTY CLERK, BY Linda Glass DEPUTY

Attachment No. 15

1. Closure Plan

   When the city no longer desires to use the existing sludge dewatering basins, they will be emptied of sludge and the interior of the basin allowed to thoroughly dry. Once the floor and sides of the basins have dried sufficiently to allow heavy equipment on the floor of the basins, the berms that form the basin will be removed and the soil from the berms used to fill in the basins.

   All of the soils that have been used to construct the original berms meet the permeability requirements of 30 TAC 217.203(c). Additionally, the soils adjacent to the sludge dewatering basins meet the permeability requirements. Therefore, there is sufficient soil available on site to completely fill the basins to the original grade lines that existed before the basins were constructed.

   Once the basins have been filled and graded to the original contours, grass will be established on the entire surface of the closed sludge dewatering basins.

2. Prevention of surface water and ground water intrusion.

   The clays soils that have been used to construct the sludge dewatering basins are very impermeable. Therefore it is very difficult for groundwater to enter the basins.

   The tops of the berms all are above the elevation of existing ground. Therefore, there is no possibility that surface water can enter the basins.

3. Procedures to prevent nuisance conditions

   During the time the basins are being filled with sludge or dewatered, at least 12 inches of water cover is maintained at all times. The only time such water cover is not maintained is just before the basins are to be emptied. The water cover prevents insects and rodents from being attracted to the basins. Only water birds and turtles are attracted to the basins.

Attachment S

Permit Justification

Tech Report 1.1, Section 1.A

ATTACHMENT S
CITY OF SHERMAN
POST OAK WASTEWATER TREATMENT FACILITY
TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT APPLICATION
PERMIT JUSTIFICATION AND DESIGN ORGANIC LOADING

PERMIT JUSTIFICATION

The City of Sherman (City) is growing in population and providing services to new industrial users (IUs). Two IUs began large construction projects for new facilities. The IUs will discharge significant amounts of wastewater to the Post Oak Wastewater Treatment Facility (WWTF). Projected flows from the new IUs will increase as the IUs expand production. Flow projections for the population growth and IUs were obtained from the City of Sherman Master Plan Report dated August 30, 2024, which was prepared by Plummer Associates, Inc.

Figure 1 presents the projected flows from 2025 through 2032. The current and requested annual average permit flows with the 90% level of the proposed permitted flows are also presented on Figure 1.

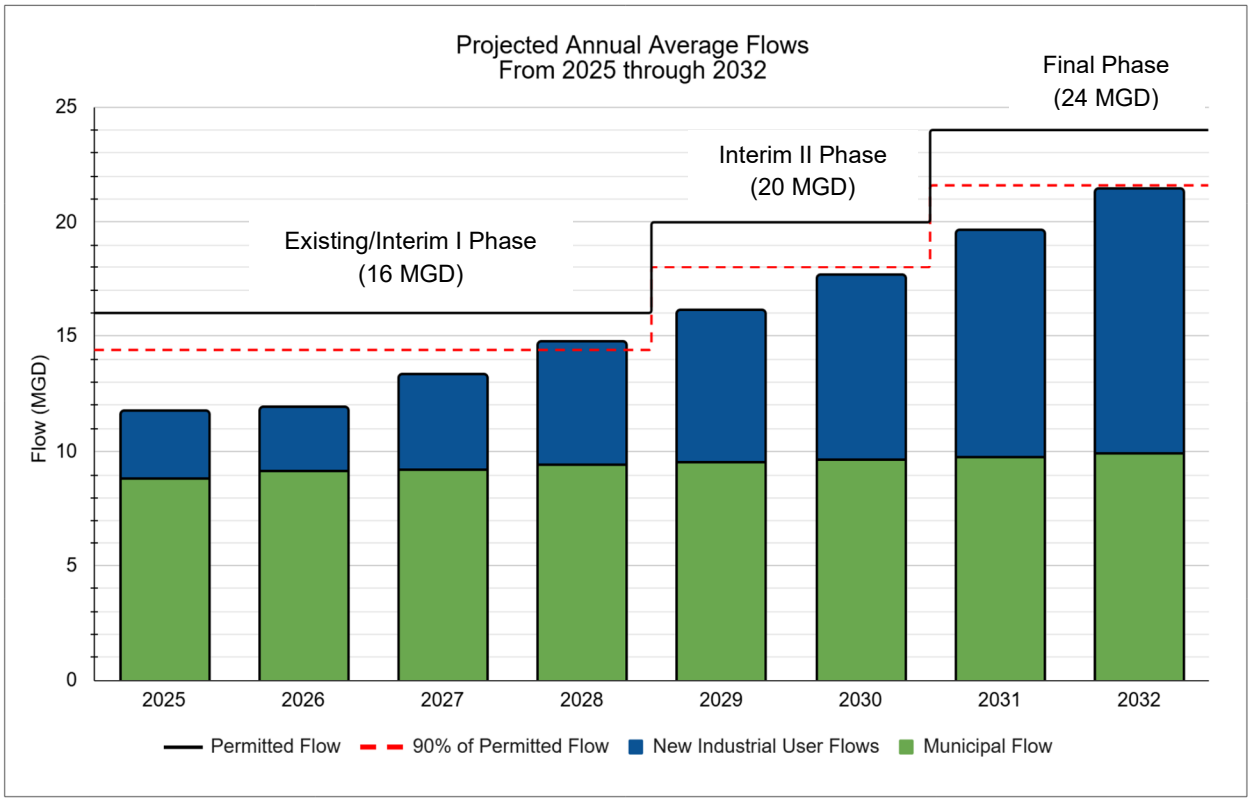


Figure 1. Projected Municipal and Industrial Flows from 2025 through 2032.

Because the proposed flows are expected to exceed 90% of the permit limitations of 16 million gallons per day (MGD) in 2029 and 20 MGD in 2031 the proposed future phases are justified.

DESIGN ORGANIC LOADING

The design organic loadings for each phase are based on existing data and information received from the new IUs. As described in Attachment A, the WWTF receives flows through three interceptors. Two interceptors are to the north side of the WWTF and delivers wastewater that is predominantly from residential/domestic sources. The sources of wastewater received through the south interceptor are predominantly industrial. As the new IUs ramp-up production, the quality and quantity of the wastewater received at the WWTF will change. The contributions from the new IU sources are expected to have 5-day, biochemical oxygen demand (BOD_5) concentrations significantly lower than the existing municipal/domestic source wastewater and IUs.

The design organic concentration for the Existing/Interim I phase of the North train is based on historical data. The average plus one standard deviation of the BOD_5 concentrations for influent data collected from January 2021 through December 2024 is 190 milligram per liter (mg/L).

The design organic concentration for the Existing/Interim I phase of the South train is 186 mg/L BOD_5. The load is based on a mass balance calculations using the data for the south interceptor line and the maximum flows and BOD concentrations projected for the new IUs for 2025.

The design organic concentrations and anticipated organic loads for the Interim II and Final phases for the two trains were based on mass balance calculations. The North train will treat predominately domestic/municipal wastewater. The design concentration for the North train is 250 mg/L BOD_5. The South train, which will treat industrial flows, will be significantly lower in BOD_5 concentration. However, the ammonia concentrations will increase.

Table 1 presents the sources, design flow, and BOD_5 concentrations for each train and each phase.

Table 1. Existing/Interim I, Interim II, and Final Phase Organic Loading Sources.

Phase	Source	Design Flow (MGD)	BOD Concentration (mg/L)
Existing/Interim I (16 MGD)			
North Train	Residential/Municipal	12	190
South Train	Industrial	4	186
Interim II (20 MGD)			
North Train	Residential/Municipal	16	250
South Train	Industrial	4	186
Final (24 MGD)			
North Train	Residential/Municipal	16	250
South Train	Industrial	8	95

Attachment T
Design Calculations and Plant Features
Tech Report 1.1, Section 4

ATTACHMENT T.1
CITY OF SHERMAN
POST OAK WASTEWATER TREATMENT PLANT
DESIGN CALCULATIONS

EXISTING/INTERIM I PHASE - NORTH TRAIN

Flow and Loading

Design Flow	12.0	MGD
BOD Influent Design Concentration (1)	190	mg/L
Design Influent Organic Loading	19,015	lb BOD5/day
Peak Flow	24.0	MGD
Peaking Factor	2.0	
Percent BOD Removal Primary Clarifiers	35	percent
BOD Primary Effluent Design Concentration	124	mg/L
Design Primary Effluent Organic Loading	12,360	lb BOD5/day

Note:
The average concentration of BOD measured from January 2021 to December 2024 is 145 mg/l. 1 standard deviation is determined to be 45 mg/l. The BOD Influent Design Concentration is taken as 145 mg/l + 45 mg/l = 190 mg/l

Primary Clarification

No. of Basins	3	
Surface Area, Total	23,358	sf
Weir Length, Total	915	ft
Volume, Total	249,118	cf
Volume, Total	1,863,403	gal
Surface Loading Rate at Design Flow	514	gpd/sf
TCEQ Max. Surface Loading Rate at Design Flow	**1,000**	**gpd/sf**
Surface Loading Rate at Peak Flow	1,027	gpd/sf
TCEQ Max. Surface Loading Rate at Peak Flow	**1,800**	**gpd/sf**
Detention Time at Design Flow	3.7	hrs
TCEQ Min. Detention Time at Design Flow	**1.8**	**hrs**
Detention Time at Peak Flow	1.9	hrs
TCEQ Min. Detention Time at Peak Flow	**0.9**	**hrs**
Weir Loading Rate at Peak Flow	26,230	gpd/f
TCEQ Max. Weir Loading Rate at Peak Flow	**30,000**	**gpd/f**
2 Hour Peak Flow Capacity of Clarifier based on TCEQ Max. Surface Loading	**42.0**	**MGD**
2 Hour Peak Flow Capacity of Clarifier based on TCEQ Min. Detention Time	**49.7**	**MGD**
2 Hour Peak Flow Capacity of Clarifier based on TCEQ Max. Weir Loading	**27.5**	**MGD**

ATTACHMENT T.1
CITY OF SHERMAN
POST OAK WASTEWATER TREATMENT PLANT
DESIGN CALCULATIONS

EXISTING/INTERIM I PHASE - NORTH TRAIN

Activated Sludge Treatment

No. of Basins	3	
Length	150.0	ft
Width	50.0	ft
SWD	18.0	ft
Volume at Normal WSE	405,000	cf
Volume at Normal WSE	3,029,805	gal
Detention Time at Design Flow	6.1	hrs
Detention Time at Peak Flow	3.0	hrs
Organic Loading at Design Flow	30.5	lb BOD/d/1000 cf
TCEQ Design Max. Allowable Organic Loading	**35.0**	**lb BOD/d/1000 cf**
Design Capacity of Aeration Basin based on TCEQ Max. Organic Loading	**13.8**	**MGD**
Oxygen Required as per TCEQ	2.2	lb O_2/lb BOD
Oxygen Required for Organic Loading	27,192	lb O_2/lb BOD
Wastewater Oxygen Transfer Efficiency	15%	
Unit Weight of Air	0.075	ld/cf
Oxygen Air Ratio	23%	lb O_2/lb Air
Required Air Flow	7,298	CFM
Existing Blower Capacity	10,650	CFM

Secondary Clarification (Biological Clarifiers)

No. of Basins, Total	3	
SWD, ea.	15.0	ft
Diameter, ea.	100.0	ft
Surface Area, Total	23,562	sf
Volume, Total	353,429	cf
Volume, Total	2,644,000	gal
Weir Length, Total	942	ft
Surface Loading Rate at Design Flow	509	gpd/sf
Surface Loading Rate at Peak Flow	1,019	gpd/sf
TCEQ Max. Surface Loading Rate at Peak Flow	**1,200**	**gpd/sf**
Detention Time at Design Flow	5.3	hrs
Detention Time at Peak Flow	2.6	hrs
TCEQ Min. Detention Time at Peak Flow	**1.8**	**hrs**
Max. Weir Loading Rate at Peak Flow	25,478	gpd/ft
TCEQ Max. Weir Loading Rate at Peak Flow	**30,000**	**gpd/ft**
2 Hour Peak Flow Capacity of Clarifier based on TCEQ Max. Surface Loading	**28.0**	**MGD**
2 Hour Peak Flow Capacity of Clarifier based on TCEQ Max. Weir Loading Rate	**28.0**	**MGD**
2 Hour Peak Flow Capacity of Clarifier based on TCEQ Min. Detention Time	**35.0**	**MGD**

ATTACHMENT T.1
CITY OF SHERMAN
POST OAK WASTEWATER TREATMENT FACILITY
DESIGN CALCULATIONS

EXSITING/INTERIM I - SOUTH TRAIN

Influent Wastewater Characteristics

Notes:

1. Values provided are based on the Preliminary Design Report for 2025, which has been submitted to the TCEQ.
2. The design value is considered the average plus one standard deviation concentration, which is equivalent to the max month value.
3. Values are calculated based on available data for the south interceptor and projected data from the industries.

Values

Parameter	Average (mg/L)	Design (mg/L)
BOD	141	186
TSS	149	223
Ammonia	76	90

Flow Characteristics

Notes:

1. The South WWTP - MBR is designed with a 2 times peaking factor. Flows over this amount will be sent to storage.

Values

Parameter	Value (MGD)
AADF	4
Peak Day Flow	8

Biological Reactor Basins (BRB)

Notes

1. The BRB system was designed using the GPS-X modelling software.
2. The TCEQ requires a solids retention time (SRT) of 10-25 days. The BRB has a SRT of 23 days for AADF and 10 days for peak day flow.
3. The TCEQ requires an MLSS concentration of 4,000-10,000 mg/L. The BRB has a design MLSS concentration of 3,800 mg/L for AADF and 7,400 for peak flow. Model results indicated that given that under AADF conditions the BRBs can operate in the 3,000s mg/L of MLSS and achieve required levels of nitrification. If a minimum MLSS of 4,000 is required, then supplemental carbon will be needed.

Organic Loading Rate

Parameter	Value	
Aerobic Volume per Train (gal)	380,000	
Total Aerobic Volume (cf)	203,209	
Max Organic Loading Rate (lbs BOD/d/1,000 cf)	35	<--TCEQ Max
Actual Organic Loading Rate (lbs BOD/d/1,000 cf)	31	

Air Demand

Givens

Parameter	Value	
Theoretical BOD demand (lb O2/lb BOD)	1.2	<-- TCEQ coefficient
Theoretical NH3 demand (lb O2/lb NH3)	4.57	<-- TCEQ coefficient
BRB Diffuser Submergence Depth (ft)	19.1	<-- Per Xylem diffuser submittal
Standard Oxygen Transfer Efficiency per ft of submergence (%)	1.6	<-- Xylem Silver Series II LP diffusers are used. This is the average value.
Standard Oxygen Transfer Efficiency (%)	30.6	
Wastewater Oxygen Transfer Efficiency (%)	9.4	<-- Corrected for fine bubble diffuser and actual submergence per TCEQ factors.
Unit Weight of Air (lb/cf)	0.075	<-- Standard conversion
Oxygen Air Ratio (lb O2/lb air)	0.23	<-- Standard conversion
Air Flow Rate per Blower (scfm)	4,000	
Number of Blowers	4	
Firm Air Flowrate (scfm)	12,000	

ATTACHMENT T.1
CITY OF SHERMAN
POST OAK WASTEWATER TREATMENT FACILITY
DESIGN CALCULATIONS

EXSITING/INTERIM I - SOUTH TRAIN

Calculations

Parameter	Average Flow Value
BOD Loading (lb/d)	6,205
NH3 Loading (lb/d)	3,002
Oxygen Required for BOD (lb/d)	7,446
Oxygen Required for NH3 (lb/d)	13,721
Total Oxygen Required (lb/d)	21,167
Air Required (cfm)	9,041
Firm Capacity Provided (cfm)	12,000

1. Using the 2.2 coefficient in 30 TAC 217.155(a)(3) the oxygen required is 13,651 lb/day. The separate BOD (1.2) and ammonia (4.57) coefficients produced a higher air requirement and is used for sizing the system.

Membrane Basins

Givens

Parameter	Design Cassettes
Number of Trains	3
Module Suface Area (ft^2)	530
Max Modules/Cassette	64
Surface Area/Cassete (ft^2)	33,920

Calculations

Parameter	Design Capacity (6 Cassettes/ Train)	Firm Capacity (5 Cassettes/Train)	TCEQ Value
Surface Area/Train (ft^2)	203,520	169,600	--
Total Surface Area (ft^2)	610,560	508,800	--
Average Net Flux Rate (gal/day/sf)	6.6	7.9	15
Peak Net Flux Rate (gal/day/sf)	13.1	15.7	18.75

1. There is a spare permeate pump provided, so the redundancy requirement is taken to be one cassette out of service.

Sludge Storage Tank

Givens

Parameter	Value	
Tank Diameter (ft)	64	
SWD (ft)	18	
Volume (cf)	57,906	
Firm Blower Capacity (scfm)	1,737	<-- Two blowers each rated for 1,737 scfm.

Calculations

Parameter	Actual Value	TCEQ Value
Airflow (cf air/min/1000 cf liquid)	30	30

ATTACHMENT T.2
CITY OF SHERMAN
POST OAK WASTEWATER TREATMENT PLANT
DESIGN CALCULATIONS

INTERIM II - NORTH TRAIN

Flow and Loading

Design Flow	16.0	MGD
BOD Influent Design Concentration	250	mg/L
Design Influent Organic Loading	33,360	lb BOD5/day
Peak Flow	32.0	MGD
Peaking Factor	2.0	
Percent BOD Removal Primary Clarifiers	35	percent
BOD Primary Effluent Design Concentration	163	mg/L
Design Primary Effluent Organic Loading	21,684	lb BOD5/day

Note:
BOD influent design concentration isdetermined based on mass balance + 1 Standard Deviation. The mass balance assumes that the 9.77 MGD of existing municipal flow shall have a concentration of 200 mg/l, 4 MGD of future flow shall have a BOD concentration of 300 mg/l and 2.23 MGD of industrial flow shall have a BOD concentration of 40 mg/l.

Primary Clarification

No. of Basins	3	
Surface Area, Total	23,358	sf
Weir Length, Total	915	ft
Volume, Total	249,118	cf
Volume, Total	1,863,403	gal
Surface Loading Rate at Design Flow	685	gpd/sf
TCEQ Max. Surface Loading Rate at Design Flow	**1,000**	**gpd/sf**
Surface Loading Rate at Peak Flow	1,370	gpd/sf
TCEQ Max. Surface Loading Rate at Peak Flow	**1,800**	**gpd/sf**
Detention Time at Design Flow	2.8	hrs
TCEQ Min. Detention Time at Design Flow	**1.8**	**hrs**
Detention Time at Peak Flow	1.4	hrs
TCEQ Min. Detention Time at Peak Flow	**0.9**	**hrs**
Weir Loading Rate at Peak Flow	34,973	gpd/f
TCEQ Max. Weir Loading Rate at Peak Flow	**30,000**	**gpd/f**
2 Hour Peak Flow Capacity of Clarifier based on TCEQ Max. Surface Loading	**42.0**	**MGD**
2 Hour Peak Flow Capacity of Clarifier based on TCEQ Min. Detention Time	**50.0**	**MGD**
2 Hour Peak Flow Capacity of Clarifier based on TCEQ Max. Weir Loading	**27.0**	**MGD**

ATTACHMENT T.2
CITY OF SHERMAN
POST OAK WASTEWATER TREATMENT PLANT
DESIGN CALCULATIONS

INTERIM II - NORTH TRAIN

Activated Sludge Treatment

No. of Basins (2 to be installed in future)	5	
Length	150.0	ft
Width	50.0	ft
SWD	18.0	ft
Volume at Normal WSE	675,000	cf
Volume at Normal WSE	5,049,675	gal
Detention Time at Design Flow	7.6	hrs
Detention Time at Peak Flow	3.8	hrs
Organic Loading at Design Flow	32.1	lb BOD/d/1000 cf
TCEQ Design Max. Allowable Organic Loading	**35.0**	**lb BOD/d/1000 cf**
Design Capacity of Aeration Basin based on TCEQ Max. Organic Loading	**17.4**	**MGD**
Oxygen Required as per TCEQ	2.2	lb O_2/lb BOD
Oxygen Required for Organic Loading	47,705	lb O_2/lb BOD
Wastewater Oxygen Transfer Efficiency	15%	
Unit Weight of Air	0.075	ld/cf
Oxygen Air Ratio	23%	lb O_2/lb Air
Required Air Flow	12,804	CFM
Existing Blower Capacity (2 new blowers each of 3,550 CFM to be added)	10,650	CFM

Secondary Clarification (Biological Clarifiers)

No. of Basins, Total	4	
SWD, ea.	15.0	ft
Diameter, ea.	100.0	ft
Surface Area, Total	31,416	sf
Volume, Total	471,239	cf
Volume, Total	3,525,340	gal
Weir Length, Total	1,257	ft
Surface Loading Rate at Design Flow	509	gpd/sf
Surface Loading Rate at Peak Flow	1,019	gpd/sf
TCEQ Max. Surface Loading Rate at Peak Flow	**1,200**	**gpd/sf**
Detention Time at Design Flow	5.3	hrs
Detention Time at Peak Flow	2.6	hrs
TCEQ Min. Detention Time at Peak Flow	**1.8**	**hrs**
Max. Weir Loading Rate at Peak Flow	25,457	gpd/ft
TCEQ Max. Weir Loading Rate at Peak Flow	**30,000**	**gpd/ft**
2 Hour Peak Flow Capacity of Clarifier based on TCEQ Max. Surface Loading	**38.0**	**MGD**
2 Hour Peak Flow Capacity of Clarifier based on TCEQ Max. Weir Loading Rate	**38.0**	**MGD**
2 Hour Peak Flow Capacity of Clarifier based on TCEQ Min. Detention Time	**47.0**	**MGD**

ATTACHMENT T.2
CITY OF SHERMAN
POST OAK WASTEWATER TREATMENT FACILITY
DESIGN CALCULATIONS

INTERIM II - SOUTH TRAIN

Influent Wastewater Characteristics

Notes:

1. Values provided are based on the Preliminary Design Report for 2025, which has been submitted to the TCEQ.

2. The design value is considered the average plus one standard deviation concentration, which is equivalent to the max month value.
3. Values are calculated based on available data for the south interceptor and projected data from the industries.

Values

Parameter	Average (mg/L)	Design (mg/L)
BOD	141	186
TSS	149	223
Ammonia	76	90

Flow Characteristics

Notes:

1. The South WWTP - MBR is designed with a 2 times peaking factor. Flows over this amount will be sent to storage.

Values

Parameter	Value (MGD)
AADF	4
Peak Day Flow	8

Biological Reactor Basins (BRB)

Notes

1. The BRB system was designed using the GPS-X modelling software.
2. The TCEQ requires a solids retention time (SRT) of 10-25 days. The BRB has a SRT of 23 days for AADF and 10 days for peak day flow.
3. The TCEQ requires an MLSS concentration of 4,000-10,000 mg/L. The BRB has a design MLSS concentration of 3,800 mg/L for AADF and 7,400 for peak flow. Model results indicated that given that under AADF conditions the BRBs can operate in the 3,000s mg/L of MLSS and achieve required levels of nitrification. If a minimum MLSS of 4,000 is required, then supplemental carbon will be needed.

Organic Loading Rate

Parameter	Value	
Aerobic Volume per Train (gal)	380,000	
Total Aerobic Volume (cf)	203,209	
Max Organic Loading Rate (lbs BOD/d/1,000 cf)	35	<--TCEQ Max
Actual Organic Loading Rate (lbs BOD/d/1,000 cf)	31	

Air Demand

Givens

Parameter	Value	
Theoretical BOD demand (lb O2/lb BOD)	1.2	<-- TCEQ coefficient
Theoretical NH3 demand (lb O2/lb NH3)	4.57	<-- TCEQ coefficient
BRB Diffuser Submergence Depth (ft)	19.1	<-- Per Xylem diffuser submittal
Standard Oxygen Transfer Efficiency per ft of submergence (%)	1.6	<-- Xylem Silver Series II LP diffusers are used. This is the average value.
Standard Oxygen Transfer Efficiency (%)	30.6	
Wastewater Oxygen Transfer Efficiency (%)	9.4	<-- Corrected for fine bubble diffuser and actual submergence per TCEQ factors.
Unit Weight of Air (lb/cf)	0.075	<-- Standard conversion
Oxygen Air Ratio (lb O2/lb air)	0.23	<-- Standard conversion
Air Flow Rate per Blower (scfm)	4,000	
Number of Blowers	4	
Firm Air Flowrate (scfm)	12,000	

ATTACHMENT T.2
CITY OF SHERMAN
POST OAK WASTEWATER TREATMENT FACILITY
DESIGN CALCULATIONS

INTERIM II - SOUTH TRAIN

Calculations

Parameter	Average Flow Value
BOD Loading (lb/d)	6,205
NH3 Loading (lb/d)	3,002
Oxygen Required for BOD (lb/d)	7,446
Oxygen Required for NH3 (lb/d)	13,721
Total Oxygen Required (lb/d)	21,167
Air Required (cfm)	9,041
Firm Capacity Provided (cfm)	12,000

1. Using the 2.2 coefficient in 30 TAC 217.155(a)(3) the oxygen required is 13,651 lb/day. The separate BOD (1.2) and ammonia (4.57) coefficients produced a higher air requirement and is used for sizing the system.

Membrane Basins

Givens

Parameter	Design Cassettes
Number of Trains	3
Module Suface Area (ft^2)	530
Max Modules/Cassette	64
Surface Area/Cassete (ft^2)	33,920

Calculations

Parameter	Design Capacity (6 Cassettes/ Train)	Firm Capacity (5 Cassettes/Train)	TCEQ Value
Surface Area/Train (ft^2)	203,520	169,600	--
Total Surface Area (ft^2)	610,560	508,800	--
Average Net Flux Rate (gal/day/sf)	6.6	7.9	15
Peak Net Flux Rate (gal/day/sf)	13.1	15.7	18.75

1. There is a spare permeate pump provided, so the redundancy requirement is taken to be one cassette out of service.

Sludge Storage Tank

Givens

Parameter	Value	
Tank Diameter (ft)	64	
SWD (ft)	18	
Volume (cf)	57,906	
Firm Blower Capacity (scfm)	1,737	<-- Two blowers each rated for 1,737 scfm.

Calculations

Parameter	Actual Value	TCEQ Value
Airflow (cf air/min/1000 cf liquid)	30	30

ATTACHMENT T.3
CITY OF SHERMAN
POST OAK WASTEWATER TREATMENT PLANT
DESIGN CALCULATIONS

FINAL - NORTH TRAIN

Flow and Loading

Design Flow	16.0	MGD
BOD Influent Design Concentration	250	mg/L
Design Influent Organic Loading	33,360	lb BOD5/day
Peak Flow	32.0	MGD
Peaking Factor	2.0	
Percent BOD Removal Primary Clarifiers	35	percent
BOD Primary Effluent Design Concentration	163	mg/L
Design Primary Effluent Organic Loading	21,684	lb BOD5/day

Note:
BOD influent design concentration isdetermined based on mass balance + 1 Standard Deviation. The mass balance assumes that the 9.77 MGD of existing municipal flow shall have a concentration of 200 mg/l, 4 MGD of future flow shall have a BOD concentration of 300 mg/l and 2.23 MGD of industrial flow shall have a BOD concentration of 40 mg/l.

Primary Clarification

No. of Basins	3	
Surface Area, Total	23,358	sf
Weir Length, Total	915	ft
Volume, Total	249,118	cf
Volume, Total	1,863,403	gal
Surface Loading Rate at Design Flow	685	gpd/sf
TCEQ Max. Surface Loading Rate at Design Flow	**1,000**	**gpd/sf**
Surface Loading Rate at Peak Flow	1,370	gpd/sf
TCEQ Max. Surface Loading Rate at Peak Flow	**1,800**	**gpd/sf**
Detention Time at Design Flow	2.8	hrs
TCEQ Min. Detention Time at Design Flow	**1.8**	**hrs**
Detention Time at Peak Flow	1.4	hrs
TCEQ Min. Detention Time at Peak Flow	**0.9**	**hrs**
Weir Loading Rate at Peak Flow	34,973	gpd/f
TCEQ Max. Weir Loading Rate at Peak Flow	**30,000**	**gpd/f**
2 Hour Peak Flow Capacity of Clarifier based on TCEQ Max. Surface Loading	**42.0**	**MGD**
2 Hour Peak Flow Capacity of Clarifier based on TCEQ Min. Detention Time	**50.0**	**MGD**
2 Hour Peak Flow Capacity of Clarifier based on TCEQ Max. Weir Loading	**27.0**	**MGD**

ATTACHMENT T.3
CITY OF SHERMAN
POST OAK WASTEWATER TREATMENT PLANT
DESIGN CALCULATIONS

FINAL - NORTH TRAIN

Activated Sludge Treatment

No. of Basins (2 to be installed in future)	5	
Length	150.0	ft
Width	50.0	ft
SWD	18.0	ft
Volume at Normal WSE	675,000	cf
Volume at Normal WSE	5,049,675	gal
Detention Time at Design Flow	7.6	hrs
Detention Time at Peak Flow	3.8	hrs
Organic Loading at Design Flow	32.1	lb BOD/d/1000 cf
TCEQ Design Max. Allowable Organic Loading	**35.0**	**lb BOD/d/1000 cf**
Design Capacity of Aeration Basin based on TCEQ Max. Organic Loading	**17.4**	**MGD**
Oxygen Required as per TCEQ	2.2	lb O_2/lb BOD
Oxygen Required for Organic Loading	47,705	lb O_2/lb BOD
Wastewater Oxygen Transfer Efficiency	15%	
Unit Weight of Air	0.075	ld/cf
Oxygen Air Ratio	23%	lb O_2/lb Air
Required Air Flow	12,804	CFM
Existing Blower Capacity (2 new blowers each of 3,550 CFM to be added)	10,650	CFM

Secondary Clarification (Biological Clarifiers)

No. of Basins, Total	4	
SWD, ea.	15.0	ft
Diameter, ea.	100.0	ft
Surface Area, Total	31,416	sf
Volume, Total	471,239	cf
Volume, Total	3,525,340	gal
Weir Length, Total	1,257	ft
Surface Loading Rate at Design Flow	509	gpd/sf
Surface Loading Rate at Peak Flow	1,019	gpd/sf
TCEQ Max. Surface Loading Rate at Peak Flow	**1,200**	**gpd/sf**
Detention Time at Design Flow	5.3	hrs
Detention Time at Peak Flow	2.6	hrs
TCEQ Min. Detention Time at Peak Flow	**1.8**	**hrs**
Max. Weir Loading Rate at Peak Flow	25,457	gpd/ft
TCEQ Max. Weir Loading Rate at Peak Flow	**30,000**	**gpd/ft**
2 Hour Peak Flow Capacity of Clarifier based on TCEQ Max. Surface Loading	**38.0**	**MGD**
2 Hour Peak Flow Capacity of Clarifier based on TCEQ Max. Weir Loading Rate	**38.0**	**MGD**
2 Hour Peak Flow Capacity of Clarifier based on TCEQ Min. Detention Time	**47.0**	**MGD**

ATTACHMENT T.3
CITY OF SHERMAN
POST OAK WASTEWATER TREATMENT FACILITY
DESIGN CALCULATIONS

FINAL - SOUTH TRAIN

Influent Wastewater Characteristics

Notes:

1. The design value is considered the average plus one standard deviation concentration, which is equivalent to the max month value.
2. Values are calculated based on available data for the south interceptor and projected data from the new industries.

Values

Parameter	Average (mg/L)	Design (mg/L)
BOD	71	95
TSS	76	110
Ammonia	91	111

Flow Characteristics

Notes:

1. The South WWTP - MBR is designed with a 2 times peaking factor. Flows over this amount will be sent to storage.

Values

Parameter	Value (MGD)
AADF	8
Peak Day Flow	16

Biological Reactor Basins (BRB)

Notes

1. The BRB system was designed using the GPS-X modelling software.
2. The TCEQ requires a solids retention time (SRT) of 10-25 days. The BRB has a SRT of 25 days for AADF and 11 days for peak day flow.
3. The TCEQ requires an MLSS concentration of 4,000-10,000 mg/L. The BRB has a design MLSS concentration of 3,200 mg/L for AADF and 5,600 for peak flow. Model results indicated that given that under AADF conditions the BRBs can operate in the 3,000s mg/L of MLSS and achieve required levels of nitrification. If a minimum MLSS of 4,000 is required, then supplemental carbon will be needed.

Organic Loading Rate

Parameter	Value	
Aerobic Volume per Train (gal)	380,000	
Total Aerobic Volume (cf)	406,417	
Max Organic Loading Rate (lbs BOD/d/1,000 cf)	35	<--TCEQ Max
Actual Organic Loading Rate (lbs BOD/d/1,000 cf)	16	

Air Demand

Givens

Parameter	Value	
Theoretical BOD demand (lb O2/lb BOD)	1.2	<-- TCEQ coefficient
Theoretical NH3 demand (lb O2/lb NH3)	4.57	<-- TCEQ coefficient
BRB Diffuser Submergence Depth (ft)	19.1	<-- Per Xylem diffuser submittal
Standard Oxygen Transfer Efficiency per ft of submergence (%)	1.6	<-- Xylem Silver Series II LP diffusers are used. This is the average value.
Standard Oxygen Transfer Efficiency (%)	30.6	
Wastewater Oxygen Transfer Efficiency (%)	9.4	<-- Corrected for fine bubble diffuser and actual submergence per TCEQ factors.
Unit Weight of Air (lb/cf)	0.075	<-- Standard conversion
Oxygen Air Ratio (lb O2/lb air)	0.23	<-- Standard conversion
Air Flow Rate per Blower (scfm)	4,000	
Number of Blowers	8	
Firm Air Flowrate (scfm)	28,000	

ATTACHMENT T.3
CITY OF SHERMAN
POST OAK WASTEWATER TREATMENT FACILITY
DESIGN CALCULATIONS

FINAL - SOUTH TRAIN

Calculations

Parameter	Average Flow Value
BOD Loading (lb/d)	6,338
NH3 Loading (lb/d)	7,406
Oxygen Required for BOD (lb/d)	7,606
Oxygen Required for NH3 (lb/d)	33,845
Total Oxygen Required (lb/d)	41,451
Air Required (cfm)	17,705
Firm Capacity Provided (cfm)	28,000

1. Using the 2.2 coefficient in 30 TAC 217.155(a)(3) the oxygen required is 13,651 lb/day. The separate BOD (1.2) and ammonia (4.57) coefficients produced a higher air requirement and is used for sizing the system.

Membrane Basins

Givens

Parameter	Design Cassettes
Number of Trains	6
Module Suface Area (ft^2)	530
Max Modules/Cassette	64
Surface Area/Cassete (ft^2)	33,920

Calculations

Parameter	Design Capacity (6 Cassettes/ Train)	Firm Capacity (5 Cassettes/Train)	TCEQ Value
Surface Area/Train (ft^2)	203,520	169,600	--
Total Surface Area (ft^2)	1,221,120	1,017,600	--
Average Net Flux Rate (gal/day/sf)	6.6	7.9	15
Peak Net Flux Rate (gal/day/sf)	13.1	15.7	18.75

1. There is a spare permeate pump provided, so the redundancy requirement is taken to be one cassette out of service.

Sludge Storage Tank

Givens

Parameter	Value	
Tank Quantity	2	
Tank Diameter (ft)	64	
SWD (ft)	18	
Volume (cf)	57,906	
Firm Blower Capacity (scfm)	1,737	<-- Two blowers each rated for 1,737 scfm.

Calculations

Parameter	Actual Value	TCEQ Value
Airflow (cf air/min/1000 cf liquid)	30	30

ATTACHMENT T.4
CITY OF SHERMAN
POST OAK WASTEWATER TREATMENT PLAN
FACILITY DESIGN FEATURES

Emergency Power Requirements

In accordance with 30 TAC 217.36, emergency power generation is provided for the Post Oak WWTP. There are two independent circuits with an automatic transfer switch for the North train. The North train will also have generators as part of an upcoming Plummer Wastewater Electrical Upgrades (MV Loop) project. The South train has a generator for backup power. The generators included will energize automatically if a power outage is detected and are sized to allow normal operation of the entire plant.

Alarm Features

The Post Oak WWTP is equipped with a supervisory control and data acquisition (SCADA) system to monitor and allow for control over the operation of plant equipment.

North Train

The SCADA system is located within the facility's administration building. There is a graphic display that includes all treatment units. There are operators on site 24 hours per day to monitor the treatment process.

South Train

The MBR treatment units are integrated into the SCADA system. There is a separate control system for the membrane system located inside the Membrane Support Building Control Room. The following summarizes the alarms that are sent to the SCADA system for the South train. Alarms are also triggered at the local programmable logic controller (PLC) panels. Alarm conditions are not included for the membrane system in this narrative for brevity. The membrane manufacturer provides continuous on call support as needed to address potential alarms if they arise.

1. Loss of power to each treatment unit and piece of equipment.
2. Diversion Structure high level.
3. Influent Pump Station high level alarms for the coarse screen channel. High- and low-level alarms for each wet well.
4. Preliminary Treatment Unit high level alarms for each fine screen channel.
5. Equalization Basin low level.
6. Biological Reactor Basin Influent Splitter Box high level.
7. Carbon and Alkalinity discharge pump pressure high level.
8. Membrane Bioreactor Basin air scour blower low flow.
9. RAS Pump Station high and low level.
10. Waste Activated Sludge (WAS) discharge pump pressure high level.
11. Relift Pump Station high and low level.

12. Effluent Filters disk mechanism torque.
13. Effluent Filters high level.

Design Features for Reliability and Operating Flexibility

North Train

1. Influent Lift Station. There are seven submersible pumps. The peak two-hour flow (P2HF) can be pumped with the largest pump out of service.
2. Coarse Screens. Three coarse screens can handle the P2HF, allowing one unit to be out of service if needed.
3. Grit Removal. One grit unit can handle the P2HF, allowing one unit to be out of service if needed.
4. Wet Weather Equalization Basin. There is one, 12 MG Wet Weather Equalization Basin that is used during peak flow events. Flow can be diverted from the influent lift station, after the grit chambers, or after the primary clarifiers.
5. Aeration Basins. There are three trains that can be operated in plug flow or parallel modes. If operated in parallel, individual trains can be taken offline if needed. Two additional trains are proposed.
6. Secondary Clarifiers. There are three clarifiers, allowing an individual clarifier to be isolated if needed. One additional clarifier is proposed.
7. UV Disinfection. There are two 8 MGD/16 MGD UV trains, allowing one train to be taken out of service if needed. Two additional 8 MGD/16 MGD UV trains are proposed.

South Train

1. Influent Pump Station. Each coarse bar screen is designed for the peak flow of 8 MGD, providing full redundancy. There are four submersible pumps (two 4 MGD and two 8 MGD). The firm capacity of the station is 16 MGD.
2. Preliminary Treatment Unit. The grit removal unit has a bypass channel included. Each fine screen is designed for the peak flow of 8 MGD, providing full redundancy. The fine screens have 1 mm openings, ensuring the membranes are protected.
3. Equalization Basin. This unit is sized for 4 MG each. There is also a bypass line included if the structure needs to be taken offline.
4. Activated Sludge Basins. There are four trains that operate in parallel, allowing basins to be taken offline as needed. Four trains with blower capacity identical to those constructed for the first 4 MGD phase would be added.
5. Membrane Bioreactor Basins. There are three trains that operate in parallel, allowing basins to be taken offline as needed. Each train contains a dedicated permeate pump. A shelf spare permeate pump is included for redundancy.
6. RAS Pump Station. There are three submersible pumps rated for 8 MGD each. The station was designed for a four times recirculation factor. Pumping requirements are met with one pump out of service.
7. Effluent Piping. The membrane effluent piping going to the POWWTP UV disinfection treatment unit contains valves to allow flow to be drained back to the Influent Pump Station if membrane effluent does not meet permit limits.

8. Solids Handling. Thickening and dewatering facilities dedicated to the South train would be added. Supernatant from both processes would be collected and drained to the South train Influent Pump Station. A second sludge storage tank may be constructed depending on the volume of WAS produced.

Overflow Prevention

The following features are included to prevent overflow of wastewater from treatment units.

North Train

1. The coarse screens, influent lift station, and grit removal can accommodate the P2HF with one unit out of service.
2. There is ample peak flow storage if flows exceed the treatment capabilities of the primary clarifiers, secondary treatment process, and UV disinfection. There is one, 12 MG Wet Weather Equalization Basin that is used during peak flow events. If this volume is not sufficient, there are four emergency storage basins with approximately 37 MG capacity that can be used.

South Train

The following design features will be used to prevent the overflow of wastewater from the treatment units.

1. Based on projected flows, the plant includes a 2:1 peaking factor. All structures are designed to pass the full 8 MGD peak flow, and yard piping has been sized to accommodate 16 MGD peak flow for future expansion.
2. The Diversion Structure contains a bypass line to send flow to the emergency storage ponds if needed. Flow is then drained back to the Diversion Structure after the peak flow event.
3. The Influent Pump Station contains a bypass line to send flow to the emergency storage ponds if needed.
4. The Preliminary Treatment Unit contains logic to clean the fine screens if an 8 MGD pump is operated from the Influent Pump Station. This feature functions to reduce the potential for blinding of the fine screens.
5. The Equalization Basin contains an overflow line that sends flow to the emergency storage basins if needed.
6. The RAS Pump Station includes a storage basin to ensure sufficient volume is available for pumping. The storage basin also serves as an overflow for the membrane basins.
7. If this volume is not sufficient, there are four emergency storage basins with approximately 37 MG capacity that can be used.

Peak Flow Discussion

The factor for the 2-hour peak flow to annual average flow for the Existing/Interim I and requested phases is 2:1. The facility currently has sufficient flow equalization and storage to prevent overflow for extreme storm events that may result in high influent flows. Information

obtained from the recently completed for the City's Wastewater Collection System Master Plan (Master Plan) is presented below to demonstrate the 2:1 peaking factor is sufficient.

Temporary flow monitoring and analysis were conducted for the Master Plan. It was concluded the collection system could produce a peak flow upon buildout of 76.2 MGD in 2032. However, if additional large diameter interceptors are constructed in the future, or if significant inflow and infiltration reductions are achieved, the peak flow may need to be reassessed. However, the projected influent peaking factors based on the evaluation are as follows:

Phase	Average Daily Flow (MGD)	Peak Flow (MGD)	Peak Influent Flow (MGD)	Peaking Factor
Existing/Interim I	16	32	76.2	4.76
Interim II	20	40	76.2	3.81
Final	24	48	76.2	3.17

Current firm pumping capacity is 16 MGD for the south plant train and 60 MGD for the north plant train, for a total of 76 MGD. Both stations are expandable to enable future firm pumping capacities to exceed a total of over 90 MGD with pump additions.

Conservatively assuming that flow rate of 76.2 occurs during a day in the plant's Interim I phase, with 41 MG entering the collection system over a 24-hour period, approximately 17 MG of storage is projected to be needed to keep flows in the plant's secondary treatment system below the 32 MGD hydraulic and process capacity. It is anticipated that peak storage needs may be reduced during future phases as pumping and daily processing capacities are increased, so needs for emergency storage are not expected to increase for the Interim II and Final phases. Current peak flow storage volume available is as follows:

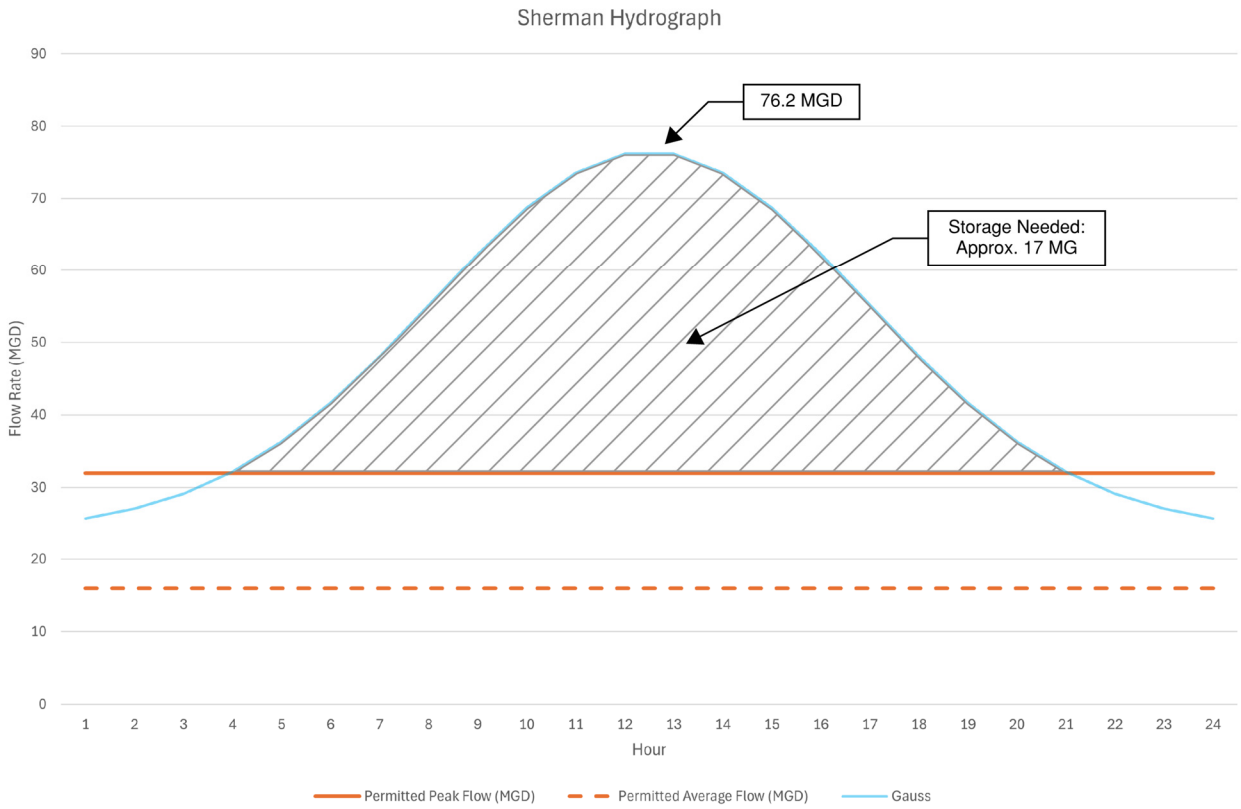
Volume available:

- West Equalization Basin Lower Storage 8.5 MG
- Additional Storage in West Equalization Basin Within Levee 10.1 MG
- MBR Plant daily flow equalization 4.0 MG
- Northwest Earthen Emergency Storage Basin 9.6 MG
- Southwest Earthen Emergency Storage Basin 9.1 MG

Total Peak Flow Storage Available, Interim I 41.3 MG

It is noted that a second (future) 4 MG daily flow equalization basin is planned for the MBR train, and two additional earthen peak flow storage basins (not listed above) are available for additional emergency storage if needed.

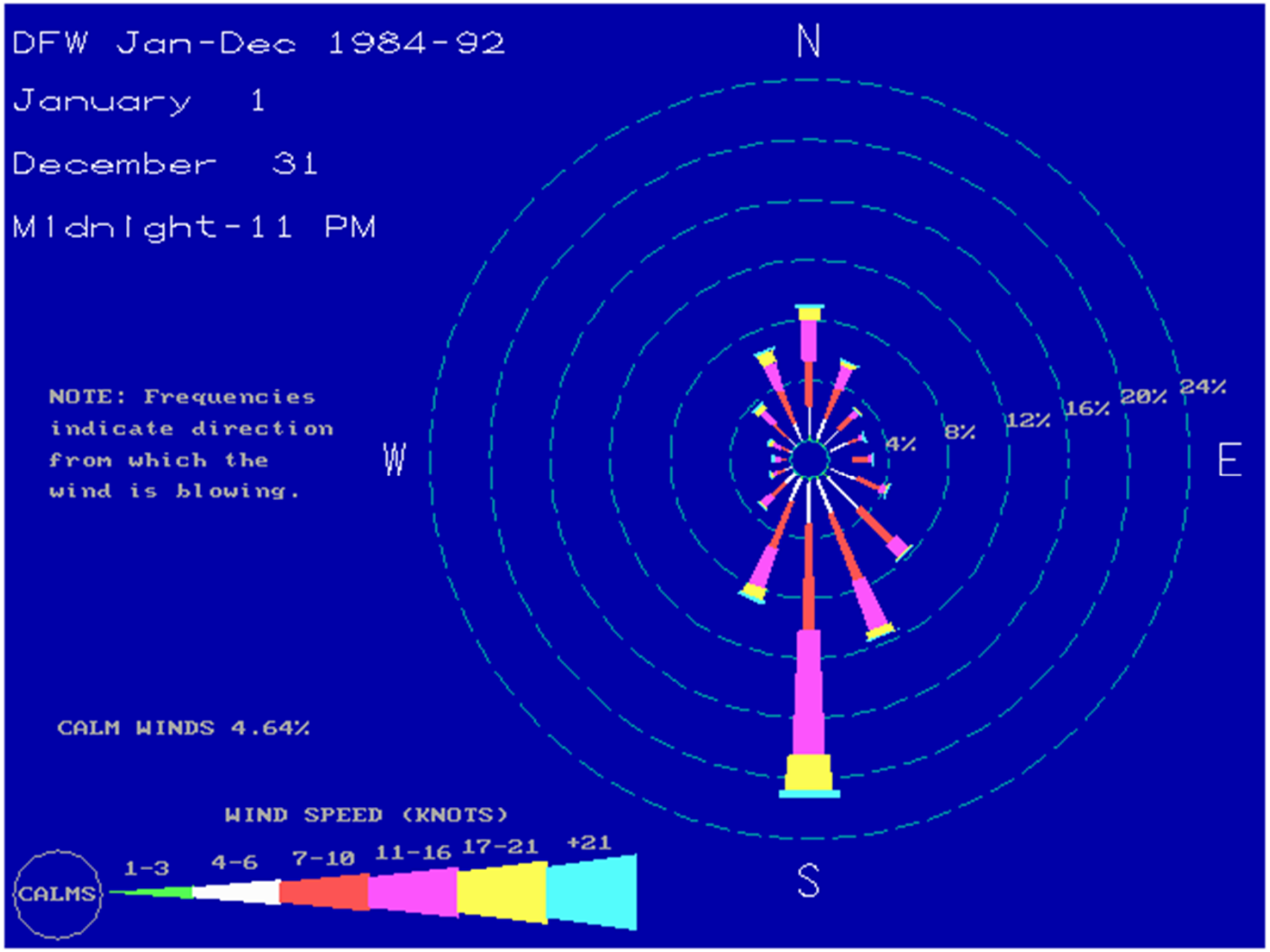
A peak flow hydrograph reflecting the conditions described above during the Interim I phase is shown in the figure below:


Sherman Hydrograph
76.2 MGD
Storage Needed:
Approx. 17 MG
Flow Rate (MGD)
90
80
70
60
50
40
30
20
10
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
Hour
Permitted Peak Flow (MGD)
Permitted Average Flow (MGD)
Gauss

Attachment U

Wind Rose

Tech Report 1.1, Section 5.B



ATTACHMENT U
CITY OF SHERMAN
POST OAK WASTEWATER TREATMENT FACILITY
TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT APPLICATION
WIND ROSE

Attachment V
Solids Management Plan
Tech Report 1.1, Section 7

ATTACHMENT V
CITY OF SHERMAN
POST OAK WASTEWATER TREATMENT FACILITY
SOLIDS MANAGEMENT PLAN

EXISTING / INTERIM I PHASE

NORTH TRAIN

Parameter	Value
Influent Design Flow (MGD)	12
Influent Design BOD Concentration (mg/L)	190
Average Dry Sludge Production (lb/MG)[1]	530
Assumed Percent Solids to Dewatering	2.50%

1. Based on sludge production data from 2021-2024

Sludge Production

Parameter	100% Flow	75% Flow	50% Flow	25% Flow
Pounds of BOD (lb)	19,015	14,261	9,508	4,754
Dry Solids Produced (lbs/day)	6,360	4,770	3,180	1,590
Volume of Wet Sludge (gal/day)	30,504	22,878	15,252	7,626

Sludge Storage Available

Location	Volume (gal)
Aerated Sludge Storage	34,121
Earthen Basin (Emergency Storage)	35,740,000

SOUTH TRAIN

Parameter	Value
Influent Design Flow (MGD)	4
Influent Design BOD Concentration (mg/L)	186
Sludge Storage Tank Volume (gal)	433,136
MBR Basin MLSS (mg/L)[1]	5,300
WAS Production (lb/MG)[2]	571
WAS Percent Solids	0.53%

1. Based on model results from GPS-X for average flow and concentration conditions.
2. Based on model results from GPS-X. This uses 0.286 dry tons/million gallons.

Sludge Production

Parameter	100% Flow	75% Flow	50% Flow	25% Flow
Pounds of BOD (lb)	6,205	4,654	3,102	1,551
Weight of Wet Sludge (lb)	2,284	1,713	1,142	1,713
Volume of Wet Sludge (gal)	51,672	38,754	25,836	12,918

ATTACHMENT V
CITY OF SHERMAN
POST OAK WASTEWATER TREATMENT FACILITY
SOLIDS MANAGEMENT PLAN

INTERIM II PHASE

NORTH TRAIN

Parameter	Value
Influent Design Flow (MGD)	16
Influent Design BOD Concentration (mg/L)	250
Average Dry Sludge Production (lb/MG)	697
Assumed Percent Solids to Dewatering	2.50%

Sludge Production

Parameter	100% Flow	75% Flow	50% Flow	25% Flow
Pounds of BOD (lb)	33,360	25,020	16,680	8,340
Dry Solids Produced (lbs/day)	11,158	8,368	3,180	2,789
Volume of Wet Sludge (gal/day)	53,515	40,136	26,758	13,379

SOUTH TRAIN

Parameter	Value
Influent Design Flow (MGD)	4
Influent Design BOD Concentration (mg/L)	186
Sludge Storage Tank Volume (gal)	433,136
MBR Basin MLSS (mg/L)[1]	5,300
WAS Production (lb/MG)[2]	571
WAS Percent Solids	0.53%

1. Based on model results from GPS-X for average flow and concentration conditions.
2. Based on model results from GPS-X. This uses 0.286 dry tons/million gallons.

Sludge Production

Parameter	100% Flow	75% Flow	50% Flow	25% Flow
Pounds of BOD (lb)	6,205	4,654	3,102	1,551
Weight of Wet Sludge (lb)	2,284	1,713	1,142	1,713
Volume of Wet Sludge (gal)	51,672	38,754	25,836	12,918

ATTACHMENT V
CITY OF SHERMAN
POST OAK WASTEWATER TREATMENT FACILITY
SOLIDS MANAGEMENT PLAN

FINAL PHASE

NORTH TRAIN

Parameter	Value
Influent Design Flow (MGD)	16
Influent Design BOD Concentration (mg/L)	250
Average Dry Sludge Production (lb/MG)	697
Assumed Percent Solids to Dewatering	2.50%

Sludge Production

Parameter	100% Flow	75% Flow	50% Flow	25% Flow
Pounds of BOD (lb)	33,360	25,020	16,680	8,340
Dry Solids Produced (lbs/day)	11,158	8,368	3,180	2,789
Volume of Wet Sludge (gal/day)	53,515	40,136	26,758	13,379

SOUTH TRAIN

Parameter	Value
Influent Design Flow (MGD)	8
Influent Design BOD Concentration (mg/L)	95
Sludge Storage Tank Volume (gal)	866,271
MBR Basin MLSS (mg/L)[1]	5,000
WAS Production (lb/MG)[2]	571
WAS Percent Solids	0.50%

1. Based on model results from GPS-X for average flow and concentration conditions.

2. Based on model results from GPS-X. This uses 0.286 dry tons/million gallons. Projected WAS production rate is the same as the 4 MGD condition.

Sludge Production

Parameter	100% Flow	75% Flow	50% Flow	25% Flow
Pounds of BOD (lb)	6,338	4,754	3,169	1,585
Weight of Wet Sludge (lb)	4,568	3,426	2,284	3,426
Volume of Wet Sludge (gal)	109,544	82,158	54,772	27,386

Sludge Removal Schedule

Dewatered solids will be removed and transported to the Texoma Area Solid Waste Authority (Permit No. 2290) daily with the exception of weekends and holidays.

Attachment W
Post Oak Creek Stream Study
Worksheet 2.1

ATTACHMENT 2

RECEIVING WATERS

All applicants must submit USGS quadrangle maps showing the location of the facility and the discharge point(s) and/or the land treatment/land application area, as appropriate. If this is an application for a discharge permit, USGS quadrangle maps must be submitted that depict the discharge route for three (3) miles from the point of discharge (or until a classified segment as defined in 30 TAC Chapter 307, Appendix C, Texas Surface Water Quality Standards is reached.)

The permittee should retain a copy of the information submitted with this Attachment for reference in subsequent applications.

APPLICATIONS FOR A PERMIT TO DISPOSE OF ALL WASTEWATER BY LAND DISPOSAL ARE NOT REQUIRED TO COMPLETE ATTACHMENT 2, SECTION A OR B.

SECTION A

DESCRIPTION OF RECEIVING WATERS

If all outfalls do not enter the same receiving water, SECTION A must be completed for each receiving water. The outfalls that flow into each receiving water should be listed.

OUTFALL NUMBER(S) 001

1. Is there a surface water intake for domestic drinking water supply located within 5 (five) miles downstream from the point/proposed point of discharge? _____ YES ___X___ NO.

   If Yes, identify owner of the drinking water supply and accurately locate it on the USGS 7.5-minute topographic map.

2. For discharges into marine waters, N/A

   a) What is the width of the receiving water at the outfall?

   b) Are there oyster reefs in the vicinity of the discharge? If yes, give approximate distance from outfall(s).

3. Is the discharge directly into (or within 300 feet of) a classified segment as defined in Appendix C of the Texas Surface Water Quality Standards?

   _____ YES If YES, stop here. SECTION A is complete. It is not necessary to complete SECTION B.

   ___X___ NO Check NO if the discharge goes into a watercourse such as a creek or tributary prior to flowing into a classified segment and then complete Items 3., 4., 5., and 6. (Complete SECTION B only if appropriate.)

OUTFALL NUMBER(S) 001

The following questions refer to the immediate receiving water (e.g., a drainage ditch, a stream, a lake, a bay, etc.). Check the box which best describes the first receiving water into which the discharge will flow after it leaves the outfall and answer any associated questions.

4. The receiving water can best be described as:

a. [X] Stream OR [ ] Man-made Channel or Ditch:

Name/Number Post Oak Creek

(1) Stream or Channel Type: Characterize the area upstream of the discharge by checking one of the boxes below. (For a new discharge, characterize downstream area.)

[X] Intermittent (dry for at least one week during most years)

[ ] Intermittent with Persistent Pools (enduring pools containing sufficient habitat to maintain significant aquatic life uses)

[ ] Perennial (normally flowing)

(2) List the name(s) of any perennial streams which join the receiving water within three miles downstream of the discharge point:

Choctaw Creek joins with Post Oak Creek 2.2 km downstream of the WWTP discharge point.

(3) Do the receiving water characteristics change within three miles of the discharge? YES _____ NO X. If yes, state how:

(4) Basis of flow assessment: [ ] USGS flow records, [X] personal observation, [ ] historical observation of adjacent landowner, [ ] other, specify

b. [ ] Tidal Stream, Bayou, or Marsh: Name _____

c. [ ] Open Bay: Name _____

d. [ ] Lake or Pond: Name _____

Surface area _____ acres

e. [ ] Freshwater Swamp or Marsh: Name _____

f. [ ] Other, Specify _____

5. General observations of water body during normal dry weather conditions:

Date and time of observation: Downstream - 9/87
Upstream - /05/86

Weather conditions during and just prior to observation:

Dry

Was water body influenced by stormwater runoff during observations?

No

6. General Characteristics of Water Body:

a. Water (applies to the area upstream for streams and channels and outside the effluent impact area for tidal streams, lakes, ponds, bays and marshes.

For a new discharge, characterize the proposed discharge impact area) (check as appropriate): Existing Discharge

[X] clear [ ] clouded [ ] odorless [ ] colored
[ ] turbid [ ] odor

describe

[ ] other, specify:

b. Characterize areas surrounding the water body (check one):

[ ] wooded [ ] pastureland
[ ] urban [X] farmland

c. Characterize the stream channel modifications (check as appropriate):

No modifications have been done.
[ ] channelized [ ] dammed [ ] banks rip-rapped
[ ] leveed [ ] concrete lined [ ] others, specify:

d. Is the receiving water upstream of the discharge or proposed discharge site influenced by (check as appropriate):

[ ] oil field activities [ ] urban runoff
[X] agricultural runoff [ ] septic tanks
[ ] upstream discharges [ ] others, specify:

e. Describe any obvious water quality problems (e.g., surface scums, sludge accumulations, nuisance aquatic plant growth, discolored water, trash, etc.):

None other than small amounts of trash and debris

f. Uses of water body (observed or evidences of) (Check as appropriate):

[ ] livestock watering
[ ] non contact recreation
[ ] domestic water supply
[ ] irrigation withdrawal
[ ] picnic or park activities
[ ] others, specify:
[ ] contact recreation
[ ] fishing
[ ] industrial water supply
[ ] navigation

None was observed or evidence found. Typically livestock could use creek for water during some of the year.

g. Select one of the following to best describe the aesthetics of the receiving water and the surrounding area (check one):

[ ] Wilderness: outstanding natural beauty; usually wooded or unpastured area; water clarity exceptional

[ ] Natural Area: trees and/or native vegetation common; some development evident (from fields, pastures, dwellings); water clarity discolored

[ ] Common Setting: not offensive, developed but uncluttered; water may be colored or turbid

[X] Offensive: stream does not enhance aesthetics; cluttered; highly developed; dumping areas; water discolored

7. Physical Characteristics of Water Body:

The Commission staff will apply a mathematical model for predicting the effect which a discharge may have on the oxygen balance of the receiving stream. The permit applicant has the option of providing the information in items a. (1), (2), and (3) below or indicating acceptance of the TNRCC default assumptions in the following statement.

YES _____, TNRCC default assumptions are acceptable.

a. Stream, Tidal Stream, Man-made Channel or Ditch - If the physical character of the receiving stream changes drastically (depth, width, velocity) the depth, width and velocity of each homogenous reach should be defined. Submit an attachment in response to this requirement.

(1) Flow measurement of the receiving stream immediately downstream of the outfall location (measure at normal dry weather flow - omit for tidal stream).

16.8 ft³/sec

Measurement method used Product of cross-section area and measured velocity.

(2) Velocity measurement from the outfall location to a point 400 meters downstream (measure at normal dry weather flow - omit for tidal stream).

0.63 ft/sec

Measurement method used dye injection and time dye traveled for a distance.

(3) Average width of water surface from the outfall location to a point more than 400 meters downstream using at least three measurements (measure at normal dry weather flow - include an average depth for a tidal stream)

22 ft

Measurement method used Surveyor's tape

3/7

(4) Are there any man-made or natural dams located within 2 miles downstream from the discharge?

YES _____ NO X

b. Lake, Pond, Bay, Swamp, or Marsh N/A

(1) Surface area _____ acres

(2) Average depth of the entire water body _____ feet

(3) Depth of water at discharge point _____ feet

(4) Approximate average depth of water body within a 100 foot radius of the discharge point _____ feet

(5) Depth of discharge pipe _____ feet

(6) Distance of discharge to:

Nearest public water supply intake _____ miles

Nearest recreational area _____ miles

Nearest residential lot _____ feet

Nearest bank _____ feet

SECTION B (Part I) - Stream Physical Characteristics Worksheet

Date: 1-5-96 Time: 1:00PM Stream: Post Oak Location of site: Upstream of Discharge

Nearest Stream Segment: Red River Observed Stream Uses: None

Stream Type (Circle One): perennial (intermittent) w perennial pools No. of Stream Bends: 6 Definition of Bends: Moderate

Channel Obstructions/Modifications: None No. of Riffles: 6 Flow Fluctuations (Circle One): minor (moderate) severe

Evidence of Flow Fluctuations: trash along bank Riparian Vegetation (%) 70 Trees 20 Grasses Forbs 10 Cult. Fields ____ Other ____

Location of Transect	Stream Width (ft.)	Left Bank Slope (°)	Left Bank Erosion (%)	Stream Depths (ft.) at Points Across Transect										Right Bank Slope (°)	Right Bank Erosion (%)	Tree Canopy (%)
Section 1	12	45	60	0	.7	1:1	1.3	1.5	1.5	1.3	1.0	0.8	0	50	60	25
	Stream Type (Circle One) Riffle Run (Glide) Pool		Dominant Substrate Type: Soil											Dominant Types Riparian Vegetation: Trees, brush, and some grass		% Gravel or Larger: 0
	Algae/Macrophyte (Circle One) Abundant Common Rare (Absent)		Width of Riparian vegetation (ft.): 80											Instream Cover Types: Soil		% Instream Cover: 0

Location of Transect	Stream Width (ft.)	Left Bank Slope (°)	Left Bank Erosion (%)	Stream Depths (ft.) at Points Across Transect										Right Bank Slope (°)	Right Bank Erosion (%)	Tree Canopy (%)
Section 1A	20	50	50	0	.6	.7	.7	.8	.8	.8	.6	.3	0	30	50	0
	Stream Type (Circle One) Riffle (Run) Glide Pool		Dominant Substrate Type: Soil											Dominant Types Riparian Vegetation: Grass		% Gravel or Larger: 30
	Algae/Macrophyte (Circle One) Abundant Common Rare (Absent)		Width of Riparian vegetation (ft.): 110											Instream Cover Types: None		% Instream Cover: 0

12

Location of Transect	Stream Width (ft.)	Left Bank Slope (°)	Left Bank Erosion (%)	Stream Depths (ft.) at Points Across Transect										Right Bank Slope (°)	Right Bank Erosion (%)	Tree Canopy (%)
Section 1B	15	45	50	0	1.0	1.0	0.7	0.5	0.5	0.3	0.2	0.1	0	45	50	70
	Stream Type (Circle One) Riffle (Run) Glide Pool		Dominant Substrate Type: Soil											Dominant Types Riparian Vegetation: Grass and trees		% Gravel or Larger: 25
	Algae/Macrophyte (Circle One) Abundant Common Rare (Absent)		Width of Riparian vegetation (ft.): 70											Instream Cover Types: None		% Instream Cover: 0

Location of Transect	Stream Width (ft.)	Left Bank Slope (°)	Left Bank Erosion (%)	Stream Depths (ft.) at Points Across Transect										Right Bank Slope (°)	Right Bank Erosion (%)	Tree Canopy (%)
Section 1C	12	45	50	0	.5	.7	.7	.8	.7	.7	.6	.5	0	30	50	50
	Stream Type (Circle One) (Riffle) Run Glide Pool		Dominant Substrate Type: Soil											Dominant Types Riparian Vegetation: Trees and grass		% Gravel or Larger: 30
	Algae/Macrophyte (Circle One) Abundant Common Rare (Absent)		Width of Riparian vegetation (ft.): 100											Instream Cover Types: None		% Instream Cover: 0

Location of Transect	Stream Width (ft.)	Left Bank Slope (°)	Left Bank Erosion (%)	Stream Depths (ft.) at Points Across Transect	Right Bank Slope (°)	Right Bank Erosion (%)	Tree Canopy (%)
	Stream Type (Circle One) Riffle Run Glide Pool		Dominant Substrate Type:	Dominant Types Riparian Vegetation:			% Gravel or Larger:
	Algae/Macrophyte (Circle One) Abundant Common Rare Absent		Width of Riparian vegetation (ft.):	Instream Cover Types:			% Instream Cover:

SECTION B (Part I) - Stream Physical Characteristics Worksheet

Date: 9/87 Time: N/A Stream: Post Oak Creek Location of site: _____

Nearest Stream Segment: Red River Observed Stream Uses: None

Stream Type (Circle One): perennial intermittent w perennial pools No. of Stream Bends: 85 Definition of Bends: Moderate

Channel Obstructions/Modifications: fallen trees at some locations No. of Riffles: N/A Flow Fluctuations (Circle One): minor (moderate) severe

Evidence of Flow Fluctuations: paper in trees at midbank Riparian Vegetation (%) 70 Trees 20 Grasses Forbs 10 Cult. Fields _____ Other _____

Location of Transect	Stream Width (ft.)	Left Bank Slope (°)	Left Bank Erosion (%)	Stream Depths (ft.) at Points Across Transect	Right Bank Slope (°)	Right Bank Erosion (%)	Tree Canopy (%)
Section 2	22	50	20		50	20	30

Stream Type (Circle One) Riffle (Run) Glide Pool	Dominant Substrate Type	Dominant Types Riparian Vegetation:	% Gravel or Larger
	Soil	Oak Trees and Grasses	0

Algae/Macrophyte (Circle One) Abundant Common Rare (Absent)	Width of Riparian vegetation (ft.)	Instream Cover Types:	% Instream Cover
	100	None	0

Location of Transect	Stream Width (ft.)	Left Bank Slope (°)	Left Bank Erosion (%)	Stream Depths (ft.) at Points Across Transect	Right Bank Slope (°)	Right Bank Erosion (%)	Tree Canopy (%)
Section 3	22	50	20		50	20	30

Stream Type (Circle One) Riffle (Run) Glide Pool	Dominant Substrate Type	Dominant Types Riparian Vegetation:	% Gravel or Larger
	Soil	Oak and Pecan Trees and Grasses	0

Algae/Macrophyte (Circle One) Abundant Common Rare (Absent)	Width of Riparian vegetation (ft.)	Instream Cover Types:	% Instream Cover
	110	None	0

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SECTION B (Part I) - Stream Physical Characteristics Worksheet

Date: 9/87 Time: N/A Stream: Post Oak Creek Location of site: _____

Nearest Stream Segment: Red River Observed Stream Uses: None

Stream Type (Circle One): perennial intermittent w perennial pools No. of Stream Bends: 85 Definition of Bends: Moderate

Channel Obstructions/Modifications: fallen trees at some locations No. of Riffles: N/A Flow Fluctuations (Circle One): minor (moderate) severe

Evidence of Flow Fluctuations: paper in trees at midbank Riparian Vegetation (%) 70 Trees 20 Grasses Forbs 10 Cult. Fields _____ Other _____

Location of Transect	Stream Width (ft.)	Left Bank Slope (°)	Left Bank Erosion (%)	Stream Depths (ft.) at Points Across Transect	Right Bank Slope (°)	Right Bank Erosion (%)	Tree Canopy (%)
Section 2	22	50	20		50	20	30
	Stream Type (Circle One) Riffle (Run) Glide Pool	Dominant Substrate Type: Soil	Dominant Types Riparian Vegetation: Oak Trees and Grasses			% Gravel or Larger: 0	
	Algae/Macrophyte (Circle One) Abundant Common Rare (Absent)	Width of Riparian vegetation (ft.): 100	Instream Cover Types: None			% Instream Cover: 0	

Location of Transect	Stream Width (ft.)	Left Bank Slope (°)	Left Bank Erosion (%)	Stream Depths (ft.) at Points Across Transect	Right Bank Slope (°)	Right Bank Erosion (%)	Tree Canopy (%)
Section 3	22	50	20		50	20	30
	Stream Type (Circle One) Riffle (Run) Glide Pool	Dominant Substrate Type: Soil	Dominant Types Riparian Vegetation: Oak and Pecan Trees and Grasses			% Gravel or Larger: 0	
	Algae/Macrophyte (Circle One) Abundant Common Rare (Absent)	Width of Riparian vegetation (ft.): 110	Instream Cover Types: None			% Instream Cover: 0	

Location of Transect	Stream Width (ft.)	Left Bank Slope (°)	Left Bank Erosion (%)	Stream Depths (ft.) at Points Across Transect	Right Bank Slope (°)	Right Bank Erosion (%)	Tree Canopy (%)
Section 4	22	60	25		60	25	50

Stream Type (Circle One) Riffle Run (Glide) Pool	Dominant Substrate Type	Dominant Types Riparian Vegetation:	% Gravel or Larger
	Soil	Brush and Grasses, some Trees	0

Algae/Macrophyte (Circle One) Abundant Common Rare (Absent)	Width of Riparian vegetation (ft.)	Instream Cover Types:	% Instream Cover
	80	None	0

Location of Transect	Stream Width (ft.)	Left Bank Slope (°)	Left Bank Erosion (%)	Stream Depths (ft.) at Points Across Transect	Right Bank Slope (°)	Right Bank Erosion (%)	Tree Canopy (%)
Section 5	16	75	40		75	40	50

Stream Type (Circle One) (Riffle) Run Glide Pool	Dominant Substrate Type	Dominant Types Riparian Vegetation:	% Gravel or Larger
	Rock	Trees and Brush	0

Algae/Macrophyte (Circle One) Abundant Common Rare (Absent)	Width of Riparian vegetation (ft.)	Instream Cover Types:	% Instream Cover
	60	None	0

Location of Transect	Stream Width (ft.)	Left Bank Slope (°)	Left Bank Erosion (%)	Stream Depths (ft.) at Points Across Transect	Right Bank Slope (°)	Right Bank Erosion (%)	Tree Canopy (%)
Section 6	26	35	25		35	25	20

Stream Type (Circle One) Riffle Run (Glide) Pool	Dominant Substrate Type	Dominant Types Riparian Vegetation:	% Gravel or Larger
	Soil	Trees, Grass, and Brush	0

Algae/Macrophyte (Circle One) Abundant Common Rare (Absent)	Width of Riparian vegetation (ft.)	Instream Cover Types:	% Instream Cover
	110	None	0

Location of Transect	Stream Width (ft.)	Left Bank Slope (°)	Left Bank Erosion (%)	Stream Depths (ft.) at Points Across Transect	Right Bank Slope (°)	Right Bank Erosion (%)	Tree Canopy (%)
Section 7	20	70	30		70	30	50

Stream Type (Circle One) Riffle Run (Glide) Pool	Dominant Substrate Type	Dominant Types Riparian Vegetation:	% Gravel or Larger
	Soil	Trees and Brush	0

Algae/Macrophyte (Circle One) Abundant Common Rare (Absent)	Width of Riparian vegetation (ft.)	Instream Cover Types:	% Instream Cover
	80	None	0

Location of Transect	Stream Width (ft.)	Left Bank Slope (°)	Left Bank Erosion (%)	Stream Depths (ft.) at Points Across Transect	Right Bank Slope (°)	Right Bank Erosion (%)	Tree Canopy (%)
Section 8	20	70	30		70	30	50

Stream Type (Circle One) Riffle Run (Glide) Pool	Dominant Substrate Type	Dominant Types Riparian Vegetation:	% Gravel or Larger
	Soil	Trees and Brush	0

Algae/Macrophyte (Circle One) Abundant Common Rare (Absent)	Width of Riparian vegetation (ft.)	Instream Cover Types:	% Instream Cover
	70	None	0

Location of Transect	Stream Width (ft.)	Left Bank Slope (°)	Left Bank Erosion (%)	Stream Depths (ft.) at Points Across Transect	Right Bank Slope (°)	Right Bank Erosion (%)	Tree Canopy (%)
Section 9	17	75	40		75	40	50

Stream Type (Circle One) Riffle (Run) Glide Pool	Dominant Substrate Type	Dominant Types Riparian Vegetation:	% Gravel or Larger
	Soil	Trees and Brush	0

Algae/Macrophyte (Circle One) Abundant Common Rare (Absent)	Width of Riparian vegetation (ft.)	Instream Cover Types:	% Instream Cover
	80	None	0

Location of Transect	Stream Width (ft.)	Left Bank Slope (°)	Left Bank Erosion (%)	Stream Depths (ft.) at Points Across Transect	Right Bank Slope (°)	Right Bank Erosion (%)	Tree Canopy (%)
Section 10	20	70	30		70	30	50

Stream Type (Circle One) Riffle Run (Glide) Pool	Dominant Substrate Type	Dominant Types Riparian Vegetation:	% Gravel or Larger
	Soil	Trees and Grass	0

Algae/Macrophyte (Circle One) Abundant Common Rare (Absent)	Width of Riparian vegetation (ft.)	Instream Cover Types:	% Instream Cover
	75	None	0

Location of Transect	Stream Width (ft.)	Left Bank Slope (°)	Left Bank Erosion (%)	Stream Depths (ft.) at Points Across Transect	Right Bank Slope (°)	Right Bank Erosion (%)	Tree Canopy (%)
Section 11	19	70	30		70	30	50

Stream Type (Circle One) Riffle Run (Glide) Pool	Dominant Substrate Type	Dominant Types Riparian Vegetation:	% Gravel or Larger
	Soil	Trees and Grass and Brush	0

Algae/Macrophyte (Circle One) Abundant Common Rare (Absent)	Width of Riparian vegetation (ft.)	Instream Cover Types:	% Instream Cover
	80	None	0

Location of Transect	Stream Width (ft.)	Left Bank Slope (°)	Left Bank Erosion (%)	Stream Depths (ft.) at Points Across Transect	Right Bank Slope (°)	Right Bank Erosion (%)	Tree Canopy (%)
Section 12	18	60	30		60	30	50

Stream Type (Circle One) Riffle Run (Glide) Pool	Dominant Substrate Type	Dominant Types Riparian Vegetation:	% Gravel or Larger
	Soil	Trees and Brush	0

Algae/Macrophyte (Circle One) Abundant Common Rare (Absent)	Width of Riparian vegetation (ft.)	Instream Cover Types:	% Instream Cover
	100	None	0

Location of Transect	Stream Width (ft.)	Left Bank Slope (°)	Left Bank Erosion (%)	Stream Depths (ft.) at Points Across Transect	Right Bank Slope (°)	Right Bank Erosion (%)	Tree Canopy (%)
Section 13	17	60	30		60	30	50

Stream Type (Circle One) Riffle Run (Glide) Pool	Dominant Substrate Type	Dominant Types Riparian Vegetation:	% Gravel or Larger
	Soil	Trees and Brush	0

Algae/Macrophyte (Circle One) Abundant Common Rare (Absent)	Width of Riparian vegetation (ft.)	Instream Cover Types:	% Instream Cover
	100	None	0

Location of Transect	Stream Width (ft.)	Left Bank Slope (°)	Left Bank Erosion (%)	Stream Depths (ft.) at Points Across Transect	Right Bank Slope (°)	Right Bank Erosion (%)	Tree Canopy (%)
Section 14	20	70	30		70	30	50

Stream Type (Circle One) Riffle Run (Glide) Pool	Dominant Substrate Type	Dominant Types Riparian Vegetation:	% Gravel or Larger
	Soil	Trees and Brush	0

Algae/Macrophyte (Circle One) Abundant Common Rare (Absent)	Width of Riparian vegetation (ft.)	Instream Cover Types:	% Instream Cover
	70	None	0

Location of Transect	Stream Width (ft.)	Left Bank Slope (°)	Left Bank Erosion (%)	Stream Depths (ft.) at Points Across Transect	Right Bank Slope (°)	Right Bank Erosion (%)	Tree Canopy (%)
Section 15	20	70	30		70	30	60

Stream Type (Circle One) Riffle Run (Glide) Pool	Dominant Substrate Type	Dominant Types Riparian Vegetation:	% Gravel or Larger
	Soil	Trees and Brush	0

Algae/Macrophyte (Circle One) Abundant Common Rare (Absent)	Width of Riparian vegetation (ft.)	Instream Cover Types:	% Instream Cover
	70	None	0

Location of Transect	Stream Width (ft.)	Left Bank Slope (°)	Left Bank Erosion (%)	Stream Depths (ft.) at Points Across Transect	Right Bank Slope (°)	Right Bank Erosion (%)	Tree Canopy (%)
Section 16	19	75	40	0 .80 0	75	40	50

Stream Type (Circle One) Riffle Run (Glide) Pool	Dominant Substrate Type	Dominant Types Riparian Vegetation:	% Gravel or Larger
	Soil	Trees and Grass	0

Algae/Macrophyte (Circle One) Abundant Common Rare (Absent)	Width of Riparian vegetation (ft.)	Instream Cover Types:	% Instream Cover
	80	None	0

Location of Transect	Stream Width (ft.)	Left Bank Slope (°)	Left Bank Erosion (%)	Stream Depths (ft.) at Points Across Transect	Right Bank Slope (°)	Right Bank Erosion (%)	Tree Canopy (%)
Section 17	21	70	30	0 .95 0	70	30	30

Stream Type (Circle One) Riffle Run (Glide) Pool	Dominant Substrate Type	Dominant Types Riparian Vegetation:	% Gravel or Larger
	Soil	Trees, Grass and Brush	0

Algae/Macrophyte (Circle One) Abundant Common Rare (Absent)	Width of Riparian vegetation (ft.)	Instream Cover Types:	% Instream Cover
	80	None	0

Location of Transect	Stream Width (ft.)	Left Bank Slope (°)	Left Bank Erosion (%)	Stream Depths (ft.) at Points Across Transect	Right Bank Slope (°)	Right Bank Erosion (%)	Tree Canopy (%)
Section 18	19	75	40	0 1.35 0	75	40	50

Stream Type (Circle One) Riffle Run (Glide) Pool	Dominant Substrate Type	Dominant Types Riparian Vegetation:	% Gravel or Larger
	Soil	Trees and Grass	0

Algae/Macrophyte (Circle One) Abundant Common Rare Absent	Width of Riparian vegetation (ft.)	Instream Cover Types:	% Instream Cover
	90	None	0

Location of Transect	Stream Width (ft.)	Left Bank Slope (°)	Left Bank Erosion (%)	Stream Depths (ft.) at Points Across Transect	Right Bank Slope (°)	Right Bank Erosion (%)	Tree Canopy (%)
Section 19	19	75	40	0 1.31 0	75	40	50

Stream Type (Circle One) Riffle Run (Glide) Pool	Dominant Substrate Type	Dominant Types Riparian Vegetation:	% Gravel or Larger
	Soil	Trees	0

Algae/Macrophyte (Circle One) Abundant Common Rare (Absent)	Width of Riparian vegetation (ft.)	Instream Cover Types:	% Instream Cover
	90	None	0

Location of Transect	Stream Width (ft.)	Left Bank Slope (°)	Left Bank Erosion (%)	Stream Depths (ft.) at Points Across Transect	Right Bank Slope (°)	Right Bank Erosion (%)	Tree Canopy (%)
Section 20	24	50	20	0 1.05 0	50	20	60

Stream Type (Circle One) Riffle Run (Glide) Pool	Dominant Substrate Type	Dominant Types Riparian Vegetation:	% Gravel or Larger
	Soil	Trees	

Algae/Macrophyte (Circle One) Abundant Common Rare (Absent)	Width of Riparian vegetation (ft.)	Instream Cover Types:	% Instream Cover
	110	None	

Location of Transect	Stream Width (ft.)	Left Bank Slope (°)	Left Bank Erosion (%)	Stream Depths (ft.) at Points Across Transect	Right Bank Slope (°)	Right Bank Erosion (%)	Tree Canopy (%)
Section 21	23	50	20	0 .56 0	50	20	60

Stream Type (Circle One) Riffle Run (Glide) Pool	Dominant Substrate Type	Dominant Types Riparian Vegetation:	% Gravel or Larger
	Soil	Trees	0

Algae/Macrophyte (Circle One) Abundant Common Rare (Absent)	Width of Riparian vegetation (ft.)	Instream Cover Types:	% Instream Cover
	100	None	0

Location of Transect	Stream Width (ft.)	Left Bank Slope (°)	Left Bank Erosion (%)	Stream Depths (ft.) at Points Across Transect	Right Bank Slope (°)	Right Bank Erosion (%)	Tree Canopy (%)
Section 22	18	60	30	0 0.69	60	30	50

Stream Type (Circle One) Riffle Run (Glide) Pool	Dominant Substrate Type	Dominant Types Riparian Vegetation:	% Gravel or Larger
	Soil	Trees and Brush	0

Algae/Macrophyte (Circle One) Abundant Common Rare (Absent)	Width of Riparian vegetation (ft.)	Instream Cover Types:	% Instream Cover
	90	None	0

Location of Transect	Stream Width (ft.)	Left Bank Slope (°)	Left Bank Erosion (%)	Stream Depths (ft.) at Points Across Transect	Right Bank Slope (°)	Right Bank Erosion (%)	Tree Canopy (%)
Section 23	18	60	30	0 1.05 0	60	30	50

Stream Type (Circle One) Riffle Run (Glide) Pool	Dominant Substrate Type	Dominant Types Riparian Vegetation:	% Gravel or Larger
	Soil	Trees and Brush	0

Algae/Macrophyte (Circle One) Abundant Common Rare (Absent)	Width of Riparian vegetation (ft.)	Instream Cover Types:	% Instream Cover
	90	None	0

Location of Transect	Stream Width (ft.)	Left Bank Slope (°)	Left Bank Erosion (%)	Stream Depths (ft.) at Points Across Transect	Right Bank Slope (°)	Right Bank Erosion (%)	Tree Canopy (%)
Section 24	20	70	30	0 1.18 0	70	30	60

Stream Type (Circle One) Riffle Run (Glide) Pool	Dominant Substrate Type	Dominant Types Riparian Vegetation:	% Gravel or Larger
	Soil	Trees and Brush	0

Algae/Macrophyte (Circle One) Abundant Common Rare (Absent)	Width of Riparian vegetation (ft.)	Instream Cover Types:	% Instream Cover
	80	None	0

ATTACHMENT 2: SECTION B (PART II) - Physical Characteristics of Water Body

Streambed slope over entire upstream-downstream reach (from USGS map in ft./ft.) 0.0006

Approximate drainage area above the most downstream transect (from USGS or county highway map in mi^2) 33

UP TO THE DISCHARGE POINT

	Upstream Reach	Downstream Reach
Length of stream evaluated (in miles)	0.5	14.5
Number of lateral transects made	4	23
Average stream width (in feet)	15	20
Average stream depth (in feet)	0.9	1.02
Average stream velocity (in ft/sec)	0.1	0.73
Instantaneous stream flow (in ft^3/sec)	1.5	12.6
Indicate flow measurement method	Calculated upstream & plant flow for downstream	
Indicate velocity measurement method	dye method	
Flow fluctuations (minor, moderate, severe)	Moderate	Moderate
Size of pools (large, small, moderate, none)	None	NOne
Maximum pool depth (in feet)	N/A	N/A
Total number of stream bends	6	85
Number well defined	None	None
Number moderately defined	4	65
Number poorly defined	2	20
Total number of riffles	6	10
Dominant substrate type	soil	soil
Average percentage of substrates gravel sized or larger	20	0
Average percentage stream bank erosion	50	35
Average stream bank slope (in degrees)	50	60
Average percentage instream cover	0	0
Average width of riparian vegetation (in ft)	25	15
Average riparian percent composition by: (total to equal 100%)		
Trees	40	40
Shrubs	30	40
Grasses and Forbs	20	20
Cultivated fields	10	10
Other		
Total % =	100	100
Average percentage of tree canopy coverage	40	40

Attachment X
Effluent Parameters Above the MAL
Worksheet 6.0, Section 2.C

ATTACHMENT X

CITY OF SHERMAN

POST OAK WASTEWATER TREATMENT FACILITY

TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT APPLICATION

EFFLUENT PARAMETERS ABOVE THE MAL

(All values expressed in µg/L)

	MAL	2/17/2022	4/21/2022	7/6/2022	10/20/2022	1/12/2023	4/20/2023	8/3/2023	10/19/2023	12/20/2023	1/27/2024	1/11/2024	4/4/2024	7/18/2024
Aluminum	2.5	113.27	24.46	107.7	135.16	48.38	106	142	179	46	104.85	41.99	30.19	123
Arsenic	0.5	1.72	1.54	1.2	1.46	1.36	0.97	1.45	1.8		0.92	1.3	1.25	2.05
Barium	3.0	59.2	70	43.8	43.1	54.6	57.4	43.6	53.4		34.1	60.5	70	49.6
Copper	2.0	5.38	2.98	6.05	4.61	6.23	5.81	7.5	5.57		3.79	4.88	5.46	7.41
Fluoride	500.0	55100	3100	4080	4300	3610	3540	4610	3320		3570		3280	3380
Nickel	2.0	1.98	1.77	1.87	1.92	2.46	2.52	2.03	1.49	1.7	1.72	1.66	1.97	2.11
Zinc	5.0	32.4	28.4	14.2	18.3	21.9	16.5	14.5	15.4		28.6	20.3	25.7	17.3
Phenols	10.0			5	11	7	14	12					6	20
Di-n-Butyl Phthalate	10.0		12.1											

Attachment Y

Biosolids Treatment Process Description

Sewage Sludge Technical Report 1.0, Section 1.A

DOMESTIC WASTEWATER PERMIT APPLICATION:
SEWAGE SLUDGE TECHNICAL REPORT 1.0
ITEM 1a – PAGE 1

1a. TREATMENT PROCESSING INFORMATION

Description of the type of process facility

Our biosolids storage/dewatering basins were designed and constructed of a clay material which displays such low permeability that leakage through the clay is far less than the minimum mean pan evaporation. This clay meets TCEQ permeability requirements for clay liner in these basins. The City of Sherman established a facility inside the dewatering basins which enables the use of one of the three analysis/treatment methods described in the following:

Method 1 TAC 312.82(a)(2)(D) Alternative 4. If sludge is considered Class A, add CaO to facilitate handling.

Method 2 - TAC 312.82(a)(2)(D) Alternative 4. If sludge is not considered to be Class A, add CaO to increase pH above 12 for over 24 hours.

Method *3* - TAC *312.82(a)(2)(A)* Alternative 1(i). If sludge is not considered to be *Class A,* add *CaO* to increase temperature to 70 deg C for over 30 minutes.

"Sludge processing begins with mesophilic anaerobic digestion. The digested solids are then discharged to dewatering basins where their stored for about 1-2 years before they'er dewatered and processed for marketing and distribution for beneficial reuse."

Given that the sludge already meets the requirement for vector attraction reduction, the City takes representative samples of the sludge to be analyzed by a qualified lab to determine the densities of fecal coliform, enteric viruses, and viable helminth ova contained in the sludge. Based on results of these tests, one of the analysis/treatment methods is used to insure the sludge meets the requirements for Class A sludge, thus making it suitable for marketing and distribution to the public.

As the basins fill, the City's objective is to clear the basin of sludge. The sludge has dewatered and thickened to approximately 18% solids, making it workable for lime treatment. Sludge at the. south end of the basin is moved to the north end by use of a track type front-end loader or a crane operated drag line. Enough sludge is moved to leave a "working area," approximately 210 feet wide by 200 feet long, in which lime treatment equipment can be set up, and treated sludge can be stored. Approximately 160,000 cubic feet of sludge must be moved to the north end to clear the working area. Because the unused capacity of the north end is approximately 1.1 million cubic feet, moving the sludge from the working area to this location does not present a containment problem.

Mobile lime treatment processing equipment is set up in the working area. The two main components of this equipment are a sludge/lime mixer and a lime silo. Representative capacities and features are as follows:

CLC Portable High Capacity Lime/Sludge Mixer

- 50' Overall Length
- Diesel Powered
- Hopper:
  .5 Cu. yd, gravity feed, 9' long x 7'-5" wide top opening
  Hopper elevation 11' above ground
  Receiving trough with tapered opening and rubber flashing
- Pugmill:
  4'x10'
  Approximate capacity 50 ton per hour of treated sludge (wet weight) Counter-rotating twin shafts, reversible paddles
- Vane Feeder:
  1-112 cu, yd, hopper
  Feed capacity, 15 ton per hour of lime
- Discharge Conveyor: 30" x 28' pulley centers
  Single blade, spring tensioned belt cleaner mounted under the head pulley
  Extended conveyor elevation 13'
- Operator's platform along side of pugmill with handrail, toe plate and gripstrut decking

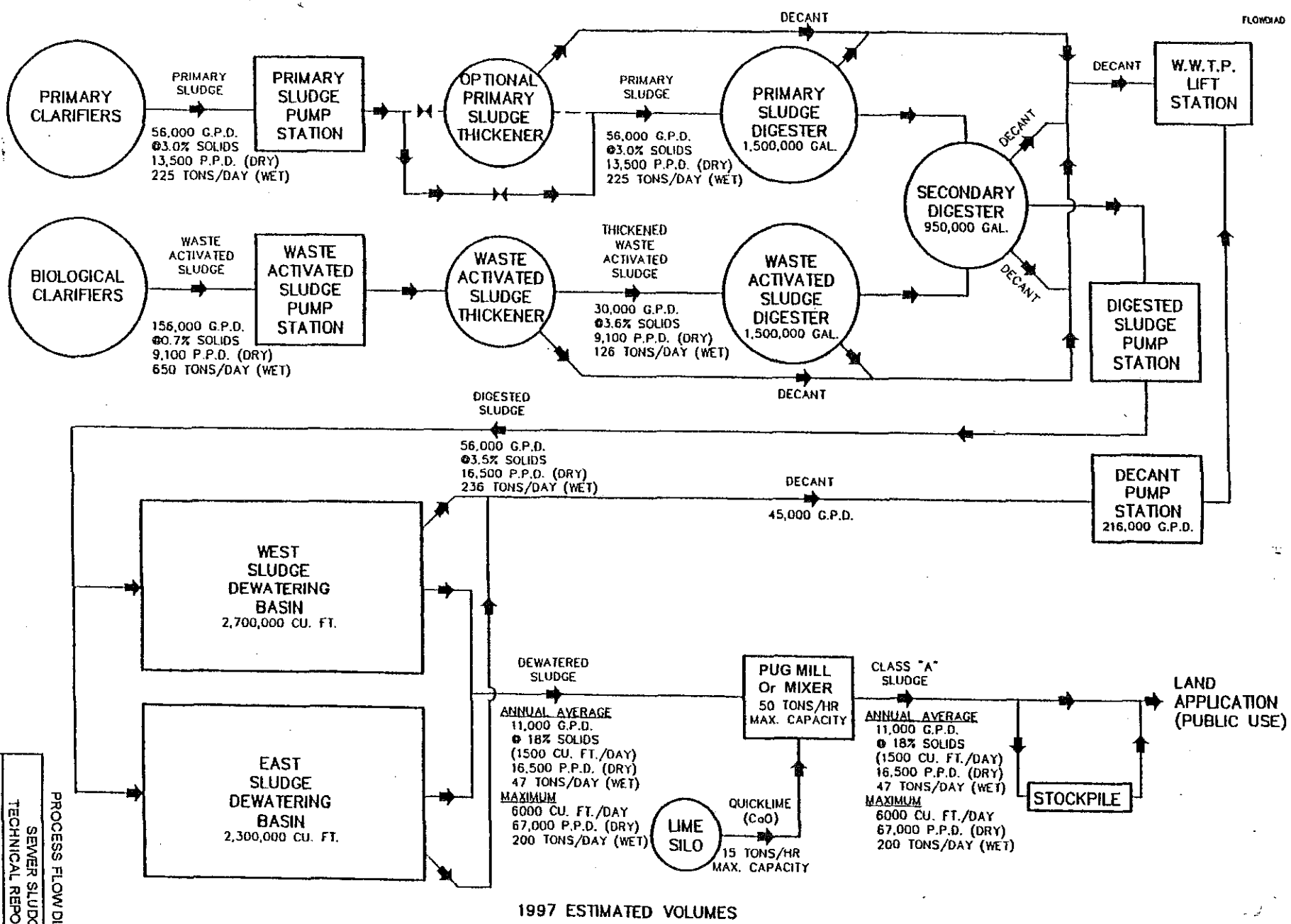
Portable Lime Silo

- Discharge Conveyor:
- 30 ton lime storage capacity
- 8'-8" diameter x 28' height
- Auger discharge elevation 13'-4" above ground, 5' from silo wall
- Positive feed drive, approximately 10 ton per hour capacity
- 225 sq. ft, dust house with air vibrator
- Bin level indicators
- Caged ladder and railing

Sludge is placed in the hopper on the mixer by a track type front-end loader. The sludge in the hopper is metered as it is entered into the mixer. The quicklime, CaO, reagent is conveyed into the vane feeder on the mixer by auger from the lime silo, The quicklime is metered at the vane feeder such that it is added in correct proportion to the sludge, insuring adherence to the operating parameters of the treatment method. The sludge and quicklime are mixed by a pug mill, or twin screw type mixer, to insure uniform distribution of the quicklime and thus uniform pH and temperature. The treated sludge is then removed from the mixer by a conveyor belt to a spreader, or to a stockpile in the working area, Prior to distribution, the treated sludge is tested daily for pH and temperature to verify that the required values for the treatment method are being met.

Prior to emptying the basin, discharge from the wastewater treatment plant digesters is switched to a clean basin. The basin that contains sludge is allowed to dewater; then an identical process for testing, treating, and removing its sludge is implemented.

Process Flow Diagram (INCLUDED IN THIS ATTACHMENT)



PROCESS FLOW DIAGRAM

SEWER SLUDGE
TECHNICAL REPORT 1.0

CITY OF SHERMAN

BIGGS & MATHEWS, INC.
CONSULTING ENGINEERS
3500 BROOK WICHITA FALLS, TEXAS

REVISIONS		
	DESCRIPTION	DATE

DN	KDM	CK	KDM
DW	JMJ		
DATE	1-18-05		
SCALE	NONE		
REVISED			
SHEET	OF		

F:\Dwg\2004\dwg\2004-386\dwg\2004-386.dwg JMJ 1=1

199

Site controls

If the lime treatment equipment is shut down for refueling or maintenance, the sludge treatment process will cease, thus excluding the possibility of inadequate treatment. The possibility of sludge overflows in the basin is also excluded as long as the other basin has sufficient capacity to accept discharge from the wastewater treatment plant. Because the lime treatment equipment is mobile, prolonged delays due to maintenance can be avoided by simply replacing faulty equipment with identical units. Additionally, the production capabilities of the lime equipment are more than sufficient to treat and clear the basin of sludge in less than one year.

Groundwater protection

The bottom of each of the basins has sufficient downward slope, from southwest to northeast, to prevent the working area from being inundated with water from the sludge at the north end. If rainfall or water from the treated sludge saturates the ground at the working area, a sump pump (300 GPM capacity) is installed in a pit at the northeast corner of the working area. From this pit, water can be pumped through a pipe to an existing decant structure at the north end of the basin. Water passing through the decant structure is channeled back to the head of the wastewater treatment plant. The following calculations show the capacity of the decant structure for handling a 25 year, 24 hour rainfall event:

$$I = b \setminus (t_0 + d)^e, \text{ where: } b = 95,\ d = 8.9,\ e = 0.79$$

$$I = 95\setminus(1440+8.9)^{0.79} = 0.3 \text{ in/hr} \times 24 \text{ hr} = 7.2 \text{ in} = \underline{0.6 \text{ ft}}$$

(Formula and variables obtained from TxDOT Bridge Division Hydraulic Manual, 3rd Ed., Dec.1985)

Area of East Basin = 210' x 1200' ft^2 = 252,000 ft^2

Rainfall Volume = 0.6ftx252, 000 ft^2 =151,200 ft^3x 7.48 gaffe= 1,131,000 gallons

The decant structure is drained through an 8" dia. pipe on a 2.0% slope to a pump station with a capacity of 150 GPM, therefore the time required to remove surface water from the basin is calculated as follows:

T 1,131,000 gallons\150 *GPM* = *7540* min\1440 min/day = 5.23 days

The 25 year, 24 hour rainfall event therefore, requires that the sludge treatment cease for approximately one week. The capacity of the basin however, is more than enough to prevent overflows. Under these conditions, treated sludge stockpiled in the working area may be contaminated with untreated sludge. If this occurs, the stockpiled sludge is recycled through the lime mixing equipment and retested to confirm Class A status.

Odor, dust, bioaerosol management

The lime mixing process will yield only localized ammonia odor which is quickly diffused by air dispersal, There is only minimal, localized dust from lime being augered into the vane feeder. Because the untreated sludge is very moist, lime mixing will not dry the treated sludge sufficiently to generate dust from a sludge stockpile. There are no bioaerosol emissions from the lime treatment facility. Therefore, it is unlikely that dust or odor is detectable beyond the periphery of the dewatering basins. Furthermore, given that the dewatering basins are bordered on the north by the wastewater treatment plant, and on the east, south, and west by approximately 180 acres of City-owned pasture, off-site odoer problems are minimized.

Ultimate use of finished product

Ultimately, biosolids are all processed by this method into Class A material and distributed for beneficial land application. Any poor quality material is reprocessed until it meets Class A standards. The city presently owns sufficient land to accommodate the annual production of biosolids.

Attachment Z

Marketing and Distribution Plan

Sewage Sludge Technical Report 3.0, Section C

Domestic Wastewater Permit Application
Sewage Sludge Technical Report 3.0

Sewage Sludge Marketing and Distribution

1.b. Provide a description of the marketing and distribution plan.

Response: The City of Sherman stores digested biosolids in dewatering basins until the material is ready to be mixed with lime and processed for beneficial reuse. The resulting Class A biosolids are land applied, free of charge, on property belonging to the City of Sherman and adjacent formally "Noticed" properties. The biosolids can be made available free, upon request to the general public if they wish to pick up any of the material. To date, no one from the general public has done so. An information sheet, containing the information required in Section IV, paragraph B.4. of our TPDES Permit 10329-001, is provided to each person who receives sewage sludge. These Class A biosolids are generally used as a soil conditioner and fertilizer for pasture grasses and hay fields.

Distribution and transportation to city and adjacent properties are accomplished in Knight or Knight-equivalent spreaders which then also apply the material to the receiving properties. The general public must pick up, transport, and apply the biosolids on their own properties using their own equipment. City or contractor personnel will load the biosolids into all transportation and distribution equipment for all customers.

In past years, approximately 10,000 – 18,000 cubic yards of these Class A biosolids were distributed each year. The volume may vary each year.

The biosolids are stored in clay lined basins which are surrounded by earthen berms to keep any surface water from running into the basins and to also contain any water which comes into contact with the biosolids. The permeability of the clay liner has been tested to ensure protection of the ground water. The corresponding professional engineering report states "All permeabilities meet the minimum requirements of the T.N.R.C.C. of $1x10^{-7}$ cm/sec for sludge storage and disposal."

1.c. Provide the following on all entities receiving sludge directly from the permittee:

Name:	City of Sherman
Telephone Number:	903-892-7286
Company:	City of Sherman
Fax Number:	903-868-2535
Street:	P.O. Box 1106
City:	Sherman
State:	Texas
ZIP Code:	75019-1106
Permits:	N/A – Class A

CLASS "A" BIOSOLIDS INFORMATION SHEET

CITY OF SHERMAN for 2009

In accordance with TCEQ and EPA requirements, the following information is provided for individuals receiving Class "A" biosolids generated at Sherman's Post Oak Wastewater Treatment Plant.

1. Name and address of preparer of the biosolids for application to the land:

City of Sherman
Post Oak Wastewater Treatment Plant
Attn: Wastewater Plant Superintendent
P.O. Box 1106
Sherman, Texas 75091-1106

2. Application of these biosolids to the land is prohibited **except** in accordance with the following instructions:

a. Bulk biosolids shall not be applied to the land if it is likely to adversely affect a threatened or endangered species listed under section 4 of the Endangered Species Act or its designated critical habitat.

b. Bulk biosolids shall not be applied to a site that is flooded, frozen, or snow covered so that the biosolids enter a wetland or other waters of the United States, as defined in 40 CFR §122.2, except as provided in a permit issued pursuant to section 402 or 404 of the Clean Water Act (CWA).

c. Bulk biosolids shall not be applied to a site that is less than 10 meters (33 ft.) from waters of the United States, as defined in 40 CFR §122.2, unless otherwise specified by the permitting authority.

d. Bulk biosolids shall be applied to the land at an annual whole sludge application rate (AWSAR) that is equal to or less than the agronomic rate for the site, unless otherwise specified by the permitting authority. The agronomic rate is the biosolids application rate that will provide only that amount of nitrogen which a crop or vegetation can use in a given year. It minimizes the amount of nitrogen that will pass below the root zone of the crop or vegetation to the ground water. Plant available nitrogen (PAN) of these biosolids is calculated at 9.22 lb/ton or 9.09 lb/cu yd.

e. Biosolids shall be applied by a method and under conditions that prevent runoff of the material beyond the active application area and protect the quality of the surface water and the soils in the unsaturated zone. Where runoff of the biosolids from the active application area is evident, the operator shall cease further application until the condition is corrected.

f. Biosolids shall be applied uniformly over the surface of the land.

g. Biosolids shall not be applied during rainstorms or during periods in which surface soils are water-saturated.

h. A land application site location shall be selected and the site operated in a manner to prevent public health nuisances.

i. Biosolids debris must be prevented from blowing or running off site boundaries or into surface waters. If necessary, when significant nuisance conditions occur, the operator shall:

(1) Minimize dust migration from the site and access roadways;

(2) Minimize objectionable odors through incorporation of biosolids into the soil or by taking some other type of corrective action.

3. The annual whole sludge application rate (AWSAR) which does not cause the TCEQ (30 TAC §312.43, Table 4) and EPA (40 CFR §503.13, Table 4) metal loading rates to be exceeded:

AWSAR = AMLR/(C x 0.001 x 2.2405) (tons/acre)

where: AMLR = annual metal loading rate (kg/ha) from Table 4 in 30 TAC §312.43 or 40 CFR §503.13

C = metal concentration (mg/kg) of biosolids, dry weight basis from laboratory analysis of biosolids

For our present biosolids, these values are:

POLLUTANT	AMLR	C	AWSAR
Arsenic	2.0	12.5	71
Cadmium	1.9	0.7	1211
Chromium	150.0	33.9	1975
Copper	75.0	499.7	67
Lead	15.0	20.7	323
Mercury	0.85	0.9	435
Molybdenum	Monitor	15.1	---
Nickel	21.0	19.6	478
Selenium	5.0	10.2	219
Zinc	140.0	497.0	126

The AWSAR for the applied biosolids is the lowest AWSAR individual metal AWSAR, in this case it's copper. Since the metal AWSARs are so high, nitrogen (at about 10.0 dry tons/ac or about 81.1 wet cy/ac for grass, at about 12.5% solids content & 1971 lb/cy) will be the controlling constituent.

Supplemental Permit Information Form

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

SUPPLEMENTAL PERMIT INFORMATION FORM (SPIF)

FOR AGENCIES REVIEWING DOMESTIC OR INDUSTRIAL TPDES WASTEWATER PERMIT APPLICATIONS

TCEQ USE ONLY:

Application type: _____Renewal _____Major Amendment ____Minor Amendment _____New

County: _____ Segment Number: _____

Admin Complete Date: _____

Agency Receiving SPIF:

_____ Texas Historical Commission _____ U.S. Fish and Wildlife

_____ Texas Parks and Wildlife Department _____ U.S. Army Corps of Engineers

This form applies to TPDES permit applications only. (Instructions, Page 53)

Complete this form as a separate document. TCEQ will mail a copy to each agency as required by our agreement with EPA. If any of the items are not completely addressed or further information is needed, we will contact you to provide the information before issuing the permit. Address each item completely.

Do not refer to your response to any item in the permit application form. Provide each attachment for this form separately from the Administrative Report of the application. The application will not be declared administratively complete without this SPIF form being completed in its entirety including all attachments. Questions or comments concerning this form may be directed to the Water Quality Division's Application Review and Processing Team by email at WQ-ARPTeam@tceq.texas.gov or by phone at (512) 239-4671.

The following applies to all applications:

1. Permittee: **City of Sherman**

   Permit No. WQ00 **10329001** EPA ID No. TX **0024325**

   Address of the project (or a location description that includes street/highway, city/vicinity, and county):

   1800 East F.M. 1417, Sherman, TX 75090

Provide the name, address, phone and fax number of an individual that can be contacted to answer specific questions about the property.

Prefix (Mr., Ms., Miss): **Mr.**

First and Last Name: **Whiddon, Nathan**

Credential (P.E, P.G., Ph.D., etc.): Click here to enter text

Title: **Wastewater and Laboratory Manager**

Mailing Address: **288 Post Oak Road**

City, State, Zip Code: **Sherman, TX 75090**

Phone No.: **(903) 892-70286** Ext.: Click here to enter text Fax No.: Click here to enter text

E-mail Address: **nathanw@cityofsheman.com**

2. List the county in which the facility is located: **Grayson**
3. If the property is publicly owned and the owner is different than the permittee/applicant, please list the owner of the property.

The property is owned by the permittee.

4. Provide a description of the effluent discharge route. The discharge route must follow the flow of effluent from the point of discharge to the nearest major watercourse (from the point of discharge to a classified segment as defined in 30 TAC Chapter 307). If known, please identify the classified segment number.

The treated effluent is discharges via Outfall 001 directly into Post Oak Creek; thence to Choctaw Creek; thence to the Red River below Lake Texoma in Segment No. 0202 of the Red River Basin and will be discharged via Outfall 002 to an unnamed tributary; thence to Deaver Creek; thence to Big Mineral Creek; thence to Lake Texoma in Segment No. 0203 of the Red River Basin.

5. Please provide a separate 7.5-minute USGS quadrangle map with the project boundaries plotted and a general location map showing the project area. Please highlight the discharge route from the point of discharge for a distance of one mile downstream. (This map is required in addition to the map in the administrative report). **See SPIF-1 and SPIF-2.**

Provide original photographs of any structures 50 years or older on the property. **See SPIF-3**

Does your project involve any of the following? Check all that apply.

☐ Proposed access roads, utility lines, construction easements

☐ Visual effects that could damage or detract from a historic property's integrity

☐ Vibration effects during construction or as a result of project design

☐ Additional phases of development that are planned for the future

☐ Sealing caves, fractures, sinkholes, other karst features

☐ Disturbance of vegetation or wetlands

1. List proposed construction impact (surface acres to be impacted, depth of excavation, sealing of caves, or other karst features):

The proposed construction will impact approximately 50 acres of the City's existing property that is designated for the wastewater treatment plant. The depth of excavation is anticipated to be around 8' below ground elevation. No karst formations or caves were found in the geotechnical investigation.

2. Describe existing disturbances, vegetation, and land use:

The existing disturbances, vegetation, and land use of the property are those typical of a wastewater treatment facility.

THE FOLLOWING ITEMS APPLY ONLY TO APPLICATIONS FOR NEW TPDES PERMITS AND MAJOR AMENDMENTS TO TPDES PERMITS

3. List construction dates of all buildings and structures on the property:

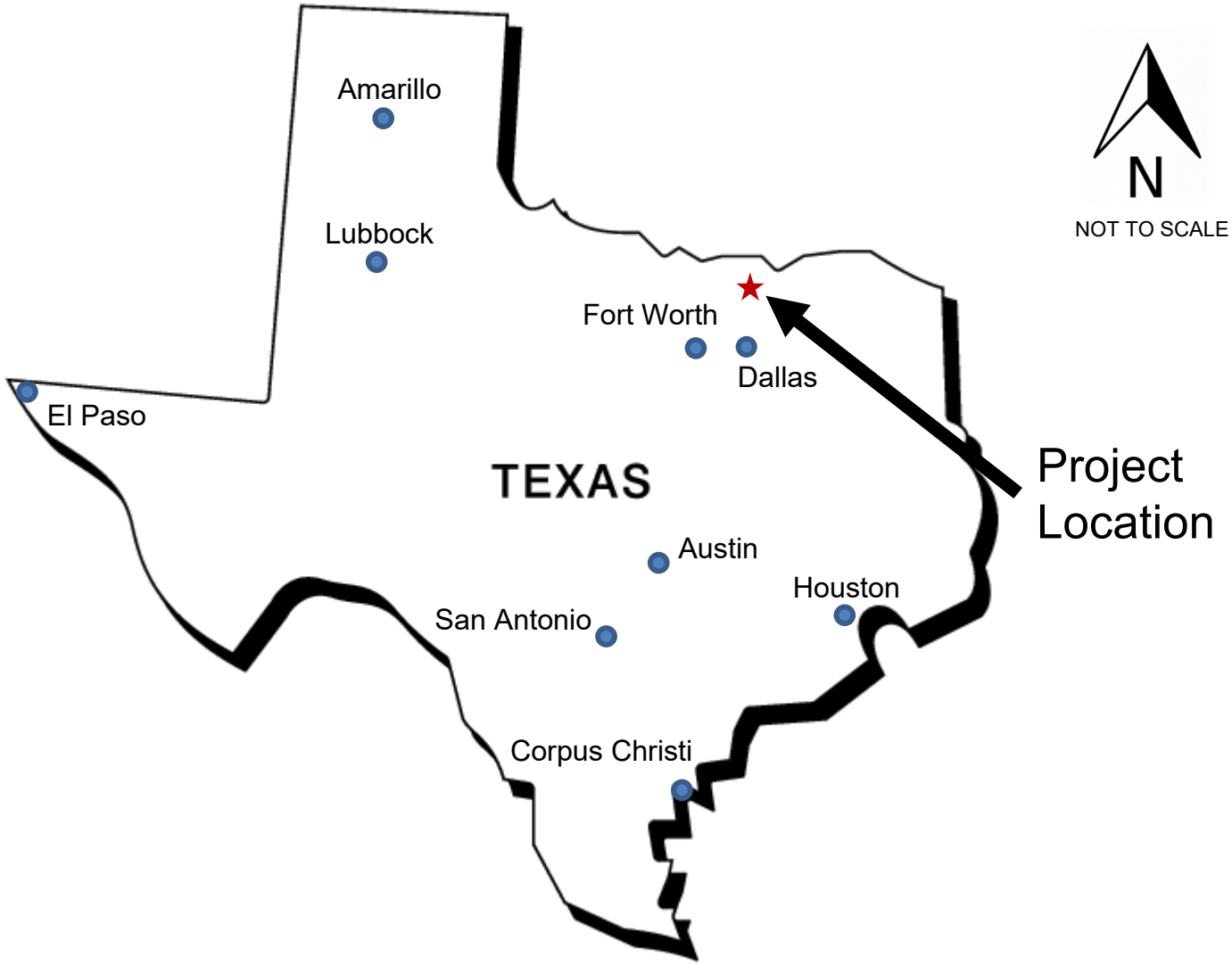
The buildings and structures on the property are associated with wastewater treatment operations. The construction dates of the buildings and structures are prior to 1962 with renovations made in 1968, 1979, 1982, 1983, 1985, 1996, 1998, 2009, and 2010 by various engineering firms.

4. Provide a brief history of the property, and name of the architect/builder, if known.

Prior to the construction of the wastewater treatment facilities the property was believed to be used for pasture or agricultural purposes.

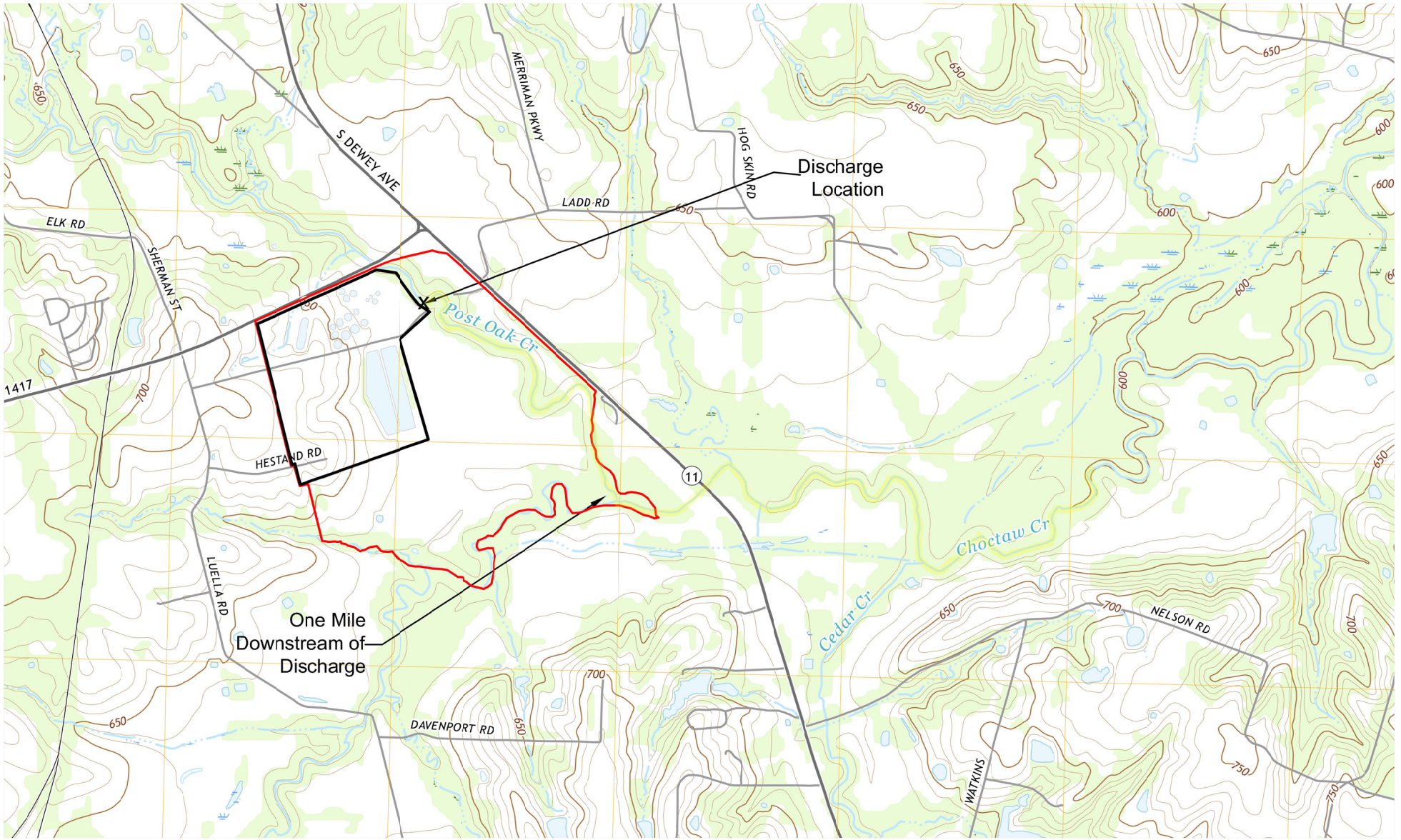
Supplemental Permit Information Form

- **SPIF-1 General Location Map**
- **SPIF-2 USGS Map**
- **SPIF-3 Photographs of Structures Older than 50 Years**



SPIF-1
CITY OF SHERMAN
POST OAK WASTEWATER TREATMENT FACILITY
TEXAS POLLUTANT DISHARGE ELIMINATION SYSTEM PERMIT APPLICATION
GENERAL LOCATION MAP

Mead & Hunt



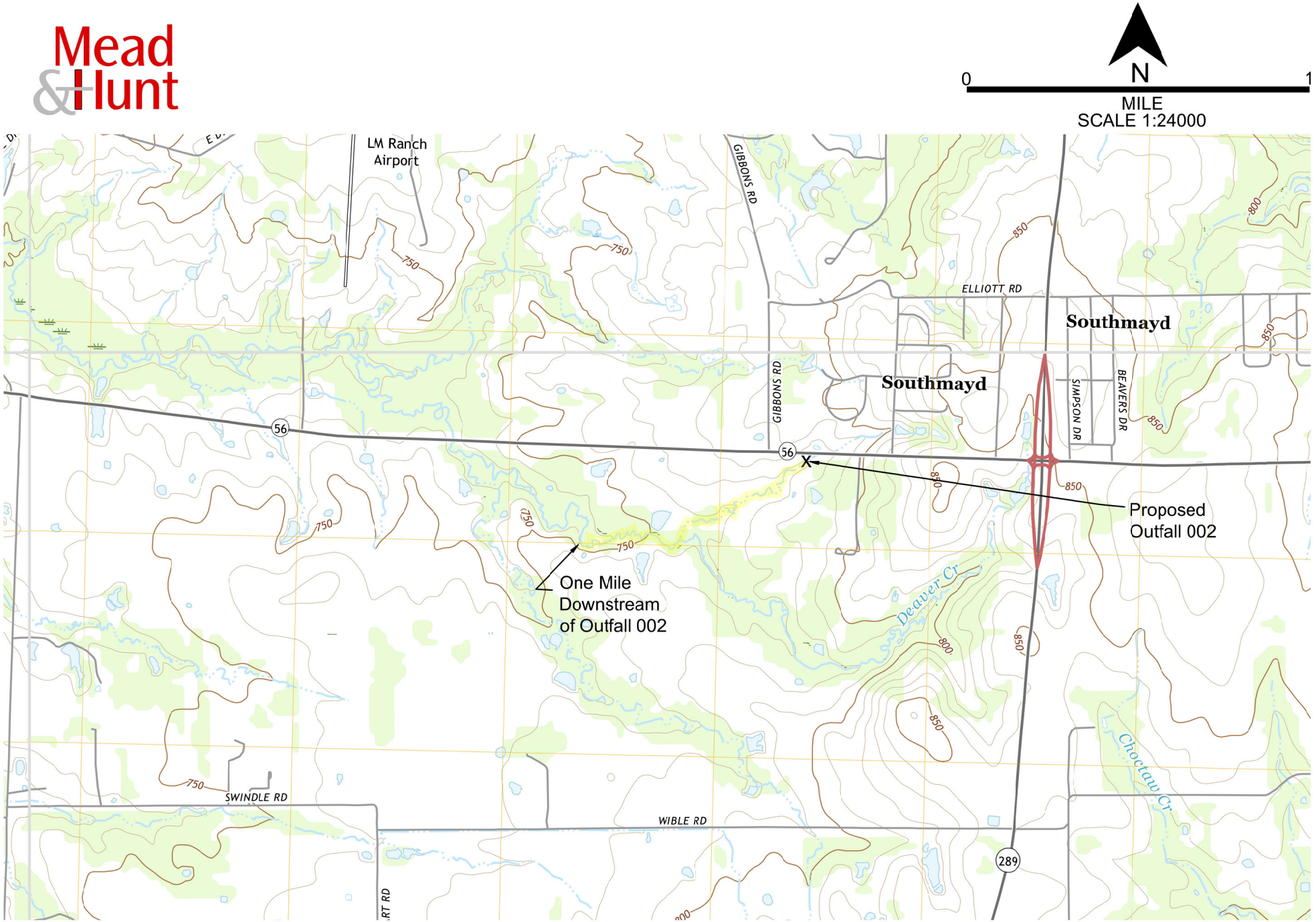
SPIF-2.1

CITY OF SHERMAN - POST OAK WASTEWATER TREATMENT FACILITY

TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT APPLICATION

USGS MAP - 001

Mead & Hunt



SPIF 2.2

CITY OF SHERMAN - POST OAK WASTEWATER TREATMENT FACILITY

TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT APPLICATION

USGS MAP - OUTFALL 002

Photograph 1- Old Headworks Maintenance Shop

Photograph 2. – Primary Clarifier 1

SPIF-3.1
CITY OF SHERMAN
POST OAK WASTEWATER TREATMENT FACILITY
TEXAS POLLUTANT DISHARGE ELIMINATION SYSTEM PERMIT APPLICATION
PHOTOGRAPHS OF STRUCTURES OLDER THAN 50 YEARS

Photograph 3. Primary Clarifier 2.

Photograph 4. – Supernatant Treatment.

SPIF-3.2
CITY OF SHERMAN
POST OAK WASTEWATER TREATMENT FACILITY
TEXAS POLLUTANT DISHARGE ELIMINATION SYSTEM PERMIT APPLICATION
PHOTOGRAPHS OF STRUCTURES OLDER THAN 50 YEARS

Photograph 5. Trickling Filter 1

Photograph 6. – Trickling Filter 2

SPIF-3.3
CITY OF SHERMAN
POST OAK WASTEWATER TREATMENT FACILITY
TEXAS POLLUTANT DISHARGE ELIMINATION SYSTEM PERMIT APPLICATION
PHOTOGRAPHS OF STRUCTURES OLDER THAN 50 YEARS