



# Technical Package Cover Page

**This file contains the following documents:**

1. Summary of application (in plain language)
    - English
    - Alternative Language (Spanish)
  2. First notice (NORI-Notice of Receipt of Application and Intent to Obtain a Permit)
    - English
    - Alternative Language (Spanish)
  3. Second notice (NAPD-Notice of Preliminary Decision)
    - English
    - Alternative Language (Spanish)
  4. Application materials
  5. Draft permit
  6. Technical summary or fact sheet
- 



# Portada de Paquete Técnico

**Este archivo contiene los siguientes documentos:**

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

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

## **ENGLISH TEMPLATE FOR TPDES or TLAP NEW/RENEWAL/AMENDMENT APPLICATIONS**

### **DOMESTIC WASTEWATER**

*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 Texas Administrative Code Chapter 39. The information provided in this summary may change during the technical review of the application and are not federal enforceable representations of the permit application.*

Lamar Consolidated Independent School District (CN605001478 ) proposes to operate LCISD\_WWTP (RN111954376), an activated sludge process plant operated in the complete mix mode. The facility will be located 24710 ½ Easton Ramsey Way, in the City of Richmond, Fort Bend County, Texas 77406.

This application is for renewal of the existing permit allowing for the discharge of treated domestic wastewater at a daily average flow of 50,000 gallons per day.

Discharges from the facility are expected to contain five-day carbonaceous biochemical oxygen demand (CBOD<sub>5</sub>), total suspended solids (TSS), ammonia nitrogen (NH<sub>3</sub>-N), and *Escherichia coli*. Additional potential pollutants are included in the Domestic Technical Report 1.0, Section 7. Domestic wastewater will be treated by an activated sludge process plant and the treatment units include a manual bar screen, aeration basins, final clarifiers, aerobic digesters, and chlorine contact chambers. The sludge will be hauled off by a license sludge hauler for disposal.



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

**AGUAS RESIDUALES DOMÉSTICAS**

*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 son representaciones federales exigibles de la solicitud de permiso.*

Lamar Consolidated Independent School District (CN605001478) propone operar la planta de tratamiento de aguas residuales del LCISD\_WWTP (RN111954376), una planta de proceso de lodos activados operada en el modo de mezcla completa. La instalación estará ubicada en 24710 ½ Easton Ramsey Way, en la ciudad de Richmond, condado de Fort Bend County, Texas 77406.

Esta solicitud es para la renovación del permiso existente que permite la descarga de aguas residuales domésticas tratadas a un flujo promedio diario de 50,000 galones por día.

Se espera que las descargas de la instalación contengan demanda bioquímica de oxígeno carbónico (CBOD5) de cinco días, sólidos suspendidos totales (TSS), nitrógeno amoniacal (NH3-N) y Escherichia coli. Los contaminantes potenciales adicionales se incluyen en el Informe técnico doméstico 1.0, Sección 7. Las aguas residuales domésticas serán tratadas por una planta de proceso de lodos activados y las unidades de tratamiento incluyen una pantalla de barra manual, balsas de aireación, clarificadores finales, digestores aeróbicos y cámaras de contacto de cloro. El lodo serán acarreado por un transportador de lodos con licencia para su eliminación.

# TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



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

**PROPOSED PERMIT NO. WQ0016603001**

**APPLICATION.** Yancey Water Supply Corporation, P.O. Box 127, Yancey, Texas 78886, has applied to the Texas Commission on Environmental Quality (TCEQ) for proposed Texas Land Application Permit (TLAP) No. WQ0016603001 to authorize the disposal of treated wastewater at a volume not to exceed a daily average flow of 250,000 gallons per day via surface application on approximately 134 acres. The domestic wastewater treatment facility and disposal area will be located approximately 0.11 miles north of the intersection of County Road 7612 and Interstate Highway 35 Frontage Road, near the city of Devine, in Medina County, Texas 78016. TCEQ received this application on August 21, 2024. The permit application will be available for viewing and copying at Driscoll Public Library, 202 East Hondo Avenue, Devine, in Medina County, Texas prior to the date this notice is published in the newspaper. The application, including any updates, and associated notices are available electronically at the following webpage:

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

This link to an electronic map of the site or facility's general location is provided as a public courtesy and not part of the application or notice. For the exact location, refer to the application.

<https://gisweb.tceq.texas.gov/LocationMapper/?marker=-98.94833,29.097222&level=18>

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

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

El aviso de idioma alternativo en español está disponible en

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

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

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

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

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

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

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

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

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

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

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

Further information may also be obtained from Yancey Water Supply Corporation at the address stated above or by calling Mr. Mark Ince, P.E., Southwest Engineers, Inc., at 830-672-7546.

Issuance Date: September 20, 2024

# Comisión de Calidad Ambiental del Estado de Texas



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

### PERMISO PROPUESTO NO. WQ0016603001

**SOLICITUD.** Yancey Water Supply Corporation, P.O. Box 127 Yancey, Texas 78886, ha solicitado a la Comisión de Calidad Ambiental de Texas (TCEQ) para el propuesto Permiso No. WQ0016603001 de disposición de aguas residuales para autorizar la disposición de aguas residuales tratadas en un volumen que no sobrepasa un flujo promedio diario de 250,000 galones por día por medio aplicación superficial de 134 acres. La planta de tratamiento de aguas domésticos residuales y el área de disposición estarán ubicados aproximadamente 0.11 millas al norte de la intersección de County Road 7612 y la I-35 Frontage Road en el Condado de Medina, Texas 78016. La TCEQ recibió esta solicitud el día 21 de agosto de 2024. La solicitud para el permiso estará disponible para leerla y copiarla en Biblioteca pública Driscoll, 202 East Hondo Avenue, Devine, 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/tlap-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=-98.94833,29.097222&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/tlap-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. Además, puede pedir que la TCEQ ponga su nombre en una o más 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 específico. Si desea que se agregue su nombre en una de las listas

designe cual lista(s) y envía por correo su pedido a la Oficina del Secretario Principal de la TCEQ.

**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](http://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 Yancey Water Supply Corporation a la dirección indicada arriba o llamando a Sr. Mark Ince, P.E., Southwest Engineers Inc., at 830-672-7546.

Fecha de emisión: 20 de septiembre de 2024

# TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



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

NEW

**PERMIT NO. WQ0016603001**

**APPLICATION AND PRELIMINARY DECISION.** Yancey Water Supply Corporation, P.O. Box 127, Yancey, Texas 78886, has applied to the Texas Commission on Environmental Quality (TCEQ) for a new permit, TCEQ Permit No. WQ0016603001 to authorize the disposal of treated domestic wastewater at a daily average flow not to exceed 250,000 gallons per day via surface irrigation of 134 acres of non-public access land. This permit will not authorize a discharge of pollutants into water in the state. TCEQ received this application on August 21, 2024.

The wastewater treatment facility and disposal site will be located approximately 0.11 miles north of the intersection of County Road 7612 and Interstate Highway 35 Frontage Road, in Medina County, Texas 78016. The wastewater treatment facility and disposal site will be located in the drainage basin of San Miguel Creek in Segment No. 2108 of the Nueces River Basin. This link to an electronic map of the site or facility's general location is provided as a public courtesy and is not part of the application or notice. For the exact location, refer to the application.

<https://gisweb.tceq.texas.gov/LocationMapper/?marker=-98.94833,29.097222&level=18>

The TCEQ Executive Director has completed the technical review of the application and prepared a draft permit. The draft permit, if approved, would establish the conditions under which the facility must operate. The Executive Director has made a preliminary decision that this permit, if issued, meets all statutory and regulatory requirements. The permit application, Executive Director's preliminary decision, and draft permit are available for viewing and copying at Driscoll Public Library, 202 East Hondo Avenue, Devine, in Medina County, Texas. The application, including any updates, and associated notices are available electronically at the following webpage: <https://www.tceq.texas.gov/permitting/wastewater/pending-permits/tlap-applications>.



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

**PUBLIC COMMENT / PUBLIC MEETING.** You may submit public comments or request a public meeting about this application.] The purpose of a public meeting is to provide the opportunity to submit comments or to ask questions about the application. TCEQ holds a public meeting if the Executive Director determines that there is a significant degree of public interest in the application or if requested by a local legislator. A public meeting is not a contested case hearing.

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

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

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

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

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

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

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

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

**AGENCY CONTACTS AND INFORMATION.** Public comments and requests must be submitted either electronically at [www.tceq.texas.gov/goto/comment](http://www.tceq.texas.gov/goto/comment), or in writing to the Texas Commission on Environmental Quality, Office of the Chief Clerk, MC 105, P.O. Box 13087, Austin, Texas 78711-3087. Any personal information you submit to the TCEQ will become part of the agency's record; this includes email addresses. For more information about this permit application or the permitting process, please call the TCEQ Public Education Program, Toll Free, at 1-800-687-4040 or visit their website at [www.tceq.texas.gov/goto/pep](http://www.tceq.texas.gov/goto/pep). Si desea información en Español, puede llamar al 1-800-687-4040.

Further information may also be obtained from Yancey Water Supply Corporation at the address stated above or by calling Ms. Morgen Gore, E.I.T., Southwest Engineers, Inc., at (830) 672-7546.

Issuance Date: August 21, 2025

# Comisión De Calidad Ambiental Del Estado De Texas



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

NUEVO

PERMISO NO. WQ 0016603001

**SOLICITUD Y DECISIÓN PRELIMINAR.** Yancey Water Supply Corporation, Apartado Postal 127, Yancey, Texas 78886, ha solicitado a la Comisión de Calidad Ambiental de Texas (TCEQ) un nuevo permiso, el Permiso TCEQ n. WQ0016603001, para autorizar la eliminación de aguas residuales domésticas tratadas con un caudal promedio diario que no exceda los 250,000 galones por día mediante riego superficial en 134 acres de terrenos sin acceso público. Este permiso no autoriza la descarga de contaminantes al agua del estado. La TCEQ recibió esta solicitud el 21 de Agosto de 2024.

La planta y el sitio de disposición están ubicadas en 0,11 millas al norte de la intersección de County Road 7612 y la carretera interestatal 35 Frontage Road en el Condado de Medina , Texas. La planta y el sitio de disposición están ubicados en la cuenca de drenaje de San Miguel Creek en el Segmento No. 2108 de la Cuenca del Río Nueces Este enlace a un mapa electrónico de la ubicación general del sitio o de la instalación es proporcionado como una cortesía y no es parte de la solicitud o del aviso. Para la ubicación exacta, consulte la solicitud.

<https://gisweb.tceq.texas.gov/LocationMapper/?marker=-98.94833,29.097222&level=18>

El Director Ejecutivo de la TCEQ ha completado la revisión técnica de la solicitud y ha preparado un borrador del permiso. El borrador del permiso, si es aprobado, establecería las condiciones bajo las cuales la instalación debe operar. El Director Ejecutivo ha tomado una decisión preliminar que si este permiso es emitido, cumple con todos los requisitos normativos y legales. La solicitud del permiso, la decisión preliminar del Director Ejecutivo y el borrador del permiso están disponibles para leer y copiar en Driscoll Public Library, 202 East Hondo Avenue, en Condado de Medina, Texas La solicitud (cualquier actualización y aviso inclusive) está disponible electrónicamente en la siguiente página web:

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

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

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

**OPORTUNIDAD DE UNA AUDIENCIA ADMINISTRATIVA DE LO CONTENCIOSO.**

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

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

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

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

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

**Todos los comentarios escritos del público y los pedidos una reunión deben ser presentados durante los 30 días después de la publicación del aviso a la Oficina del Secretario Principal, MC 105, TCEQ, P.O. Box 13087, Austin, TX 78711-3087 or por el internet a [www.tceq.texas.gov/about/comments.html](http://www.tceq.texas.gov/about/comments.html).** Tenga en cuenta que cualquier información personal que usted proporcione, incluyendo su nombre, número de teléfono, dirección de correo electrónico y dirección física pasarán a formar parte del registro público de la Agencia.

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

También se puede obtener información adicional del Yancey Water Supply Corporation a la dirección indicada arriba o llamando a Morgen Gore, E.I.T. al 830-672-7546.

Fecha de emission: August 21, 2025



PERMIT NO. WQ0016603001

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

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

Yancey Water Supply Corporation

whose mailing address is

P.O. Box 127  
Yancey, Texas 78886

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

General Description and Location of Waste Disposal System:

Description: The Agape Oaks Wastewater Treatment Facility will consist of an membrane bioreactor treatment system. Treatment units in the Interim I phase will include an on-site lift station, a fine screen, an anoxic basin, an aerobic basin, a membrane basin, a screw type sludge press, and an ultraviolet light (UV) disinfection system. Treatment units in the Interim II phase will include an on-site lift station, two fine screens, an anoxic basin, an aerobic basin, a membrane basin, a screw type sludge press, and a UV disinfection system. Treatment units in the Final phase will include an on-site lift station, two fine screen, two anoxic basins, two aerobic basins, two membrane basins, a screw type sludge press, and two UV disinfection systems. The permittee is authorized to dispose of treated domestic wastewater effluent at a daily average flow not to exceed 0.075 million gallons per day (MGD) in the Interim I phase, 0.125 MGD in the Interim II phase, and 0.25 MGD via surface irrigation of 34 acres in the Interim I phase, 67 acres in the Interim II phase and 134 acres in the Final phase of non-public access land. The facility includes one storage pond in the Interim I and Interim II phases with a total surface area of 3 acres and total capacity of 33 acre-feet and an additonal storage pond in the Final phase with total surface area of 12 acres and total capacity of 111 acre-feet for storage of treated effluent prior to irrigation. Application rates to the irrigated land shall not exceed 2.0 acre-feet per year per acre irrigated. The irrigated crops include Bermuda grass (warm season) and Winter rye (cool season).

Location: The wastewater treatment facility and disposal site are located approximately 0.11 miles north of the intersection of County Road 7612 and Interstate Highway 35 Frontage

Road, in Medina County, Texas 78016. (See Attachment A.)

Drainage Area: The wastewater treatment facility and disposal site are located in the drainage basin of San Miguel Creek in Segment No. 2108 of the Nueces River Basin. No discharge of pollutants into water in the state is authorized by this permit.

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

ISSUED DATE:

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For the Commission



**EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

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

A. Effluent Limitations

Character: Treated Domestic Sewage Effluent

Volume: Daily Average Flow – 0.075 MGD from the treatment system (Interim I phase)  
Daily Average Flow – 0.125 MGD from the treatment system (Interim II phase)  
Daily Average Flow – 0.25 MGD from the treatment system (Final phase)

Quality: The following effluent limitations are required:

<u>Parameter</u>	<u>Effluent Concentrations</u> (Not to Exceed)			
	<u>Daily Average</u> mg/l	<u>7-Day Average</u> mg/l	<u>Daily Maximum</u> mg/	<u>Single Grab</u> mg/l
Biochemical Oxygen Demand (5-day)	5	10	20	30
Total Suspended Solids	5	10	20	30
Ammonia Nitrogen	2	5	10	15
<i>E. coli</i> , colony-forming units or most probable number per 100 ml	N/A	N/A	N/A	126

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

The permittee shall utilize an Ultraviolet Light (UV) system for disinfection purposes. An equivalent method of disinfection may be substituted only with prior approval of the Executive Director.

B. Monitoring Requirements:

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

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

**STANDARD PERMIT CONDITIONS**

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

**DEFINITIONS**

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

**1. Flow Measurements**

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

**2. Concentration Measurements**

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

### 3. Sample Type

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

## MONITORING REQUIREMENTS

### 1. Monitoring Requirements

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

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

### 2. Test Procedures

- a. Unless otherwise specified in this permit, test procedures for the analysis of pollutants shall comply with procedures specified in 30 TAC §§ 319.11 - 319.12. Measurements, tests and calculations shall be accurately accomplished in a representative manner.

- b. All laboratory tests submitted to demonstrate compliance with this permit must meet the requirements of 30 TAC Chapter 25, Environmental Testing Laboratory Accreditation and Certification.

### 3. Records of Results

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

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

### 4. Additional Monitoring by Permittee

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

### 5. Calibration of Instruments

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

### 6. Compliance Schedule Reports

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

7. Noncompliance Notification

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

8. In accordance with the procedures described in 30 TAC §§ 35.301 - 35.303 (relating to Water Quality Emergency and Temporary Orders) if the permittee knows in advance of the need for a bypass, it shall submit prior notice by applying for such authorization.

9. Changes in Discharges of Toxic Substances

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

- a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant listed at 40 CFR Part 122, Appendix D, Tables II and III (excluding Total Phenols) which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

- i. One hundred micrograms per liter (100 µg/L);
  - ii. Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
  - iii. Five (5) times the maximum concentration value reported for that pollutant in the permit application; or
  - iv. The level established by the TCEQ.
- b. That any activity has occurred or will occur which would result in any discharge, on a nonroutine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following “notification levels”:
- i. Five hundred micrograms per liter (500 µg/L);
  - ii. One milligram per liter (1 mg/L) for antimony;
  - iii. Ten (10) times the maximum concentration value reported for that pollutant in the permit application; or
  - iv. The level established by the TCEQ.

#### 10. Signatories to Reports

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

### PERMIT CONDITIONS

#### 1. General

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

#### 2. Compliance

- a. Acceptance of the permit by the person to whom it is issued constitutes acknowledgment and agreement that such person will comply with all the terms and conditions embodied in the permit, and the rules and other orders of the Commission.
  - b. The permittee has a duty to comply with all conditions of the permit. Failure to comply with any permit condition constitutes a violation of the permit and the Texas Water Code or the Texas Health and Safety Code, and is grounds for enforcement action, for permit amendment, revocation or suspension, or for denial of a permit renewal application or an application for a permit for another facility.
  - c. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit.
  - d. The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal or other permit violation which has a reasonable likelihood of adversely affecting human health or the environment.
  - e. Authorization from the Commission is required before beginning any change in the permitted facility or activity that may result in noncompliance with any permit requirements.
  - f. A permit may be amended, suspended and reissued, or revoked for cause in accordance with 30 TAC §§ 305.62 and 305.66 and Texas Water Code Section 7.302. The filing of a request by the permittee for a permit amendment, suspension and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.
  - g. There shall be no unauthorized discharge of wastewater or any other waste. For the purpose of this permit, an unauthorized discharge is considered to be any discharge of wastewater into or adjacent to water in the state at any location not permitted as an outfall or otherwise defined in the Special Provisions section of this permit.
  - h. The permittee is subject to administrative, civil, and criminal penalties, as applicable, under Texas Water Code §§ 7.051 - 7.075 (relating to Administrative Penalties), 7.101 - 7.111 (relating to Civil Penalties), and 7.141 - 7.202 (relating to Criminal Offenses and Penalties).
3. Inspections and Entry
    - a. Inspection and entry shall be allowed as prescribed in the Texas Water Code Chapters 26, 27, and 28, and Texas Health and Safety Code Chapter 361.
    - b. The members of the Commission and employees and agents of the Commission are entitled to enter any public or private property at any reasonable time for the purpose of inspecting and investigating conditions relating to the quality of water in the state or the compliance with any rule, regulation, permit or other order of the Commission. Members, employees, or agents of the Commission and Commission contractors are entitled to enter public or private property at any reasonable time to investigate or monitor or, if the responsible party is not responsive or there is an immediate danger to



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

#### 4. Permit Amendment and/or Renewal

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

- e. In accordance with the Texas Water Code § 26.029(b), after a public hearing, notice of which shall be given to the permittee, the Commission may require the permittee, from time to time, for good cause, in accordance with applicable laws, to conform to new or additional conditions.

5. Permit Transfer

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

6. Relationship to Hazardous Waste Activities

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

7. Property Rights

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

8. Permit Enforceability

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

9. Relationship to Permit Application

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

10. Notice of Bankruptcy.

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

- b. This notification must indicate:
- i. the name of the permittee;
  - ii. the permit number(s);
  - iii. the bankruptcy court in which the petition for bankruptcy was filed; and
  - iv. the date of filing of the petition.

## **OPERATIONAL REQUIREMENTS**

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

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

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

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

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

- b. The plans and specifications for domestic sewage collection and treatment works associated with any domestic permit must be approved by the Commission and failure to secure approval before commencing construction of such works or making a discharge is a violation of this permit and each day is an additional violation until approval has been secured.
- c. Permits for domestic wastewater treatment plants are granted subject to the policy of the Commission to encourage the development of area-wide waste collection, treatment and disposal systems. The Commission reserves the right to amend any domestic wastewater permit in accordance with applicable procedural requirements to require the system covered by this permit to be integrated into an area-wide system, should such be developed; to require the delivery of the wastes authorized to be collected in, treated by or discharged from said system, to such area-wide system; or to amend this permit in any

other particular to effectuate the Commission's policy. Such amendments may be made when the changes required are advisable for water quality control purposes and are feasible on the basis of waste treatment technology, engineering, financial, and related considerations existing at the time the changes are required, exclusive of the loss of investment in or revenues from any then existing or proposed waste collection, treatment or disposal system.

9. Domestic wastewater treatment plants shall be operated and maintained by sewage plant operators holding a valid certificate of competency at the required level as defined in 30 TAC Chapter 30.
10. Facilities which generate industrial solid waste as defined in 30 TAC § 335.1 shall comply with these provisions:
  - a. Any solid waste, as defined in 30 TAC § 335.1 (including but not limited to such wastes as garbage, refuse, sludge from a waste treatment, water supply treatment plant or air pollution control facility, discarded materials, discarded materials to be recycled, whether the waste is solid, liquid, or semisolid), generated by the permittee during the management and treatment of wastewater, must be managed in accordance with all applicable provisions of 30 TAC Chapter 335, relating to Industrial Solid Waste Management.
  - b. Industrial wastewater that is being collected, accumulated, stored, or processed before discharge through any final discharge outfall, specified by this permit, is considered to be industrial solid waste until the wastewater passes through the actual point source discharge and must be managed in accordance with all applicable provisions of 30 TAC Chapter 335.
  - c. The permittee shall provide written notification, pursuant to the requirements of 30 TAC § 335.8(b)(1), to the Corrective Action Section (MC 127) of the Remediation Division informing the Commission of any closure activity involving an Industrial Solid Waste Management Unit, at least 90 days prior to conducting such an activity.
  - d. Construction of any industrial solid waste management unit requires the prior written notification of the proposed activity to the Registration and Reporting Section (MC 129) of the Permitting and Remediation Support Division. No person shall dispose of industrial solid waste, including sludge or other solids from wastewater treatment processes, prior to fulfilling the deed recordation requirements of 30 TAC § 335.5.
  - e. The term "industrial solid waste management unit" means a landfill, surface impoundment, waste-pile, industrial furnace, incinerator, cement kiln, injection well, container, drum, salt dome waste containment cavern, or any other structure vessel, appurtenance, or other improvement on land used to manage industrial solid waste.
  - f. The permittee shall keep management records for all sludge (or other waste) removed from any wastewater treatment process. These records shall fulfill all applicable requirements of 30 TAC Chapter 335 and must include the following, as it pertains to wastewater treatment and discharge:
    - i. Volume of waste and date(s) generated from treatment process;
    - ii. Volume of waste disposed of on-site or shipped off-site;
    - iii. Date(s) of disposal;

- iv. Identity of hauler or transporter;
- v. Location of disposal site; and
- vi. Method of final disposal.

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

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

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## SLUDGE PROVISIONS

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

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

#### A. General Requirements

1. The permittee shall handle and dispose of sewage sludge or biosolids in accordance with 30 TAC § 312 and all other applicable state and federal regulations in a manner that protects public health and the environment from any reasonably anticipated adverse effects due to any toxic pollutants that may be present in the sludge or biosolids.
2. In all cases, if the person (permit holder) who prepares the sewage sludge or biosolids supplies the sewage sludge or biosolids to another person for land application use or to the owner or lease holder of the land, the permit holder shall provide necessary information to the parties who receive the sludge or biosolids to assure compliance with these regulations.
3. The land application of processed or unprocessed chemical toilet waste, grease trap waste, grit trap waste, milk solids, or similar non-hazardous municipal or industrial solid wastes, or any of the wastes listed in this provision combined with biosolids, WTP residuals or domestic septage is prohibited unless the grease trap waste is added at a fats, oil and grease (FOG) receiving facility as part of an anaerobic digestion process.

#### B. Testing Requirements

1. Sewage sludge or biosolids shall be tested once during the term of this permit in accordance with the method specified in both 40 CFR Part 261, Appendix II and 40 CFR Part 268, Appendix I [Toxicity Characteristic Leaching Procedure (TCLP)] or other method that receives the prior approval of the TCEQ for the contaminants listed in 40 CFR Part 261.24, Table 1. Sewage sludge or biosolids failing this test shall be managed according to RCRA standards for generators of hazardous waste, and the waste's disposition must be in accordance with all applicable requirements for hazardous waste processing, storage, or disposal. Following failure of any TCLP test, the management or disposal of sewage sludge or biosolids at a facility other than an authorized hazardous waste processing, storage, or disposal facility shall be prohibited until such time as the permittee can demonstrate the sewage sludge or biosolids no longer exhibits the hazardous waste toxicity characteristics (as demonstrated by the results of the TCLP tests). A written report shall be provided to both the TCEQ Registration and Reporting Section (MC 129) of the Permitting and Registration Support Division and the Regional Director (MC Region 13) within seven (7) days after failing the TCLP Test.

The report shall contain test results, certification that unauthorized waste management has stopped, and a summary of alternative disposal plans that comply with RCRA standards for the management of hazardous waste. The report shall be addressed to: Director, Permitting and Registration Support Division (MC 129), Texas Commission on Environmental Quality, P.O. Box 13087, Austin, Texas 78711-3087. In addition, the permittee shall prepare an annual report on the results of all sludge toxicity testing. The permittee shall submit the following information in an annual report to the TCEQ by September 30<sup>th</sup> of each year. The permittee must submit this annual report using the online electronic reporting system available through TCEQ's website. If the permittee requests and obtains an electronic reporting waiver, the annual report can be submitted in hard copy to the TCEQ Regional Office (MC Region 13) and the Enforcement Division (MC 224).

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

TABLE 1

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

\* Dry weight basis

3. Pathogen Control

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

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

Alternative 1 - The temperature of the sewage sludge that is used or disposed shall be maintained at or above a specific value for a period of time. See 30 TAC § 312.82(a)(3)(A) for specific information;



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

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

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

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

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

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

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

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

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

Alternative 1

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

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

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

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

- i. Prior to use or disposal, all the sewage sludge must have been generated from a single location, except as provided in paragraph v. below;

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

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

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

- viii. Public access to land with a low potential for public exposure shall be restricted for 30 days after application of biosolids.
  - ix. Land application of biosolids shall be in accordance with the buffer zone requirements found in 30 TAC § 312.44.
4. Vector Attraction Reduction Requirements

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

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

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

Alternative 9 -

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

Alternative 10 -

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

### C. Monitoring Requirements

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

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

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

(\*) *The amount of bulk biosolids applied to the land (dry wt. basis).*

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

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

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

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

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

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

**A. Pollutant Limits**

Table 2

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

Table 3

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

\*Dry weight basis

**B. Pathogen Control**

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

**C. Management Practices**

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

**D. Notification Requirements**

1. If bulk biosolids are applied to land in a State other than Texas, written notice shall be provided prior to the initial land application to the permitting authority for the State in which the bulk biosolids are proposed to be applied. The notice shall include:
  - a. The location, by street address, and specific latitude and longitude, of each land application site.
  - b. The approximate time period bulk biosolids will be applied to the site.
  - c. The name, address, telephone number, and National Pollutant Discharge Elimination System permit number (if appropriate) for the person who will apply the bulk biosolids.

**E. Record Keeping Requirements**

The documents will be retained at the facility site and/or shall be readily available for review by a TCEQ representative. The person who prepares bulk sewage sludge or a biosolids material shall develop the following information and shall retain the information at the facility site and/or shall be readily available for review by a TCEQ representative for a period of five years. If the permittee supplies the sludge to another person who land applies the sludge, the permittee shall notify the land applier of the requirements for record keeping found in 30 TAC § 312.47 for persons who land apply.



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

“I certify, under penalty of law, that the applicable pathogen requirements in 30 TAC § 312.82(a) or (b) and the vector attraction reduction requirements in 30 TAC § 312.83(b) have been met for each site on which bulk biosolids are applied. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the management practices have been met. I am aware that there are significant penalties for false certification including fine and imprisonment.”
6. The recommended agronomic loading rate from the references listed in Section II.C.3. above, as well as the actual agronomic loading rate shall be retained. The person who applies bulk biosolids shall develop the following information and shall retain the information at the facility site and/or shall be readily available for review by a TCEQ representative indefinitely. If the permittee supplies the sludge to another person who land applies the sludge, the permittee shall notify the land applier of the requirements for record keeping found in 30 TAC § 312.47 for persons who land apply:
  - a. A certification statement that all applicable requirements (specifically listed) have been met, and that the permittee understands that there are significant penalties for false certification including fine and imprisonment. See 30 TAC § 312.47(a)(4)(A)(ii) or 30 TAC § 312.47(a)(5)(A)(ii), as applicable, and to the permittee’s specific sludge or biosolids treatment activities.
  - b. The location, by street address, and specific latitude and longitude, of each site on which sludge or biosolids are applied.
  - c. The number of acres in each site on which bulk sludge or biosolids are applied.
  - d. The date and time sludge or biosolids are applied to each site.
  - e. The cumulative amount of each pollutant in pounds/acre listed in Table 2 applied to each site.
  - f. The total amount of sludge applied to each site in dry tons.

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

## **F. Reporting Requirements**

The permittee shall submit the following information in an annual report to the TCEQ by September 30<sup>th</sup> of each year. The permittee must submit this annual report using the online electronic reporting system available through TCEQ's website. If the permittee requests and obtains an electronic reporting waiver, the annual report can be submitted in hard copy to the TCEQ Regional Office (MC Region 13) and the Enforcement Division (MC 224).

1. Identify in the following categories (as applicable) the sewage sludge or biosolids treatment process or processes at the facility: preliminary operations (e.g., sludge or biosolids grinding and degritting), thickening (concentration), stabilization, anaerobic digestion, aerobic digestion, composting, conditioning, disinfection (e.g., beta ray irradiation, gamma ray irradiation, pasteurization), dewatering (e.g., centrifugation, sludge drying beds, sludge lagoons), heat drying, thermal reduction, and methane or biogas capture and recovery.
2. Identify the nature of material generated by the facility (such as a biosolid for beneficial use or land-farming, or sewage sludge for disposal at a monofill) and whether the material is ultimately conveyed off-site in bulk or in bags.
3. Results of tests performed for pollutants found in either Table 2 or 3 as appropriate for the permittee's land application practices.
4. The frequency of monitoring listed in Section I.C. that applies to the permittee.
5. Toxicity Characteristic Leaching Procedure (TCLP) results.
6. PCB concentration in sludge or biosolids in mg/kg.
7. Identity of hauler(s) and TCEQ transporter number.
8. Date(s) of transport.
9. Texas Commission on Environmental Quality registration number, if applicable.
10. Amount of sludge or biosolids disposal dry weight (lbs/acre) at each disposal site.
11. The concentration (mg/kg) in the sludge or biosolids of each pollutant listed in Table 1 (defined as a monthly average) as well as the applicable pollutant concentration criteria (mg/kg) listed in Table 3 above, or the applicable pollutant loading rate limit (lbs/acre) listed in Table 2 above if it exceeds 90% of the limit.
12. Level of pathogen reduction achieved (Class A, Class AB or Class B).
13. Alternative used as listed in Section I.B.3.(a. or b.). Alternatives describe how the pathogen reduction requirements are met. If Class B biosolids, include information on how site restrictions were met.
14. Identify each of the analytic methods used by the facility to analyze enteric viruses, fecal coliforms, helminth ova, *Salmonella* sp., and other regulated parameters.
15. Vector attraction reduction alternative used as listed in Section I.B.4.
16. Amount of sludge or biosolids transported in dry tons/year.
17. The certification statement listed in either 30 TAC § 312.47(a)(4)(A)(ii) or 30 TAC §

312.47(a)(5)(A)(ii) as applicable to the permittee's sludge or biosolids treatment activities, shall be attached to the annual reporting form.

18. When the amount of any pollutant applied to the land exceeds 90% of the cumulative pollutant loading rate for that pollutant, as described in Table 2, the permittee shall report the following information as an attachment to the annual reporting form.

- a. The location, by street address, and specific latitude and longitude.
- b. The number of acres in each site on which bulk biosolids are applied.
- c. The date and time bulk biosolids are applied to each site.
- d. The cumulative amount of each pollutant (i.e., pounds/acre) listed in Table 2 in the bulk biosolids applied to each site.
- e. The amount of biosolids (i.e., dry tons) applied to each site.

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

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

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

Following failure of any TCLP test, the management or disposal of sewage sludge or biosolids at a facility other than an authorized hazardous waste processing, storage, or disposal facility shall be prohibited until such time as the permittee can demonstrate the sewage sludge or biosolids no longer exhibits the hazardous waste toxicity characteristics (as demonstrated by the results of the TCLP tests). A written report shall be provided to both the TCEQ Registration and Reporting Section (MC 129) of the Permitting and Registration Support Division and the Regional Director (MC Region 13) of the appropriate TCEQ field office within 7 days after failing the TCLP Test.

The report shall contain test results, certification that unauthorized waste management has stopped, and a summary of alternative disposal plans that comply with RCRA standards for the management of hazardous waste. The report shall be addressed to: Director, Permitting and Registration Support Division (MC 129), Texas Commission on Environmental Quality, P. O. Box 13087, Austin, Texas 78711-3087. In addition, the permittee shall prepare an annual report on the results of all sludge toxicity testing. This annual report shall be submitted to the TCEQ Regional Office (MC Region 13) and the Enforcement Division (MC 224), by September 30<sup>th</sup> of each year.

- D. Sewage sludge or biosolids shall be tested as needed, in accordance with the requirements of 30 TAC Chapter 330.
- E. Record Keeping Requirements

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

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

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

#### F. Reporting Requirements

The permittee shall submit the following information in an annual report to the TCEQ by September 30<sup>th</sup> of each year. The permittee must submit this annual report using the online electronic reporting system available through TCEQ's website. If the permittee requests and obtains an electronic reporting waiver, the annual report can be submitted in hard copy to the TCEQ Regional Office (MC Region 13) and the Enforcement Division (MC224).

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

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

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

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

**A. General Requirements**

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

**B. Record Keeping Requirements**

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

**C. Reporting Requirements**

The permittee shall submit the following information in an annual report to the TCEQ by September 30<sup>th</sup> of each year. The permittee must submit this annual report using the online electronic reporting system available through TCEQ's website. If the permittee requests and obtains an electronic reporting waiver, the annual report can be submitted in hard copy to the TCEQ Regional Office (MC Region 13) and the Enforcement Division (MC 224).

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

**SPECIAL PROVISIONS:**

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

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

3. The permittee shall maintain and operate the treatment facility in order to achieve optimum efficiency of treatment capability. This shall include required monitoring of effluent flow and quality as well as appropriate grounds and building maintenance.
4. The permittee shall obtain representative soil samples from the root zones of the land application area. Composite sampling techniques shall be used. Each composite sample shall represent no more than 80 acres with no less than 10 to 15 subsamples representing each composite sample. Subsamples shall be composited by like sampling depth, type of crop and soil type for analysis and reporting. Soil types are soils that have like topsoil or plow layer textures. These soils shall be sampled individually from 0 to 6 inches, 6 to 18 inches and 18 to 30 inches below ground level. The permittee shall sample soils in December to February of each year. Soil samples shall be analyzed within 30 days of sample collection.

Samples shall be analyzed annually according to the following table:



Parameter	Method	Minimum Analytical Level (MAL)	Reporting units
pH	2:1 (v/v) water to soil mixture		Reported to 0.1 pH units after calibration of pH meter
Electrical Conductivity	2:1 (v/v) water to soil mixture	0.01	dS/m (same as mmho/cm)
Nitrate-nitrogen, ammonium nitrogen	From a 1 <u>N</u> KCl soil extract	1	mg/kg (dry weight basis)
Total Kjeldahl Nitrogen (TKN)	For determination of Organic plus Ammonium Nitrogen. Procedures that use Mercury (Hg) are not acceptable.	20	mg/kg (dry weight basis)
Total Nitrogen	= TKN plus Nitrate-nitrogen		mg/kg (dry weight basis)
Plant-available: Phosphorus	Mehlich III with inductively coupled plasma	1 (P)	mg/kg (dry weight basis)
Plant-available: Potassium (K) Calcium (Ca) Magnesium (Mg) Sodium (Na) Sulfur (S)	May be determined in the same Mehlich III extract with inductively coupled plasma	5 (K) 10 (Ca) 5 (Mg) 10 (Na) 1 (S)	mg/kg (dry weight basis)
Water-soluble: Sodium (Na) Calcium (Ca) Magnesium (Mg) Potassium (K)	Obtained from the SAR water saturated paste extract	1 (Na) 1 (Ca) 1 (Mg) 1 (K)	Water soluble constituents are <i>reported</i> in mg/L
Sodium Adsorption Ratio (SAR)	$SAR = \frac{Na}{\sqrt{\frac{(Ca + Mg)}{2}}}$		Express <i>concentrations</i> of Na, Ca and Mg in the water saturated paste extract in milliequivalents/liter (meq/L) to calculate the SAR. The SAR value is unit less.

			If the SAR is greater than 10, amendments (e.g., gypsum) shall be added to the soil to adjust the SAR to less than 10.
Amendment addition, e.g., gypsum			Report in short tons/acre in the year effected

A copy of this soil testing plan shall be provided to the analytical laboratory prior to sample analysis. The permittee shall submit the results of the annual soil sample analyses with copies of the laboratory reports and a map depicting the areas that have received wastewater within the permanent land application fields to the TCEQ Regional Office (MC Region 13), the Water Quality Assessment Team (MC 150), and the Compliance Monitoring Team (MC 224) of the Enforcement Division, no later than the end of September of each sampling year. If wastewater is not applied in a particular year, the permittee shall notify the same TCEQ offices and indicate that wastewater has not been applied on the approved land irrigation site(s) during that year.

5. Prior to construction of the Interim I, Interim II and Final phase wastewater treatment facilities, the permittee shall submit to the TCEQ Wastewater Permitting Section (MC 148) of the Water Quality Division, a summary transmittal letter according to the requirements in 30 TAC § 217.6(d). If requested by the Wastewater Permitting Section, the permittee shall submit plans, specifications and a final engineering design report which comply with the requirements of 30 TAC Chapter 217, Design Criteria for Domestic Wastewater Systems. The permittee shall clearly show how the treatment system will meet the permitted effluent limitations required on Page 22 of the permit. A copy of the summary transmittal letter shall be available at the plant site for inspection by authorized representatives of the TCEQ.
6. Reporting requirements according to 30 TAC § 319.1-319.11 and any additional effluent reporting requirements contained in this permit are suspended from the effective date of the permit until plant startup or discharge, whichever occurs first, from the facility described by this permit. The permittee shall provide written notice to the TCEQ Regional Office (MC Region 13) and the Applications Review and Processing Team (MC 148) of the Water Quality Division at least forty-five (45) days prior to plant startup or anticipated discharge, whichever occurs first, and prior to completion of each additional phase on Notification of Completion Form 20007.
7. The permittee shall comply with the requirements of 30 TAC § 309.13(a) through (d). In addition, by ownership of the required buffer zone area, the permittee shall comply with the requirements of 30 TAC § 309.13(e).
8. Holding or storage ponds shall conform to the design criteria for stabilization ponds with regard to construction and levee design and shall maintain a minimum freeboard of two feet according to 30 TAC Chapter 217, Design Criteria for Domestic Wastewater Systems.
9. Permanent transmission lines shall be installed from the holding pond to each tract of land to be irrigated utilizing effluent from that pond.
10. The permittee shall provide facilities for the protection of its wastewater treatment facility from a 100-year flood.

11. The irrigated crops include Bermuda grass (warm season) and Winter rye (cool season). Application rates to the irrigated land shall not exceed 2.00 acre-feet/acre/year. The permittee is responsible for providing equipment to determine application rates and maintaining accurate records of the volume of effluent applied. The records shall be made available for review by the Texas Commission on Environmental Quality and shall be maintained for at least three years.
12. The permittee shall use cultural practices to promote and maintain the health and propagation of the Bermuda grass and Winter rye crops and avoid plant lodging. The permittee shall harvest the crops (cut and remove it from the field) at least twice during the year. Harvesting and mowing dates shall be recorded in a log book kept on site to be made available to TCEQ personnel upon request.
13. The permittee shall erect adequate signs stating that the irrigation water is from a non-potable water supply for any area where treated effluent is stored or where there exist hose bibs or faucets. Signs shall consist of a red slash superimposed over the international symbol for drinking water accompanied by the message "DO NOT DRINK THE WATER" in both English and Spanish. All piping transporting the effluent shall be clearly marked with these same signs.
14. Irrigation practices shall be designed and managed as to prevent ponding of effluent or contamination of ground and surface waters and to prevent the occurrence of nuisance conditions in the area. To promote effluent and nutrient uptake by the crop, and to prevent pathways for effluent surfacing, Bermuda grass and Winter rye shall be established and well maintained in the irrigation area throughout the year. Tailwater control facilities shall be provided as necessary to prevent the discharge of any effluent from the irrigated land.
15. Effluent shall not be applied for irrigation during rainfall events or when the ground is frozen or saturated.
16. The physical condition of the spray irrigation fields will be monitored on a weekly basis when the fields are being utilized for the purpose of wastewater irrigation. Any areas with problems such as surface runoff, surficial erosion, stressed or damaged vegetation will be recorded in the field log kept onsite and corrective measures will be initiated within 24 hours of discovery.
17. Spray fixtures for the irrigation system shall be of such design that they cannot be operated by unauthorized personnel.
18. A wastewater treatment plant unit may not be located in wetlands per 30 TAC §309.13(b).
19. The permittee shall comply with buffer zone requirements of 30 TAC Section §309.13(c). A wastewater treatment plant unit, defined by 30 TAC Section §309.11(9), must be located a minimum horizontal distance of 250 feet from a private well and a minimum horizontal distance of 500 feet from a public water well site, spring, or other similar sources of public drinking water, as provided by §290.41(c)(1) of this title. A land application field must be located a minimum horizontal distance of 150 feet from a private well and a minimum horizontal distance of 500 feet from a public water well site, spring, or other similar sources of public drinking water.
20. The permittee shall maintain a minimum buffer distance of 100 feet from the unnamed

intermittent tributary to San Francisco Perez Creek and the borrow pit/pond, both identified as "WIS" on the site map, where no land application of wastewater shall occur.

21. Any new or modified wastewater pond shall be adequately lined to control seepage in accordance with 30 TAC §217.203 and 30 TAC §309.13(d) since the facility overlies the recharge zone of an aquifer. New or modified wastewater ponds shall not be put into service until the permittee demonstrates that the pond liners meet the requirements of 30 TAC §217.203 and 30 TAC §309.13(d). The permittee shall demonstrate that the number, location, and test results of samples collected for geotechnical testing are in accordance with 30 TAC §217.203(d) and (e), and that the liner has a minimum thickness of 3 feet in accordance with 30 TAC §309.13(d) since the facility overlies the recharge zone of an aquifer. The report providing this demonstration shall be submitted to the Water Quality Assessment Team (MC-150) and the TCEQ Regional Office (MC-Region 13) for review and approval prior to use of the wastewater ponds. If a synthetic liner is to be used, the liner thickness shall be a minimum of 40 mils and be constructed with an underground leak detection system with appropriate sampling points.
22. At least once per month, the Permittee shall inspect the sides and bottom (if visible) of all wastewater ponds for signs of damage and leakage, and any pond leak detection systems that are in service. Leaking ponds shall be removed from service, or operated in a manner to prevent discharge, until repairs are made or replacement ponds are constructed.
23. Pond liner certifications and all liner construction and repair documentation shall be maintained by the Permittee for the life of the facility and be made available for TCEQ personnel for inspection and review.
24. In accordance with 30 TAC § 319.9, a permittee that has at least twelve months of uninterrupted compliance with its bacteria limit may notify the commission in writing of its compliance and request a less frequent measurement schedule. To request a less frequent schedule, the permittee shall submit a written request to the TCEQ Wastewater Permitting Section (MC 148) for each phase that includes a different monitoring frequency. The request must contain all of the reported bacteria values (Daily Avg. and Daily Max/Single Grab) for the twelve consecutive months immediately prior to the request. If the Executive Director finds that a less frequent measurement schedule is protective of human health and the environment, the permittee may be given a less frequent measurement schedule. For this permit, five/week may be reduced to three/week in all phases. **A violation of any bacteria limit by a facility that has been granted a less frequent measurement schedule will require the permittee to return to the standard frequency schedule and submit written notice to the TCEQ Wastewater Permitting Section (MC 148).** The permittee may not apply for another reduction in measurement frequency for at least 24 months from the date of the last violation. The Executive Director may establish a more frequent measurement schedule if necessary to protect human health or the environment.

[illegible]

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

### **DESCRIPTION OF APPLICATION**

Applicant:	Yancey Water Supply Corporation TCEQ Permit No. WQ0016603001
Regulated Activity:	Domestic Wastewater Permit
Type of Application:	New Permit
Request:	New Permit
Authority:	Texas Water Code (TWC) § 26.027; 30 Texas Administrative Code (TAC) Chapters 305, 309, 312, 319, and 30; and Commission policies.

### **EXECUTIVE DIRECTOR RECOMMENDATION**

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

### **REASON FOR PROJECT PROPOSED**

Yancey Water Supply Corporation has applied to the Texas Commission on Environmental Quality (TCEQ) for new Permit No. WQ0016603001 to authorize the disposal of treated domestic wastewater at a daily average flow not to exceed 0.075 million gallons per day (MGD) in the Interim I phase, 0.125 MGD in the Interim II phase, and 0.25 MGD in the Final phase via surface irrigation of 34 acres in the Interim I phase, 67 acres in the Interim II phase and 134 acres in the Final phase of non-public access land. The facility includes one storage pond in the Interim I and Interim II phases with a total surface area of 3 acres and total capacity of 33 acre-feet and an additional storage pond in the Final phase with total surface area of 12 acres and total capacity of 111 acre-feet for storage of treated effluent prior to irrigation. The proposed wastewater treatment facility will serve a residential development of 600 homes.

### **PROJECT DESCRIPTION AND LOCATION**

The Agape Oaks Wastewater Treatment Facility will consist of an membrane bioreactor treatment system. Treatment units in the Interim I phase will include an on-site lift station, a fine screen, an anoxic basin, an aerobic basin, a membrane basin, a screw type sludge press, and an ultraviolet light (UV) disinfection system. Treatment units in the Interim II phase will include an on-site lift station, two fine screens, an anoxic basin, an aerobic basin, a membrane basin, a screw type sludge press, and a UV disinfection system. Treatment units in the Final phase will include an on-site lift station, two fine screen, two anoxic basins, two aerobic basins, two membrane basins, a screw type sludge press, and two UV disinfection systems. The facility has not been constructed.

Yancey Water Supply Corporation

Permit No. WQ0016603001

Statement of Basis/Technical Summary and Executive Director's Preliminary Decision

The draft permit authorizes the disposal of sludge at a TCEQ-authorized land application site, co-disposal landfill, wastewater treatment facility, or facility that further processes sludge.

The wastewater treatment facility and disposal site are located approximately 0.11 miles north of the intersection of County Road 7612 and Interstate Highway 35 Frontage Road in Medina County, Texas 78016.

The wastewater treatment facility and disposal site are located in the drainage basin of San Miguel Creek in Segment No. 2108 of the Nueces River Basin. No discharge of pollutants into water in the state is authorized by this permit.

#### SUMMARY OF EFFLUENT DATA

**There is no effluent data since the facility has not been constructed.**

#### DRAFT PERMIT CONDITIONS

The draft permit authorizes the disposal of treated domestic wastewater effluent at a daily average flow not to exceed 0.075 million gallons per day (MGD) in the Interim I phase, 0.125 MGD in the Interim II phase, and 0.25 MGD via surface irrigation of 34 acres in the Interim I phase, 67 acres in the Interim II phase and 134 acres in the Final phase of non-public access land. The facility includes one storage pond in the Interim I and Interim II phases with a total surface area of 3 acres and total capacity of 33 acre-feet and an additional storage pond in the Final phase with total surface area of 12 acres and total capacity of 111 acre-feet for storage of treated effluent prior to irrigation. Application rates to the irrigated land shall not exceed 2.0 acre-feet per year per acre irrigated. The irrigated crops include Bermuda grass (warm season) and Winter rye (cool season).

The effluent limitations in the draft permit, based on a daily average, are 5 mg/l biochemical oxygen demand (BOD<sub>5</sub>), 5 mg/l total suspended solids (TSS), 2 mg/l Ammonia Nitrogen (NH<sub>3</sub>-N) and a single grab effluent limit for *E. coli* of 126 CFU or MPN per 100 ml.

The permittee shall comply with the requirements of 30 TAC § 309.13(a) through (d). In addition, by ownership of the required buffer zone area, the permittee shall comply with the requirements of 30 TAC § 309.13(e).

The draft permit includes Sludge Provisions according to the requirements of 30 TAC Chapter 312, Sludge Use, Disposal, and Transportation. The draft permit authorizes the disposal of sludge at a TCEQ-authorized land application site, co-disposal landfill, wastewater treatment facility, or facility that further processes sludge.

#### SUMMARY OF CHANGES FROM APPLICATION

The applicant is proposing a 1.0 mg/l total phosphorus effluent limit. Since phosphorus is a necessary plant nutrient, it is not advisable to limit total phosphorus in the effluent. In addition, a proposed dissolved oxygen effluent limit is not necessary because dissolved oxygen is a water quality consideration for effluent discharged into a receiving body of water. Furthermore, the proposed aerobic process will produce a well-oxygenated effluent.



### BASIS FOR DRAFT PERMIT

The following items were considered in developing the draft permit:

1. Application received on August 21, 2024, and additional information received on September 17, 2024, October 1, 2024, October 8, 2024, April 21, 2025, May 1, 2025, and August 14, 2025.
2. Interoffice Memorandum from the Water Quality Assessment Team, Water Quality Assessment & Standards Section, Water Quality Division.

### PROCEDURES FOR FINAL DECISION

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

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

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

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

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



Yancey Water Supply Corporation

Permit No. WQ0016603001

Statement of Basis/Technical Summary and Executive Director's Preliminary Decision

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

For additional information about this application, contact J. Alfonso Martinez III at (512) 239-4668.

*JAM III*

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J. Alfonso Martinez III  
Municipal Permits Team  
Wastewater Permitting Section (MC 148)

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August 14, 2025  
Date



**Southwest  
Engineers**  
EST. 1978

**HEADQUARTERS**

307 SAINT LAWRENCE ST.  
GONZALES, TX 78629  
P: 830.672.7546

TBPELS No. F-1909

**CENTRAL TEXAS OFFICES**

205 CIMARRON PARK LP, STE B  
BUDA, TX 78610  
P: 512.312.4336

704 MAIN STREET #101  
BASTROP, TX 78602  
P: 512.985.9759

WWW.SWENGINEERS.COM

July 23, 2024

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY  
P. O. Box 13087  
Austin, Texas 78711-3087  
Attn: Water Quality Division  
Applications Review and Processing Team (MC-148)

RE: **DOMESTIC WASTEWATER PERMIT APPLICATION**  
**PERMIT NO. WQ**  
**Agape Oaks Wastewater Treatment Plant, Medina County, Texas**  
**SWE Project No. 0339-022-22**

To Whom It May Concern,

On behalf of Yancey WSC, we are respectfully submitting the wastewater permit application for the above referenced facility. We have also mailed via USPS one (1) complete original set of the wastewater permit application for the above referenced facility.

We have also, on behalf of Yancey WSC, mailed to TCEQ's Financial Administration Division under separate cover the Water Quality Permit Payment Submittal Form with a check to cover the \$1250.00 permit application fee.

We appreciate your review and consideration of the application. If you have any questions concerning the contents of the application, please do not hesitate to call me at (830) 672-7546 or if more convenient, send me an email at [mark.ince@swengineers.com](mailto:mark.ince@swengineers.com). Thank you!

Respectfully Submitted,  
SOUTHWEST ENGINEERS, INC.

Mark A. Ince, P.E.  
Project Engineer  
Texas Serial #91553

Attachments

☐ "TCEQ Domestic Wastewater Permit Application" ["original"... 1 set]

cc: Yancey WSC w/attachment... via email

**ORIGINAL**

**TCEQ Domestic Wastewater Permit  
Application**

**For**

**Agape Oaks  
Wastewater Treatment Plant**

**Yancey WSC  
P.O. Box 127  
Yancey, TX 78886**

**Permit No. \_\_\_\_\_**

**July 2024**

**SWE Project No. 0339-032-22**



**Southwest  
Engineers**

[www.swengineers.com](http://www.swengineers.com) | TBPE No. F-1909

**Civil | Environmental | Land Development**

**HEADQUARTERS**  
307 Saint Lawrence St.  
Gonzales, TX 78629  
Phone: 830.672.7546

**CENTRAL TEXAS OFFICE**  
205 Cimarron Park Loop, Ste B  
Buda, TX 78610  
Phone: 512.312.4336

<u>Attachment</u>	<u>Item</u>	<u>Required By</u>	<u>Page</u>
A	TCEQ Core Data Form	Admin. 1.0 - #3c	4
B	USGS Map	Admin. 1.0 - #13	11
C	Affected Landowner List & Map	Admin. 1.1 - #1	14
D	Photographs & Map	Admin. 1.1 - #2	15
E	Buffer Zone Map	Admin. 1.1 - #3	15
F	SPIF USGS Map	SPIF - #5	17
G	Flow Diagram	Tech. 1.0 - #2c	2
H	Site Drawing	Tech. 1.0 - #3	3
I	Nearby Collection Systems & Correps.	Tech. 1.1 - #3	21
J	Design Calculations	Tech. 1.1 - #4	24
K	Wind Rose	Tech. 1.1 - #5b	25
L	Solids Management Plan	Tech. 1.1 - #7	26

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### Administrative Report

	<u>Attachment</u>	<u>Description</u>	<u>Required By</u>	<u>On Page</u>
	A	TCEQ Core Data Form	Admin. 1.0 - #3C	4
	B	Plain Language Summary	Admin 1.0 - #8F	7
	C	Public Involvement Plan	Admin. 1.0 - #8G	7
	D	Lease Agreement and Deed	Admin. 1.0 - #13	10
	E	USGS Map	Admin. 1.0 - #13	10
	F	Signature Authorization	Admin 1.0 - #13	10
	G	Affected Landowner List & Map	Admin. 1.1 - #1	12
	H	Photographs & Map	Admin. 1.1 - #2	13
	I	Buffer Zone Map	Admin. 1.1 - #3	13

### Technical Report

	<u>Attachment</u>	<u>Description</u>	<u>Required By</u>	<u>On Page</u>
	J	Treatment Process Description	Tech. 1.0 - #2A	2
	K	Treatment Units	Tech. 2.0 - #2B	2
	L	Flow Diagram	Tech. 1.0 - #2C	2
	M	Site Drawing	Tech. 1.0 - #3	2
	N	Nearby WWTs or Collection Systems	Tech. 1.1 - #3	20
	O	Design Calculations	Tech. 1.1 - #4	22
	P	Floodplain Map & Protection	Tech. 1.1 - #5A	23
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	R	Solids Management Plan	Tech. 1.1 - #7	23
	S	Annual Cropping Plan	Tech. 3.0 - #5	33
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	W	Engineering Report & Water Balance and Storage Volume Calculations	Tech. 3.1 - #1	37

# **ADMINISTRATIVE REPORT**



# TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

## DOMESTIC WASTEWATER PERMIT APPLICATION CHECKLIST

Complete and submit this checklist with the application.

APPLICANT NAME: Yancey WSC

PERMIT NUMBER (If new, leave blank): WQ00 [Click to enter text.](#)

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

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

### For TCEQ Use Only

Segment Number \_\_\_\_\_ County \_\_\_\_\_  
Expiration Date \_\_\_\_\_ Region \_\_\_\_\_  
Permit Number \_\_\_\_\_



# TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

## DOMESTIC WASTEWATER PERMIT APPLICATION ADMINISTRATIVE REPORT 1.0

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

### Section 1. Application Fees (Instructions Page 26)

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

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

Minor Amendment (for any flow) \$150.00 ☐

Payment Information:

Mailed      Check/Money Order Number: 33428  
Check/Money Order Amount: 1,250.00  
Name Printed on Check: Southwest Engineers, Inc.

EPAY      Voucher Number: N/A

Copy of Payment Voucher enclosed?      Yes ☐

### Section 2. Type of Application (Instructions Page 26)

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

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

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

- ☐ Active      ☒ Inactive



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

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

d. Check the box next to the appropriate application type

- ☒ 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: N/A

f. For existing permits:

Permit Number: WQ00 Click to enter text.

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

Expiration Date: Click to enter text.

### Section 3. Facility Owner (Applicant) and Co-Applciant 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?

Yancey WSC

*(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: 600673578

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: Ince, Mark

Title: Project Engineer

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: N/A

Title: N/A

Credential: N/A

Provide a brief description of the need for a co-permittee: N/A

#### C. Core Data Form

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

### Section 4. Application Contact Information (Instructions Page 27)

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

A. Prefix: Mr.

Last Name, First Name: Mangold, Scooter

Title: General Manager

Credential: N/A

Organization Name: Yancey WSC

Mailing Address: P.O. Box 127

City, State, Zip Code: Yancey, TX 78886

Phone No.: 830-741-5264

E-mail Address: yanceywater@yahoo.com

Check one or both: ☒ Administrative Contact ☒ Technical Contact

B. Prefix: Mr.

Last Name, First Name: Ince, Mark

Title: Project Engineer

Credential: P.E.

Organization Name: Southwest Engineers, Inc.

Mailing Address: 307 St. Lawrence Street

City, State, Zip Code: Gonzales, TX 78629

Phone No.: 830-672-7546

E-mail Address: mark.icne@swengineers.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: Mangold, Scooter

Title: General Manager

Credential: N/A

Organization Name: Yancey WSC

Mailing Address: P.O. Box 127

City, State, Zip Code: Yancey, TX 78886

Phone No.: 830-741-5246

E-mail Address: yanceywater@yahoo.com

B. Prefix: Mr. Last Name, First Name: Ince, Mark  
Title: Project Engineer Credential: P.E.  
Organization Name: Southwest Engineers, Inc.  
Mailing Address: 307 St. Lawrence Street City, State, Zip Code: Gonzales, TX 78629  
Phone No.: 830-672-7546 E-mail Address: mark.ince@swengineers.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: Mangold, Scooter  
Title: General Manager Credential: N/A  
Organization Name: Yancey WSC  
Mailing Address: P.O. Box 127 City, State, Zip Code: Yancey, TX 78886  
Phone No.: 830-741-5264 E-mail Address: yanceywater@yahoo.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: Mangold, Scooter  
Title: General Manager Credential: N/A  
Organization Name: Yancey WSC  
Mailing Address: P.O. Box 127 City, State, Zip Code: Yancey, TX 78886  
Phone No.: 830-741-5264 E-mail Address: yanceywater@yahoo.com

## Section 8. Public Notice Information (Instructions Page 27)

### A. Individual Publishing the Notices

Prefix: Mr. Last Name, First Name: Ince, Mark  
Title: Project Engineer Credential: P.E.  
Organization Name: Southwest Engineers, Inc.  
Mailing Address: 307 St. Lawrence Street City, State, Zip Code: Gonzales, TX 78629  
Phone No.: 830-672-7546 E-mail Address: mark.ince@swengineers.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: Ince, Mark

Title: Project Engineer Credential: P.E.

Organization Name: Southwest Engineers, Inc.

Mailing Address: 307 St. Lawrence Street City, State, Zip Code: Gonzales, TX 78629

Phone No.: 830-672-7546 E-mail Address: mark.ince@swengineers.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: Driscoll Public Library

Location within the building: Meeting Room

Physical Address of Building: 202 E. Hondo Ave.

City: Devine County: Medina

Contact (Last Name, First Name): N/A

Phone No.: 830-663-2993 Ext.: N/A

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: B

G. Public Involvement Plan Form

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

Attachment: C

## 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 Click to enter text.

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):

Agape Oaks WWTP

C. Owner of treatment facility: Yancey WSC

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

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

Prefix: N/A

Last Name, First Name: N/A

Title: N/A

Credential: N/A

Organization Name: Agape Oaks, LLC

Mailing Address: 6727 Wagner Way

City, State, Zip Code: San Antonio, TX 78256

Phone No.: N/A

E-mail Address: chris@medinaland.com

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: Lease

E. Owner of effluent disposal site:

Prefix: N/A

Last Name, First Name: N/A

Title: N/A

Credential: N/A

Organization Name: Agape Oaks, LLC

Mailing Address: 6727 Wagner Way

City, State, Zip Code: San Antonio, TX 78256

Phone No.: N/A

E-mail Address: chris@medinaland.com

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: D

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

Prefix: N/A

Last Name, First Name: N/A

Title: N/A

Credential: N/A

Organization Name: N/A

Mailing Address: N/A

City, State, Zip Code: N/A

Phone No.: N/A

E-mail Address: N/A

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

## Section 10. TPDES Discharge Information (Instructions Page 31)

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

☐ Yes ☐ No

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

N/A

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

☐ Yes ☐ No

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

N/A

City nearest the outfall(s): N/A

County in which the outfalls(s) is/are located: N/A

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: N/A

## Section 11. TLAP Disposal Information (Instructions Page 32)

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

☒ Yes ☐ No

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

0.76 miles northwest of the intersection of Live Oak Lane and I-35 Frontage Road in Devine, Texas.

- B. City nearest the disposal site: Devine

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

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

From a pipe to a 3 acre lake thence to the irrigation site

- E. For TLAPs, please identify the nearest watercourse to the disposal site to which rainfall runoff might flow if not contained: From the irrigation site thence to an unnamed tributary of San Francisco Perez Creek, thence to Segment 2108 of San Miguel Creek, thence to Choke Canyon Reservoir, thence to segment 2106 of the Frio River, West of Three Rivers, TX.

## 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.

N/A

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: N/A

D. Do you owe any fees to the TCEQ?

☐ Yes ☒ No

If yes, provide the following information:

Account number: N/A

Amount past due: N/A

E. Do you owe any penalties to the TCEQ?

☐ Yes ☒ No

If yes, please provide the following information:

Enforcement order number: N/A

Amount past due: N/A

## Section 13. Attachments (Instructions Page 33)

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

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

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

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

☐ Attachment 1 for Individuals as co-applicants

☒ Other Attachments. Please specify: Attachment F: Signature Authorization



## Section 14. Signature Page (Instructions Page 34)

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

Permit Number: Click to enter text.

Applicant: Yancey WSC

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): Mark Ince, P.E.

Signatory title: Project Engineer

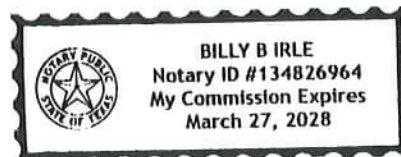
Signature:  Date: 7-23-24  
(Use blue ink)

Subscribed and Sworn to before me by the said Mark A. Ince  
on this 23rd day of July, 2024.  
My commission expires on the 27th day of March, 2028.

Billy B. Irle  
Notary Public

[SEAL]

Gonzales  
County, Texas



# DOMESTIC WASTEWATER PERMIT APPLICATION ADMINISTRATIVE REPORT 1.0

The following information is required for new and amendment applications.

## Section 1. Affected Landowner Information (Instructions Page 36)

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

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

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

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

- ☐ USB Drive      ☒ Four sets of labels

D. Provide the source of the landowners' names and mailing addresses: Medina CAD

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):

N/A

## Section 2. Original Photographs (Instructions Page 38)

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

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

## Section 3. Buffer Zone Map (Instructions Page 38)

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

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

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

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

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

- ☐ Yes      ☒ No

# **TECHNICAL REPORT**



# TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

## DOMESTIC WASTEWATER PERMIT APPLICATION TECHNICAL REPORT 1.0

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

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

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

#### A. Existing/Interim I Phase

Design Flow (MGD): 0.075

2-Hr Peak Flow (MGD): 0.3

Estimated construction start date: May 2025

Estimated waste disposal start date: July 2025

#### B. Interim II Phase

Design Flow (MGD): 0.125

2-Hr Peak Flow (MGD): 0.5

Estimated construction start date: June 2025

Estimated waste disposal start date: February 2026

#### C. Final Phase

Design Flow (MGD): 0.250

2-Hr Peak Flow (MGD): 1.0

Estimated construction start date: March 2030

Estimated waste disposal start date: June 2030

#### D. Current Operating Phase

Provide the startup date of the facility: N/A

### Section 2. Treatment Process (Instructions Page 43)

#### A. Current Operating Phase

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

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

See Attachment J

#### 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)
Attachment K		

#### C. Process Flow Diagram

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

Attachment: L

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

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

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

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

- Latitude: 29.112539
- Longitude: -98.942419

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: M

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

Agape Oaks WWTP will serve approximately +600 dwelling units, 545-acre residential subdivision.

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
Agape Oaks	Yancey WSC	Privately Owned	2000
		Choose an item.	
		Choose an item.	
		Choose an item.	

Section 4. Unbuilt Phases (Instructions Page 45)

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

☐ Yes ☒ No

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

☐ Yes ☐ No

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

N/A

Section 5. Closure Plans (Instructions Page 45)

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

☐ Yes ☒ No

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

☐ Yes ☐ No

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

N/A

## Section 6. Permit Specific Requirements (Instructions Page 45)

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

### A. Summary transmittal

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

☐ Yes ☒ No

If yes, provide the date(s) of approval for each phase: N/A

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.

N/A

### 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.

N/A



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*.

N/A

D. Grit and grease treatment

1. *Acceptance of grit and grease waste*

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

☐ Yes ☒ No

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

2. *Grit and grease processing*

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

N/A

3. *Grit disposal*

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

☐ Yes ☐ No

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

Describe the method of grit disposal.

N/A

4. *Grease and decanted liquid disposal*

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

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

N/A

E. Stormwater management

1. *Applicability*

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

☐ Yes ☒ No

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

☐ Yes ☒ No

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

2. *MSGP coverage*

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

☐ Yes ☐ No

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

TXR05 N/A or TXRNE N/A

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

☐ Yes ☐ No

3. *Conditional exclusion*

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

☐ Yes ☐ No

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

N/A

4. *Existing coverage in individual permit*

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

☐ Yes ☐ No

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

N/A

5. *Zero stormwater discharge*

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

☐ Yes ☐ No

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

N/A

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

6. *Request for coverage in individual permit*

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

☐ Yes ☐ No

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

intend to divert stormwater to the treatment plant headworks and indirectly discharge it to water in the state.

N/A

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

F. Discharges to the Lake Houston Watershed

Does the facility discharge in the Lake Houston watershed?

☐ Yes ☒ No

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

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

1. *Acceptance of sludge from other WWTPs*

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

☐ Yes ☐ No

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

In addition, provide the date the plant started or is anticipated to start accepting sludge, an estimate of monthly sludge acceptance (gallons or millions of gallons), an estimate of the BOD<sub>5</sub> concentration of the sludge, and the design BOD<sub>5</sub> concentration of the influent from the collection system. Also note if this information has or has not changed since the last permit action.

N/A

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

2. *Acceptance of septic waste*

Is the facility accepting or will it accept septic waste?

☐ Yes ☒ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

If yes to any of the above, provide the date the plant started or is anticipated to start accepting septic waste, an estimate of monthly septic waste acceptance (gallons or millions of gallons), an estimate of the BOD<sub>5</sub> concentration of the septic waste, and the design BOD<sub>5</sub> concentration of the influent from the collection system. Also note if this information has or has not changed since the last permit action.

N/A

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

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

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

☐ Yes ☒ No

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

N/A

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

Is the facility in operation?

☐ Yes ☒ No

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

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

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

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

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

\*TPDES permits only

†TLAP permits only

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

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

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

Facility Operator Name: Yancey Water Supply CorporationFacility Operator's License Classification and Level: TBDFacility Operator's License Number: TBD

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

### A. WWTP's Biosolids Management Facility Type

Check all that apply. See instructions for guidance

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

### B. WWTP's Biosolids Treatment Process

Check all that apply. See instructions for guidance.

- ☒ Aerobic Digestion
- ☐ Air Drying (or sludge drying beds)
- ☐ Lower Temperature Composting
- ☐ Lime Stabilization
- ☐ Higher Temperature Composting
- ☐ Heat Drying
- ☐ Thermophilic Aerobic Digestion
- ☐ Beta Ray Irradiation
- ☐ Gamma Ray Irradiation
- ☐ Pasteurization
- ☐ Preliminary Operation (e.g. grinding, de-gritting, blending)
- ☐ Thickening (e.g. gravity thickening, centrifugation, filter press, vacuum filter)
- ☐ Sludge Lagoon
- ☐ Temporary Storage ( $<$  2 years)
- ☐ Long Term Storage ( $\geq$  2 years)
- ☐ Methane or Biogas Recovery
- ☐ Other Treatment Process: [Click to enter text.](#)

### C. Biosolids Management

Provide information on the *intended* biosolids management practice. Do not enter every management practice that you want authorized in the permit, as the permit will authorize

all biosolids management practices listed in the instructions. Rather indicate the management practice the facility plans to use.

#### Biosolids Management

Management Practice	Handler or Preparer Type	Bulk or Bag Container	Amount (dry metric tons)	Pathogen Reduction Options	Vector Attraction Reduction Option
Disposal in Landfill	Off-site Third-Party Handler or Preparer	Bulk	76 TONS PER YEAR	Class B: PSRP Aerobic Digestion	Option 1: Volatile solids reduced by 38%
Choose an item.	Choose an item.	Choose an item.		Choose an item.	Choose an item.
Choose an item.	Choose an item.	Choose an item.		Choose an item.	Choose an item.

If "Other" is selected for Management Practice, please explain (e.g. monofill or transport to another WWTP): N/A

#### D. Disposal site

Disposal site name: TBD

TCEQ permit or registration number: TBD

County where disposal site is located: TBD

#### E. Transportation method

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

Name of the hauler: TBD

Hauler registration number: TBD

Sludge is transported as a:

Liquid ☐

semi-liquid ☐

semi-solid ☒

solid ☐

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

#### A. Beneficial use authorization

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

☐ Yes ☒ No

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

☐ Yes ☐ No

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



☐ Yes ☐ No

B. Sludge processing authorization

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

Sludge Composting	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Marketing and Distribution of sludge	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Sludge Surface Disposal or Sludge Monofill	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Temporary storage in sludge lagoons	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

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

☐ Yes ☐ No

## Section 11. Sewage Sludge Lagoons (Instructions Page 53)

Does this facility include sewage sludge lagoons?

☐ Yes ☒ No

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

A. Location information

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

- Original General Highway (County) Map:  
Attachment: N/A
- USDA Natural Resources Conservation Service Soil Map:  
Attachment: N/A
- Federal Emergency Management Map:  
Attachment: N/A
- Site map:  
Attachment: N/A

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

- ☐ Overlap a designated 100-year frequency flood plain
- ☐ Soils with flooding classification
- ☐ Overlap an unstable area
- ☐ Wetlands
- ☐ Located less than 60 meters from a fault
- ☐ None of the above

Attachment: N/A

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

N/A

B. Temporary storage information

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

Nitrate Nitrogen, mg/kg: N/A

Total Kjeldahl Nitrogen, mg/kg: N/A

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

Phosphorus, mg/kg: N/A

Potassium, mg/kg: N/A

pH, standard units: N/A

Ammonia Nitrogen mg/kg: N/A

Arsenic: N/A

Cadmium: N/A

Chromium: N/A

Copper: N/A

Lead: N/A

Mercury: N/A

Molybdenum: N/A

Nickel: N/A

Selenium: N/A

Zinc: N/A

Total PCBs: N/A

Provide the following information:

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

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

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

C. Liner information

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

☐ Yes ☐ No

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

N/A

D. Site development plan

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

N/A

Attach the following documents to the application.

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

E. Groundwater monitoring

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

☐ Yes ☐ No

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

Attachment: N/A

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

N/A

### B. Permittee enforcement status

Is the permittee currently under enforcement for this facility?

☐ Yes ☒ No

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

☐ Yes ☒ No

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

N/A

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

### A. RCRA hazardous wastes

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

☐ Yes ☒ No

B. Remediation activity wastewater

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

☐ Yes ☒ No

C. Details about wastes received

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

Attachment: N/A

## Section 14. Laboratory Accreditation (Instructions Page 56)

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

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

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

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

### CERTIFICATION:

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

Printed Name: Mark Ince, P.E.

Title: Authorized Agent

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

Date: 7-23-24

# 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.

The proposed treatment facility will serve a new +600 dwelling unit, 545-acre residential subdivision. Construction is tentatively schedules to start around March 2025, with the first homes coming online around June 2025 with an anticipated growth rate of 25 homes per month.

#### B. Regionalization of facilities

For additional guidance, please review [TCEQ's Regionalization Policy for Wastewater Treatment](#)<sup>1</sup>.

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: N/A

If yes, attach correspondence from the city.

Attachment: N/A

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: N/A

##### 2. *Utility CCN areas*

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

☐ Yes ☒ No

<sup>1</sup> <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: N/A

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: N

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: N

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: N/A

## 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): N/A

Average Influent Organic Strength or BOD<sub>5</sub> Concentration in mg/l: N/A

Average Influent Loading (lbs/day = total average flow X average BOD<sub>5</sub> conc. X 8.34): N/A

Provide the source of the average organic strength or BOD<sub>5</sub> concentration.

N/A



## 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 BOD <sub>5</sub> Concentration (mg/l)
Municipality		
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	0.25	0.25
TOTAL FLOW from all sources	0.25	
AVERAGE BOD <sub>5</sub> from all sources		.025

## 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: 5

Total Suspended Solids, mg/l: 5

Ammonia Nitrogen, mg/l: 2

Total Phosphorus, mg/l: 1

Dissolved Oxygen, mg/l: 3

Other: N/A

B. Interim II Phase Design Effluent Quality

Biochemical Oxygen Demand (5-day), mg/l: 5

Total Suspended Solids, mg/l: 5

Ammonia Nitrogen, mg/l: 2

Total Phosphorus, mg/l: 3

Dissolved Oxygen, mg/l: 1

Other: N/A

C. Final Phase Design Effluent Quality

Biochemical Oxygen Demand (5-day), mg/l: 5

Total Suspended Solids, mg/l: 5

Ammonia Nitrogen, mg/l: 2

Total Phosphorus, mg/l: 1

Dissolved Oxygen, mg/l: 3

Other: N/A

D. Disinfection Method

Identify the proposed method of disinfection.

☐ Chlorine:    mg/l after    minutes detention time at peak flow

Dechlorination process:

☒ Ultraviolet Light: 0.9 seconds contact time at peak flow

☐ Other:   

## 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: Q

## 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.

N/A

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

FEMA Map No. 48121Co260G (See Attachment P)

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: N/A

If no, provide the approximate date you anticipate submitting your application to the Corps: N/A

B. Wind rose

Attach a wind rose: Q

## 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): N/A

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): N/A

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

Attach a solids management plan to the application.

Attachment: R

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.

# DOMESTIC WASTEWATER PERMIT APPLICATION WORKSHEET 3.0: LAND DISPOSAL OF EFFLUENT

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

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

Identify the method of land disposal:

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

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

For existing authorizations, provide Registration Number: N/A

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

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

Table 3.0(1) – Land Application Site Crops

Crop Type & Land Use	Irrigation Area (acres)	Effluent Application (GPD)	Public Access? Y/N
Irrigations use; winter rye and Bermuda grass	134	250,000	N

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

Table 3.0(2) – Storage and Evaporation Ponds

Pond Number	Surface Area (acres)	Storage Volume (acre-feet)	Dimensions	Liner Type
1	3	33	530'x340'x15'	Clay

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

Attachment: X

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

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

☐ Yes ☒ No

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

N/A

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

FEMA Map No. 48121C0260G (See Attachment P)

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

Existing vegetation cover provides silt and velocity control

## Section 5. Annual Cropping Plan (Instructions Page 68)

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

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

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

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

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

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

Table 3.0(3) – Water Well Data

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

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

Attachment: N/A

**Section 7. Groundwater Quality (Instructions Page 69)**

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

Attachment: U

Are groundwater monitoring wells available onsite? ☐ Yes ☒ No

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

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

Attachment: N/A

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

A. Soil map

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

Attachment: V

B. Soil analyses

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

Attachment: V

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

Table 3.0(4) – Soil Data

Soil Series	Depth from Surface	Permeability	Available Water Capacity	Curve Number
See Attachment V	6"-30"			



## Section 9. Effluent Monitoring Data (Instructions Page 71)

Is the facility in operation?

☐ Yes ☒ No

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

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

Table 3.0(5) – Effluent Monitoring Data

[illegible]

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

N/A

# DOMESTIC WASTEWATER PERMIT APPLICATION

## WORKSHEET 3.1: SURFACE LAND DISPOSAL OF EFFLUENT

The following is required for new and major amendment permit applications. Renewal and minor amendment permit applications may be asked for this worksheet on a case by case basis.

### Section 1. Surface Disposal (Instructions Page 72)

Complete the item that applies for the method of disposal being used.

#### A. Irrigation

Area under irrigation, in acres: 134

Design application frequency:

hours/day 6 And days/week 7

Land grade (slope):

average percent (%): 0.55%

maximum percent (%): 0.75%

Design application rate in acre-feet/acre/year: 2

Design total nitrogen loading rate, in lbs N/acre/year: 4

Soil conductivity (mmhos/cm): 92

Method of application: spray irrigation using a center pivot sprinkler system

Attach a separate engineering report with the water balance and storage volume calculations, method of application, irrigation efficiency, and nitrogen balance.

Attachment: W

#### B. Evaporation ponds

Daily average effluent flow into ponds, in gallons per day: N/A

Attach a separate engineering report with the water balance and storage volume calculations.

Attachment: N/A

#### C. Evapotranspiration beds

Number of beds: N/A

Area of bed(s), in acres: N/A

Depth of bed(s), in feet: N/A

Void ratio of soil in the beds: N/A

Storage volume within the beds, in acre-feet: N/A

Attach a separate engineering report with the water balance and storage volume calculations, and a description of the lining.

Attachment: N/A

D. Overland flow

Area used for application, in acres: N/A

Slopes for application area, percent (%): N/A

Design application rate, in gpm/foot of slope width: N/A

Slope length, in feet: N/A

Design BOD<sub>5</sub> loading rate, in lbs BOD<sub>5</sub>/acre/day: N/A

Design application frequency:

hours/day: N/A And days/week: N/A

Attach a separate engineering report with the method of application and design requirements according to *30 TAC Chapter 217*.

Attachment: N/A

## Section 2. Edwards Aquifer (Instructions Page 73)

Is the facility subject to *30 TAC Chapter 213*, Edwards Aquifer Rules?

☐ Yes ☒ No

If yes, is the facility located on the Edwards Aquifer Recharge Zone?

☐ Yes ☐ No

If yes, attach a geological report addressing potential recharge features.

Attachment: N/A

**ATTACHMENT A**

**TCEQ CORE DATA FORM**



# TCEQ Core Data Form

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

## SECTION I: General Information

1. Reason for Submission (If other is checked please describe in space provided.)		
<input checked="" type="checkbox"/> New Permit, Registration or Authorization (Core Data Form should be submitted with the program application.)		
<input type="checkbox"/> Renewal (Core Data Form should be submitted with the renewal form)		<input type="checkbox"/> Other
2. Customer Reference Number (if issued)	<a href="#">Follow this link to search for CN or RN numbers in Central Registry**</a>	3. Regulated Entity Reference Number (if issued)
CN 600673578		RN

## SECTION II: Customer Information

4. General Customer Information		5. Effective Date for Customer Information Updates (mm/dd/yyyy)			
<input type="checkbox"/> New Customer <input type="checkbox"/> Update to Customer Information <input type="checkbox"/> Change in Regulated Entity Ownership					
<input type="checkbox"/> Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)					
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:	
Yancey Water Supply Corporation					
7. TX SOS/CPA Filing Number		8. TX State Tax ID (11 digits)		9. Federal Tax ID (9 digits)	
0044417301		17420008983		74-2000898	
10. DUNS Number (if applicable)					
11. Type of Customer:		<input checked="" type="checkbox"/> Corporation		<input type="checkbox"/> Individual	
Government: <input checked="" type="checkbox"/> City <input type="checkbox"/> County <input type="checkbox"/> Federal <input type="checkbox"/> Local <input type="checkbox"/> State <input type="checkbox"/> Other		<input type="checkbox"/> Sole Proprietorship		Partnership: <input type="checkbox"/> General <input type="checkbox"/> Limited	
12. Number of Employees		13. Independently Owned and Operated?			
<input checked="" type="checkbox"/> 0-20 <input type="checkbox"/> 21-100 <input type="checkbox"/> 101-250 <input type="checkbox"/> 251-500 <input type="checkbox"/> 501 and higher		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
14. Customer Role (Proposed or Actual) – as it relates to the Regulated Entity listed on this form. Please check one of the following					
<input checked="" type="checkbox"/> Owner <input type="checkbox"/> Operator <input type="checkbox"/> Owner & Operator <input type="checkbox"/> Other:					
<input type="checkbox"/> Occupational Licensee <input type="checkbox"/> Responsible Party <input type="checkbox"/> VCP/BSA Applicant					
15. Mailing Address:		P.O. Box 127			
City		Yancey		State TX ZIP 78886 ZIP + 4	
16. Country Mailing Information (if outside USA)				17. E-Mail Address (if applicable)	
				yanceywater@yahoo.com	
18. Telephone Number		19. Extension or Code		20. Fax Number (if applicable)	

**SECTION III: Regulated Entity Information**

21. General Regulated Entity Information (If 'New Regulated Entity' is selected, a new permit application is also required.)							
<input checked="" type="checkbox"/> New Regulated Entity <input type="checkbox"/> Update to Regulated Entity Name <input type="checkbox"/> 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.)							
Agape Oaks WWTP							
23. Street Address of the Regulated Entity:  (No PO Boxes)							
	City		State		ZIP		ZIP + 4
24. County	Medina						

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

25. Description to Physical Location:	0.11 miles north of the intersection of County Road 7612 and Interstate Highway 35 Frontage Road						
26. Nearest City	State				Nearest ZIP Code		
Devine	TX				78016		
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:		29.099722		28. Longitude (W) In Decimal:		98.945	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds		
29	5	50	98	56	54.42		
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		N/A		221320		N/A	
33. What is the Primary Business of this entity? (Do not repeat the SIC or NAICS description.)							
Wastewater Treatment							
34. Mailing Address:	PO Box 127						
	City	Yancey	State	TX	ZIP	78886	ZIP + 4
35. E-Mail Address:		yanceywater@yahoo.com					
36. Telephone Number		37. Extension or Code		38. Fax Number (if applicable)			
( 830 ) 741-5264				( 830 ) 741-8009			

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


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

## **SECTION IV: Preparer Information**

<b>40. Name:</b>	Mark Ince	<b>41. Title:</b>	Senior Engineer
<b>42. Telephone Number</b>	<b>43. Ext./Code</b>	<b>44. Fax Number</b>	<b>45. E-Mail Address</b>
( 830 ) 672-7546		( 830 ) 672-2034	mark.ince@swengineers.com

## **SECTION V: Authorized Signature**

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

<b>Company:</b>	Southwest Engineers, Inc.	<b>Job Title:</b>	Prohct Engineer
<b>Name (In Print):</b>	Mark Ince, P.E.	<b>Phone:</b>	( 830 ) 672- 7546
<b>Signature:</b>		<b>Date:</b>	7-23-24



**ATTACHMENT B**

**PLAIN LANGUAGE SUMMARY**



## 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.*

Yancey WSC (CN600673578) proposes to operate Agape Oaks WWTP (N/A), a membrane bioreactor plant. The facility will be located at 0.11 miles north of the intersection of County Road 7612 and I-35 Frontage Rd , in Devine, Medina County, Texas 78016. This is a new application to land applicate 250,000 gallons per day of domestic treated wastewater onto 134 acres . This permit will not authorize a discharge of pollutants into water in the state.

Discharges from the facility are expected to contain five-day biochemical oxygen demand (BOD5), total suspended solids (TSS), ammonia nitrogen (NH3-N), phosphorus (P), and Escherichia coli. Domestic wastewater will be treated by fine screens, equalization basin, anoxic basins, aeration basins, membrane basins, UV contact chambers, and a sludge press.

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

### AGUAS RESIDUALES DOMESTICAS /AGUAS PLUVIALES

*El siguiente resumen se proporciona para esta solicitud de permiso de calidad del agua pendiente que está siendo revisada por la Comisión de Calidad Ambiental de Texas según lo requerido por el Capítulo 39 del Código Administrativo de Texas 30. La información proporcionada en este resumen puede cambiar durante la revisión técnica de la solicitud y no es una representación ejecutiva fedérale de la solicitud de permiso.*

Yancey WSC (CN600673578) propone operar Agape Oaks WWTP N/A, un 0.11 millas al norte de la intersección de County Road 7612 y I-35 Frontage Rd . La instalación estará ubicada en Devine, en Medina, Condado de 78016, Texas 78016. Esta es una nueva solicitud para aplicar en tierra 250,000 galones por día de aguas residuales domésticas tratadas en 134 acres. . Este permiso no autorizará una descarga de contaminantes en el agua en el estado.

Se espera que las descargas de la instalación contengan Demanda bioquímica de oxígeno (BOD5) de cinco días, sólidos suspendidos totales (TSS), nitrógeno amoniacal (NH3-N), fósforo (P) y Escherichia coli. . Aguas residuales domésticas . estará tratado por cribas finas, cubetas de ecualización, cubetas anóxicas, cubetas de aireación, cubetas de membrana, cámaras de contacto UV y prensa de lodos. .

**ATTACHMENT C**

**PUBLIC INVOLVMENT PLAN**



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.

### Section 3. Application Information

#### Type of Application (check all that apply):

Air ☐ Initial ☐ Federal ☐ Amendment ☐ Standard Permit ☐ Title V  
Waste ☐ Municipal Solid Waste ☐ Industrial and Hazardous Waste ☐ Scrap Tire  
☐ Radioactive Material Licensing ☐ Underground Injection Control

#### Water Quality

☐ Texas Pollutant Discharge Elimination System (TPDES)  
☒ Texas Land Application Permit (TLAP)  
☐ State Only Concentrated Animal Feeding Operation (CAFO)  
☐ Water Treatment Plant Residuals Disposal Permit  
☐ Class B Biosolids Land Application Permit  
☐ Domestic Septage Land Application Registration

#### Water Rights New Permit

☐ New Appropriation of Water  
☐ New or existing reservoir

#### Amendment to an Existing Water Right

☐ Add a New Appropriation of Water  
☐ Add a New or Existing Reservoir  
☐ Major Amendment that could affect other water rights or the environment

### Section 4. Plain Language Summary

Provide a brief description of planned activities.

Yancey WSC (CN600673578) proposes to operate Agape Oaks WWTP (N/A), a membrane bioreactor plant. The facility will be located at 0.11 miles north of the intersection of County Road 7612 and I-35 Frontage Rd, in Devine, Medina County, Texas 78016. This is a new application to land applicate 250,000 gallons per day of domestic treated wastewater onto 134 acres. This permit will not authorize a discharge of pollutants into water in the state.

Discharges from the facility are expected to contain five-day biochemical oxygen demand (BOD5), total suspended solids (TSS), ammonia nitrogen (NH3-N), phosphorus (P), and Escherichia coli. Domestic wastewater will be treated by fine screens, equalization basin, anoxic basins, aeration basins, membrane basins, UV contact chambers, and a sludge press.

## Section 5. Community and Demographic Information

Community information can be found using EPA's EJ Screen, U.S. Census Bureau information, or generally available demographic tools.

**Information gathered in this section can assist with the determination of whether alternative language notice is necessary. Please provide the following information.**

(City)

Devine Tx.

(County)

Medina

(Census Tract)

Please indicate which of these three is the level used for gathering the following information.

☒

City

☐

County

☐

Census Tract

(a) Percent of people over 25 years of age who at least graduated from high school

65.9%

(b) Per capita income for population near the specified location

\$75,730

(c) Percent of minority population and percent of population by race within the specified location

White - 73.8%   Black or African American - 2.9%   Asian - 3.1%  
Other 9.1%   Two or more races - 11.1%

(d) Percent of Linguistically Isolated Households by language within the specified location

Spanish - 42.5%   Indo- European languages - 6.0%

(e) Languages commonly spoken in area by percentage

English - 67.1%   Spanish - 30.4%   Indo- European languages - 2.5%

(f) Community and/or Stakeholder Groups

No Known

(g) Historic public interest or involvement

No Known

## Section 6. Planned Public Outreach Activities

(a) Is this application subject to the public participation requirements of Title 30 Texas Administrative Code (30 TAC) Chapter 39?

☒ Yes ☐ No

(b) If yes, do you intend at this time to provide public outreach other than what is required by rule?

☐ Yes ☒ No

If Yes, please describe.

**If you answered "yes" that this application is subject to 30 TAC Chapter 39, answering the remaining questions in Section 6 is not required.**

(c) Will you provide notice of this application in alternative languages?

☒ Yes ☐ No

**Please refer to Section 5. If more than 5% of the population potentially affected by your application is Limited English Proficient, then you are required to provide notice in the alternative language.**

If yes, how will you provide notice in alternative languages?

- ☒ Publish in alternative language newspaper
- ☐ Posted on Commissioner's Integrated Database Website
- ☐ Mailed by TCEQ's Office of the Chief Clerk
- ☐ Other (specify)

(d) Is there an opportunity for some type of public meeting, including after notice?

☐ Yes ☒ No

(e) If a public meeting is held, will a translator be provided if requested?

☐ Yes ☒ No

(f) Hard copies of the application will be available at the following (check all that apply):

- ☐ TCEQ Regional Office ☐ TCEQ Central Office
- ☒ Public Place (specify) Driscoll Public Library

## Section 7. Voluntary Submittal

For applicants voluntarily providing this Public Involvement Plan, who are not subject to formal public participation requirements.

Will you provide notice of this application, including notice in alternative languages?

☐ Yes ☐ No

What types of notice will be provided?

- ☐ Publish in alternative language newspaper
- ☐ Posted on Commissioner's Integrated Database Website
- ☐ Mailed by TCEQ's Office of the Chief Clerk
- ☐ Other (specify)



**ATTACHMENT D**

**LEASE AGREEMENT**

**General Warranty Deed**

**Date:** June 7, 2022

**Grantor:** Morales Feed Lots, Inc., a Texas Corporation

**Grantor's Mailing Address:**

Morales Feed Lots, Inc.  
P.O. Box 488  
Devine, TX 78016

**Grantee:** Agape Oaks, LLC, a Texas Limited Liability Company

**Grantee's Mailing Address:**

Agape Oaks, LLC  
6727 Wagner Way  
San Antonio, Texas 78256-2346

**Consideration:** Cash and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged.

**Property (including any improvements):**

**Tract A:**

784.65 acres in the name of Morales Feed Lots, Inc. out of the following surveys; B, S. & F. SURVEY NO.15, ABSTRACT NO. 149; J. SPEED SURVEY NO. 16, ABSTRACT NO. 1340; J. SPEED SURVEY NO. 16-1/2, ABSTRACT NO. 1236; J. HILLEN MEYER SURVEY NO. 26, ABSTRACT NO. 498; J. HALLER SURVEY NO. 37, ABSTRACT NO. 519; J. TREVINO SURVEY NO. 551, ABSTRACT NO. 942; Medina County, Texas, and being out of and a portion of that 975.550 acres described in UCC Financing Statement in Document No. 2015001252, Official Public Records; LESS AND EXCEPT therefrom 0.021 acre conveyed out of said 975.550 acre parent tract to Series 7 of DLRH Holdings, LLC by deed recorded in Document No. 2022000329, Official Public Records, Tract 2; and said 784.65 acre tract being more particularly described by metes and bounds, with bearings based on Geodetic North by GPS observations, in Exhibit "A" attached hereto and made a part hereof for all purposes.

**Tract B:**

22-0414mEI

Lots 1-4, Lots 6-12 and Lots 15-16 of Agape South, an Addition in Medina County, Texas, including the Private Road according to the map or plat thereof recorded in Document No. 2021008423, Plat Cabinet 31 Slide 974, of the Plat Records of Medina County, Texas, SAVE AND EXCEPT and excluded from this conveyance the following lots having been previously conveyed: Lot Nos. 6, 13, and 14.

**Reservations from Conveyance:** None

**Exceptions to Conveyance and Warranty:**

To the extent they validly exist:

1. Easements and Rights-of-Way to Central Power and Light Company of record in Volume 117, Page 418, Volume 118, Page 47 and Volume 118, Page 48, Deed Records of Medina County, Texas.
2. Easements and Rights-of-Way to Southwestern Bell Telephone Company of record in Volume 176, 140, Volume 176, Page 177, Volume 176, Page 178, Volume 176, Page 323, Volume 176, Page 412, Volume 176, Page 581 and Volume 222, Page 225, Deed Records of Medina County, Texas.
3. Channel Easements to the State of Texas of record in Volume 208, Page 678 and Volume 211, Page 265, Deed Records of Medina County, Texas.
4. Right-of-Way Easement granted to Medina Electric Cooperative, Inc. by Instruments of record in Volume 251, Page 506 and Volume 288, Page 890, Deed Records of Medina County, Texas.
5. Right-of-Way Easement granted to Medina Electric Cooperative, Inc. by Instrument of record in Volume 248, Page 503, Deed Records of Medina County, Texas.
6. Right-of-Way Easement granted to Medina Electric Cooperative, Inc. by instrument of record in Volume 147, Page 513. Official Public Records of Medina County, Texas.
7. Electric Distribution Power Line Easement granted to Medina Electric Cooperative, Inc. as set out in instrument recorded in Volume 300, Page 593, Official Public Records of Medina County, Texas.

8. Right-of-Way Easement as set out in instrument recorded in Volume 606, Page 103, Official Public Records of Medina County, Texas.

Tract B Only:

9. Terms and provisions of the Declaration for Agape South Architectural Control Committee regarding assessment liens, recorded In Document No. 2021010884, Official Public Records of Medina County, Texas.

10. Restrictive Covenants and all terms, provisions, covenants, agreements, rights, dedications, easements, building setback lines, restrictions and conditions, as set out in Document No. 2021008423, Plat Cabinet 3, Slide 974, of the Plat Records of Medina County, Texas; and Document No. 2021010884, Official Public Records of Medina County, Texas.

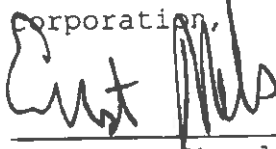
11. Right-of-Way as shown in instrument from Morales Feed Lots, Inc. to Medina Electric Cooperative, Inc. dated July 29, 2021, recorded under Clerk's File No. 2021008763, Official Public Records of Medina County, Texas.

Grantor, for the Consideration and subject to the Reservations from Conveyance and the Exceptions to Conveyance and Warranty, grants, sells, and conveys to Grantee the Property, together with all and singular the rights and appurtenances thereto in any way belonging, to have and to hold it to Grantee and Grantee's heirs, successors, and assigns forever. Grantor binds Grantor and Grantor's heirs and successors to warrant and forever defend all and singular the Property to Grantee and Grantee's heirs, successors, and assigns against every person whomsoever lawfully claiming or to claim the same or any part thereof, except as to the Reservations from Conveyance and the Exceptions to Conveyance and Warranty.

The provisions of the Ernest Money Contract dated effective April 4, 2022, and Addendum attached thereto shall survive closing.

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

Morales Feed Lots, Inc., a Texas  
corporation.




Ernest Morales, President &  
Secretary

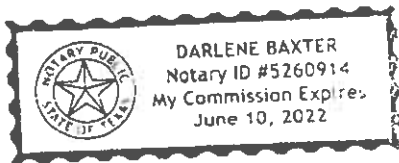
STATE OF TEXAS )

COUNTY OF MEDINA )

This instrument was acknowledged before me on  
June 7, 2022, by Ernest Morales, as the President &  
Secretary of Morales Feed Lots, Inc., a Texas corporation, on  
behalf of said corporation.



Notary Public, State of Texas  
My commission expires: \_\_\_\_\_



Agreed and Accepted:

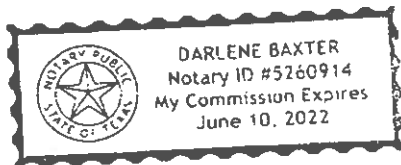
Agape Oaks, LLC, a Texas Limited Liability Company

By: Samuel H. Vester, Jr.  
Samuel H. Vester, Jr., as Manager of TSJ Management, LLC,  
general partner of TSJ Properties, LTD, Managing Member

STATE OF TEXAS )

COUNTY OF MEDINA )

This instrument was acknowledged before me on June 7,  
2022, by Samuel H. Vester, Jr. as Manager of TSJ Management, LLC,  
general partner of TSJ Properties, Ltd. Managing Member of Agape  
Oaks, LLC., on behalf of said Company



Darlene Baxter  
Notary Public, State of Texas  
My commission expires: \_\_\_\_\_

PREPARED IN THE OFFICE OF:

Thomas J. Rothe, P.C.  
1510 Avenue M, Suite 101  
Hondo, Texas 78861  
Tel: (830) 741-4141  
Fax: (830) 426-4141

AFTER RECORDING RETURN TO: **AFTER RECORDING RETURN TO:**  
Law Office of Anna Wharton **Texas Heritage Land Company**  
808 London Street #2  
Castroville, Texas 78009  
**1614 ...**  
**Hondo, Texas 78861**

## Continuation of Schedule A

4. Legal description of land:  
Tract A

784.65 acres in the name of Morales Feed Lots, Inc. out of the following surveys;

B. S. & F. SURVEY NO. 15, ABSTRACT NO. 149; J. SPEED SURVEY NO. 16, ABSTRACT NO. 1340; J. SPEED SURVEY NO. 16-1/2, ABSTRACT NO. 1236; J. HILLENMEYER SURVEY NO. 26, ABSTRACT NO. 498; J. HALLER SURVEY NO. 37, ABSTRACT NO. 519; J. TREVINO SURVEY NO. 551, ABSTRACT NO. 942;

Medina County, Texas, and being out of and a portion of that 975.550 acres described in Exhibit "A" of UCC Financing Statement in Document No. 2015001252, Official Public Records; LESS AND EXCEPT therefrom 0.021 acre conveyed out of said 975.550 acre parent tract to Series 7 of DLRH Holdings, LLC by deed recorded in Document No. 2022000329, Official Public Records, Tract 2; and said 784.65 acre tract being more particularly described by metes and bounds, with bearings based on Geodetic North by GPS observations, as follows:

COMMENCING at an iron rod found at a fence corner on the northwest line of Interstate Highway 35 for the south corner of said 975.550 acre parent tract, also being the south corner of Agape South Subdivision, Plat Cabinet 3, Slide 974, Plat Records, and also being the east corner of that 994.363 acre tract to NAFTA Freeway Joint Venture in Volume 593, Page 365, Official Public Records;

THENCE northeasterly along the northwest line of IH 35 and southeast line of Agape South and of said parent tract the following 3 courses:

N 48°52'03" E 40.38 feet to a broken concrete monument for an angle point;  
N 44°43'39" E 200.56 feet to a concrete monument for an angle point;  
And N 49°01'04" E 666.82 feet to an iron rod found for the east corner of said Agape South Subdivision and the south corner and POINT OF BEGINNING of the herein described 784.65 acre tract (Tract A);

THENCE northwesterly along the north line of Agape South the followings 2 courses:

N 40°55'13" W 1173.60 feet to an iron rod found for angle point;  
N 77°24'07" W 1359.82 feet to an iron rod found in fence on the west line of said parent tract and east line of said NAFTA tract for the northwest corner of Agape South and a southwest corner of this tract;

THENCE N 04°29'06" E along the west line of said parent tract and east line of said NAFTA tract, generally along a fence, 4495.25 feet to a fence corner post for the northeast corner of said NAFTA tract an interior corner of said parent tract, and an angle point in the south line of that 76.39 acre tract conveyed from Morales Feed Lots to KEVIN & LUCRETIA MARMOR in Document No. 2021001517, Official Public Records, for a northwest corner of this tract;

THENCE S 84°12'59" E along the south line of said Marmor tract 274.88 feet to a 10 inch fence corner post for the southeast corner of said Marmor tract and an interior corner of this tract;

THENCE N 04°22'13" E along the east line of said Marmor tract 1384.93 feet to an iron rod set at a fence corner on a north line of said parent tract, and south line of that 858.52 acre tract conveyed to SERIES 7 OF DRLH HOLDINGS, LLC in Document No. 2019003329, Official Public Records for the northeast corner of said Marmor tract and a northwest corner of this tract;

THENCE S 85°47'04" E along the north line of said parent tract and south line of said Series 7 tract 2469.93 feet to an iron rod found at a fence corner for the southeast corner of said Series 7 tract and an interior corner of said parent tract and this tract;

THENCE N 04°16'04" E along the east line of Series 7 tract and west line of said parent tract 1958.36 feet to an iron rod found for the southwest corner of a 60 foot wide roadway tract conveyed to SERIES 7 OF DRLH HOLDINGS, LLC in

## Continuation of Schedule A

Document No. 2019003329, Official Public Records for the northwest corner of this tract;

THENCE easterly along the south line of said 60 foot roadway tract the followings 2 courses:

S 85°18'37" E 734.00 feet to an iron rod found for angle point;  
S 85°24'55" E 144.18 feet to an iron rod set for the west corner of said 0.021 acre tract conveyed to Series 7 of DRLH Holdings, LLC to adjust the common boundary to the existing fence line;

THENCE easterly along a fence the following 2 courses:

S 85°07'09" E 395.73 feet to a 2 inch pipe fence post for an angle point;  
S 85°43'06" E 641.66 feet to an iron rod set for the east corner of said 0.021 acre tract for an angle point;

THENCE S 85°36'33" E along the south line of said 60 foot roadway tract 642.56 feet to an iron rod found for an interior corner of said roadway tract and a northeast corner of this tract;

THENCE S 04°12'27" W along the west line of said roadway tract 2961.83 feet to an iron rod found in fence for the northwest corner of that 13.452 acre tract to Rosa F. Moreno in Document No. 2017002919, Official Public Records for an upper southeast corner of this tract;

THENCE N 86°11'20" W along the north line of said Moreno tract 1366.02 feet to an iron rod found for the northwest corner of said Moreno tract and an interior corner of this tract;

THENCE S 04°19'58" W along the west line of said Moreno tract 361.08 feet to an iron rod found near a fence for the southwest corner of said Moreno tract, an interior corner of this tract;

THENCE S 86°11'17" E along the south line of said Moreno tract 187.14 feet to an iron rod found for the northwest corner of a 30 foot wide roadway tract of Moreno;

THENCE S 01°51'43" W along the west end of said 30 foot roadway 30.02 feet to an iron rod found for the southwest corner of said 30 foot roadway;

THENCE easterly and southerly along the south and west lines of said 30 foot roadway of Moreno the following 15 courses:

S 86°08'57" E 430.75 feet to an iron rod found;  
S 86°11'04" E 387.68 feet to an iron rod set;  
S 80°09'48" E 50.16 feet to an iron rod set;  
S 63°32'34" E 89.81 feet to an iron rod set;  
S 52°30'13" E 60.18 feet to an iron rod set;  
S 30°20'13" E 57.33 feet to an iron rod set;  
S 08°27'34" E 61.23 feet to an iron rod set;  
S 00°18'56" E 242.27 feet to an iron rod set;  
S 02°42'30" E 1236.43 feet to an iron rod set;  
S 06°41'16" E 38.52 feet to an iron rod set;  
S 17°23'04" E 31.70 feet to an iron rod set;  
S 23°04'14" E 252.16 feet to an iron rod set;  
S 28°06'43" E 45.09 feet to an iron rod set;  
S 38°57'14" E 45.09 feet to an iron rod set;  
S 44°13'28" E 45.71 feet to an iron rod set on the northwest line of IH 35 for the southwest corner of said 30 foot roadway tract and a lower southeast corner of this tract;

THENCE southwesterly along the northwest line of IH 35 the following 6 courses;



Continuation of Schedule A

S 46°07'47" W 117.38 feet to a concrete monument for an angle point;  
S 48°59'58" W 999.29 feet to a concrete monument for an angle point;  
S 44°45'55" W 201.43 feet to a concrete monument for an angle point;  
S 49°01'08" W 1600.83 feet to a concrete monument for an angle point;  
S 53°14'09" W 199.63 feet to a concrete monument for an angle point;  
And S 49°01'35" W 1733.86 feet to the POINT OF BEGINNING.

NOTE: THE COMPANY IS PROHIBITED FROM INSURING THE AREA OR QUANTITY OF LAND DESCRIBED HEREIN. ANY STATEMENT IN THE ABOVE LEGAL DESCRIPTION OF THE AREA OR QUANTITY OF LAND IS NOT A REPRESENTATION THAT SUCH AREA OR QUANTITY IS CORRECT, BUT IS MADE ONLY FOR INFORMATIONAL AND/OR IDENTIFICATION PURPOSES AND DOES NOT OVERRIDE ITEM 2 OF SCHEDULE B HEREOF.

Tract B

All of Agape South, an Addition in Medina County, Texas, including the Private Road according to the map or plat thereof recorded in Document No. 2021008423, Plat Cabinet 3, Slide 974, of the Plat Records of Medina County, Texas, SAVE AND EXCEPT the following lots having been previously conveyed: Lot Nos. 6, 13, and 14.



\*VG-97-2022-2022006078\*

**Medina County**  
**Gina Champion**  
**Medina County Clerk**

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**Instrument Number: 2022006078**

Real Property Recordings

Recorded On: June 08, 2022 03:04 PM

Number of Pages: 9

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**" Examined and Charged as Follows: "**

Total Recording: \$54.00

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**\*\*\*\*\* THIS PAGE IS PART OF THE INSTRUMENT \*\*\*\*\***

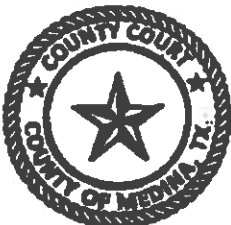
Any provision herein which restricts the Sale, Rental or use of the described REAL PROPERTY because of color or race is invalid and unenforceable under federal law.

**File Information:**

Document Number: 2022006078  
Receipt Number: 20220608000053  
Recorded Date/Time: June 08, 2022 03:04 PM  
User: Santiago E  
Station: CCMARRIAGE1

**Record and Return To:**

TEXAS HERITAGE TITLE COMPANY



**STATE OF TEXAS**  
**Medina County**

**I hereby certify that this Instrument was filed in the File Number sequence on the date/time printed hereon, and was duly recorded in the Official Records of Medina County, Texas**

Gina Champion  
Medina County Clerk  
Medina County, TX

**AMENDMENT NO. 1 TO**  
**LAND USE LICENSE AGREEMENT**

THIS AMENDMENT NO. 1 TO THE LAND USE LICENSE AGREEMENT ("Amendment No. 1") is entered and executed by and between Agape Oaks, LLC, a Texas limited liability company ("Agape"), and Yancey Water Supply Corporation, a Texas non-profit water supply corporation ("Yancey") (Agape and Yancey are each a "Party," and collectively, "Parties"), and shall be made and effective on the Effective Date, which date shall be the date upon which this Amendment No. 1 has been signed and executed by both the Parties.

**RECITALS**

WHEREAS, the Parties have entered the Land use Licenses Agreement ("Agreement"), bearing the Effective Date of April 9, 2024;

WHEREAS, the Agreement provides Yancey with a non-exclusive, non-transferable license to use the land situated within Agape Oaks Subdivision ("Land") for the sole purposes of land application of sewage effluent in accordance with 30 Texas Administrative Code § 309.20 ("TLAP License"), effluent storage ("Storage License"), and use of roads and easements now existing or existing in the future to access Yancey's facilities and the Land ("Access License");

WHEREAS, the Parties now desire to modify the boundaries within which Yancey shall be licensed to use for the purposes of land application of sewage effluent in accordance with the TLAP License; and

WHEREAS, Section 8 of the Agreement provides that the Agreement may be modified by written agreement executed by the Parties.

NOW, THEREFORE, in consideration of the mutual covenants and agreements contained herein, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree as follows:

**AMENDMENT NO. 1**

**Section 1 of the Agreement is hereby repealed in its entirety, and replaced with the following language:**

License Grant: Agape hereby grants to Yancey a non-exclusive, non-transferable license to use the land situated within Agape Oaks Subdivision, more particularly described as "Tract A" in that June 7, 2022, General Warranty Deed from Moreles Feed Lots, Inc to Agape Oaks, LLC, and recorded in the Official Deed Records of Medina County, Texas as Document No. 2022006078, incorporated by reference, ("Land") for the sole purposes of the land application of sewage effluent in accordance with 30 Texas Administrative Code § 309.20 ("TLAP License"), effluent storage ("Storage License"), and use of roads and easements now existing or existing in the future on the Land to access Yancey's facilities and the Land ("Access License"). Yancey's licenses as described in this section shall extend to the area described on the attached Agape

Oaks Wastewater Treatment Plant map as the "Effluent Disposal Boundary," attached hereto as Exhibit "A" and incorporated by reference.

- a) Yancey's TLAP License shall be confined to those areas characterized as the residential lawns, recreational and park land, green belts, greens space, undeveloped land, agricultural land, and the Effluent Disposal Boundary.
- b) Yancey's Storage License shall be confined to that area characterized as the Proposed 33-Acre "Holding Pond" on Exhibit "A."

**Section 14 of the Agreement is hereby repealed in its entirety, and replaced with the following language:**

Entire Agreement: The Agreement as amended by this Amendment No. 1 constitutes the entire understanding and agreement between the parties with respect to the subject matter hereof and supersedes all prior negotiations, understandings, and agreements, whether written or oral, between the parties with respect thereto, provided however that this Agreement as amended my Amendment No. 1 shall have not effect on the Surface Lease Agreement, effective January 5, 2024 by and between the Parties.

**Section 15 of the Agreement is hereby repealed in its entirety, and replaced with the following language:**

Counterparts. This Agreement and any amendments thereto may be executed in any number of counterparts, each of which, when executed and delivered, shall be deemed to be an original instrument, but such counterparts shall together constitute one and the same instrument.

*(This space is intentionally left blank.)*

**EXECUTED to be effective on the date signed by both Parties, and the Effective Date shall be the date of the last signature obtained.**

Agape Oaks, LLC, a Texas limited liability company

By: Tomasia Torres

Name: Tomasia Torres

Title: manager

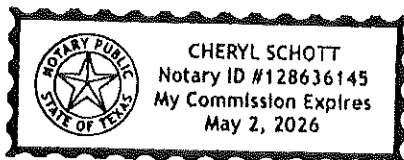
THE STATE OF TEXAS §

§

COUNTY OF MEDINA §

This instrument was acknowledged before me on the 13 day of August, 2024, by Tomasia Torres, of Agape Oaks, LLC, a Texas limited liability company, on behalf of said company.

(Seal)



Cheryl Schott

Notary Public in and for the State of Texas

My commission expires: May 2, 2026

Yancey Water Supply Corporation, a  
Texas non-profit corporation,

By: Temple Mangold

Temple Mangold  
General Manager

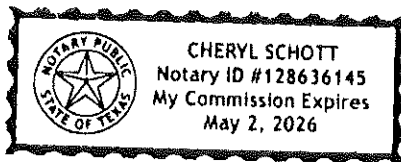
THE STATE OF TEXAS §

§

COUNTY OF MEDINA §

This instrument was acknowledged before me on the 15 day of August 2024 by Temple Mangold, General Manager of Yancey Water Supply Corporation, a Texas non-profit corporation, on behalf of said corporation.

(Seal)

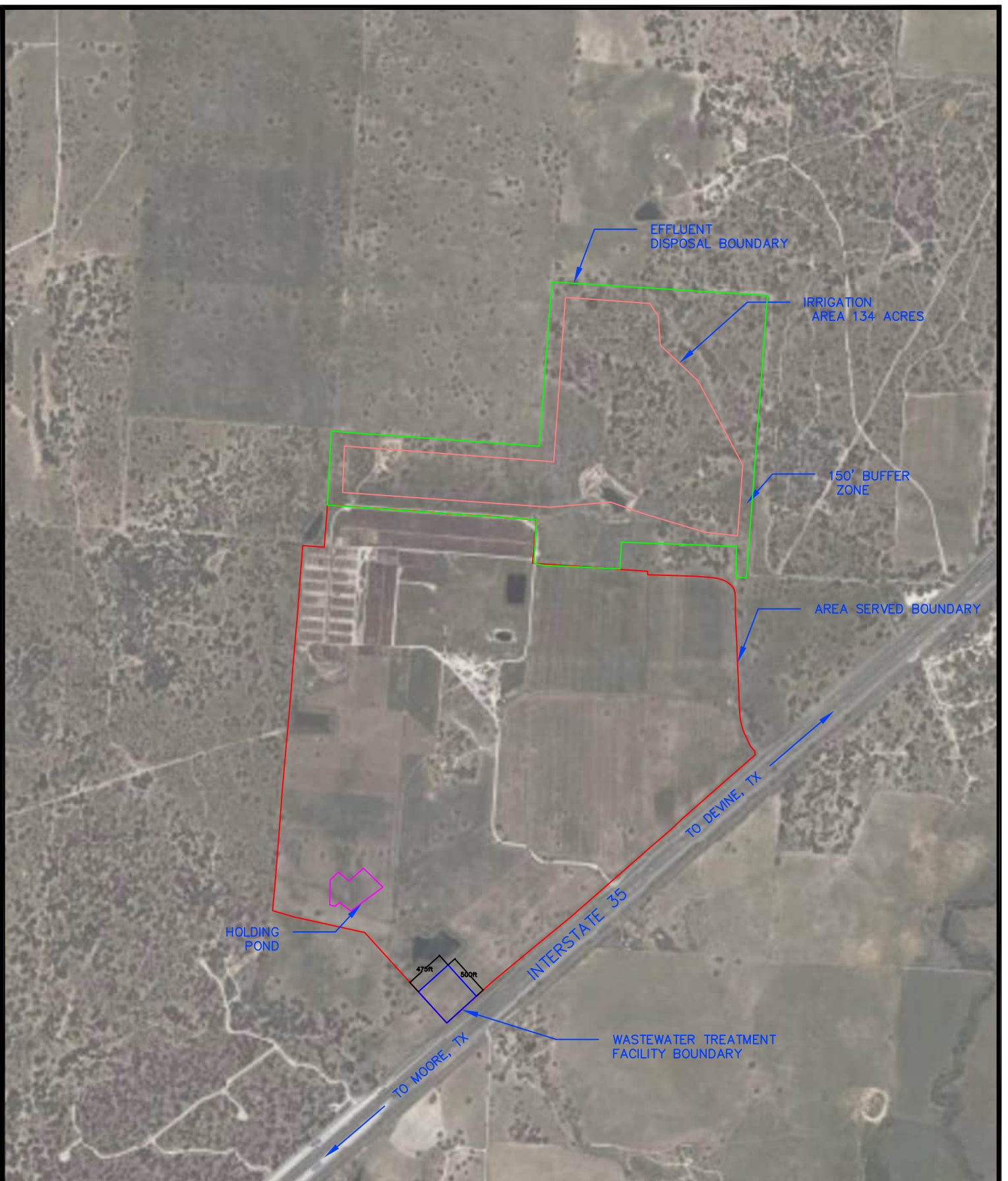


Cheryl Schott

Notary Public in and for the State  
of Texas

My commission  
expires: May 2, 2026





SCALE: NO SCALE

DRAWN BY: JMT DATE: 03/24

CHECKED BY: MAI DATE: 03/24

FILE: 0339-032-22

## EXHIBIT A

AGAPE OAKS WASTE WATER TREATMENT PLANT

**AGAPE OAKS**  
YANCEY, TEXAS



**Southwest  
Engineers**

TBPE NO. F-1909  
www.sweengineers.com

GONZALES

307 Saint Lawrence Street  
P: 830.679.7541 F: 830.679.1034

BUDA

205 Cimarron Park Loop, Ste. B  
P: 817.312.4336

FASTEROP

704 Main Street, #101  
P: 817.312.4336



## **SURFACE LEASE AGREEMENT**

THIS SURFACE LEASE AGREEMENT ("Agreement") is made and entered into on the Effective Date stated in Article One by the undersigned parties in their respective capacities and is a lease of the Premises until the termination date of this Agreement. Nothing in this Agreement shall be construed to be the sale of any tangible or intangible property.

### **ARTICLE ONE TERMS**

Effective Date: January 5, 2024

Lessor: Agape Oaks, LLC, a Texas limited liability company

Lessor's Address: 6727 Wagner Way, San Antonio, Texas 78256

Lessee: Yancey Water Supply Corporation, a Texas non-profit water supply corporation

Lessee's Mailing Address: P.O. Box 127, Yancey, Texas 78886

Premises: A rectangular tract of real property measuring 475 feet x 500 feet, the southwestern-most and southeastern-most boundaries of which form the southeastern corner of the Agape Oaks Subdivision, said southwestern most boundary running 500 feet perpendicular from Interstate Highway 35 in a northwesterly direction along the northwestern boundary of the Agape South Subdivision, Plat Cabinet 3, Slide 974, Document No. 2021008423 of the Plat Records of Medina County, Texas, and said southwestern-most boundary running 475 feet northeast from the southeastern corner of Agape Oaks Subdivision along the northwest line of Interstate Highway 35 ("Premises"). The Premises' location is depicted on the Exhibit "A," attached hereto and incorporated by reference.

Permitted Use: Lessee may, but is not obligated to, use the Property to construct, operate, and maintain a wastewater treatment plant and appurtenant facilities, wastewater collection lines and any other necessary utilities (collectively the "WWTP").

Utility Easements: Lessor agrees to grant Lessee any and all easements on and throughout the Premises and the Agape Oaks Subdivision required to connect the wastewater treatment plant and appurtenant facilities, including any and all wastewater collection lines ("Utility Easements").

Other Easements and Access Agreements: Lessor agrees to execute and grant any future easements or access agreements required by Lessor in its provision of retail wastewater services to the Agape Oaks Subdivision and surrounding areas, including over any adjacently located land to be used for a detention pond.

Rent (Monthly): Rent shall be ten dollars (\$10.00) per month, beginning on the Effective Date. Payment shall be made on an annual basis, with the initial payment due on the Effective Date, and subsequent payments made on the 1st day of January for the year prior to the twelve-month period for which the rent is due.

Commencement Date: The "Commencement Date," shall be January 5, 2024.

Termination Date: This Agreement shall automatically terminate upon the earlier of (1) the conveyance of the Property by deed from Lessor to Lessee, (2) agreement in writing by the Parties, (4) under 4.03 of this Agreement; or (3) December 31, 2029, unless otherwise agreed in writing ("Termination Date").

### **ARTICLE TWO DEFINITIONS AND INTERPREATION**

**2.01. Definitions.** The following words and terms will have the following meanings unless the context dictates otherwise:

*"Best Efforts"* means the efforts that a prudent person would use in similar circumstances to ensure that the person achieves a result as expeditiously as possible, provided, however, that an obligation to use Best Efforts under this Agreement does not require the person subject to that obligation to take actions that would result in a materially adverse position for that person.

*"Environmental Law"* means any legal requirements designed to minimize, prevent, punish, or remedy the consequences of actions that damage or threaten the environment or public health and safety.

*"Force Majeure"* means and refers to acts of God; strikes, lockouts, or other industrial disturbances; acts of public enemies; orders of any kind of the government of the United States, the State of Texas, or any civil or military authority; insurrections; riots; epidemics; landslides; lightning, earthquakes; fires; hurricanes; storms; floods; washouts; droughts; arrests; restraint of government and people; civil disturbances; explosions; breakage or accidents to machinery, pipelines, pumps, canals, or other facilities; partial or entire failure of the wastewater system; or any other cause not reasonably within the control of the party claiming such inability.

*"Lessee"* means Lessee and its agents, employees, invitees, licensees, or visitors.

*"Lessor"* means Lessor and its agents, employees, invitees, licensees, or visitors.

*"Municipal Domestic Wastewater Permit"* means a permit authorizing a Texas Pollutant Discharge Elimination System or a Texas Land Application Permit issued by the Texas Commission on Environmental Quality.

*"Party"* means Lessor or Lessee depending on context, and *"Parties"* means Lessor and Lessee.

*"Rent"* means base rent plus any other sums of money due Lessor from Lessee.

**2.02. Article and Section Headings.** The headings or titles of the articles and sections of this Agreement are solely for convenience of reference and shall not affect the meaning, construction, or effect of its provisions.

**2.03. Interpretations.** The singular form of any word used in this Agreement shall include the plural, and vice-versa, unless the context requires otherwise. The use of a word of any gender in this Agreement shall include the other gender, unless the context requires otherwise. This Agreement and all of its terms and provisions shall be construed under the laws of the State of Texas and in a manner so as to effectuate its purposes as stated in the recitals to this Agreement and to sustain its validity.

### **ARTICLE THREE**

#### **LESSEE AND LESSOR OBLIGATIONS AND RESTRICTIONS**

**3.01. Lessee's Obligations.** Lessee agrees to:

- 1) Lease the Premises for the entire term beginning on the Commencement Date and ending on the Termination Date.
- 2) Accept the Premises in their present condition "as is."
- 3) Obey all laws, ordinances, orders, and rules and regulations applicable to the use, condition, and occupancy of the Premises.
- 4) Pay the Rent in accordance with the pay schedule as established in the Rent paragraph above.
- 5) Pay a late charge of five (5) percent of any rent that Lessor does not receive by the twelfth day of the month in which it is due.
- 6) Be responsible for repairs, replacements, and maintenance as specified in section 4.11.
- 7) Maintain property and casualty insurance and general commercial liability insurance as specified in section 4.18.
  - a. Deliver certificates of insurance to Lessor before the Commencement Date and thereafter when Lessor requests or requires.
  - b. Indemnify, defend, and hold Lessor harmless from any loss, attorneys' fees, expenses, or claims arising out of Lessee's use of the Premises.
- 8) Quickly and promptly vacate the Premises and return to Lessor all keys to the Premises upon termination of this Agreement.
- 9) On request, execute an estoppel certificate that states the Commencement and Termination Dates of the Agreement, identifies any amendments to the Agreement, describes any rights to extend the lease term or purchase rights, lists defaults by Lessor, and provides any other information reasonably requested.

- 10) Pay all utility bills for the Premises, including without limitation: electric, gas, water, sewage, garbage, and telephone.

**3.02. Lessee's Restrictions.** Lessee agrees not to:

- 1) Use the Premises for any purpose other than that is stated in this Agreement without Lessor's prior written consent.
- 2) Create a nuisance; interfere with any other Lessee's normal business operations or Lessor's management of the surface estate or Lessor's adjacent property; permit any waste; or use the Premises in any way that is extra hazardous, would increase insurance premiums, or would void insurance on the Premises.
- 3) Assign this Agreement without Lessor's prior express written consent.
- 4) Sublease the Premises or any portion of the Premises without Lessor's prior express written consent. Lessee, however, may sublease the Premises or any portion of the Premises to an entity that Lessee owns or controls without Lessor's prior written consent.
- 5) Open accounts in Lessor's name.

**3.03. Lessor's Obligations.** Lessor agrees to:

- 1) Lease to Lessee the Premises for the entire term beginning on the Commencement Date and ending on the Termination Date.
- 2) Obey all laws, ordinances, orders, and rules and regulations applicable to the use, condition, and occupancy of the Premises.
- 3) Allow Lessee to remove all personal property, additions, and fixtures, including buildings and any chain link fences that Lessee may have erected during the terms of this Agreement, at the termination of this Agreement.
- 4) Execute any easements or access agreements, including Utility Easements, required by Lessor in its provision of retail wastewater services to the Agape Oaks Subdivision and surrounding areas, including over any adjacently located land to be used for a detention pond.

**3.04. Lessor's Restrictions.** Lessor agrees not to interfere with Lessee's possession of the Premises as long as Lessee is not in default.

## **ARTICLE FOUR GENERAL PROVISIONS**

**4.01. Term.** The term of this Agreement shall begin on the Commencement Date and shall continue in effect until the Termination Date.

**4.02. Option to Renew.** Before the termination of this Agreement, Lessee at its sole option, may renew this Agreement for an additional thirty (30) years, under the same terms and conditions set forth in this Agreement by providing Lessor with written notice of Lessee's exercise of this option at least thirty (30) days prior to the Termination Date.

**4.03. Termination of the Agreement.**

- 1) Lessee may terminate this Agreement upon the expiration of 30 days following a written notice to the Lessor for any reason, provided however that Lessee agrees that Lessee may not terminate this Agreement absent Lessor's Default (as defined by 4.13(1), below) or by a written agreement between the Parties, at any time after a Municipal Domestic Wastewater Permit has been issued by the Texas Commission on Environmental Quality for the WWTP.
- 2) Lessee may terminate this Agreement upon the failure or refusal of Lessor to cure Lessor's Default (as defined by 4.13(1), below) after 30 days following the issuance of a written Notice (as defined by 6.12, below), provided however that Lessee may not terminate this Agreement if Lessor cures or initiates a cure to Lessor's Default within 30 days of the Notice. The Notice must state the nature of Lessor's Default, identify any of the terms, conditions, or provisions of this Agreement under which Lessee is in Default, and comply with 6.12 of this Agreement.
- 3) Lessor may terminate this Agreement upon the expiration of 30 days following a written notice to the Lessee for any reason, provided however that Lessor agrees that Lessor may not terminate this Agreement absent Lessee's Default (as defined by 4.13(2), below) or by a written agreement between the Parties, at any time after a Municipal Domestic Wastewater Permit has been issued by the Texas Commission on Environmental Quality for the WWTP.

- 4) Lessor may terminate this Agreement upon the failure or refusal of Lessee to cure Lessee's Default (as defined by 4.13(3), below) after 30 days following the issuance of a written Notice (as defined by 6.12, below), provided however that Lessor may not terminate this Agreement if Lessee cures or initiates a cure to Lessee's Default within 30 days of the Notice. The Notice must state the nature of Lessee's Default, identify any of the terms, conditions, or provisions of this Agreement under which Lessee is in Default, and comply with 6.12 of this Agreement.

#### **4.04. Alterations and Restoration.**

- 1) Lessee may, at its sole discretion, design and construct the WTP and any other facilities, improvements, structures, fences, fixtures or other WTP components, reasonably necessary to provide continuous and adequate retail wastewater services to the Agape Oaks Subdivision and surrounding areas ("Lessee's Improvements"), on the Premises. However, nothing in this Agreement shall be construed to obligate Lessee to construct any facilities whatsoever on the Premises. The Parties understand and agree that Lessee has no intentions of constructing a WTP on the Premises until such time after the Lessee has acquired requisite permits and approvals from the Texas Commission on Environmental Quality and the Public Utility Commission of Texas, and after Lessor has conveyed fee simple title to the Premises to the Lessee.
- 2) All of Lessee's Improvements will convey to the Lessee with the Premises upon the fee simple conveyance of the Premises to the Lessee, which the Parties anticipate will occur prior to December 31, 2029.
- 3) If Lessor terminates the Agreement in accordance with section 4.03(1), Lessee's Improvements shall automatically convey to Lessee, and become the property of Lessee unless Lessee rejects ownership by giving Lessor written notice specifying the property rejected, and Lessor shall immediately execute and deliver any requisite conveyance documents, including a deed to all real property improvements attached to the Premises at the time of termination, and an exclusive access easement to and over the entire Premises to Lessee for so long as the Premises are used to provided retail wastewater service to the Agape Oaks Subdivision.
- 4) If Lessee terminates the Agreement in accordance with section 4.03(2) of this Agreement, Lessee, at termination of this Agreement and at Lessee's expense, may at its sole option, remove any personal property and fixtures Lessee has installed on the Premises. Except as provided below, Lessee shall have no obligation to restore the Premises to the condition existing at the Commencement Date.
- 5) Within a reasonable time, (but in no event more than (60) days) after this Agreement expires or terminates, Lessee shall fill all pits and other excavations and shall level off all mounds that Lessee has made upon the Premises. Lessee shall remove all debris and rubbish that Lessee has placed upon the Premises and shall restore the surface of the Premises to as near its original condition as is practicable.
- 6) Lessee agrees to leave all structures, roads and culverts placed on the Premises upon Lessee's vacation of the Premises.

**4.05. Subject to Restrictions.** Lessee makes and accepts this Agreement subject to all restrictions, covenants, conditions, rights of way, easements, and oil, gas, and other mineral reservations or leases, if any, affecting the Premises that are valid, existing, and properly of record.

**4.06. Limitation of Mineral Rights.** This Agreement does not grant Lessee any mineral rights; all mineral rights are reserved in Lessor.

**4.07. Assignment and Sublease.** Lessee shall not assign or sublet the Premises without Lessor's prior written consent.

**4.08. Abatement.** Lessee's covenant to pay rent and Lessor's covenants are independent of each other. Except as otherwise provided, Lessee shall not be entitled to abate rent for any reason.

**4.09. Hold Harmless.** Lessee will indemnify and hold harmless Lessor against any claim or suit for damages that any person or legal entity brings against Lessor, as a result of Lessee's activities or operations under or in connection with the terms of this Agreement for any personal injury or property damage or other injury or loss and any expenses incurred in connection with the defense against or the preparation for the defense against any such claims or suit.

#### **4.10. Condemnation.**

- 1) Termination. If the Premises cannot be used for the purposes contemplated by this Agreement because of condemnation or purchase in lieu of condemnation, this Lease will terminate.
- 2) Right to Award or Proceeds. In the event of condemnation or purchase in lieu of condemnation Lessee shall have a claim to any condemnation award or proceeds in lieu of condemnation attributable to Lessee's Improvements, but shall have no claim to any condemnation award or proceeds in lieu of condemnation attributable to the Premises' surface or mineral estates.

**4.11. Repair, Replace, and Maintain.**

- 1) Damages. Lessee shall be responsible for all repairs or replacements to the Premises that are necessarily due to damages from any cause, except the acts of Lessor.
- 2) Maintenance. Lessee shall, at its sole expense, keep and maintain the Premises, including all appurtenances, appliances, and fixtures in a clean and sanitary condition during the term of the Lease. Lessee shall, at its sole expense, maintain all landscaping for the Premises.

**4.12. Security.** Lessee will pay for any security monitoring of the Premises. Lessee is responsible for responding to all security calls and for costs associated with such calls, either true or false alarms.

**4.13. Defaults and Remedies.**

- 1) Default by Lessor ("Lessor's Default") is failing to comply with any provision of this Agreement within thirty (30) days after Lessee's written notice to Lessor of such specific failure.
- 2) Lessee shall have any remedy available in law or equity, including termination of this Agreement in accordance with 4.03(1) of this Agreement.
- 3) Defaults by Lessee ("Lessee's Default") include:
  - a. failing to pay timely rent;
  - b. failing to perform or provide the wastewater utility services as may be under its certificate of convenience and necessity, which Parties anticipate will include the Premises and the Agape Oaks Subdivision at a future date before December 31, 2029;
  - c. failing to comply within thirty (30) days after written notice with any provision of this Agreement, unless otherwise provided in this Agreement; and
  - d. assigning the under any circumstances, or subletting the Premises or a portion of the Premises without Lessor's prior express written consent unless provided otherwise in this Agreement.
- 4) Lessor shall have any remedy available in law or equity, including termination of this Agreement in accordance with 4.03(2) of this Agreement.

**4.14. Default/Waiver/Mitigation.** It is not a waiver of default if the non-defaulting party fails to declare immediately a default or delays in taking any action. Pursuit of any remedies set forth in this Agreement does not preclude pursuit of other remedies in this Agreement or provided by law. Lessor and Lessee have a duty to mitigate damages.

**4.15. Holdover.** If Lessee does not vacate the Premises following termination of this Agreement, Lessee shall be a Lessee at will and shall vacate the Premises on receipt of notice from Lessor. Holding over by Lessee, whether with or without the consent of Lessor, will not extend the term of this Agreement. Lessee shall be deemed to be occupying the Premises as a Lessee from month-to-month, subject to all terms, conditions, provisions, and obligations of this Agreement, insofar as such provisions are applicable to a month-to-month tenancy.

**4.16. Abandoned Property.** Lessor may retain, destroy, or dispose of any property that Lessee abandons on the Premises at the end of the term.

**4.17. Ad Valorem Taxes.**

- 1) Lessor. Lessor shall pay all ad valorem taxes assessed against the Premises' land.
- 2) Lessee. Lessee shall pay all ad valorem taxes assessed against Lessee's personal property and Lessee's Improvements located on the Premises during the term of this Agreement.

**4.18. Insurance.** Lessee agrees to obtain and maintain insurance in the amount for at least One Million Dollars (\$1,000,000.00) (per person per occurrence) to protect Lessor from any liability, including liability for environmental damages, arising directly or indirectly out of Lessee's operation of its business on the Premises. Lessee agrees to name Lessor as additional named insured in this liability policy. Lessee agrees to provide proof of liability insurance by sending Lessor and Lessor's attorney a copy of Lessee's liability insurance policy.

**ARTICLE FIVE  
SPECIAL PROVISIONS**

**5.01. Fences.** Lessee shall have the right, but not the obligation, to erect one (1) or more fences on and around the Premises, and shall have the right to remove such fences at termination of this Agreement.

**5.02. Environmental Compliance.** The Lessee will use its Best Efforts to comply with any Environmental Law.

**5.03. Right of First Refusal.** Lessor hereby grants Lessee the right of first refusal to purchase the Surface Estate should Lessor at any time during the term of this Agreement or any extension of this Agreement, desire to sell the Surface Estate to any one Surface Estate shall mean the real property on which the Facilities sit and the Utility Easements, as described in Article One above.

**ARTICLE SIX  
MISCELLANEOUS PROVISIONS**

**6.01. Alternative Dispute Resolution.** Lessor and Lessee shall submit in good faith to mediation before filing a suit for damages.

**6.02. Attorneys Fees.** If either party retains an attorney to enforce this Agreement, the prevailing party is entitled to recover reasonable attorney's fees.

**6.03. Venue.** This Agreement is performable in Medina County, Texas, the county in which the Premises are located.

**6.04. Construction.** This Agreement shall not be construed more strongly against any party, regardless of who was more responsible for its preparation.

**6.05. Governing Law.** This Agreement shall be governed by and construed according to the laws of the State of Texas.

**6.06. Severability.** If any portion of this Agreement is held to be invalid or unenforceable for any reasons, that holding shall not be construed to affect any other valid portion of this Agreement, but all valid portions of this Agreement shall remain in full force and effect.

**6.07. Effect.** This Agreement shall be binding upon and shall inure to the benefit of the parties to this Agreement, and their legal representatives, successors, and assigns, as applicable and when permitted.

**6.08. Entire Agreement.** **THIS AGREEMENT CONTAINS THE ENTIRE AGREEMENT BETWEEN THE PARTIES RESPECTING THE MATTERS ADDRESSED IN THIS AGREEMENT AND SUPERSEDES ALL PRIOR CONTRACTS, NEGOTIATIONS, AGREEMENTS, REPRESENTATIONS, AND UNDERSTANDINGS, IF ANY, BETWEEN THE PARTIES RESPECTING THESE MATTERS. THE PARTIES ACKNOWLEDGE THAT ANY OTHER AGREEMENT, STATEMENT, OR PROMISE NOT IN THIS AGREEMENT SHALL NOT BE VALID OR BINDING.**

**6.09. Modification.** This Agreement may not be modified, discharged, or changed in any respect except by a further agreement in writing duly executed by the parties. However, any consent, waiver, approval, or authorization shall be effective if signed by the party granting or making such consent, waiver, approval, or authorization.

**6.10. Counterparts.** This Agreement may be executed in any number of counterparts, each of which, when executed and delivered, shall be deemed to be an original instrument, but such counterparts shall together constitute one and the same instrument.

**6.11. Limitation of Warranties.** The Parties agree that implied warranties of merchantability, of fitness for a particular purpose, or of any other kind shall not arise out of this Agreement, and that neither party is making any warranty other than those warranties that are expressly stated in this Agreement.

**6.12. Notices.** Except as may be otherwise specifically provided in this Agreement, all notices required or permitted ("Notice") under this Agreement shall be in writing and will be deemed to be delivered and received when:

- 1) delivered in person to the party to be notified;
- 2) deposited in the United States Mail, certified or registered mail, return receipt requested, postage prepaid; or
- 3) delivered to a bonded courier delivery service.

**6.13. Waiver.** A Party may not waive any covenant, term, condition, or provision of this Agreement except by doing so in writing. The consent to or waiver of any default of any covenant, term, condition, or provisions of this Agreement or with respect to any other matter arising in connection with this Agreement, whether express or implied, by any party shall not be construed as a consent to or waiver of any other default of the same or any other covenant, term, condition, provision, or matter.

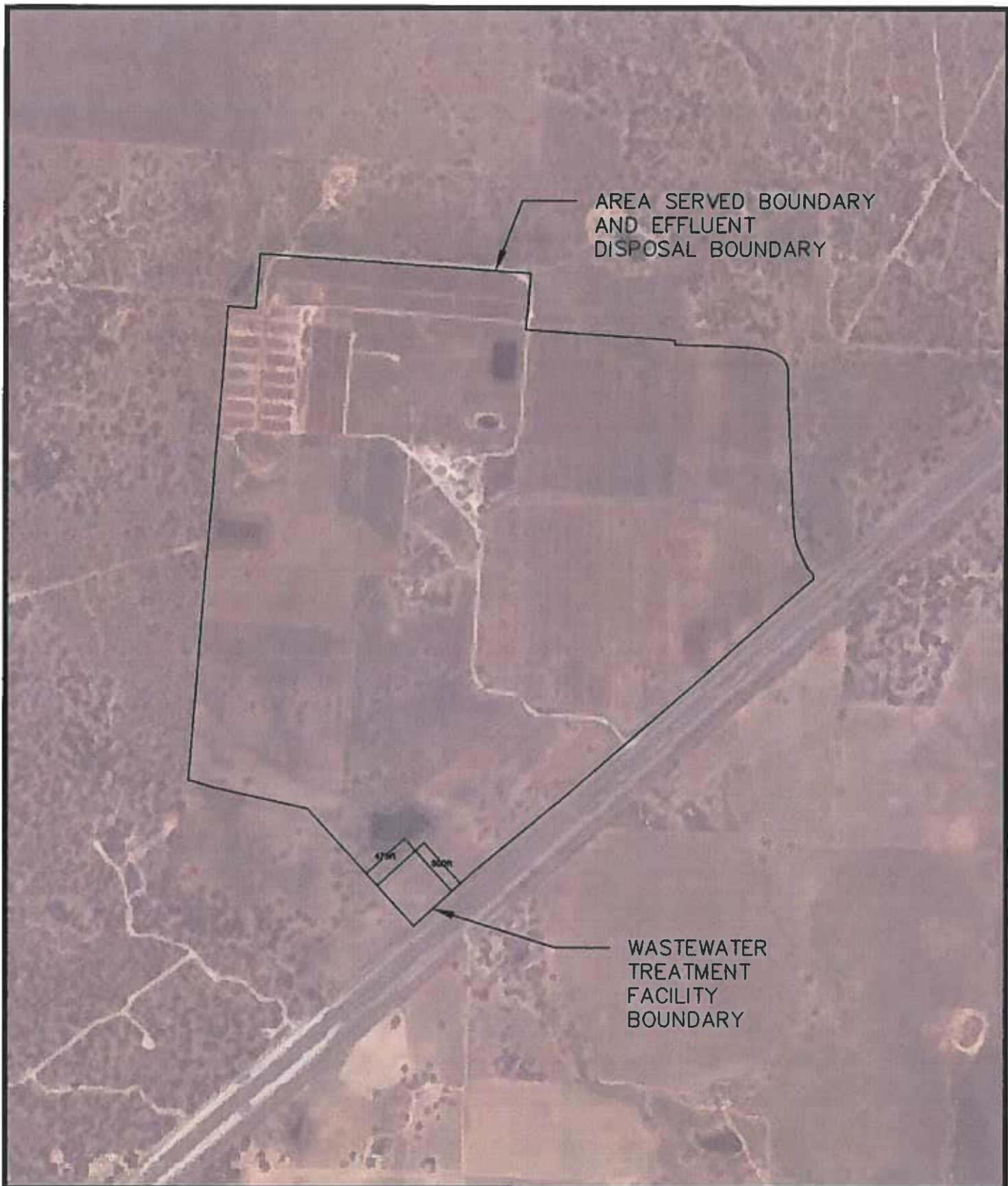
**6.14. Force Majeure.**

- 1) Invocation. If, by reason of Force Majeure, any party shall be wholly or partially unable to carry out its obligations under this Agreement, then that party shall give written notice of the full particulars of such Force Majeure to the other party within a reasonable time after its occurrence. The obligations of the party giving such notice, to the extent affected by such Force Majeure, shall be suspended during the continuance of the inability claimed and for no longer period, and that party shall in good faith use its best efforts to remove or overcome such inability with all reasonable dispatch.
- 2) Settlement of Strikes and Lockouts. The settlement of strikes and lockouts shall be entirely within the discretion of the party having the difficulty, and the above requirement that any Force Majeure shall be remedied with all reasonable dispatch shall not require settlement of strikes and lockouts by acceding to demands of the opposing party when such settlement is unfavorable to him in the judgment of the party having the difficulty.

*(THIS SPACE INTENTIONALLY LEFT BLANK)*

**EXHIBIT "A"**  
**PREMISES LOCATION**





SCALE NO SCALE

DRAWN BY: JMT DATE 07/23

CHECKED BY: MAI DATE 07/23

FILE 0339-032-22

## EXHIBIT A

AGAPE OAKS WASTE WATER TREATMENT PLANT

**AGAPE OAKS**  
YANCEY, TEXAS



**Southwest  
Engineers**

TREND F-1000  
www.southwesteng.com

**CERTIFIED**

307 South East Street

P. 806.473.7540 F. 806.473.7541

**AREA**

1001 S. Highway 100, Suite 100

P. 806.473.7540 F. 806.473.7541

EXECUTED to be effective on the date January 5, 2024, which shall be the Effective Date.

Lessor:

Agape Oaks, LLC, a Texas limited liability company

By: \_\_\_\_\_

Name: \_\_\_\_\_

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

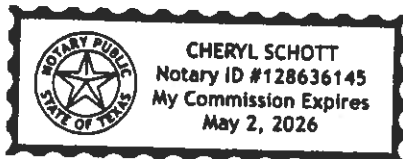
THE STATE OF TEXAS §

§

COUNTY OF MEDINA §

This instrument was acknowledged before me on the 5<sup>th</sup> day of January 2024, by Chris Stone Project Manager, of Agape Oaks, LLC, a Texas limited liability company, on behalf of said company.

(Seal)



Cheryl Schott

Notary Public in and for the State of Texas

My commission expires: May 2, 2026

**Lessee:**

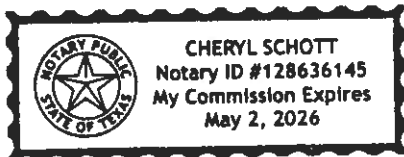
Yancey Water Supply Corporation, a  
Texas non-profit corporation,

By: Temple Mangold  
Temple Mangold  
General Manager

THE STATE OF TEXAS §  
§  
COUNTY OF MEDINA §

This instrument was acknowledged before me on the 5<sup>th</sup> day of January 2024 by Temple Mangold, General Manager of Yancey Water Supply Corporation, a Texas non-profit corporation, on behalf of said corporation.

(Seal)



Cheryl Schott  
Notary Public in and for the State  
of Texas  
My commission  
expires: May 2, 2026

# **ATTACHMENT E**

## **USGS MAP**

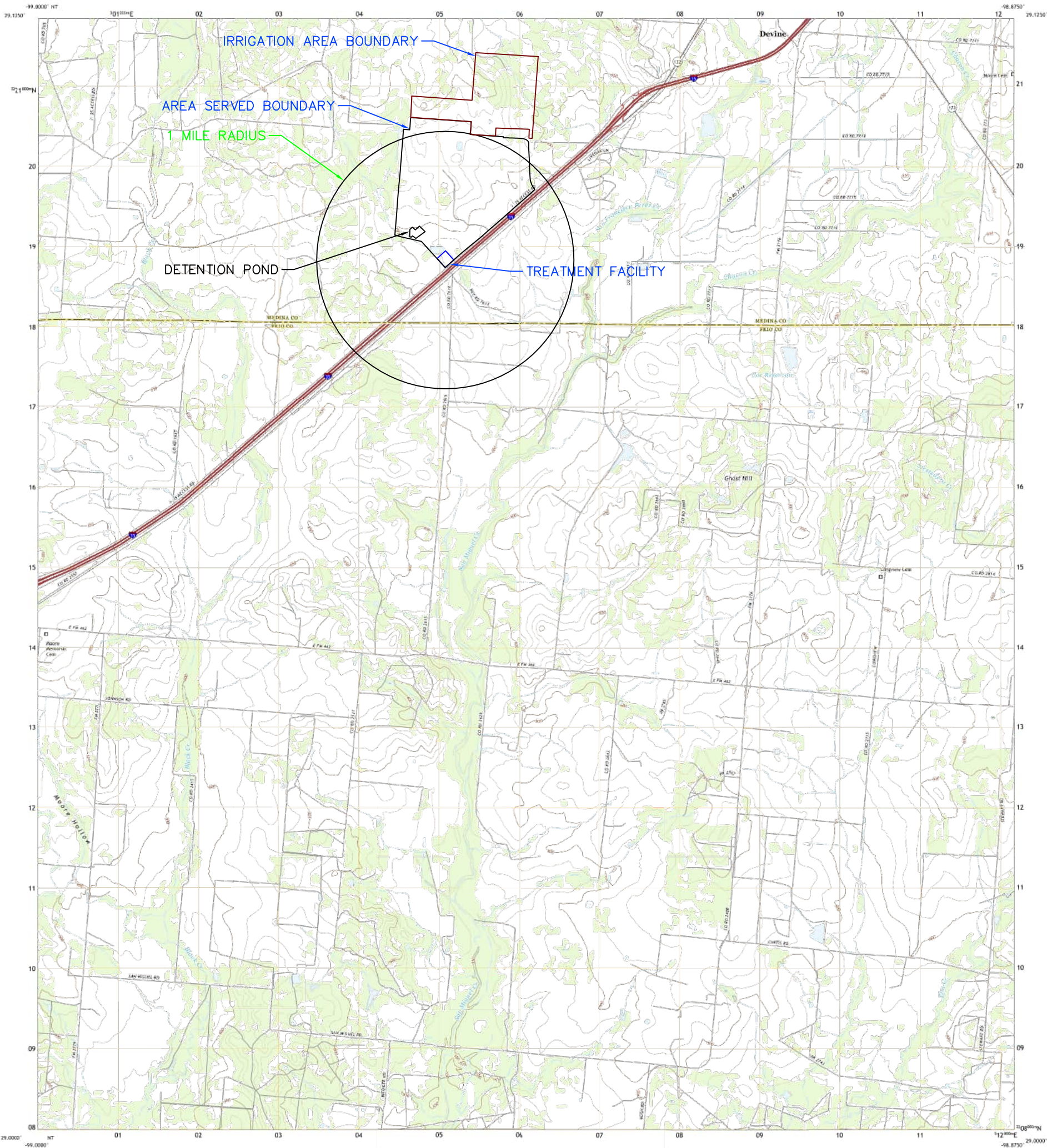




U.S. DEPARTMENT OF THE INTERIOR  
U.S. GEOLOGICAL SURVEY



GHOST HILL QUADRANGLE  
TEXAS  
7.5-MINUTE SERIES

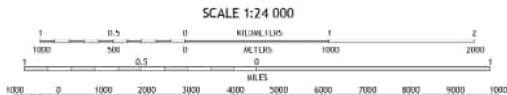
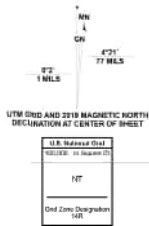


Produced by the United States Geological Survey

North American Datum of 1983 (NAD83)  
World Geodetic System of 1984 (WGS84). Projection and  
1000 meter grid Universal Transverse Mercator, Zone 14K  
This map is not a legal document. Boundaries may be  
generalized for this map scale. Private land within government  
reservations may not be shown. Obtain permission before  
entering private lands.

imagery.....2010-2019, September 2010 - December 2010  
roads.....U.S. Census Bureau, 2010 - 2019  
names.....GNIS, 1979 - 2022  
hydrography.....National Hydrography Dataset, 2002 - 2018  
contours.....National Elevation Dataset, 2019  
boundaries.....Multiple sources; see metadata file 2019 - 2021

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



CONTOUR INTERVAL 10 FEET  
NORTH AMERICAN VERTICAL DATUM OF 1988  
This map was produced to conform with the  
National Geospatial Program US Topo Product Standard.

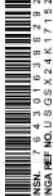


1	2	3
4	5	6
7	8	9

1 Bixby  
2 Devine  
3 LaBelle  
4 Moore  
5 Bigfork  
6 Pecos  
7 Schattler North  
8 Schattler South  
9 Schattler

ROAD CLASSIFICATION	
Expressway	Local Connector
Secondary Hwy	Local Road
Route	Local Road
State Route	State Route

GHOST HILL, TX  
2022



**ATTACHMENT F**

**SIGNATURE AUTHORIZATION**



# Yancey Water Supply Corporation



July 22, 2024

Mark Ince, P.E. is authorized to sign on behalf of Yancey Water Supply Corporation.

Thank you,

*Scooter Mangold*

Scooter Mangold  
General Manager

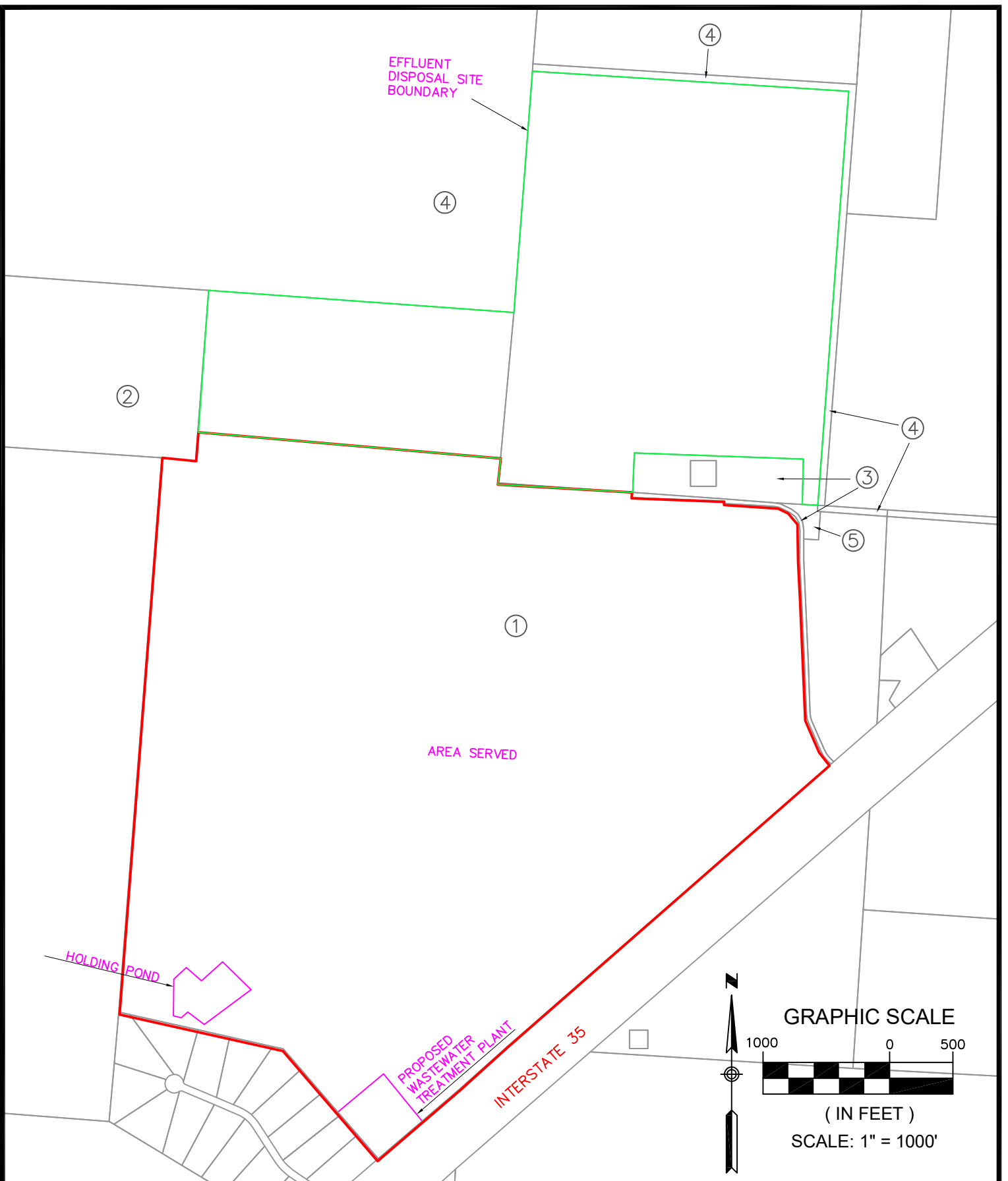
PO Box 127 Yancey, TX 78886  
Phone: (830)741-5264  
Fax: (830)741-8009

**ATTACHMENT G**

**AFFECTED LANDOWNER LIST & MAP**



#	Owner Name	Owner Address	City	State	Zip
1	AGAPE OAKS LLC	C/O TOMASA TORRES P O BOX 692090	SAN ANTONIO	TX	78269
2	KEVIN S & LUCRETIA MARMOR	1833 F.M. 2200 W	DEVINE	TX	78016
3	ROSA E MORENO	10831 LOCH AVON D	WHITTIER	CA	90606
4	SERIES 7 OF DRLH HOLDINGS LLC	155 SCHEELE RD	BOERNE	TX	78015-8322
5	RDXR ENTERPRISES LLC	P.O. BOX 671	DEVINE	TX	78016



SCALE: 1" = 1000'

DRAWN BY: EJP DATE: 07/23

CHECKED BY: MAI DATE: 07/23

FILE: 0339-032-22

### AFFECTED LANDOWNERS AGAPE OAKS WASTE WATER TREATMENT PLANT

**AGAPE OAKS**  
YANCEY, TEXAS



**Southwest  
Engineers**

TBPE NO. F-1909  
www.sweengineers.com

#### GONZALES

307 Saint Lawrence Street  
P.O. Box 672, 75401 F-1909.672.1004

#### HUDA

200 Cimarron Park Loop, Ste. B  
P.O. Box 312, 4306

#### BASTROP

704 Main Street, #101  
P.O. Box 312, 4306

AGAPE OAKS LLC  
C/O TOMASA TORRES  
P O BOX 692090  
SAN ANTONIO, TX 78269

KEVIN S & LUCRETIA MARMOR  
1833 F.M. 2200 W  
DEVINE, TX 78016

ROSA E MORENO  
10831 LOCH AVON D  
WHITTIER, CA 90606

SERIES 7 OF DRLH HOLDINGS LLC  
155 SCHEELE RD  
BOERNE, TX 78015-8322

RDXR ENTERPRISES LLC  
P.O. BOX 671  
DEVINE, TX 78016

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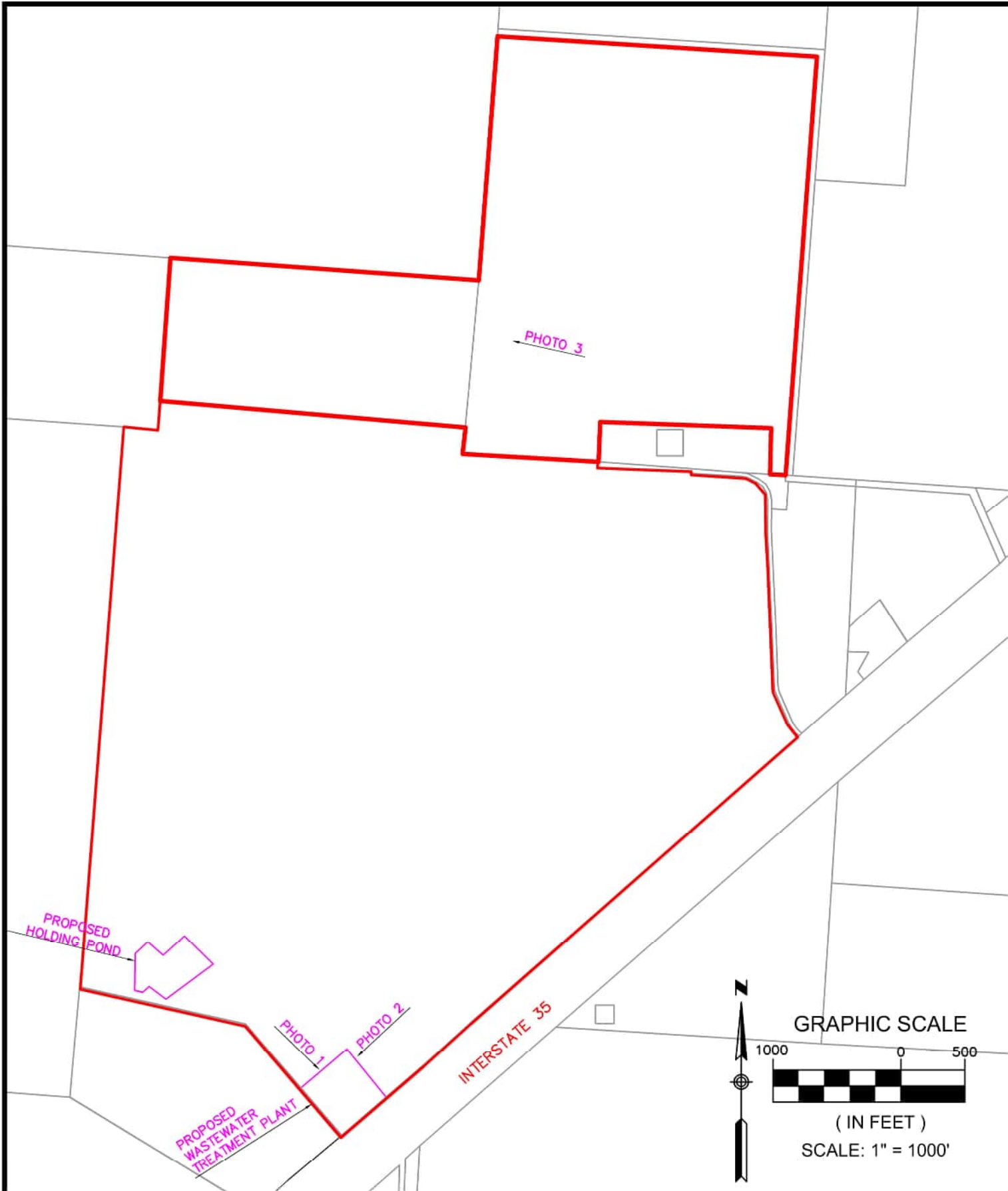
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**ATTACHMENT H**

**PHOTOGRAPHS AND MAP**



SCALE: 1" = 1000'

DRAWN BY: JMT DATE: 07/23

CHECKED BY: MAI DATE: 07/23

FILE: 0339-032-22

## PHOTO MAP

AGAPE OAKS WASTE WATER TREATMENT PLANT

**AGAPE OAKS**  
YANCEY, TEXAS



**Southwest  
Engineers**

TYPE NO. E-1009  
www.sweengineers.com

**GONZALES**  
307 S.W. Lawrence Street  
P.O. Box 125400 P.O. Box 125400  
**UDA**  
307 S.W. Lawrence Street  
P.O. Box 125400  
**BASTROP**  
204 Main Street, 4008  
P.O. Box 125400



# WWTTP Site PHOTO 1





# WWTP Site

## PHOTO 2





# Effluent Disposal Site

## PHOTO 3

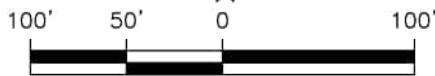
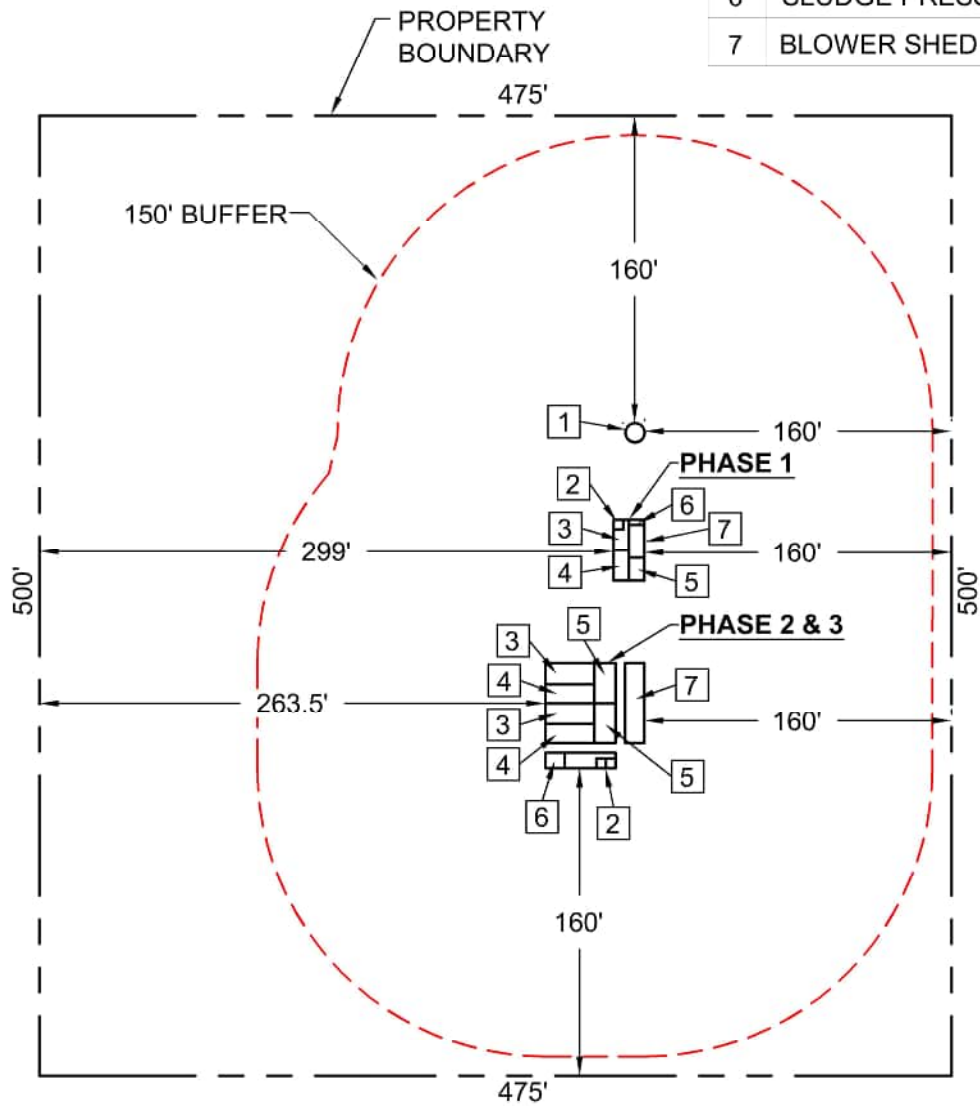




**ATTACHMENT I**

**BUFFER ZONE MAP**

ID	TREATMENT UNIT
1	LIFT STATION
2	FINE SCREEN
3	ANOXIC BASIN
4	AEROBIC BASIN
5	MEMBRANE BASIN
6	SLUDGE PRESS
7	BLOWER SHED



SCALE: 1" = 100'

## BUFFER ZONE MAP

JULY 2023

## AGAPE OAKS WWTP



**Southwest  
Engineers**

TBPE NO. F-1909  
www.swengineers.com

### HEADQUARTERS

307 Saint Lawrence Street, Goumiers TX 78629  
P: 830.672.7546 F: 830.672.2034

### CENTRAL TEXAS

205 Cimarron Park Loop, Ste. B, Buda TX 78610  
P: 512.312.4336

**ATTACHMENT J**

**TREATMENT PROCESS DESCRIPTION**

## Attachment J

### Treatment Process Description

The proposed wastewater treatment facility will consist of a Membrane Bioreactor (MBR) Wastewater Treatment System, which combines conventional biological activated sludge processes with membrane filtration. An onsite lift station will pump the raw wastewater to a fine screen at the head of the plant, which will discharge the wastewater to an anoxic basin where denitrification occurs, as well as some BOD removal. Alum is also added here for phosphorus removal. The wastewater then flows into an aerobic basin where diffusers introduce air into the treatment process to aid in biological treatment, as well as nitrification. From there the wastewater flows into the membrane basin (also aerated), where the membranes provide a physical barrier allowing only clean water to pass thru. The permeate from the membranes is then pumped thru a UV light and then to the ultimate discharge point. Sludge that accumulates in the membrane basin is recycled back into the anoxic basin and is occasionally wasted into a screw type sludge press as needed for regular hauling to a permitted landfill facility. Extracted wastewater from the sludge press is returned to the anoxic basin.

To minimize "pump and haul" as the development is in its initial stages a temporary 75,000 gpd MBR plant will be used until the development produces enough wastewater for Phase 2 (125,000 gpd )to operate. An MBR plant needs about 15% to 20% of design capacity to operate so in this case the temporary plant will need to be in operation until wastewater flows reach 20,000 to 25,000 gpd. At this approximate flow range the 125,000 gpd Phase 2 will be placed in operation and the portable plant removed. The temporary MBR plant has the same treatment process as the Phase 2 and 3 system.

Future phases will involve the addition of more membranes to the initial membrane basin and/or additional anoxic, aerobic, and membrane basins as needed.

**ATTACHMENT K**

**TREATMENT UNITS**

Table 1.0(1)

Phase 1 0.075MGD

Treatment Unit Type	Number of Units	Dimensions (L x W x D)
Lift Station	1	10' Diameter
Fine Screen	1	5' x 5' x 5'
Anoxic Basin	1	19' x 11' x 12'
Aerobic Basin	1	20' x 11' x 12'
Membrane Basin	1	18' x 11' x 12'
UV Disinfection	1	4" Diameter x 2'
Sludge Press	1	8' x 1' x 5'

Phase 2 - 0.125MGD

Treatment Unit Type	Number of Units	Dimensions (L x W x D)
Lift Station	1	10' Dia.
Fine Screen	2	5' x 5' x 5'
Anoxic Basin	1	11' x 25.5' x 17'
Aerobic Basin	1	10' x 25.5' x 17'
Membrane Basin	1	23' x 11' x 17'
UV Disinfection	1	6" Diameter x 3.6'
Sludge Press	1	10' x 2' x 8'

Phases 2 & 3 - 0.250MGD

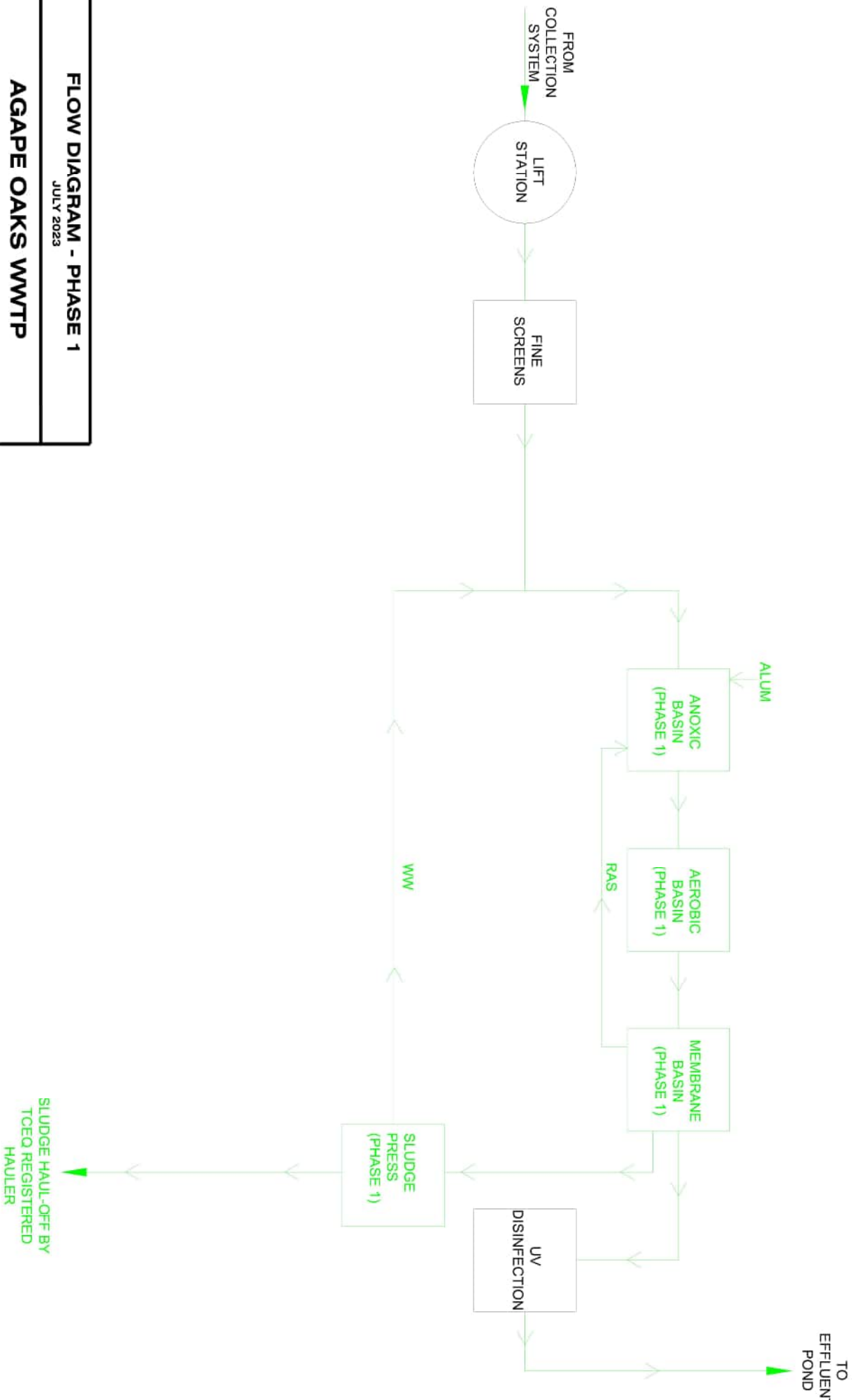
Treatment Unit Type	Number of Units	Dimensions (L x W x D)
Lift Station	1	10' Dia.
Fine Screen	2	5' x 5' x 5'
Anoxic Basin	2	11' x 25.5' x 17'
Aerobic Basin	2	10' x 25.5' x 17'
Membrane Basin	2	23' x 11' x 17'
UV Disinfection	2	6" diameter x 3.6'
Sludge Press	1	10' x 2' x 8'

**ATTACHMENT L**

**FLOW DIAGRAM**

# **PHASE 1**





**FLOW DIAGRAM - PHASE 1**

JULY 2023

**AGAPE OAKS WWTP**



**Southwest  
Engineers**

TRPE NO. F-1019  
www.sweengineers.com

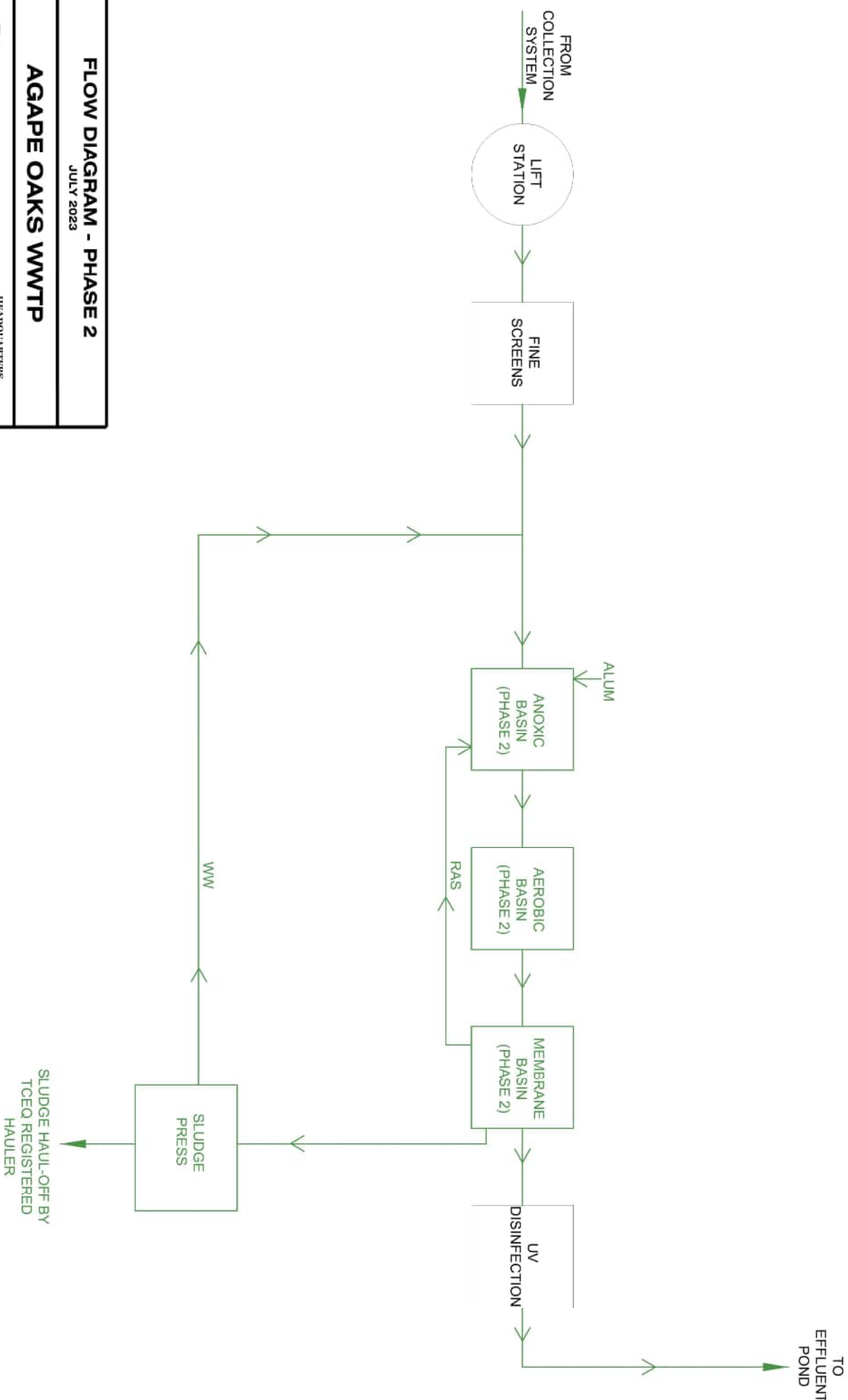
**HEADQUARTERS**

3075 Saint Lawrence Street, Cranford, NJ 07069  
F: 800.672.7946 F: 908.672.2034

**CENTRAL TEXAS**

205 Chisum Park Loop, Ste. B, Buda, TX 78610  
F: 817.312.4376

## **PHASE 2**



**FLOW DIAGRAM - PHASE 2**  
JULY 2023

**AGAPE OAKS WWTP**



**Southwest  
Engineers**

TYPE NO. F-1019  
www.sweengineers.com

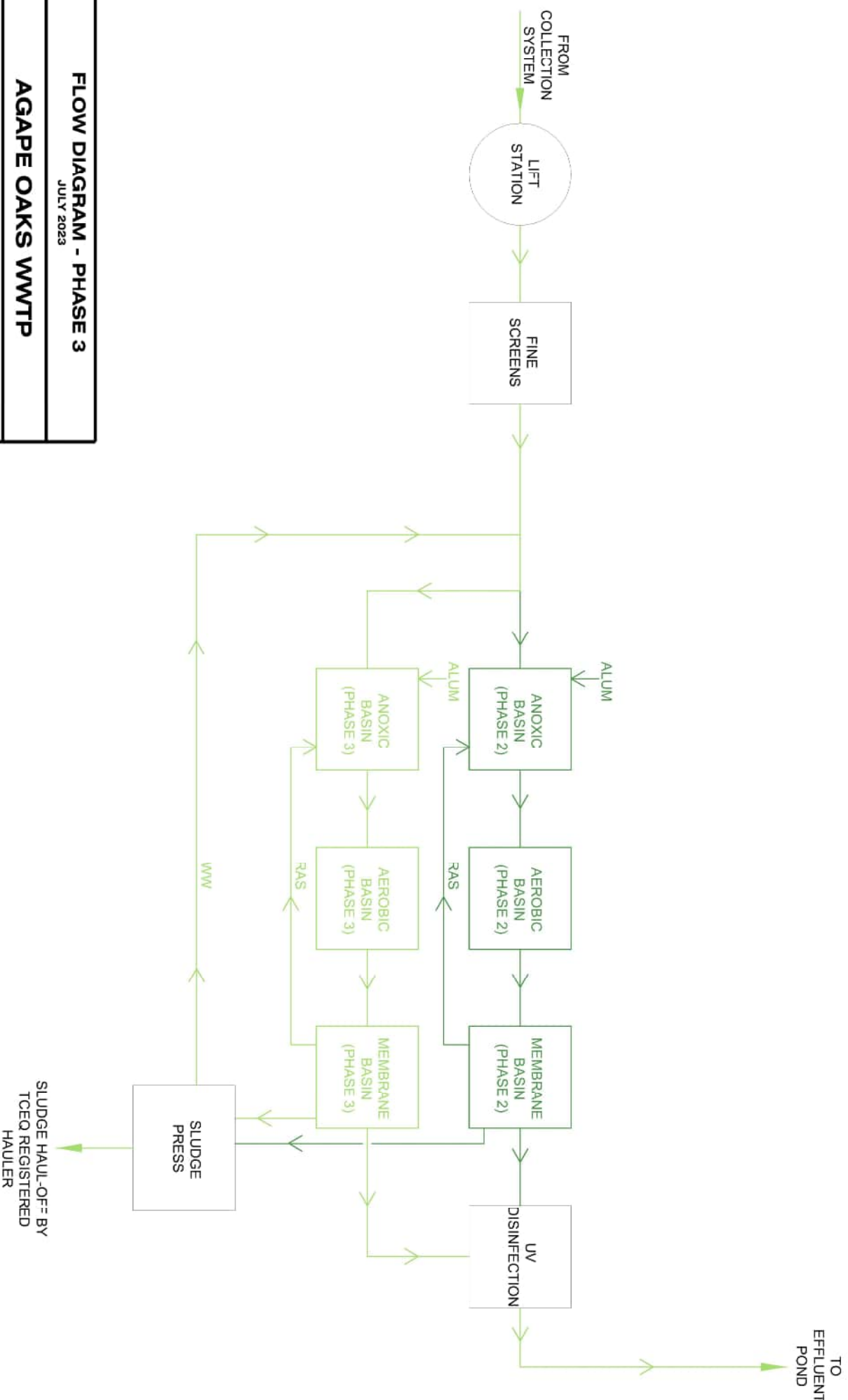
**HEADQUARTERS**

3075 Saint Lawrence Street, Omaha, NE 68133  
P: 800.672.7946 F: 402.462.2034

**CENTRAL TEXAS**

205 Channing Park Loop, Ste. B, Buda, TX 78610  
P: 912.312.4396

## **PHASE 3**



**FLOW DIAGRAM - PHASE 3**

JULY 2023

**AGAPE OAKS WWTP**

**HEADQUARTERS**

3075 State Farmway Street, Greenville, TX 75803  
P: 830.672.7946 F: 830.672.2034

**CENTRAL TEXAS**

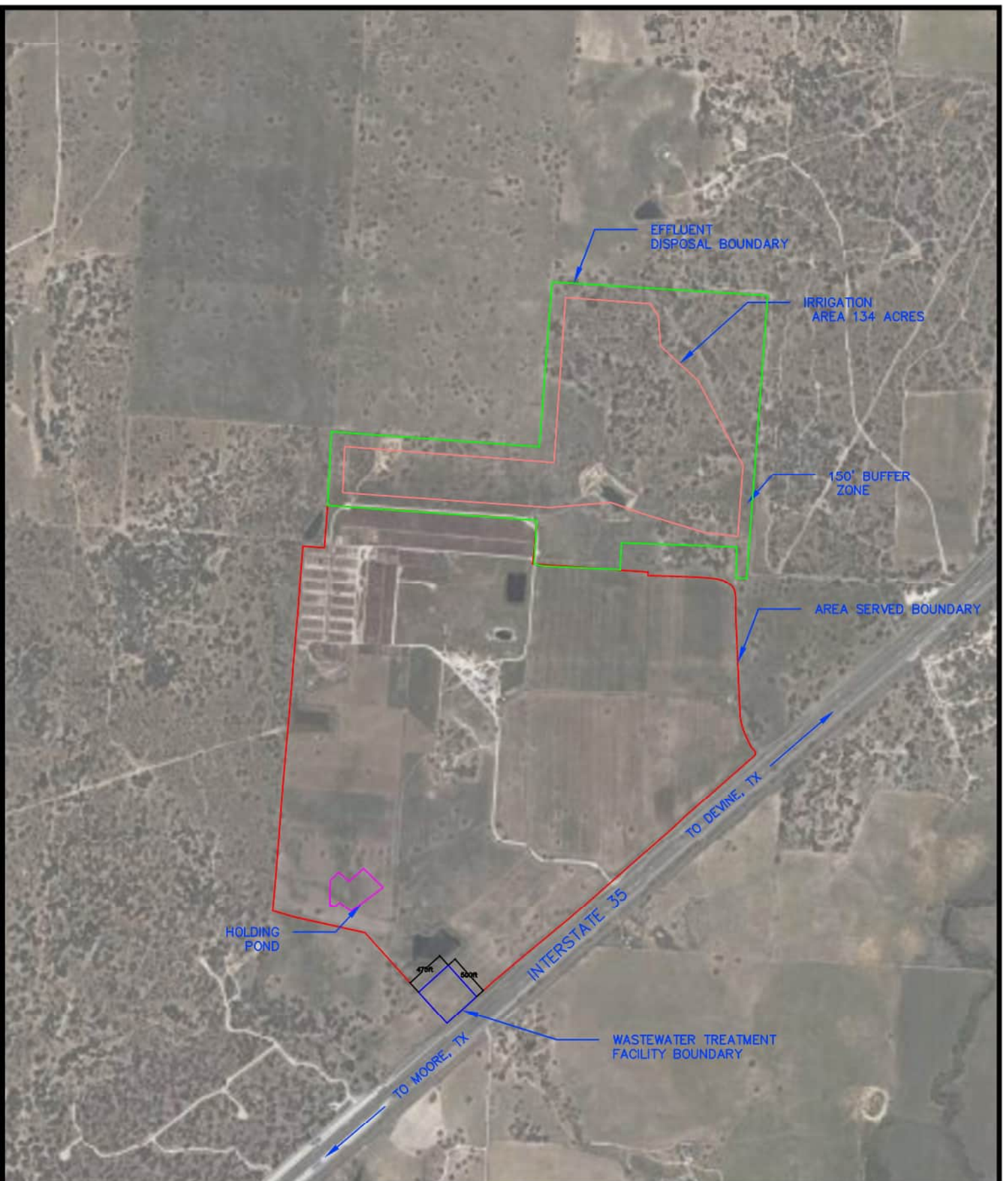
205 Chantrell Park Loop, Ste. B, Buda, TX 78610  
P: 817.312.4376



**Southwest  
Engineers**

TYPE NO. F-1019  
www.sweengineers.com

**ATTACHMENT M**  
**SITE DRAWING**



SCALE: NO SCALE

DRAWN BY: JMT DATE: 03/24

CHECKED BY: MAI DATE: 03/24

FILE: 0339-032-22

**SITE DRAWING**  
**AGAPE OAKS WASTE WATER TREATMENT PLANT**

**AGAPE OAKS**  
YANCEY, TEXAS



**Southwest  
Engineers**

TYPE NO. E-009  
www.southwesteng.com

**GONZALES**

307 Sand Lane Street  
P.O. Box 672, 75749 P.O. Box 672, 75749

**ELISA**

307 Sand Lane Street, Box B  
P.O. Box 672, 75749

**MASTROE**

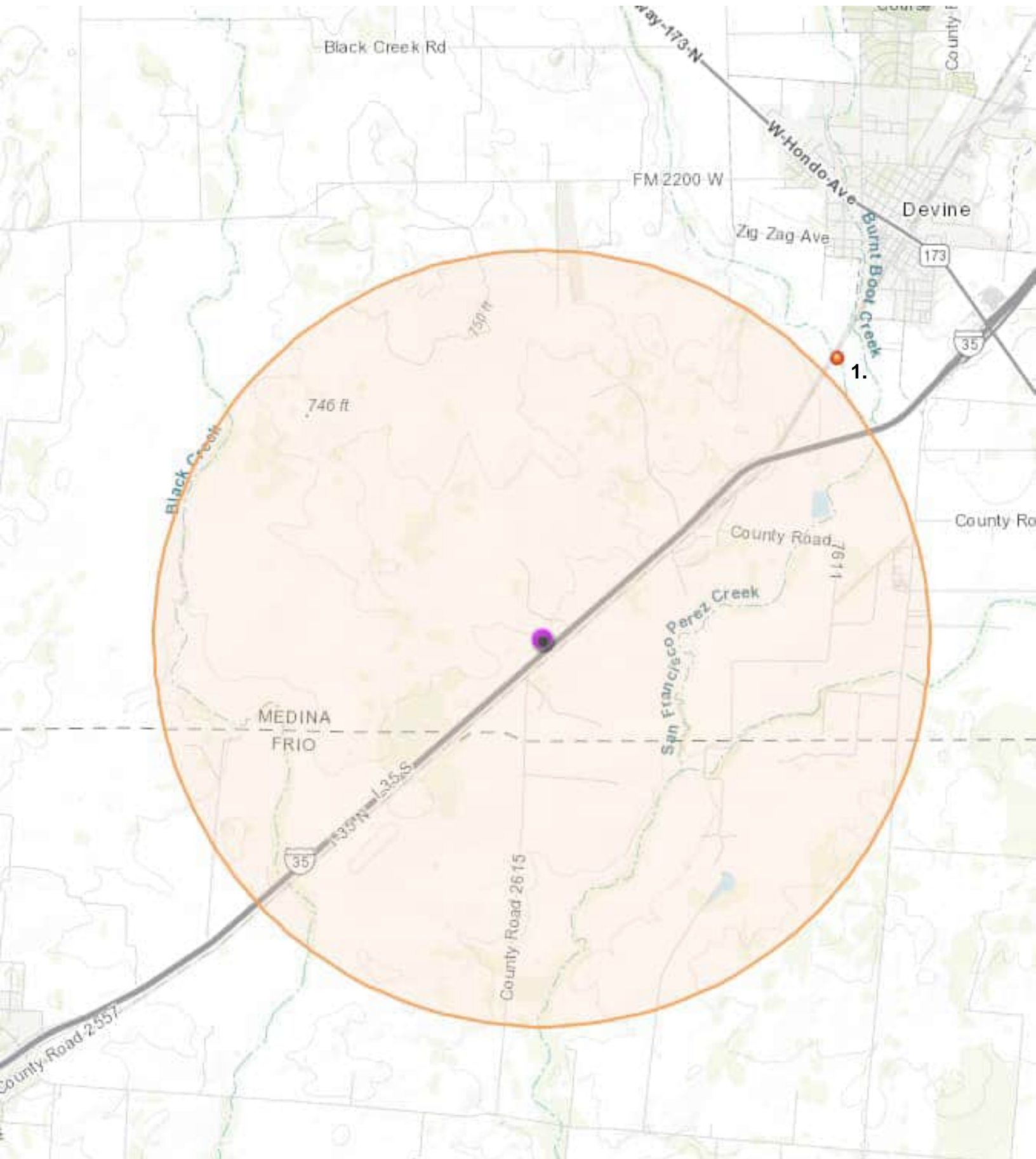
307 Sand Lane Street, Box B  
P.O. Box 672, 75749

**ATTACHMENT N**

**NEARBY WWTPS OR COLLECTION  
SYSTEMS**



# NEARBY WWTP/COLLECTIONS



1. City of Devine has rejected to serve proposed development. We received no response from the attached letter.

## Attachment N

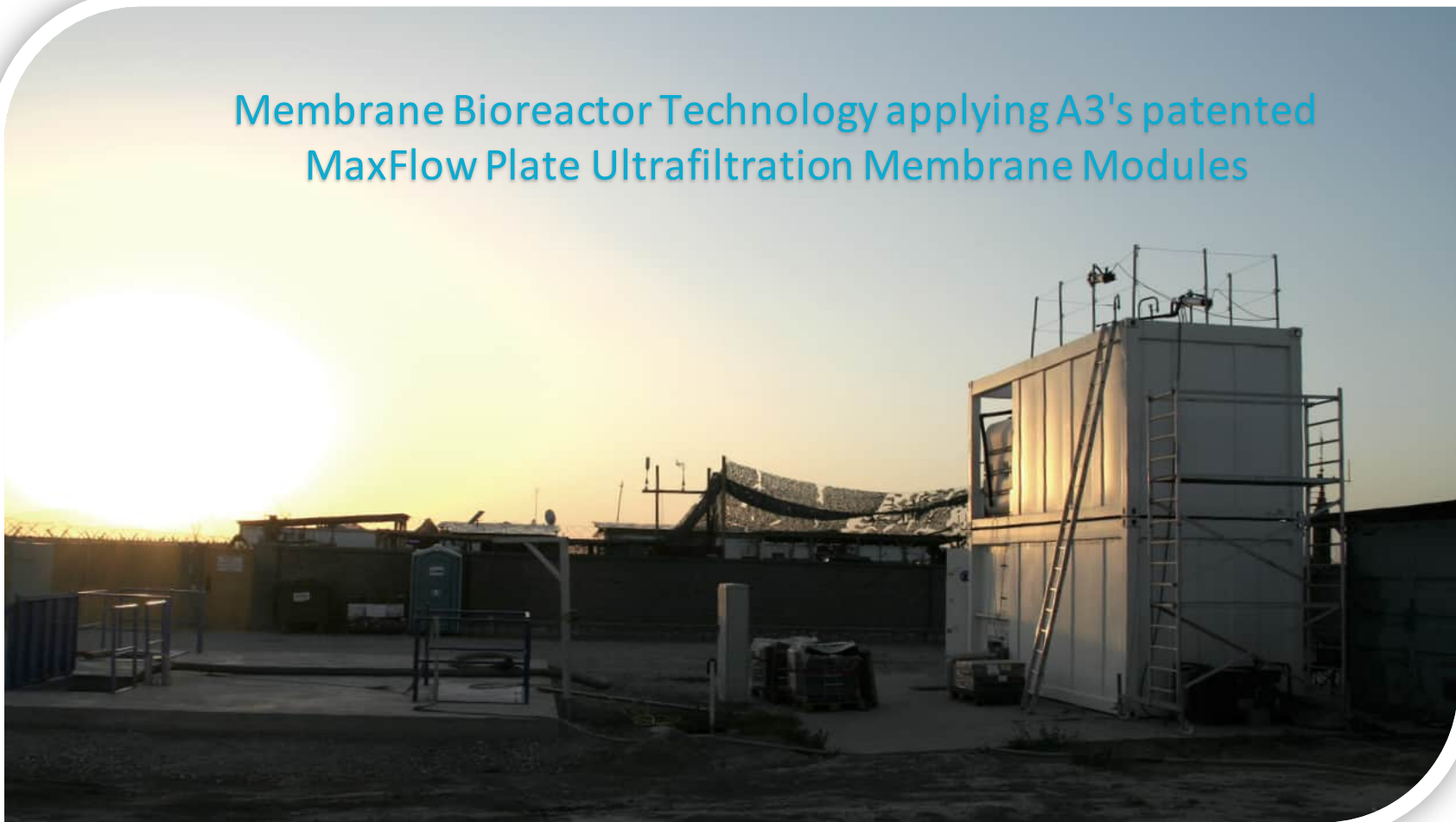
### NEARBY WWTP's OR COLLECTION SYSTEMS

The City of Devine is within three miles of the proposed facility. The City of Devine has elected not to serve the proposed development. Please see the attached letter and minutes from the City of Devine meeting.

**ATTACHMENT O**

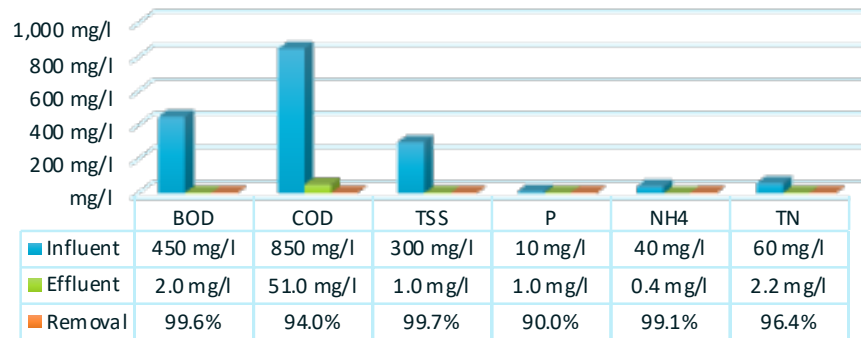
**DESIGN CACLULATIONS**

Membrane Bioreactor Technology applying A3's patented  
MaxFlow Plate Ultrafiltration Membrane Modules



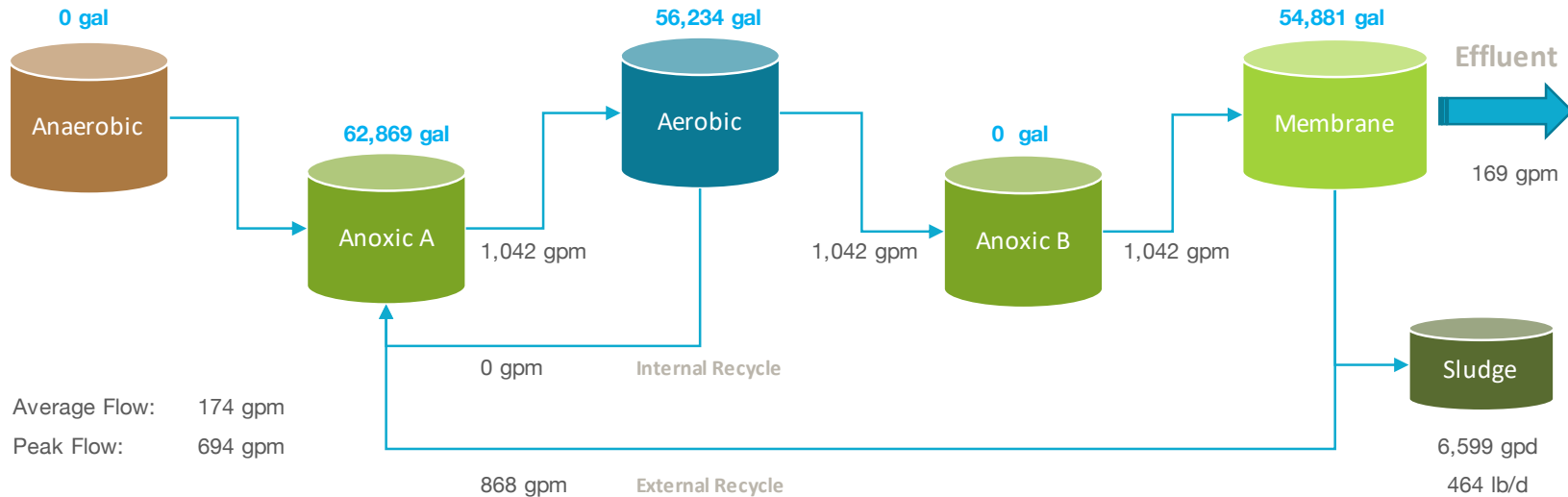
# Process Summary

## Influent & Effluent Parameters



## PROCESS PARAMETERS

Sludge Age	25 d
Total Reactor Volume	173,983 gal
Total SOR	1,861 kgO2/d
MLSS in Anoxic / Aerobic Tank	8,330 mg/l
MLSS in Membrane Tank	10,146 mg/l
HRT	17 h
F/M RATIO (BOD)	0.080
F/M RATIO (COD)	0.152
Total Membrane Surface	65,100 sf



Aeration	Flow	Pressure
EQ	0 scfm	0.0 psi
Sludge	0 scfm	0.0 psi
Aerobic	589 scfm	7.5 psi
Membrane	748 scfm	7.5 psi

## Applied Options:

NO	DAF
NO	RO

1/6/22

## Biological Process Calculation

Influent Charateristics	Symbol	Value	Units
Type of wastewater		municipal	
Temperature	T	20	°C
pH	-	7.0	-
H <sub>2</sub> CO <sub>3</sub> alkalinity	Alk <sub>i</sub>	250	mg/l as CaCO <sub>3</sub>
Site pressure / elevation	p <sub>a,i</sub>	14.7	psi
Average daily flow	Q <sub>i</sub>	250,000	gpd
Peak daily flow	Q <sub>i, max,d</sub>	625,000	gpd
Hourly peak flow	Q <sub>i, max,p</sub>	694	gpm
Peak factor	-	4.0	-
Average daily flow	Q <sub>i</sub>	946	m <sup>3</sup> /d
Max. monthly average daily flow	Q <sub>i, max,d</sub>	2,366	m <sup>3</sup> /d
Hourly peak flow	Q <sub>i, max,h</sub>	157.7	m <sup>3</sup> /h
Total BOD	S <sub>BOD,i</sub>	450	mgBOD/l
Total COD	S <sub>COD,i</sub>	850	mgCOD/l
COD/BOD ratio	-	1.89	-
Rapidly biodegradable COD	S <sub>s,i</sub>	213	mgCOD/l
Volitale fatty acids (VFA)	S <sub>VFA,i</sub>	32	mgCOD/l
Fermentable COD	S <sub>F,i</sub>	180	mgCOD/l
Slowly biodegradable COD	S <sub>ss,i</sub>	459	mgCOD/l
Biodegradable COD	S <sub>bio,i</sub>	672	mgCOD/l
Soluble inert COD	S <sub>SIN,i</sub>	51	mgCOD/l
Particulate inert COD	S <sub>PIN,i</sub>	128	mgCOD/l

Influent Characteristics	Symbol	Value	Units
NO <sub>3</sub>	N <sub>NO3,i</sub>	0.0	mg/l
NH <sub>4</sub>	N <sub>a,i</sub>	40.0	mg/l
TKN	N <sub>TKN,i</sub>	60.0	mg/l
TP	P <sub>i</sub>	10.0	mg/l
Dissolved Oxygen	S <sub>O2,i</sub>	0.0	mg/l
FSA fraction	f <sub>a/TKN,i</sub>	0.7	-
Fixed (inorganic) suspended solids	X <sub>FSS,i</sub>	47.5	mgISS/l
TSS concentration	S <sub>TSS,i</sub>	300.0	mgTSS/l
Total BOD mass	FS <sub>BOD,i</sub>	425.8	kgBOD/d
Total COD mass	FS <sub>COD,i</sub>	804.3	kgCOD/d
Total NH <sub>4</sub> mass	FS <sub>a,i</sub>	37.9	kgNH <sub>4</sub> /d
Total TKN mass	FS <sub>TKN,i</sub>	56.8	kgTKN/d
Total P mass	FS <sub>P,i</sub>	9.5	kgP/d

Effluent Characteristics	Symbol	Value	Units
Waste Sludge	$FX_t$	464	lb/d
Waste Sludge	$Q_w$	6,599	gpd
Effluent BOD	$S_{BOD,e}$	< 3	mgBOD/l
Effluent COD	$S_{COD,e}$	51	mgCOD/l
Effluent TSS	$S_{TSS,e}$	1.0	mgTSS/l
Effluent P	$P_e$	1.0	mgP/l
Effluent $NH_4$	$N_{a,e}$	0.4	mgN/l
Effluent $NO_3$	$N_{NO_3,e}$	0.0	mgN/l
Effluent TN ( $N_{ne} + N_{te}$ )	$N_{t,e}$	2.2	mgN/l

Bioreactor Characteristics	Symbol	Value	Units	Biological Oxygen Demand	Symbol	Value	Units
Temperature	$T_{bio}$	20	°C	OD for synth & endo respiration (PAO)	$FO_{PAO}$	0	kgO <sub>2</sub> /d
Sludge retention time / Sludge age	SRT	25	d	OD for synth & endo respiration (OHO)	$FO_{OHO}$	516	kgO <sub>2</sub> /d
Reactor volume	$V_{P,chosen}$	173,983	gallons	Mass carbonaceous oxygen demand	$FO_C$	516	kgO <sub>2</sub> /d
Reactor volume	$V_{P,chosen}$	659	m <sup>3</sup>	Carbonaceous oxygen utilization rate	$O_c$	78%	-
Reactor volume	$V_{P,calc}$	164,976	gallons	Nitrification oxygen demand	$FO_n$	161	kgO <sub>2</sub> /d
Average MLSS concentration	$X_{TSS}$	8,500	mgTSS/l	Total oxygen demand	$FO_t$	678	kgO <sub>2</sub> /d
Food to microorganism ratio	$F/M_{BOD,used}$	0.080	kgBOD/kgMLSS	Oxygen recovered by denitrification	$FO_d$	101	kgO <sub>2</sub> /d
Food to microorganism ratio	$F/M_{COD,used}$	0.152	kgCOD/kgMLSS	Net total oxygen demand (AOR)	$FO_{td}$	576	kgO <sub>2</sub> /d
Membrane tank MLSS concentration	$X_M$	10,146	mgTSS/l	Oxygen saturation @ operating temp.	$c_s$	9.2	mg/l
Aerobic/Anoxic tank MLSS concentration	$X_{Bio}$	8,330	mgTSS/l	Desired oxygen level	$c_x$	2.0	mg/l
Number of anaerobic zones	$\#_{AN}$	0	-	Transfer coefficient	$\alpha$	0.40	-
Number of anoxic zones	$\#_{AO}$	1	-	Diffuser water depth	DWD	14	feet
Number of aerobic zones	$\#_{AE}$	1	-	Oxygen transfer efficiency	OTE	2	%
External recycle ratio	$m$	5	-	Standard total oxygen demand (SOR)	SOR	1,861	kgO <sub>2</sub> /d
Internal recycle ratio	$a$	0	-	Required air flow	$Q_{air}$	588	scfm
DO in m recycle	$O_m$	0	mgO <sub>2</sub> /l	Oxygen requir. per volume & depth	OS	18.2	gO <sub>2</sub> /(Nm <sub>3</sub> *mD)
DO in a recycle	$O_a$	0	mgO <sub>2</sub> /l				
Recycle ratio to anaerobic tank (PAO)	$s$	0	-				
DO in s recycle	$S_{O_2,s}$	0	mgO <sub>2</sub> /l				
Nitrate on s recycle	$S_{NO_3,s}$	0	mg/l				
TKN/COD ratio	$f_{TKN/COD}$	0.071	mgTKN/mgCOD				
Carbon source addition (Micro C)	$B_{MicroC}$	0.0	lb/d				
Carbon source addition (Micro C)	$S_{MicroC}$	0.00	gpd				
Nominal hydraulic retention time	$HRT_n$	16.7	h				
Actual hydraulic retention time	$HRT_a$	2.8	h				



## Membrane Module Design

	Symbol	Value	Units
Permeate on cycle	$T_o$	8	minute
Permeate off cycle (relaxation)	$T_s$	2	minute
Effective membrane module surface	$A_{m,eff}$	84.0	m <sup>2</sup>
Effective membrane module surface	$A_{m,eff}$	904	ft <sup>2</sup>
Total number of membrane modules	$N_M$	72	-
Total membrane module surface	$A_{total}$	6,048	m <sup>2</sup>
Total membrane module surface	$A_{total}$	65,100	ft <sup>2</sup>
Nominal average daily flux	$Q_{ave,n}$	8.1	lmh
Nominal max. daily flux	$Q_{ave,n,max,mo}$	20.4	lmh
Nominal peak hourly flux	$Q_{peak,n}$	32.6	lmh
Average daily flux (excluding rest cycle)	$Q_{ave,n}$	3.8	gfd
Max. Daily flux (ex. rest cycle)	$Q_{ave,n,max,mo}$	9.6	gfd
Peak hourly flux (ex. rest cycle)	$Q_{peak,n}$	15.4	gfd
Total membrane module displacement vol.	$V_{modules}$	792	ft <sup>3</sup>
Total membrane module displacement vol.	$V_{modules}$	5,924	gallons
Aeration modules	$A\#$	24	-
Membrane module aeration requirement	$Q_{am}$	28.5	acfm
Total membrane modules aeration	$Q_{am,total}$	684	acfm
Membrane diffuser water depth	$DWD_m$	13.0	feet
Oxygen requirement per volume & depth	OS	14	gO <sub>2</sub> /(Nm <sub>3</sub> *m <sub>D</sub> )
Standard oxygen rate, membrane aeration	$SOR_m$	3,293	lbO <sub>2</sub> /d
Standard oxygen rate, membrane aeration	$SOR_m$	1,508	kgO <sub>2</sub> /d



- ✓ Patented, innovative A3's MaxFlow™ membrane filtration modules manufactured in USA.
- ✓ The MaxFlow™ module "open channel design" provides optimal biofilm control, minimizes the quantity of chemical cleaning procedures and avoids module clogging.
- ✓ The compact module design enables dual-stack and triple-stack installations. It allows for a high membrane packing density resulting in a small footprint and high energy efficiency.
- ✓ Most existing conventional treatment plants can be retrofitted with MaxFlow™ membranes due to the

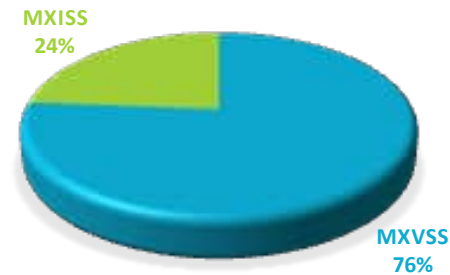
Kinetic Constants	Symbol	Value	Units	Stoichiometric Constants	Symbol	Value	Units
Yield coefficient OHO	$Y_{OHO}$	0.40	mgVSS/mgCOD	COD/BOD ratio	-	1.89	-
Yield coefficient OHO,OBS	$Y_{OHO,obs}$	0.06	mgVSS/mgCOD	Readily biodeg. org. fraction (RBCOD)	$f_{s,COD}$	0.25	g/gTCOD
Fermentation rate at 20°C	$k_{F,20}$	0.06	m3/gVSSd	Non-biodegradable particulate COD	$f_{PNb,COD}$	0.15	g/gTCOD
Temperature coefficient for $k_{F,T}$	$\Theta_{kF}$	1.029	-	Non-biodegradable soluble COD	$f_{SNb,COD}$	0.06	g/gTCOD
Fermentation rate at T	$k_{F,T}$	0.06	m3/gVSSd	SVFA fraction of RBCOD	$f_{SVFA,SSI}$	0.15	g/gCOD <sub>SS</sub>
Endogenous respiration rate (decay)	$b_{OHO,20}$	0.24	gVSS/gVSSd	VSS/TSS of activated sludge	$f_{VT}$	0.76	mgVSS/mgTSS
Endogenous respiration rate T	$b_{OHO,T}$	0.24	gVSS/gVSSd	COD/VSS of activated sludge	$f_{cv}$	1.48	kgCOD/kgVSS
Yield coefficient FSA	$Y_A$	0.10	mgVSS/mgFSA	True synthesis fraction	$f_s^0$	0.57	-
Nitri. pH sensitivity coefficient	$K_I$	1.13	-	Endogenous residue fraction	$f_{H/E,OHO}$	0.2	-
Nitri. pH sensitivity coefficient	$K_{max}$	9.50	-	ISS content of OHOs	$f_{ISS,OHO}$	0.15	-
Nitri. pH sensitivity coefficient	$K_{II}$	0.30	-	Active fraction - VSS	$f_{avOHO}$	23%	-
Max. specific growth rate at 20°C	$\mu_{Am}$	0.45	1/d	Active fraction - TSS	$f_{at}$	17%	-
Max. spec. growth rate - Temp/pH	$\mu_{AmTpH}$	0.38	1/d	Influent FSA fraction	$f_{FSA,i}$	0.67	-
Half saturation coefficient	$K_n$	0.75	mgFSA/l	Non-bio. soluble orgN fraction (inerts)	$f_{SNb,N}$	0.03	-
Half saturation coefficient - Temp	$K_{nT}$	0.75	mgFSA/l	Non-bio. particulate orgN fraction	$f_n$	0.12	-
Endogenous respiration rate (decay)	$b_A$	0.04	1/d	Permissible unaer. sludge mass fraction	$f_{xm}$	0.75	-
Temperature coefficient for $k_{F,T}$	$\theta_n$	1.123	-	Design unaerated sludge mass fraction	$f_{xt}$	0.36	-
Endogenous respiration rate T	$b_{AT}$	0.040	1/d	Minimum primary anoxic mass fraction	$f_{x1min}$	0.04	-
Temperature sensitivity coefficient	$\Theta_{nk1}$	1.20	-	Primary anoxic mass fraction	$f_{x1}$	0.36	-
Temperature sensitivity coefficient	$\Theta_{nk2}$	1.05	-	Secondary anoxic mass fraction	$f_{x2}$	0.00	-
Temperature sensitivity coefficient	$\Theta_{nk3}$	1.03	-	Anaerobic mass fraction	$f_{AN}$	0.00	-
Denitrification rates at 20°C	$k_1$	0.70	-	Non-bio. particulate orgP fraction	$f_{P,XE,OHO}$	0.05	mgP/mgVSS
Denitrification rates at 20°C	$k_2$	0.10	-	Endogenous residue fraction	$f_{XE,PAO}$	0.25	gEVSS/gAVSS
Denitrification rates at 20°C	$k_3$	0.08	-	P fraction in active PAO mass	$f_{P,PAO}$	0.38	gP/gAVSS
Denitrification rates	$k_{1T}$	0.700	-	VSS/TSS ratio for PAO active mass	$f_{VT,PAO}$	0.46	gVSS/gTSS
Denitrification rates	$k_{2T}$	0.101	-	Ratio of P release /VFA uptake	$f_{PO4,REL}$	0.5	gP/gCOD
Denitrification rates	$k_{3T}$	0.080	-	Frac. of fixed inorganic s. solids of PAO	$f_{FSS,PAO}$	1.3	gFSS/gAVSS
Yield coefficient PAO	$Y_{PAO}$	0.45	gAVSS/gCOD	P content of TSS	$f_{P,TSS}$	0.040	gP/gTSS
Yield coefficient PAO	$Y_{PAO,obs}$	0.20	gAVSS/gCOD	P content of VSS	$f_{P,FSS,i}$	0.02	gP/gVSS
Endogenous respiration rate (decay)	$b_{PAO,20}$	0.04	gEVSS/gCOD	TKN/COD ratio	$f_{ns}$	0.07	mgTKN/mgCOD
Temperature coefficient for $k_{F,T}$	$\Theta_{b,PAO}$	1.029	-	Nitrogen content of active biomass	$f_{N,VSS}$	0.10	gN/gAVSS
Endogenous respiration rate T	$b_{PAO,T}$	0.04	gEVSS/gVSSd				

## Biological Mass Balance

	Symbol	Value	Units
Sludge age	SRT	25 d	
Mixed liquor suspended solids	X <sub>TSS</sub>	8,500 mgTSS/l	
Readiable biodegradabe COD flux	FS <sub>S,i</sub>	201 kgCOD/d	
Daily flux of VFAs	FS <sub>VFA,i</sub>	30 kgCOD/d	
Daily flux of fermentable COD	FS <sub>F,i</sub>	171 kgCOD/d	
Daily flux of biodegradable COD	FS <sub>bio,i</sub>	635 kgCOD/d	
Daily flux of particulate inert COD	FS <sub>PIN,i</sub>	121 kgCOD/d	
Daily flux of fixed inorganic sus. solids	FS <sub>ISS,i</sub>	45 kgISS/d	
Influent particulate non-bio. COD	FX <sub>VSS,i</sub>	82 kgVSS/d	
Mass nitrogen into sludge prod.	FN <sub>Sludge</sub>	19 kgN/d	
Mass of nitrate generated per day	FN <sub>NO3</sub>	35 kgN/d	
VFAs stored by PAOs	FS <sub>S,PAO</sub>	0 kgCOD/d	
Remaining biodegradable COD	FCOD <sub>b,OH0</sub>	635 kgCOD/d	
Mass nitrifiers	MX <sub>A</sub>	44 kgVSS	
Active biomass PAO	MX <sub>PAO</sub>	0 KgAVSS	
Endogenous active biomass PAO	MX <sub>E,PAO</sub>	0 kgEVSS	
Bio mass	MX <sub>bio</sub>	913 kgVSS	
Active organism mass	MX <sub>OH0</sub>	913 kgVSS	
Endogenous residue mass	MX <sub>E,OH0</sub>	1,096 kgVSS	
Non-biodegradable particulate mass	MX <sub>Iv</sub>	2,038 kgVSS	
Volatile suspended solids mass	MX <sub>VSS</sub>	4,047 kgVSS	
Inorganic suspended solid mass	MX <sub>ISS</sub>	1,261 kgISS	
Total suspended solids mass	MX <sub>TSS</sub>	5,308 kgTSS	
Mass/Sludge TSS wasted	FX <sub>t</sub>	212 KgTSS/d	
Mass/Sludge VSS wasted	FX <sub>v</sub>	162 kgVSS/d	
Effluent COD	S <sub>COD,e</sub>	51 mgCOD/l	
COD mass out (effluent and waste)	FS <sub>COD,e</sub>	48 kgCOD/d	
Mass/Sludge COD wasted	FX <sub>COD,s</sub>	240 kgCOD/d	

## Alkalinity

	Symbol	Value	Units
Alkalinity Nitrification as CaCO <sub>3</sub> (consumed)	Alk <sub>Nitri</sub>	266 mg/l as CaCO <sub>3</sub>	
Alkalinity Denitrification as CaCO <sub>3</sub> (recovered)	Alk <sub>Denitri</sub>	134 mg/l as CaCO <sub>3</sub>	
Alkalinity <sub>ef</sub>	Alk <sub>e</sub>	100 mg/l as CaCO <sub>3</sub>	
Alkalinity <sub>inf</sub>	Alk <sub>i</sub>	250 mg/l as CaCO <sub>3</sub>	
Alkalinity Alum (consumed)	Alk <sub>Alum</sub>	0.0 mg/l as CaCO <sub>3</sub>	
Alkalinity Total	Alk <sub>total</sub>	118 mg/l as CaCO <sub>3</sub>	
Alkalinity Added	Alk <sub>added</sub>	-18 mg/l as CaCO <sub>3</sub>	
Alkalinity Added	XAlk <sub>added</sub>	0 lb/d	
Density caustic solution (50%)	-	12.76 lb/gal	
Alkalinity recovered	Alk <sub>recovered</sub>	0.4 lbCaCO <sub>3</sub> /lb	
Caustic needed	-	0.0 lb/d	
Caustic needed	-	0.0 gpd	



$$V_p = \frac{MX_{TSS}}{X_{TSS}}$$

$$FX_t = \frac{MX_{TSS}}{SRT}$$

$$MX_{TSS} = MX_{ISS} + MX_{VSS}$$

## N Removal

	Symbol	Value	Units
Factor of safety	$S_f$	1.2	-
Nitrogen requirements	$FN_{\text{synth}}$	16	kgN/d
Nitrogen requirements	$TKN_{i,\text{synth}}$	17.11	gN/m <sup>3</sup>
Influent non-bio. soluble organic N	$N_{\text{nbios},i}$	1.8	mgN/l
Influent non-bio. particulate org. N	$N_{\text{nbio},i}$	10.3	mgN/l
Influent biodegradable organic N	$N_{\text{bio},i}$	18.2	mgN/l
Effluent non-bio. soluble organic N	$N_{\text{nbios},e}$	1.8	mgN/l
NH <sub>4</sub> concentration avail. for nitr.	$N_{\text{an}}$	37.7	mgN/l
Effluent ammonia	$N_{\text{a},e}$	0.4	mgN/l
Effluent TKN	$N_{\text{TKN},e}$	2.2	mgN/l
N concentration into sludge prod.	$N_s$	20.5	mgN/l
Nitrification capacity	$N_c$	37.3	mgN/l
Denitrification potential RBCOD	$D_{p1\text{RBCOD}}$	30.0	mgNO <sub>3</sub> -N/l
Denitrification potential SBCOD	$D_{p1\text{SBCOD}}$	35.2	mgNO <sub>3</sub> -N/l
Denitrification potential RBCOD	$D_{p3\text{RBCOD}}$	0.0	mgNO <sub>3</sub> -N/l
Denitrification potential SBCOD	$D_{p3\text{SBCOD}}$	0.0	mgNO <sub>3</sub> -N/l
Minimum sludge age for nitr.	$SRT_m$	4.9	d
Denitrification potential primary tank	$D_{p1}$	65.3	mgN/l
Denitrification potential secondary tank	$D_{p3}$	0.0	mgN/l
Denitri. potential recycle rate ( $f_{xm} = f_{x\text{dm}}$ )	$D_{p^*}$	31.1	mgN/l
Effluent nitrate	$N_{\text{NO}_3,e}$	0.0	mgN/l
Effluent nitrate @ $f_{x\text{dm}}$ & recycle rate	$N_{\text{NO}_3,e^*}$	6.2	mgN/l

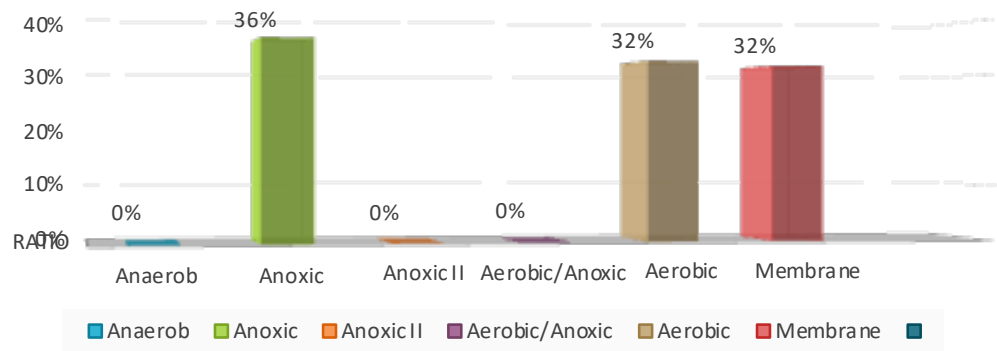
## P Removal

	Symbol	Value	Units
COD lost in anaerobic reactor	$S_{F,\text{ANh}}$	0.0	gCOD/m <sup>3</sup>
COD lost in anaerobic reactor	$S_{F,\text{ANh}^*}$	0.0	gCOD/m <sup>3</sup>
Fermentable COD for AN reactor	$S_{F,i,\text{conv}}$	0.0	gCOD/m <sup>3</sup>
DO in influent	$S_{\text{O}_2,i}$	0.0	mgO <sub>2</sub> /l
PO <sub>4</sub> release AN reactor	$S_{\text{PO}_4,\text{rel}}$	0.0	gP/m <sup>3</sup>
P removal by PAOs	$\Delta P_{\text{PAO}}$	0.0	gP/m <sup>3</sup>
P removal by OHOs	$\Delta P_{\text{OHO}}$	1.2	gP/m <sup>3</sup>
P removal by endogenous biomass	$\Delta P_{\text{XE}}$	2.3	gP/m <sup>3</sup>
P removal by influent inert mass	$\Delta P_{\text{XI}}$	4.3	gP/m <sup>3</sup>
P into sludge production	$P_s$	6.9	gP/m <sup>3</sup>
Potential P removal by system	$\Delta P_{\text{SYS,POT}}$	14.7	gP/m <sup>3</sup>
Actual P removal by system	$\Delta P_{\text{SYS,ACT}}$	10.0	gP/m <sup>3</sup>
Effluent particulate P from TSS	$X_{p,e}$	0.0	gP/m <sup>3</sup>
Influent total P	$P_i$	10.0	gP/m <sup>3</sup>
Effluent total P	$P_{e^*}$	0.0	gP/m <sup>3</sup>
P precipitated	$P_{\text{prec}}$	0.0	mgP/l
Precipitation chemical	$B_{\text{Alum}}$	0.0	lb/d
Precipitation chemical	Solution	0.0	gal/d
Density Alum	$Z_{\text{AL}}^{3+}$	0.100	lb <sub>AL</sub> /lb <sub>prec</sub>
Density Iron	$Z_{\text{FE}}^{3+}$	0.077	lb <sub>FE</sub> /lb <sub>prec</sub>
Alum efficiency	-	40.0	g/kg
Chemical precipitation sludge	-	0.0	lb/d

# Mechanical Process Calculation

Tank Dimensions	Trains	Length	Width	Dia.	Degree	Height	Liquid level	Volume per train	Volume Total	Volume Total
Anaerob	0	.00 ft	.00 ft	.00 ft	0.0	.00 ft	.00 ft	gal	gal	0.0 m3
Anoxic I	2	11.00 ft	25.50 ft	.00 ft	0.0	17.00 ft	14.98 ft	31,434 gal	62,869 gal	238.0 m3
Aerobic	2	10.00 ft	25.50 ft	.00 ft	0.0	17.00 ft	14.74 ft	28,117 gal	56,234 gal	212.8 m3
Anoxic II	0	.00 ft	.00 ft	.00 ft	0.0	.00 ft	.00 ft	gal	gal	0.0 m3
Anoxic Buffer	0	.00 ft	.00 ft	.00 ft	0.0	.00 ft	.00 ft	gal	gal	0.0 m3
Membrane	2	23.00 ft	11.00 ft	.00 ft	0.0	17.00 ft	14.50 ft	27,440 gal	54,881 gal	207.7 m3
Sludge	0	.00 ft	.00 ft	.00 ft	0.0	.00 ft	.00 ft	gal	gal	0.0 m3
EQ	0	.00 ft	.00 ft	.00 ft	0.0	.00 ft	.00 ft	gal	gal	0.0 m3

Tank Design	Symbol	Value	Units
Total process tank volume	173,983	gallons	Weir level
Total process tank volume <sub>calc</sub>	<b>164,976</b>	gallons	Weir length
Un aerated tank percentage	36	%	Velocity
Total tank volume	<b>173,983</b>	gallons	Vertical tank
Membrane modules volume	5,924	gallons	Horz. Tank
F/M <sub>used,BOD</sub>	0.080	kgBOD/kgMLSS	Diameter
F/M <sub>used,COD</sub>	0.152	kgCOD/kgMLSS	



Process Volume Distribution

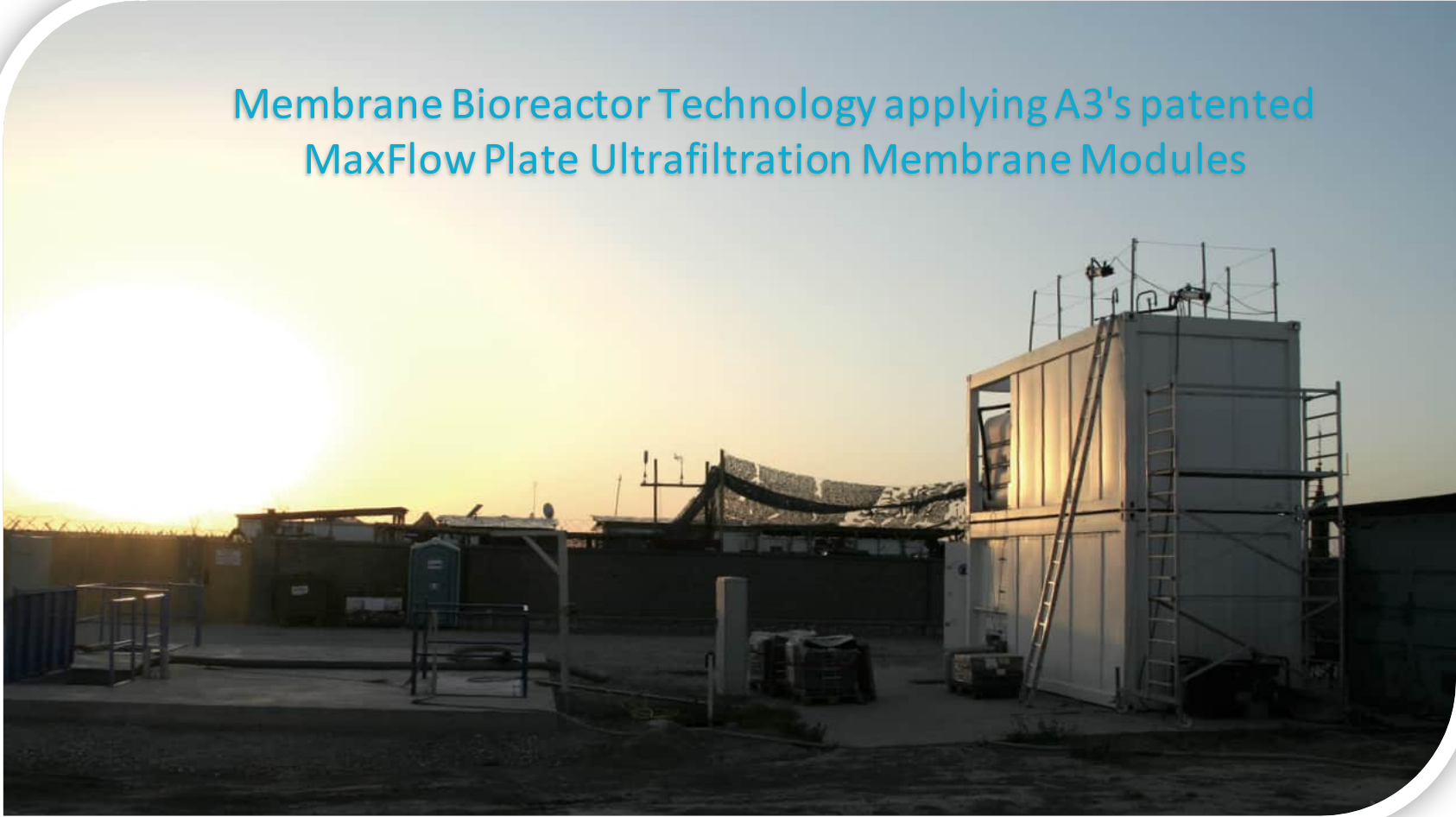
Air Flow Design	Symbol	Membrane per train	Aerobic per train	Sludge	EQ	Unit
Minimum air flow	$Q_{A, re}$	342	294	0	0	acfm / scfm
Chosen air flow - actual	$Q_{A, chosen}$	343	277	0	0	acfm
Chosen air flow - inlet	$Q_{A, chosen}$	635	500	0	0	m <sup>3</sup> /h
Chosen air flow - inlet	$Q_{A, chosen}$	<b>374</b>	<b>294</b>	<b>0</b>	<b>0</b>	scfm
Chosen air flow - piping	$Q_{A, chosen}$	248	195	0	0	acfm
Pipe pressure	$p_b$	7.5	7.5	0.0	0.0	psi
Pipe losses	H	0.26	0.17	0.00	0.00	psi
Equivalent length in pipe losses	$L_p$	400	400	400	400	feet
Pipe diameter	d	4.0	4.0	2.0	2.0	inches
Internal pipe diameter	$d_i$	4.26	4.26	2.16	2.16	inches
Standard temperature	$T_1$	293	293	293	293	K
Pipe temperature	$T_2$	329	329	293	293	K
Constant	f	0.02	0.02	0.09	0.09	-
Air velocity	v	41.7	32.9	0.0	0.0	fps
Atmospheric pressure	$p_{a, l}$	14.7	14.7	14.7	14.7	psi
Absolute pressure	$p_2$	22.2	22.2	14.7	14.7	psi
Pressure due to tank liquid level	$p_{DWD, m}$	5.7	6.2	0.0	0.0	psi
Pressure due to aeration device	$p_{DWD}$	0.8	0.7	0.5	0.5	psi
Pressure due to pipe losses & elev.	$p_{DWD, s}$	0.5	0.4	0.2	0.2	psi
Total pipe losses	$p_t$	6.9	7.3	0.7	0.7	psi
Total pipe losses	$p_t$	476.9	501.0	48.3	48.3	mbar

$$H = 9.82 \cdot 10^{-8} \cdot \frac{(f \cdot L_p \cdot T_2 \cdot Q_{A, chosen})}{(p_2 d_i)^5}$$

$$f = \frac{(0.029 \cdot d_i^{0.027})}{Q_{A, chosen}^{0.148}} \quad T_2 = T_1 \left( \frac{p_2}{p_{a, l}} \right)^{0.283}$$



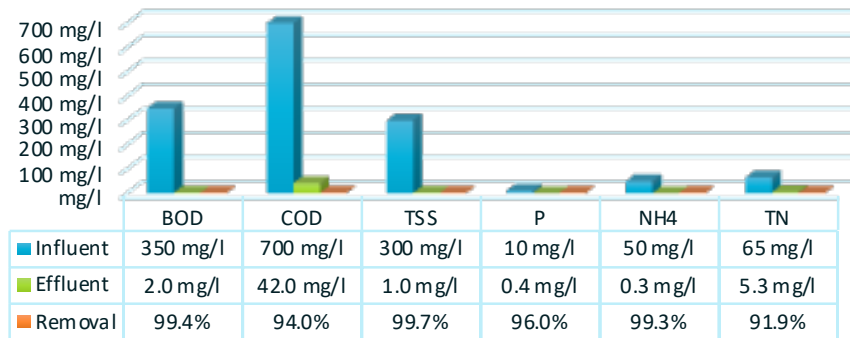
Membrane Bioreactor Technology applying A3's patented  
MaxFlow Plate Ultrafiltration Membrane Modules





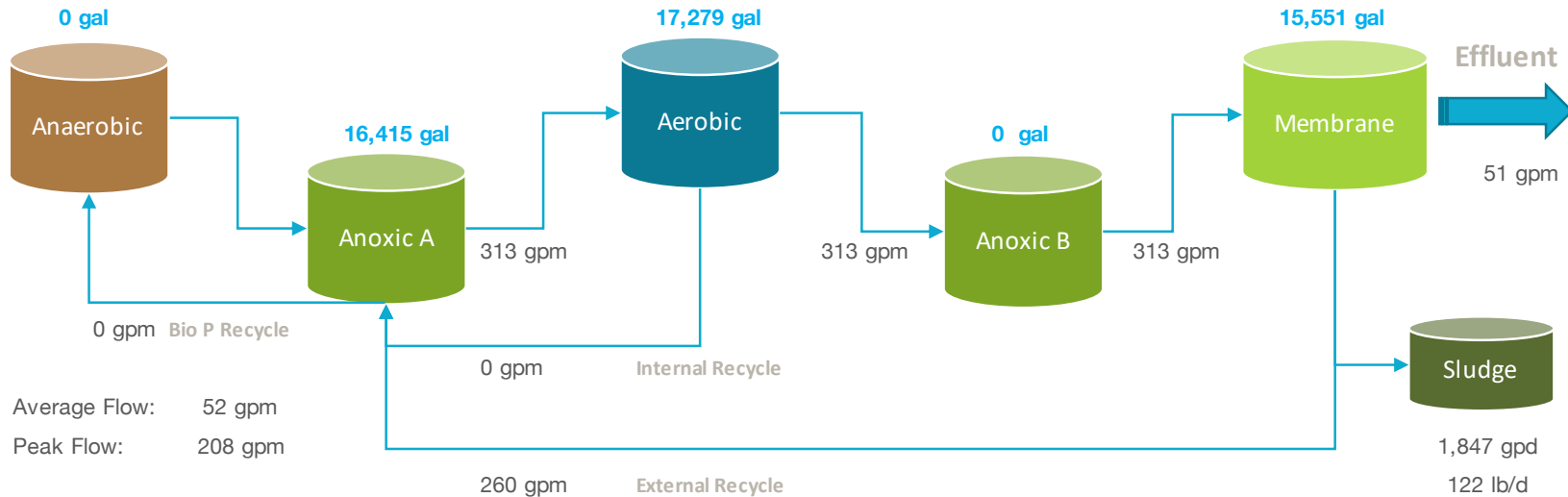
# Process Summary

## Influent & Effluent Parameters



## PROCESS PARAMETERS

Sludge Age	25 d
Total Reactor Volume	49,245 gal
Total SOR	481 kgO <sub>2</sub> /d
MLSS in Anoxic / Aerobic Tank	7,894 mg/l
MLSS in Membrane Tank	9,553 mg/l
HRT	16 h
F/M RATIO (BOD)	0.071
F/M RATIO (COD)	0.142
Total Membrane Surface	22,669 sf



Aeration	Flow	Pressure
EQ	0 scfm	0.0 psi
Sludge	0 scfm	0.0 psi
Aerobic	194 scfm	6.0 psi
Membrane	382 scfm	6.0 psi

## Applied Options:

NO	DAF
NO	RO

6/27/23

## Biological Process Calculation

Influent Characteristics	Symbol	Value	Units
Type of wastewater		municipal	
Temperature	T	15	°C
pH	-	7.0	-
H <sub>2</sub> CO <sub>3</sub> alkalinity	Alk <sub>i</sub>	300	mg/l as CaCO <sub>3</sub>
Site pressure / elevation	p <sub>a,i</sub>	14.5	psi
Average daily flow	Q <sub>i</sub>	75,000	gpd
Peak daily flow	Q <sub>i, max,d</sub>	187,500	gpd
Hourly peak flow	Q <sub>i, max,p</sub>	208	gpm
Peak factor	-	4.0	-
Average daily flow	Q <sub>i</sub>	284	m <sup>3</sup> /d
Max. monthly average daily flow	Q <sub>i, max,d</sub>	710	m <sup>3</sup> /d
Hourly peak flow	Q <sub>i, max,h</sub>	47.3	m <sup>3</sup> /h
Total BOD	S <sub>BOD,i</sub>	350	mgBOD/l
Total COD	S <sub>COD,i</sub>	700	mgCOD/l
COD/BOD ratio	-	2.00	-
Rapidly biodegradable COD	S <sub>s,i</sub>	175	mgCOD/l
Volitale fatty acids (VFA)	S <sub>VFA,i</sub>	26	mgCOD/l
Fermentable COD	S <sub>F,i</sub>	149	mgCOD/l
Slowly biodegradable COD	S <sub>ss,i</sub>	378	mgCOD/l
Biodegradable COD	S <sub>bio,i</sub>	553	mgCOD/l
Soluble inert COD	S <sub>SIN,i</sub>	42	mgCOD/l
Particulate inert COD	S <sub>PIN,i</sub>	105	mgCOD/l

Influent Characteristics	Symbol	Value	Units
NO <sub>3</sub>	N <sub>NO3,i</sub>	0.0	mg/l
NH <sub>4</sub>	N <sub>a,i</sub>	50.0	mg/l
TKN	N <sub>TKN,i</sub>	65.0	mg/l
TP	P <sub>i</sub>	10.0	mg/l
Dissolved Oxygen	S <sub>O2,i</sub>	0.0	mg/l
FSA fraction	f <sub>a/TKN,i</sub>	0.8	-
Fixed (inorganic) suspended solids	X <sub>FSS,i</sub>	47.5	mgISS/l
TSS concentration	S <sub>TSS,i</sub>	300.0	mgTSS/l
Total BOD mass	FS <sub>BOD,i</sub>	99.4	kgBOD/d
Total COD mass	FS <sub>COD,i</sub>	198.7	kgCOD/d
Total NH <sub>4</sub> mass	FS <sub>a,i</sub>	14.2	kgNH <sub>4</sub> /d
Total TKN mass	FS <sub>TKN,i</sub>	18.5	kgTKN/d
Total P mass	FS <sub>P,i</sub>	2.8	kgP/d

Effluent Characteristics	Symbol	Value	Units
Waste Sludge	$FX_i$	122	lb/d
Waste Sludge	$Q_w$	1,847	gpd
Effluent BOD	$S_{BOD,e}$	< 3	mgBOD/l
Effluent COD	$S_{COD,e}$	42	mgCOD/l
Effluent TSS	$S_{TSS,e}$	1.0	mgTSS/l
Effluent P	$P_e$	0.4	mgP/l
Effluent $NH_4$	$N_{a,e}$	0.3	mgN/l
Effluent $NO_3$	$N_{NO_3,e}$	3.0	mgN/l
Effluent TN ( $N_{ne} + N_{te}$ )	$N_{t,e}$	5.3	mgN/l

Bioreactor Characteristics	Symbol	Value	Units	Biological Oxygen Demand	Symbol	Value	Units
Temperature	$T_{bio}$	15	°C	OD for synth & endo respiration (PAO)	$FO_{PAO}$	0	kgO <sub>2</sub> /d
Sludge retention time / Sludge age	SRT	25	d	OD for synth & endo respiration (OHO)	$FO_{OHO}$	126	kgO <sub>2</sub> /d
Reactor volume	$V_{P,chosen}$	49,245	gallons	Mass carbonaceous oxygen demand	$FO_C$	126	kgO <sub>2</sub> /d
Reactor volume	$V_{P,chosen}$	186	m <sup>3</sup>	Carbonaceous oxygen utilization rate	$O_c$	68%	-
Reactor volume	$V_{P,calc}$	46,183	gallons	Nitrification oxygen demand	$FO_n$	59	kgO <sub>2</sub> /d
Average MLSS concentration	$X_{TSS}$	8,000	mgTSS/l	Total oxygen demand	$FO_t$	185	kgO <sub>2</sub> /d
Food to microorganism ratio	$F/M_{BOD,used}$	0.071	kgBOD/kgMLSS	Oxygen recovered by denitrification	$FO_d$	35	kgO <sub>2</sub> /d
Food to microorganism ratio	$F/M_{COD,used}$	0.142	kgCOD/kgMLSS	Net total oxygen demand (AOR)	$FO_{td}$	151	kgO <sub>2</sub> /d
Membrane tank MLSS concentration	$X_M$	9,553	mgTSS/l	Oxygen saturation @ operating temp.	$c_s$	10.2	mg/l
Aerobic/Anoxic tank MLSS concentration	$X_{Bio}$	7,894	mgTSS/l	Desired oxygen level	$c_x$	2.0	mg/l
Number of anaerobic zones	$\#_{AN}$	0	-	Transfer coefficient	$\alpha$	0.40	-
Number of anoxic zones	$\#_{AO}$	1	-	Diffuser water depth	DWD	10	feet
Number of aerobic zones	$\#_{AE}$	1	-	Oxygen transfer efficiency	OTE	2	%
External recycle ratio	$m$	5	-	Standard total oxygen demand (SOR)	SOR	481	kgO <sub>2</sub> /d
Internal recycle ratio	$a$	0	-	Required air flow	$Q_{air}$	212	scfm
DO in m recycle	$O_m$	1	mgO <sub>2</sub> /l	Oxygen requir. per volume & depth	OS	18.3	gO <sub>2</sub> /(Nm <sub>3</sub> *mD)
DO in a recycle	$O_a$	0	mgO <sub>2</sub> /l				
Recycle ratio to anaerobic tank (PAO)	$s$	0	-				
DO in s recycle	$S_{O_2,s}$	0	mgO <sub>2</sub> /l				
Nitrate on s recycle	$S_{NO_3,s}$	0	mg/l				
TKN/COD ratio	$f_{TKN/COD}$	0.093	mgTKN/mgCOD				
Carbon source addition (Micro C)	$B_{MicroC}$	0.0	lb/d				
Carbon source addition (Micro C)	$S_{MicroC}$	0.00	gpd				
Nominal hydraulic retention time	$HRT_n$	15.8	h				
Actual hydraulic retention time	$HRT_a$	2.6	h				

## Membrane Module Design

	Symbol	Value	Units
Permeate on cycle	$T_o$	8	minute
Permeate off cycle (relaxation)	$T_s$	2	minute
Effective membrane module surface	$A_{m,eff}$	87.8	m <sup>2</sup>
Effective membrane module surface	$A_{m,eff}$	945	ft <sup>2</sup>
Total number of membrane modules	$N_M$	24	-
Total membrane module surface	$A_{total}$	2,106	m <sup>2</sup>
Total membrane module surface	$A_{total}$	22,669	ft <sup>2</sup>
Nominal average daily flux	$Q_{ave,n}$	7.0	lmh
Nominal max. daily flux	$Q_{ave,n,max,mo}$	17.6	lmh
Nominal peak hourly flux	$Q_{peak,n}$	28.1	lmh
Average daily flux (excluding rest cycle)	$Q_{ave,n}$	3.3	gfd
Max. Daily flux (ex. rest cycle)	$Q_{ave,n,max,mo}$	8.3	gfd
Peak hourly flux (ex. rest cycle)	$Q_{peak,n}$	13.2	gfd
Total membrane module displacement vol.	$V_{modules}$	264	ft <sup>3</sup>
Total membrane module displacement vol.	$V_{modules}$	1,975	gallons
Aeration modules	$A\#$	12	-
Membrane module aeration requirement	$Q_{am}$	28.5	acfm
Total membrane modules aeration	$Q_{am,total}$	342	acfm
Membrane diffuser water depth	$DWD_m$	9.0	feet
Oxygen requirement per volume & depth	$OS$	14	gO <sub>2</sub> /(Nm <sub>3</sub> *m <sub>D</sub> )
Standard oxygen rate, membrane aeration	$SOR_m$	1,144	lbO <sub>2</sub> /d
Standard oxygen rate, membrane aeration	$SOR_m$	524	kgO <sub>2</sub> /d



- ✓ Patented, innovative A3's MaxFlow™ membrane filtration modules manufactured in USA.
- ✓ The MaxFlow™ module "open channel design" provides optimal biofilm control, minimizes the quantity of chemical cleaning procedures and avoids module clogging.
- ✓ The compact module design enables dual-stack and triple-stack installations. It allows for a high membrane packing density resulting in a small footprint and high energy efficiency.
- ✓ Most existing conventional treatment plants can be retrofitted with MaxFlow™ membranes due to the

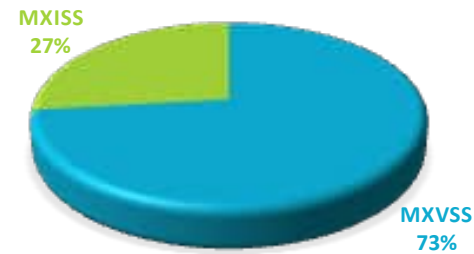
Kinetic Constants	Symbol	Value	Units	Stoichiometric Constants	Symbol	Value	Units
Yield coefficient OHO	$Y_{OHO}$	0.40	mgVSS/mgCOD	COD/BOD ratio	-	2.00	-
Yield coefficient OHO,OBS	$Y_{OHO,obs}$	0.06	mgVSS/mgCOD	Readily biodeg. org. fraction (RBCOD)	$f_{s,COD}$	0.25	g/gTCOD
Fermentation rate at 20°C	$k_{F,20}$	0.06	m3/gVSSd	Non-biodegradable particulate COD	$f_{PNb,COD}$	0.15	g/gTCOD
Temperature coefficient for $k_{F,T}$	$\Theta_{kF}$	1.029	-	Non-biodegradable soluble COD	$f_{SNb,COD}$	0.06	g/gTCOD
Fermentation rate at T	$k_{F,T}$	0.05	m3/gVSSd	SVFA fraction of RBCOD	$f_{SVFA,SSI}$	0.15	g/gCOD <sub>SS</sub>
Endogenous respiration rate (decay)	$b_{OHO,20}$	0.24	gVSS/gVSSd	VSS/TSS of activated sludge	$f_{VT}$	0.73	mgVSS/mgTSS
Endogenous respiration rate T	$b_{OHO,T}$	0.21	gVSS/gVSSd	COD/VSS of activated sludge	$f_{cv}$	1.48	kgCOD/kgVSS
Yield coefficient FSA	$Y_A$	0.10	mgVSS/mgFSA	True synthesis fraction	$f_s^0$	0.57	-
Nitri. pH sensitivity coefficient	$K_I$	1.13	-	Endogenous residue fraction	$f_{H/E,OHO}$	0.2	-
Nitri. pH sensitivity coefficient	$K_{max}$	9.50	-	ISS content of OHOs	$f_{ISS,OHO}$	0.15	-
Nitri. pH sensitivity coefficient	$K_{II}$	0.30	-	Active fraction - VSS	$f_{avOHO}$	25%	-
Max. specific growth rate at 20°C	$\mu_{Am}$	0.45	1/d	Active fraction - TSS	$f_{at}$	18%	-
Max. spec. growth rate - Temp/pH	$\mu_{AmTpH}$	0.21	1/d	Influent FSA fraction	$f_{FSA,i}$	0.77	-
Half saturation coefficient	$K_n$	0.75	mgFSA/l	Non-bio. soluble orgN fraction (inerts)	$f_{SNb,N}$	0.03	-
Half saturation coefficient - Temp	$K_{nT}$	0.42	mgFSA/l	Non-bio. particulate orgN fraction	$f_n$	0.12	-
Endogenous respiration rate (decay)	$b_A$	0.04	1/d	Permissible unaer. sludge mass fraction	$f_{xm}$	0.65	-
Temperature coefficient for $k_{F,T}$	$\theta_n$	1.123	-	Design unaerated sludge mass fraction	$f_{xt}$	0.33	-
Endogenous respiration rate T	$b_{AT}$	0.022	1/d	Minimum primary anoxic mass fraction	$f_{x1min}$	0.08	-
Temperature sensitivity coefficient	$\Theta_{nk1}$	1.20	-	Primary anoxic mass fraction	$f_{x1}$	0.33	-
Temperature sensitivity coefficient	$\Theta_{nk2}$	1.05	-	Secondary anoxic mass fraction	$f_{x2}$	0.00	-
Temperature sensitivity coefficient	$\Theta_{nk3}$	1.03	-	Anaerobic mass fraction	$f_{AN}$	0.00	-
Denitrification rates at 20°C	$k_1$	0.70	-	Non-bio. particulate orgP fraction	$f_{P,XE,OHO}$	0.05	mgP/mgVSS
Denitrification rates at 20°C	$k_2$	0.10	-	Endogenous residue fraction	$f_{XE,PAO}$	0.25	gEVSS/gAVSS
Denitrification rates at 20°C	$k_3$	0.08	-	P fraction in active PAO mass	$f_{P,PAO}$	0.38	gP/gAVSS
Denitrification rates	$k_{1T}$	0.281	-	VSS/TSS ratio for PAO active mass	$f_{VT,PAO}$	0.46	gVSS/gTSS
Denitrification rates	$k_{2T}$	0.079	-	Ratio of P release /VFA uptake	$f_{PO4,REL}$	0.5	gP/gCOD
Denitrification rates	$k_{3T}$	0.069	-	Frac. of fixed inorganic s. solids of PAO	$f_{FSS,PAO}$	1.3	gFSS/gAVSS
Yield coefficient PAO	$Y_{PAO}$	0.45	gAVSS/gCOD	P content of TSS	$f_{P,TSS}$	0.041	gP/gTSS
Yield coefficient PAO	$Y_{PAO,obs}$	0.22	gAVSS/gCOD	P content of VSS	$f_{P,FSS,i}$	0.02	gP/gVSS
Endogenous respiration rate (decay)	$b_{PAO,20}$	0.04	gEVSS/gCOD	TKN/COD ratio	$f_{ns}$	0.09	mgTKN/mgCOD
Temperature coefficient for $k_{F,T}$	$\Theta_{b,PAO}$	1.029	-	Nitrogen content of active biomass	$f_{N,VSS}$	0.10	gN/gAVSS
Endogenous respiration rate T	$b_{PAO,T}$	0.03	gEVSS/gVSSd				

## Biological Mass Balance

	Symbol	Value	Units
Sludge age	SRT	25 d	
Mixed liquor suspended solids	X <sub>TSS</sub>	8,000 mgTSS/l	
Readable biodegradable COD flux	FS <sub>S,i</sub>	50 kgCOD/d	
Daily flux of VFAs	FS <sub>VFA,i</sub>	7 kgCOD/d	
Daily flux of fermentable COD	FS <sub>F,i</sub>	42 kgCOD/d	
Daily flux of biodegradable COD	FS <sub>bio,i</sub>	157 kgCOD/d	
Daily flux of particulate inert COD	FS <sub>PIN,i</sub>	30 kgCOD/d	
Daily flux of fixed inorganic sus. solids	FS <sub>ISS,i</sub>	13 kgISS/d	
Influent particulate non-bio. COD	FX <sub>VSS,i</sub>	20 kgVSS/d	
Mass nitrogen into sludge prod.	FN <sub>Sludge</sub>	5 kgN/d	
Mass of nitrate generated per day	FN <sub>NO3</sub>	13 kgN/d	
VFAs stored by PAOs	FS <sub>S,PAO</sub>	0 kgCOD/d	
Remaining biodegradable COD	FCOD <sub>b,OH0</sub>	157 kgCOD/d	
Mass nitrifiers	MX <sub>A</sub>	21 kgVSS	
Active biomass PAO	MX <sub>PAO</sub>	0 KgAVSS	
Endogenous active biomass PAO	MX <sub>E,PAO</sub>	0 kgEVSS	
Bio mass	MX <sub>bio</sub>	255 kgVSS	
Active organism mass	MX <sub>OH0</sub>	255 kgVSS	
Endogenous residue mass	MX <sub>E,OH0</sub>	265 kgVSS	
Non-biodegradable particulate mass	MX <sub>Iv</sub>	503 kgVSS	
Volatile suspended solids mass	MX <sub>VSS</sub>	1,023 kgVSS	
Inorganic suspended solid mass	MX <sub>ISS</sub>	375 kgISS	
Total suspended solids mass	MX <sub>TSS</sub>	1,398 kgTSS	
Mass/Sludge TSS wasted	FX <sub>t</sub>	56 KgTSS/d	
Mass/Sludge VSS wasted	FX <sub>v</sub>	41 kgVSS/d	
Effluent COD	S <sub>COD,e</sub>	42 mgCOD/l	
COD mass out (effluent and waste)	FS <sub>COD,e</sub>	12 kgCOD/d	
Mass/Sludge COD wasted	FX <sub>COD,s</sub>	61 kgCOD/d	

## Alkalinity

	Symbol	Value	Units
Alkalinity Nitrification as CaCO <sub>3</sub> (consumed)	Alk <sub>Nitri</sub>	324 mg/l as CaCO <sub>3</sub>	
Alkalinity Denitrification as CaCO <sub>3</sub> (recovered)	Alk <sub>Denitri</sub>	174 mg/l as CaCO <sub>3</sub>	
Alkalinity <sub>ef</sub>	Alk <sub>e</sub>	100 mg/l as CaCO <sub>3</sub>	
Alkalinity <sub>inf</sub>	Alk <sub>i</sub>	300 mg/l as CaCO <sub>3</sub>	
Alkalinity Alum (consumed)	Alk <sub>Alum</sub>	0.0 mg/l as CaCO <sub>3</sub>	
Alkalinity Total	Alk <sub>total</sub>	150 mg/l as CaCO <sub>3</sub>	
Alkalinity Added	Alk <sub>added</sub>	-50 mg/l as CaCO <sub>3</sub>	
Alkalinity Added	XAlk <sub>added</sub>	0 lb/d	
Density caustic solution (50%)	-	12.76 lb/gal	
Alkalinity recovered	Alk <sub>recovered</sub>	0.4 lbCaCO <sub>3</sub> /lb	
Caustic needed	-	0.0 lb/d	
Caustic needed	-	0.0 gpd	



$$V_p = \frac{MX_{TSS}}{X_{TSS}}$$

$$FX_t = \frac{MX_{TSS}}{SRT}$$

$$MX_{TSS} = MX_{ISS} + MX_{VSS}$$

## N Removal

	Symbol	Value	Units
Factor of safety	$S_f$	1.2	-
Nitrogen requirements	$FN_{synth}$	4	kgN/d
Nitrogen requirements	$TKN_{i,synth}$	14.42	gN/m <sup>3</sup>
Influent non-bio. soluble organic N	$N_{nbios,i}$	1.95	mgN/l
Influent non-bio. particulate org. N	$N_{nbio,p,i}$	8.5	mgN/l
Influent biodegradable organic N	$N_{bio,i}$	13.1	mgN/l
Effluent non-bio. soluble organic N	$N_{nbios,e}$	1.95	mgN/l
NH <sub>4</sub> concentration avail. for nitri.	$N_{an}$	45.8	mgN/l
Effluent ammonia	$N_{a,e}$	0.3	mgN/l
Effluent TKN	$N_{TKN,e}$	2.3	mgN/l
N concentration into sludge prod.	$N_s$	17.3	mgN/l
Nitrification capacity	$N_c$	45.4	mgN/l
Denitrification potential RBCOD	$D_{p1RBCOD}$	24.7	mgNO <sub>3</sub> -N/l
Denitrification potential SBCOD	$D_{p1SBCOD}$	23.7	mgNO <sub>3</sub> -N/l
Denitrification potential RBCOD	$D_{p3RBCOD}$	0.0	mgNO <sub>3</sub> -N/l
Denitrification potential SBCOD	$D_{p3SBCOD}$	0.0	mgNO <sub>3</sub> -N/l
Minimum sludge age for nitri.	$SRT_m$	8.4	d
Denitrification potential primary tank	$D_{p1}$	48.4	mgN/l
Denitrification potential secondary tank	$D_{p3}$	0.0	mgN/l
Denitri. potential recycle rate ( $f_{xm} = f_{xdm}$ )	$D_{p^*}$	39.6	mgN/l
Effluent nitrate	$N_{NO3,e}$	3.0	mgN/l
Effluent nitrate @ $f_{xdm}$ & recycle rate	$N_{NO3,e^*}$	7.6	mgN/l

## P Removal

	Symbol	Value	Units
COD lost in anaerobic reactor	$S_{F,ANn}$	0.0	gCOD/m <sup>3</sup>
COD lost in anaerobic reactor	$S_{F,ANn^*}$	0.0	gCOD/m <sup>3</sup>
Fermentable COD for AN reactor	$S_{F,I,conv}$	0.0	gCOD/m <sup>3</sup>
DO in influent	$S_{O2,i}$	0.0	mgO <sub>2</sub> /l
PO <sub>4</sub> release AN reactor	$S_{PO4,rel}$	0.0	gP/m <sup>3</sup>
P removal by PAOs	$\Delta P_{PAO}$	0.0	gP/m <sup>3</sup>
P removal by OHOs	$\Delta P_{OHO}$	1.1	gP/m <sup>3</sup>
P removal by endogeneous biomass	$\Delta P_{XE}$	1.9	gP/m <sup>3</sup>
P removal by influent inert mass	$\Delta P_{XI}$	3.5	gP/m <sup>3</sup>
P into sludge production	$P_s$	5.8	gP/m <sup>3</sup>
Potential P removal by system	$\Delta P_{SYS,POT}$	12.3	gP/m <sup>3</sup>
Actual P removal by system	$\Delta P_{SYS,ACT}$	10.0	gP/m <sup>3</sup>
Effluent particulate P from TSS	$X_{P,e}$	0.0	gP/m <sup>3</sup>
Influent total P	$P_i$	10.0	gP/m <sup>3</sup>
Effluent total P	$P_{e^*}$	0.0	gP/m <sup>3</sup>
P precipitated	$P_{prec}$	0.0	mgP/l
Precipitation chemical	$B_{Alum}$	0.0	lb/d
Precipitation chemical	Solution	0.0	gal/d
Density Alum	$Z_{AL}^{3+}$	0.100	lb <sub>AL</sub> /lb <sub>prec</sub>
Density Iron	$Z_{FE}^{3+}$	0.077	lb <sub>FE</sub> /lb <sub>prec</sub>
Alum efficiency	-	40.0	g/kg
Chemical precipitation sludge	-	0.0	lb/d



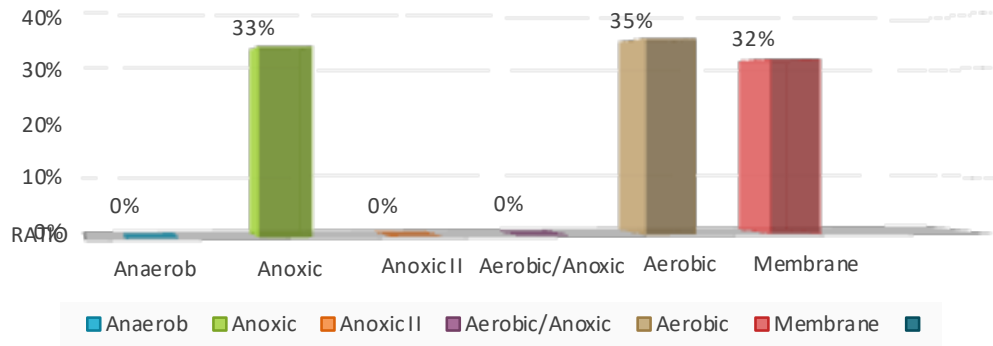
# Mechanical Process Calculation

Tank Dimensions	Trains	Length	Width	Dia.	Degree	Height	Liquid level	Volume per train	Volume Total	Volume Total
Anaerobic	0	.00 ft	.00 ft	.00 ft	0.0	.00 ft	.00 ft	gal	gal	0.0 m3
Anoxic I	1	19.00 ft	11.00 ft	.00 ft	0.0	12.00 ft	10.50 ft	16,415 gal	16,415 gal	62.1 m3
Aerobic	1	20.00 ft	11.00 ft	.00 ft	0.0	12.00 ft	10.50 ft	17,279 gal	17,279 gal	65.4 m3
Anoxic II	0	.00 ft	.00 ft	.00 ft	0.0	.00 ft	.00 ft	gal	gal	0.0 m3
Anoxic Buffer	0	.00 ft	.00 ft	.00 ft	0.0	.00 ft	.00 ft	gal	gal	0.0 m3
Membrane	1	18.00 ft	11.00 ft	.00 ft	0.0	12.00 ft	10.50 ft	15,551 gal	15,551 gal	58.9 m3
Sludge	0	.00 ft	.00 ft	.00 ft	0.0	.00 ft	.00 ft	gal	gal	0.0 m3
EQ	0	.00 ft	.00 ft	.00 ft	0.0	.00 ft	.00 ft	gal	gal	0.0 m3

57.0

## Tank Design

	Symbol	Value	Units		
Total process tank volume	49,245	gallons	Weir level	0.8	inches
Total process tank volume <sub>calc</sub>	46,183	gallons	Weir length	11.0	ft
Unaaerated tank percentage	33	%	Velocity	0.83	fps
Total tank volume	49,245	gallons	Vertical tank	0	
Membrane modules volume	1,975	gallons	Horz. Tank	0	
F/M <sub>used,BOD</sub>	0.071	kgBOD/kgMLSS	Diameter	0	ft
F/M <sub>used,COD</sub>	0.142	kgCOD/kgMLSS			



Process Volume Distribution

Air Flow Design	Symbol	Membrane per train	Aerobic per train	Sludge	EQ	Unit
Minimum air flow	$Q_{A, re}$	342	212	0	0	acfm / scfm
Chosen air flow - actual	$Q_{A, chosen}$	343	178	0	0	acfm
Chosen air flow - inlet	$Q_{A, chosen}$	649	329	0	0	m <sup>3</sup> /h
Chosen air flow - inlet	$Q_{A, chosen}$	<b>382</b>	<b>194</b>	<b>0</b>	<b>0</b>	scfm
Chosen air flow - piping	$Q_{A, chosen}$	270	137	0	0	acfm
Pipe pressure	$p_b$	6.0	6.0	0.0	0.0	psi
Pipe losses	H	0.48	0.52	0.00	0.00	psi
Equivalent length in pipe losses	$L_p$	600	600	400	400	feet
Pipe diameter	d	4.0	3.0	3.0	2.0	inches
Internal pipe diameter	$d_i$	4.26	3.26	3.26	2.16	inches
Standard temperature	$T_1$	293	293	293	293	K
Pipe temperature	$T_2$	323	323	293	293	K
Constant	f	0.02	0.02	0.06	0.09	-
Air velocity	v	45.5	39.4	0.0	0.0	fps
Atmospheric pressure	$p_{a,1}$	14.5	14.5	14.5	14.5	psi
Absolute pressure	$p_2$	20.5	20.5	14.5	14.5	psi
Pressure due to tank liquid level	$p_{DWD,m}$	3.9	4.4	0.0	0.0	psi
Pressure due to aeration device	$p_{DWD}$	0.8	0.7	0.5	0.5	psi
Pressure due to pipe losses & elev.	$p_{DWD,s}$	0.9	0.9	0.4	0.4	psi
Total pipe losses	$p_t$	5.6	6.0	0.9	0.9	psi
Total pipe losses	$p_t$	386.1	411.7	62.1	62.1	mbar

$$H = 9.82 \cdot 10^{-8} \cdot \frac{(f \cdot L_p T_2 Q_{A, chosen})}{(p_2 d_i)^5}$$

$$f = \frac{(0.029 \cdot d_i^{0.027})}{Q_{A, chosen}^{0.148}} \quad T_2 = T_1 \left( \frac{p_2}{p_{a,1}} \right)^{0.283}$$



## AGAPE OAKS WWTP DESIGN FEATURES

- The area to be occupied by the WWTP is a new large-scale subdivision to be serviced by a new area electric power system which should ensure reliable electric power.
- Back-up generator with capacity to power entire WWTP.
- Generator will have an Automatic Transfer Switch (ATS) for automatic transfer to generator in the event of power loss from electric utility.
- Tanks are over sized to allow for surges in flow.
- Control systems and pumps will be in an enclosed building for protection from weather induced problems.
- Alarm systems monitored by the use of SCADA

**ATTACHMENT P**

**FLOODPLAIN MAP & PROTECTION**

# National Flood Hazard Layer FIRMette



98°57'14"W 29°6'7"N



0 250 500 1,000 1,500 2,000 Feet

1:6,000

98°56'37"W 29°5'36"N

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

## 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
GENERAL STRUCTURES		Area of Undetermined Flood Hazard Zone D
		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5 Coastal Transect
		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



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 6/5/2023 at 11:04 AM 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.



IRRIGATION  
AREA

MEDINA COUNTY  
UNINCORPORATED AREAS  
480472

20004



**ATTACHMENT Q**

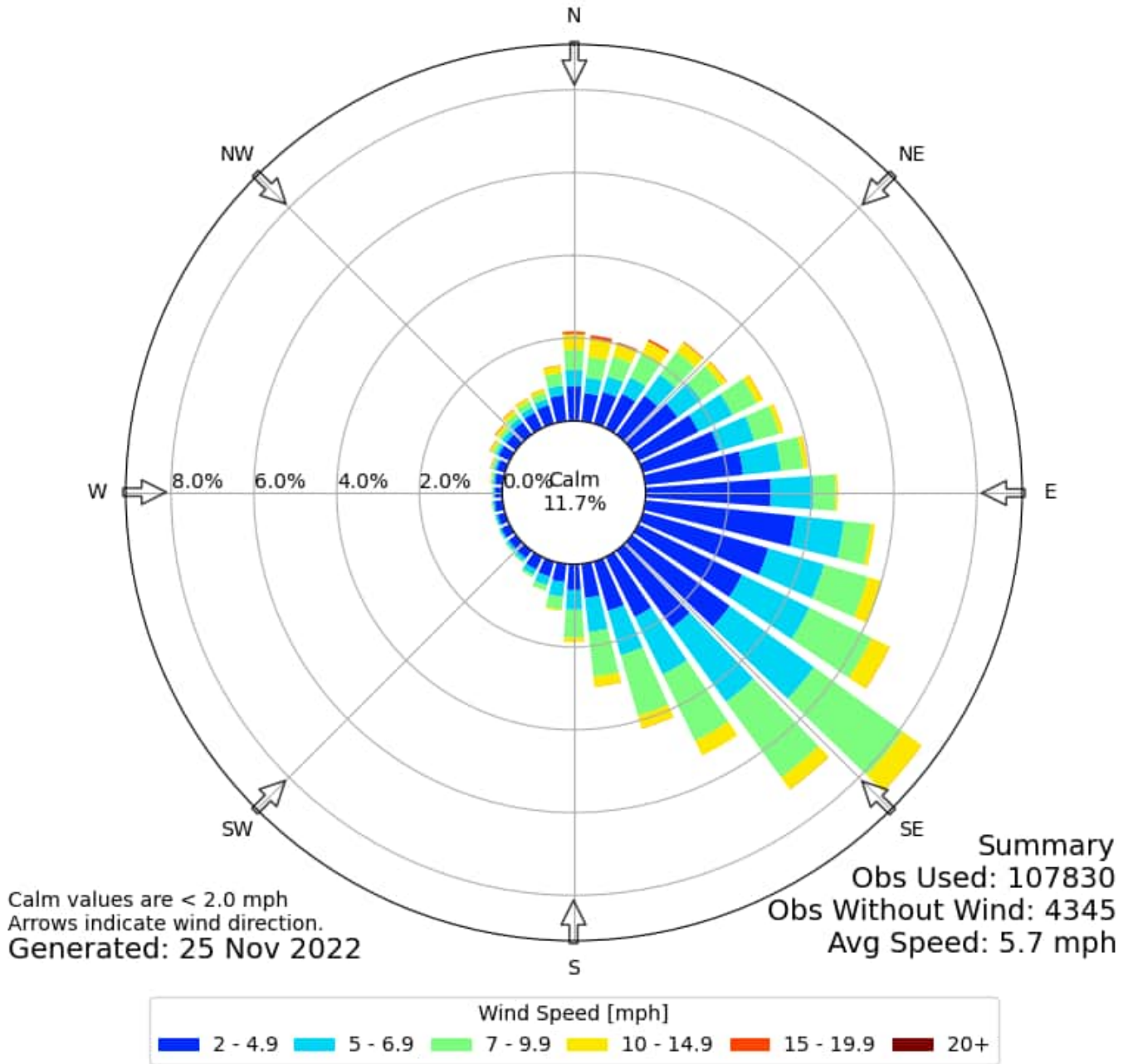
**WIND ROSE**





# Windrose Plot for [PSAT2] Pearsall RAWS

Obs Between: 07 Dec 2010 10:10 AM - 24 Nov 2022 05:10 PM America/Chicago



Monthly Climatology: (click thumbnail)

**ATTACHMENT R**

**SOLIDS MANAGEMENT PLAN**

Attachment-R  
Sewage Sludge Solids Management Plan  
Agape Oaks Wastewater Treatment Plant  
Municipal Wastewater Permit Application

The proposed permanent 250,000 gpd wastewater treatment plant will be constructed in one(1) 75,000 gpd and two (2) 125,000 gpd phases. An extended aeration activated sludge process with chemical precipitation of phosphorous is proposed. The plant will include fine screens, equalization basin, anoxic and aerobic reactors with membranes for solids separation, a UV light contact chamber and sludge press.

Solids collected by the membrane filters will be diverted to the sludge press at a rate of 8,914 gpd. This flow will contain 466 pounds (lbs.) of solid sludge. The sludge press will dewater the liquid sludge to a semi-solid state containing approximately twenty four percent (24%) solids resulting in a production of six cubic yards (1.5 CY)(41 cubic feet) of semi-solid sludge produced daily. Supernatant from the sludge press will be returned to the headworks of the plant for treatment.

The thickened sludge from the screw press will drop directly into containers provided by a licensed hauler will transfer the boxes to their licensed facility for disposal.

The size of container provided will be determined by the licensed hauler to meet their schedule and limitations on weight restrictions for hauling.

The following chart presents the sludge solids generated by the process as well as the sludge solids and volumes that would need to be removed from the plant.

% Plant Capacity	Flow GPD	Pounds Sludge Solids Removed/Day	Semi-Solid Volume (ft <sup>3</sup> )/Day
100%	250,000	466	41
75%	187,500	350	31
50%	125,000	233	21
25%	62,500	117	11

**ATTACHMENT S**

**ANNUAL CROPPING PLAN**

## Attachment S

### Annual Cropping Plan

The wastewater treatment plant will produce effluent meeting TCEQ standards as Type 1 effluent. This facility is located in Medina County. Medina County has established a policy that ground water produced in the County must be utilized in the County for new subdivisions. Agape Oaks will utilize all the treated effluent as water for hay fields in non-developed areas. Plantings will be Bermuda grass for warm weather and winter rye for cool weather. The site is covered with sandy loam with a high concentration of organic material due to the many years of operation as a feedlot. The hay field areas will be harvested at the maximum rate possible for maximum revenue. Fertilizer will be added as needed to maximize hay production.

Bermuda grass has a high salt tolerance of E<sub>c</sub>e ranging from 24 to 33 dS m<sup>-1</sup>. The growing season in Texas is the warm months from early Spring through late Fall. Rye grass has a Moderate salt tolerance of E<sub>c</sub>e ranging from 4 to 8 dS m<sup>-1</sup>. The growing season for rye is from late fall to early Spring.

The wastewater from the treatment plant is from residential sources and combined with the use of membrane technology the salinity level of the effluent should be very low.

**ATTACHMENT T**

**WELL MAP AND INFORMATION**

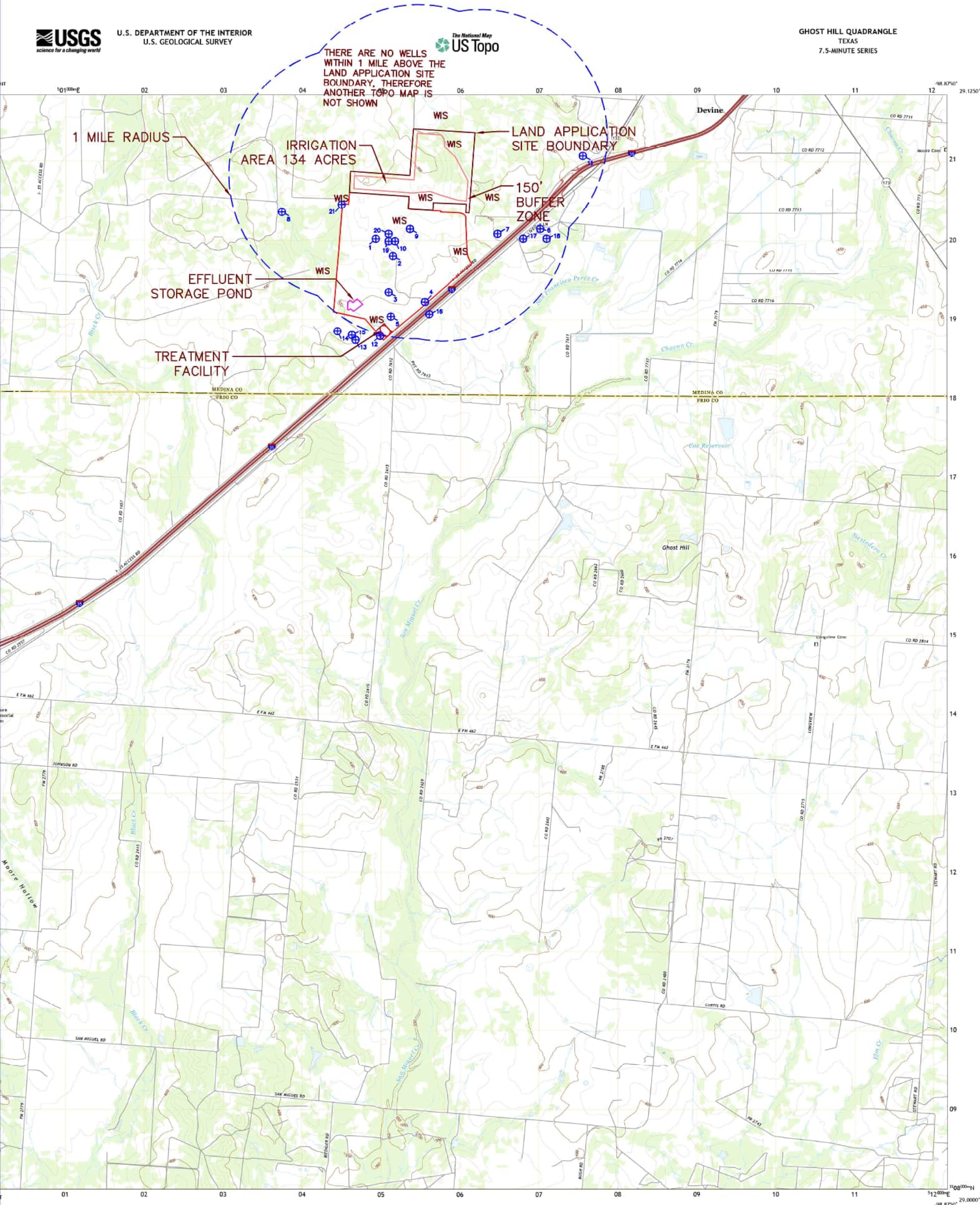




U.S. DEPARTMENT OF THE INTERIOR  
U.S. GEOLOGICAL SURVEY

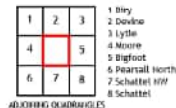
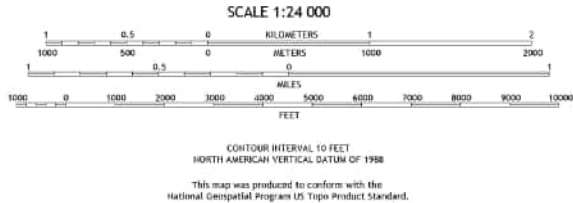
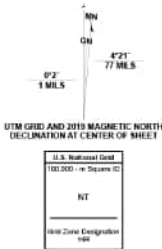


GHOST HILL QUADRANGLE  
TEXAS  
7.5-MINUTE SERIES



Produced by the United States Geological Survey  
North American Datum of 1983 (NAD83)  
World Geodetic System of 1984 (WGS84). Projection and  
1 000-meter grid/Universal Transverse Mercator, Zone 14R  
This map is not a legal document. Boundaries may be  
generalized for this map scale. Private lands within government  
reservations may not be shown. Obtain permission before  
entering private lands.

Imagery: JMAP, September 2016 - December 2016  
Roads: U.S. Census Bureau, 2015 - 2019  
Hydrography: National Hydrography Dataset, 2002 - 2018  
Contours: National Elevation Dataset, 2019  
Boundaries: Multiple sources; see metadata file 2019 - 2021  
Wetlands: FWS National Wetlands Inventory Not Available



GHOST HILL, TX  
2022





#	Well ID	Well Use	Producing	Open, Cased, Capped , or Plugged	Proposed Best Management Practice
1	6857209	Irrigation	N	Cased	Well meets buffer requirements
2	6857207	Irrigation	Y	Cased	Well meets buffer requirements
3	6857210	Plugged	N	Cased	Well meets buffer requirements
4	6857225	Domestic	Y	Cased	Well meets buffer requirements
5	6857218	Irrigation	Y	Cased	Well meets buffer requirements
6	6857221	Public Supply	Y	Cased	Well meets buffer requirements
7	6857222	Domestic	Y	Cased	Well meets buffer requirements
8	6857102	Unknown	Y	Cased	Well meets buffer requirements
9	6857208	Irrigation	N	Cased	Well meets buffer requirements
10	6857214	Irrigation	Y	Cased	Well meets buffer requirements
11	6857227	Domestic	N	Cased	Well meets buffer requirements
12	6857224	Domestic	N	Unknown	Well meets buffer requirements
13	596106	Domestic	Y	Cased	Well meets buffer requirements
14	588761	Domestic	Y	Cased	Well meets buffer requirements
15	596102	Domestic	Y	Cased	Well meets buffer requirements
16	501562	Stock	N	Cased	Well meets buffer requirements
17	386695	Test Well	N	Cased	Well meets buffer requirements
18	386709	Public Supply	N	Cased	Well meets buffer requirements
19	36794	Irrigation	N	Cased	Well meets buffer requirements
20	340413	Stock	N	Cased	Well meets buffer requirements
21	148968	Domestic	N	Cased	Well meets buffer requirements

**Texas Water Development Board (TWDB)  
Groundwater Database (GWDB)  
Well Information Report for State Well Number  
68-57-102**

**GWDB Reports and Downloads**

**Well Basic Details**

**Scanned Documents**

State Well Number	6857102
County	Medina
River Basin	Nueces
Groundwater Management Area	13
Regional Water Planning Area	L - South Central Texas
Groundwater Conservation District	Medina County GCD
Latitude (decimal degrees)	29.111389
Latitude (degrees minutes seconds)	29° 06' 41" N
Longitude (decimal degrees)	-98.961667
Longitude (degrees minutes seconds)	098° 57' 42" W
Coordinate Source	+/- 1 Second
Aquifer Code	124CZWX - Carrizo Sand and Wilcox Group, Undifferentiated
Aquifer	Carrizo-Wilcox
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	680
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	700
Well Depth Source	Geophysical Log
Drilling Start Date	
Drilling End Date	1/31/1976
Drilling Method	
Borehole Completion	

Well Type	Withdrawal of Water
Well Use	
Water Level Observation	None
Water Quality Available	No
Pump	
Pump Depth (feet below land surface)	
Power Type	
Annular Seal Method	
Surface Completion	
Owner	Kyle Seale Trustee #1A
Driller	Republic Oil Co.
Other Data Available	
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	Texas Water Development Board
Created Date	11/15/1994
Last Update Date	10/6/2015

**Remarks** Oil test drilled to 5228 and plugg- ed back to 700 feet as water well.

**Casing**

Diameter (in.)	Casing Type	Casing Material	Schedule	Gauge	Top Depth (ft.)	Bottom Depth (ft.)
11	Blank				0	136
11	Screen				136	180
11	Blank				180	538
11	Screen				538	566
11	Blank				566	590
11	Screen				590	618
11	Blank				618	700

**Well Tests - No Data**

**Lithology - No Data**

**Annular Seal Range - No Data**

**Borehole - No Data**

**Plugged Back - No Data**

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*Filter Pack - No Data*

*Packers - No Data*

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**Water Level Measurements**

No Data Available

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Water Quality Analysis - No Data Available

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GWDB DISCLAIMER: Except where noted, all of the information provided in the Texas Water Development Board (TWDB) Groundwater Database (<https://www.twdb.texas.gov/groundwater/data/gwdb rpt.asp>) is believed to be accurate and reliable; however, the TWDB assumes no responsibility for any errors appearing in rules or otherwise. Further, TWDB assumes no responsibility for the use of the information provided. PLEASE NOTE that users of these data are responsible for checking the accuracy, completeness, currency and/or suitability of all information themselves. TWDB makes no guarantees or warranties as to the accuracy, completeness, currency, or suitability of the information provided via the Groundwater Database (GWDB). TWDB specifically disclaims any and all liability for any claims or damages that may result from providing GWDB data or the information it contains. For additional information or answers to questions concerning the TWDB GWDB, contact the Groundwater Data Team at [GroundwaterData@twdb.texas.gov](mailto:GroundwaterData@twdb.texas.gov).

**GWDB Reports and Downloads**

**Well Basic Details**

**Scanned Documents**

State Well Number	6857201
County	Frio
River Basin	Nueces
Groundwater Management Area	13
Regional Water Planning Area	L - South Central Texas
Groundwater Conservation District	Evergreen UWCD
Latitude (decimal degrees)	29.085556
Latitude (degrees minutes seconds)	29° 05' 08" N
Longitude (decimal degrees)	-98.942222
Longitude (degrees minutes seconds)	098° 56' 32" W
Coordinate Source	+/- 1 Second
Aquifer Code	124CRRZ - Carrizo Sand
Aquifer	Carrizo-Wilcox
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	620
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	237
Well Depth Source	Unknown
Drilling Start Date	
Drilling End Date	0/0/1963
Drilling Method	
Borehole Completion	

Well Type	Withdrawal of Water
Well Use	Irrigation
Water Level Observation	Miscellaneous Measurements
Water Quality Available	Yes
Pump	Turbine
Pump Depth (feet below land surface)	
Power Type	Electric Motor
Annular Seal Method	
Surface Completion	
Owner	Cloud O. Fargason
Driller	E.H. Cannon Drlg
Other Data Available	
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	
Created Date	10/27/1994
Last Update Date	10/27/1994

**Remarks** Slotted from 137 to 237 ft. Gravel packed. Tope of Carrizo Sand 137 ft. Pump set at 100 ft. Reported yield of 734 gpm. Development test: drawdown of 23 ft while pumping 1505 gpm in May 1963. Temp. 80 degrees F. Development test by Peerless Equipment Co, May 1963: 1104 gpm at 115 ft pumping level, 1505 gpm at 122 ft.

**Casing - No Data**

**Well Tests - No Data**

**Lithology - No Data**

**Annular Seal Range - No Data**

**Borehole - No Data**

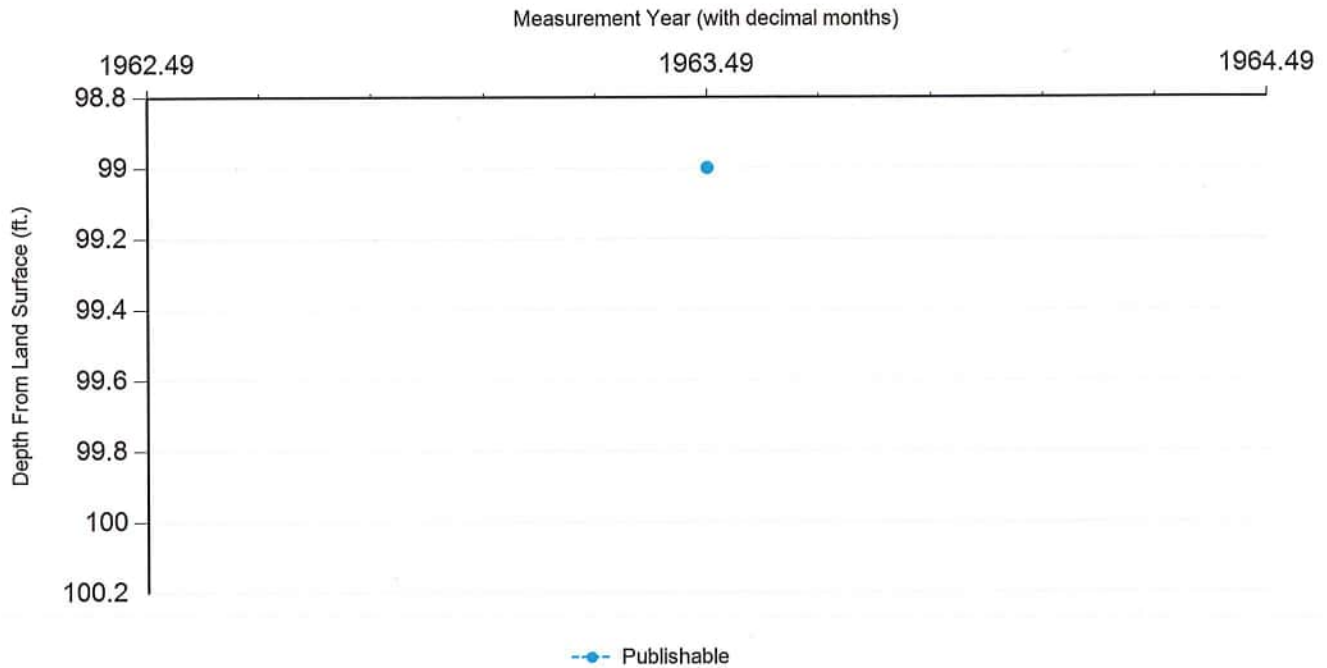
**Plugged Back - No Data**

**Filter Pack - No Data**

**Packers - No Data**



### Water Level Measurements



Status Code	Date	Time	Water Level (ft. below land surface)	Change value in ( ) indicates rise in level	Water Elevation (ft. above sea level)	Meas #	Measuring Agency	Method	Remark ID	Comments
P	5/0/1963		99		521	1	Other or Source of Measurement Unknown	Unknown		

### Code Descriptions

Status Code	Status Description
P	Publishable



### Water Quality Analysis

Sample Date: 7/14/1969    Sample Time: 0000    Sample Number: 1    Collection Entity: Texas Water Development Board  
Sampled Aquifer: Carrizo Sand  
Analyzed Lab: Texas Department of Health    Reliability: Collected from pumped well, but not filtered or preserved  
Collection Remarks: 734 gpm

Parameter Code	Parameter Description	Flag	Value*	Units	Plus/Minus
00415	ALKALINITY, PHENOLPHTHALEIN (MG/L)		0	mg/L	
00410	ALKALINITY, TOTAL (MG/L AS CaCO <sub>3</sub> )		84	mg/L as CaCO <sub>3</sub>	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO <sub>3</sub> )		102.51	mg/L	
00910	CALCIUM (MG/L)		45	mg/L	
00445	CARBONATE ION, CALCULATED (MG/L AS CO <sub>3</sub> )		0	mg/L	
00940	CHLORIDE, TOTAL (MG/L AS CL)		57	mg/L	
00950	FLUORIDE, DISSOLVED (MG/L AS F)		0.2	mg/L	
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CaCO <sub>3</sub> )		133	mg/L as CaCO <sub>3</sub>	
00920	MAGNESIUM (MG/L)		5	mg/L	
71851	NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO <sub>3</sub> )	<	0.4	mg/L as NO <sub>3</sub>	
00400	PH (STANDARD UNITS), FIELD		7.1	SU	
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		0		
00955	SILICA, DISSOLVED (MG/L AS SiO <sub>2</sub> )		37	mg/L as SiO <sub>2</sub>	
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		1.17		
00932	SODIUM, CALCULATED, PERCENT		33	PCT	
00929	SODIUM, TOTAL (MG/L AS Na)		31	mg/L	
00094	SPECIFIC CONDUCTANCE, FIELD (UMHOS/CM AT 25C)		450	MICR	
00945	SULFATE, TOTAL (MG/L AS SO <sub>4</sub> )		35	mg/L as SO <sub>4</sub>	
00010	TEMPERATURE, WATER (CELSIUS)		27	C	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		261	mg/L	

\* Value may not display all significant digits for parameter in results, check Scanned Documents for laboratory paperwork..

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## GWDB Reports and Downloads

## Well Basic Details

## Scanned Documents

State Well Number	6857202
County	Frio
River Basin	Nueces
Groundwater Management Area	13
Regional Water Planning Area	L - South Central Texas
Groundwater Conservation District	Evergreen UWCD
Latitude (decimal degrees)	29.088611
Latitude (degrees minutes seconds)	29° 05' 19" N
Longitude (decimal degrees)	-98.935556
Longitude (degrees minutes seconds)	098° 56' 08" W
Coordinate Source	+/- 1 Second
Aquifer Code	124CRRZ - Carrizo Sand
Aquifer	Carrizo-Wilcox
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	623
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	150
Well Depth Source	Unknown
Drilling Start Date	
Drilling End Date	0/0/1956
Drilling Method	
Borehole Completion	

Well Type	Withdrawal of Water
Well Use	Unused
Water Level Observation	Miscellaneous Measurements
Water Quality Available	No
Pump	Turbine
Pump Depth (feet below land surface)	
Power Type	Gasoline Engine
Annular Seal Method	
Surface Completion	
Owner	Cloud O. Fargason
Driller	
Other Data Available	
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	
Created Date	10/27/1994
Last Update Date	10/27/1994

**Remarks** Open hole from 40 to 150 ft. Unused irrigation well. Reported yield of 500 gpm. Estimated discharge 500 gpm, Nov. 1963. 140 ft of 6-in. column pipe.

**Casing - No Data**

**Well Tests - No Data**

**Lithology - No Data**

**Annular Seal Range - No Data**

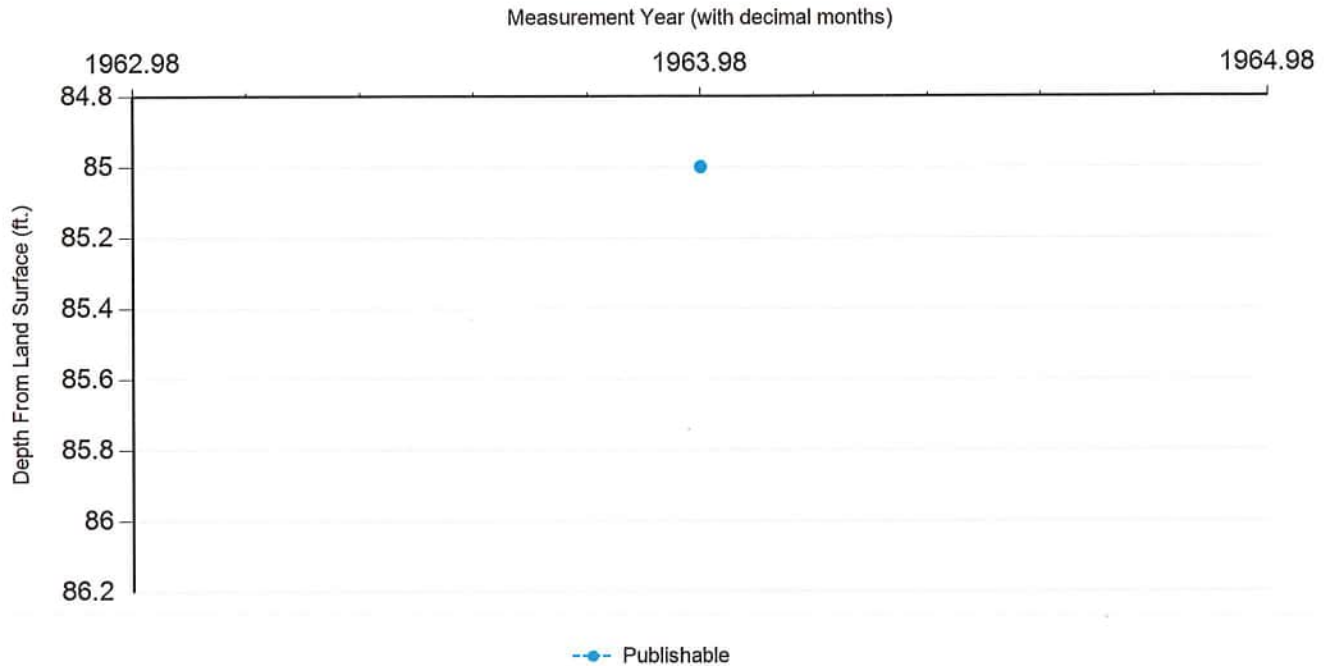
**Borehole - No Data**

**Plugged Back - No Data**

**Filter Pack - No Data**

**Packers - No Data**

### Water Level Measurements



Status Code	Date	Time	Water Level (ft. below land surface)	Change value in ( ) indicates rise in level	Water Elevation (ft. above sea level)	Meas #	Measuring Agency	Method	Remark ID	Comments
P	11/0/1963		85		538	1	Other or Source of Measurement Unknown	Unknown		

### Code Descriptions

Status Code	Status Description
P	Publishable

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**Water Quality Analysis - No Data Available**

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GWDB Reports and Downloads

Well Basic Details

Scanned Documents

State Well Number	6857205
County	Medina
River Basin	Nueces
Groundwater Management Area	13
Regional Water Planning Area	L - South Central Texas
Groundwater Conservation District	Medina County GCD
Latitude (decimal degrees)	29.096111
Latitude (degrees minutes seconds)	29° 05' 46" N
Longitude (decimal degrees)	-98.923333
Longitude (degrees minutes seconds)	098° 55' 24" W
Coordinate Source	+/- 1 Second
Aquifer Code	124CRRZ - Carrizo Sand
Aquifer	Carrizo-Wilcox
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	605
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	
Well Depth Source	
Drilling Start Date	
Drilling End Date	0/0/1967
Drilling Method	
Borehole Completion	

Well Type	Withdrawal of Water
Well Use	Irrigation
Water Level Observation	None
Water Quality Available	No
Pump	Turbine
Pump Depth (feet below land surface)	
Power Type	Electric Motor
Annular Seal Method	
Surface Completion	
Owner	Edgar Linkenhoger Fair Oaks Ranch
Driller	Strickers Water Well Service
Other Data Available	
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	
Created Date	11/15/1994
Last Update Date	11/15/1994

Remarks

**Casing - No Data**

**Well Tests - No Data**

**Lithology - No Data**

**Annular Seal Range - No Data**

**Borehole - No Data**

**Plugged Back - No Data**

**Filter Pack - No Data**

**Packers - No Data**

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**Water Level Measurements**

No Data Available

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Water Quality Analysis - No Data Available

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**GWDB Reports and Downloads**

**Well Basic Details**

**Scanned Documents**

State Well Number	6857206
County	Medina
River Basin	Nueces
Groundwater Management Area	13
Regional Water Planning Area	L - South Central Texas
Groundwater Conservation District	Medina County GCD
Latitude (decimal degrees)	29.092222
Latitude (degrees minutes seconds)	29° 05' 32" N
Longitude (decimal degrees)	-98.924167
Longitude (degrees minutes seconds)	098° 55' 27" W
Coordinate Source	+/- 1 Second
Aquifer Code	124CRRZ - Carrizo Sand
Aquifer	Carrizo-Wilcox
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	602
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	
Well Depth Source	
Drilling Start Date	
Drilling End Date	
Drilling Method	
Borehole Completion	

Well Type	Withdrawal of Water
Well Use	Unused
Water Level Observation	Miscellaneous Measurements
Water Quality Available	No
Pump	Turbine
Pump Depth (feet below land surface)	
Power Type	
Annular Seal Method	
Surface Completion	
Owner	Fair Oaks Ranch
Driller	
Other Data Available	
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	
Created Date	9/2/2009
Last Update Date	9/2/2009

Remarks

**Casing - No Data**

**Well Tests - No Data**

**Lithology - No Data**

**Annular Seal Range - No Data**

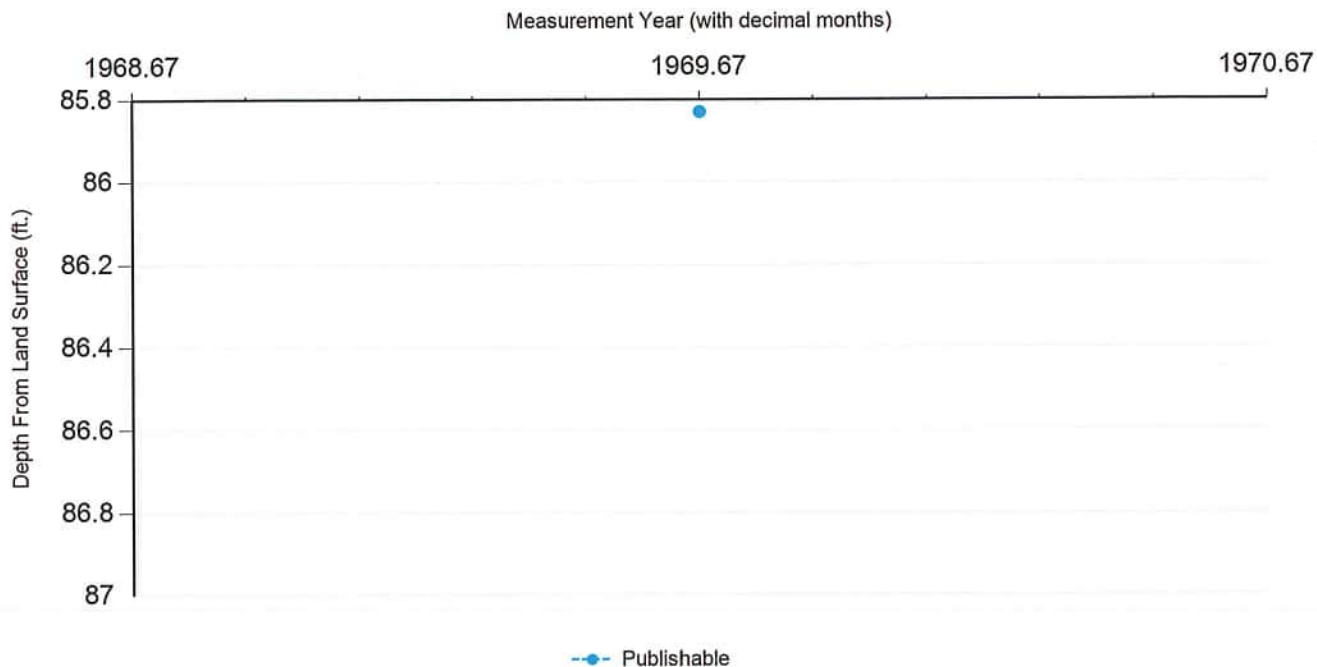
**Borehole - No Data**

**Plugged Back - No Data**

**Filter Pack - No Data**

**Packers - No Data**

### Water Level Measurements



Status Code	Date	Time	Water Level (ft. below land surface)	Change value in ( ) indicates rise in level	Water Elevation (ft. above sea level)	Meas #	Measuring Agency	Method	Remark ID	Comments
P	9/4/1969		85.83		516.17	1	Other or Source of Measurement Unknown	Unknown		

### Code Descriptions

Status Code	Status Description
P	Publishable

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Water Quality Analysis - No Data Available

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GWDB Reports and Downloads

Well Basic Details

Scanned Documents

State Well Number	6857207
County	Medina
River Basin	Nueces
Groundwater Management Area	13
Regional Water Planning Area	L - South Central Texas
Groundwater Conservation District	Medina County GCD
Latitude (decimal degrees)	29.106389
Latitude (degrees minutes seconds)	29° 06' 23" N
Longitude (decimal degrees)	-98.947222
Longitude (degrees minutes seconds)	098° 56' 50" W
Coordinate Source	+/- 1 Second
Aquifer Code	124CRRZ - Carrizo Sand
Aquifer	Carrizo-Wilcox
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	680
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	200
Well Depth Source	Unknown
Drilling Start Date	
Drilling End Date	0/0/1959
Drilling Method	
Borehole Completion	

Well Type	Withdrawal of Water
Well Use	Irrigation
Water Level Observation	None
Water Quality Available	No
Pump	Turbine
Pump Depth (feet below land surface)	
Power Type	Electric Motor
Annular Seal Method	
Surface Completion	
Owner	Morales Feed Lot
Driller	E.h. Cannon Drlg
Other Data Available	
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	
Created Date	11/15/1994
Last Update Date	11/15/1994

Remarks Reported yield 800 gpm.

**Casing**

Diameter (in.)	Casing Type	Casing Material	Schedule	Gauge	Top Depth (ft.)	Bottom Depth (ft.)
12	Blank				0	160
12	Screen				160	200

**Well Tests - No Data**

**Lithology - No Data**

**Annular Seal Range - No Data**

**Borehole - No Data**

**Plugged Back - No Data**

**Filter Pack - No Data**

**Packers - No Data**

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**Water Level Measurements**

No Data Available



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Water Quality Analysis - No Data Available

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GWDB Reports and Downloads

Well Basic Details

Scanned Documents

State Well Number	6857208
County	Medina
River Basin	Nueces
Groundwater Management Area	13
Regional Water Planning Area	L - South Central Texas
Groundwater Conservation District	Medina County GCD
Latitude (decimal degrees)	29.109445
Latitude (degrees minutes seconds)	29° 06' 34" N
Longitude (decimal degrees)	-98.945
Longitude (degrees minutes seconds)	098° 56' 42" W
Coordinate Source	+/- 1 Second
Aquifer Code	124CRRZ - Carrizo Sand
Aquifer	Carrizo-Wilcox
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	670
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	250
Well Depth Source	Owner
Drilling Start Date	
Drilling End Date	0/0/1963
Drilling Method	
Borehole Completion	

Well Type	Withdrawal of Water
Well Use	Irrigation
Water Level Observation	Miscellaneous Measurements
Water Quality Available	No
Pump	Turbine
Pump Depth (feet below land surface)	
Power Type	Electric Motor
Annular Seal Method	
Surface Completion	
Owner	Morales Feed Lot
Driller	E.H. Cannon Drlg
Other Data Available	
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	Texas Water Development Board
Created Date	11/15/1994
Last Update Date	11/15/1994

Remarks

**Casing**

Diameter (In.)	Casing Type	Casing Material	Schedule	Gauge	Top Depth (ft.)	Bottom Depth (ft.)
12	Blank				0	160
12	Screen				160	250

**Well Tests - No Data**

**Lithology - No Data**

**Annular Seal Range - No Data**

**Borehole - No Data**

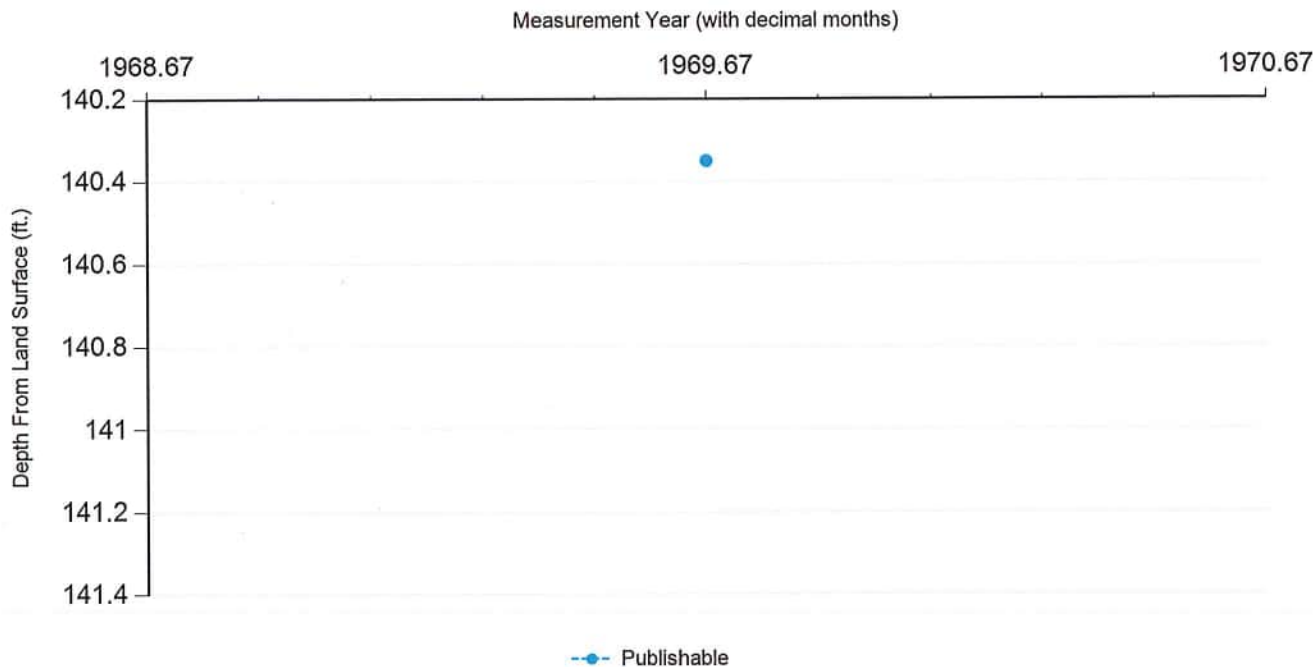
**Plugged Back - No Data**

**Filter Pack - No Data**

**Packers - No Data**



### Water Level Measurements



Status Code	Date	Time	Water Level (ft. below land surface)	Change value in ( ) indicates rise in level	Water Elevation (ft. above sea level)	Meas #	Measuring Agency	Method	Remark ID	Comments
P	9/3/1969		140.35		529.65	1	Other or Source of Measurement Unknown	Unknown		

### Code Descriptions

Status Code	Status Description
P	Publishable

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**Water Quality Analysis - No Data Available**

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**Texas Water Development Board (TWDB)**  
**Groundwater Database (GWDB)**  
**Well Information Report for State Well Number**  
**68-57-209**

**GWDB Reports and Downloads**

**Well Basic Details**

**Scanned Documents**

State Well Number	6857209
County	Medina
River Basin	Nueces
Groundwater Management Area	13
Regional Water Planning Area	L - South Central Texas
Groundwater Conservation District	Medina County GCD
Latitude (decimal degrees)	29.108334
Latitude (degrees minutes seconds)	29° 06' 30" N
Longitude (decimal degrees)	-98.949445
Longitude (degrees minutes seconds)	098° 56' 58" W
Coordinate Source	+/- 1 Second
Aquifer Code	124CRRZ - Carrizo Sand
Aquifer	Carrizo-Wilcox
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	690
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	360
Well Depth Source	Person Other than Owner
Drilling Start Date	
Drilling End Date	0/0/1965
Drilling Method	
Borehole Completion	

Well Type	Withdrawal of Water
Well Use	Irrigation
Water Level Observation	None
Water Quality Available	Yes
Pump	Turbine
Pump Depth (feet below land surface)	
Power Type	Electric Motor
Annular Seal Method	
Surface Completion	
Owner	Morales Feed Lot
Driller	E.H. Cannon Drilling Co.
Other Data Available	
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	Texas Water Development Board
Created Date	11/15/1994
Last Update Date	11/15/1994

Remarks

**Casing**

Diameter (In.)	Casing Type	Casing Material	Schedule	Gauge	Top Depth (ft.)	Bottom Depth (ft.)
12	Blank				0	160
12	Screen				160	360

**Well Tests - No Data**

**Lithology - No Data**

**Annular Seal Range - No Data**

**Borehole - No Data**

**Plugged Back - No Data**

**Filter Pack - No Data**

**Packers - No Data**

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**Water Level Measurements**

No Data Available

### Water Quality Analysis

**Sample Date:** 9/3/1969    **Sample Time:** 0000    **Sample Number:** 1    **Collection Entity:** Texas Water Development Board  
**Sampled Aquifer:** Carrizo Sand  
**Analyzed Lab:** Texas Department of Health    **Reliability:** Collected from pumped well, but not filtered or preserved  
**Collection Remarks:** No Data

Parameter Code	Parameter Description	Flag	Value*	Units	Plus/Minus
00415	ALKALINITY, PHENOLPHTHALEIN (MG/L)		0	mg/L	
00410	ALKALINITY, TOTAL (MG/L AS CaCO3)		133.61	mg/L as CaCO3	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO3)		163.05	mg/L	
01020	BORON, DISSOLVED (UG/L AS B)		100	ug/L	
00910	CALCIUM (MG/L)		70	mg/L	
00445	CARBONATE ION, CALCULATED (MG/L AS CO3)		0	mg/L	
00940	CHLORIDE, TOTAL (MG/L AS CL)		72	mg/L	
00950	FLUORIDE, DISSOLVED (MG/L AS F)		0.3	mg/L	
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CaCO3)		207	mg/L as CaCO3	
00920	MAGNESIUM (MG/L)		8	mg/L	
71851	NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO3)		2	mg/L as NO3	
00400	PH (STANDARD UNITS), FIELD		7.3	SU	
00937	POTASSIUM, TOTAL (MG/L AS K)		5	mg/L	
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		0		
00955	SILICA, DISSOLVED (MG/L AS SiO2)		31	mg/L as SiO2	
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		1.27		
00932	SODIUM, CALCULATED, PERCENT		30	PCT	
00929	SODIUM, TOTAL (MG/L AS Na)		42	mg/L	
00094	SPECIFIC CONDUCTANCE, FIELD (UMHOS/CM AT 25C)		664	MICR	
00945	SULFATE, TOTAL (MG/L AS SO4)		61	mg/L as SO4	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		371	mg/L	



### Water Quality Analysis

Sample Date: 7/13/1972    Sample Time: 0000    Sample Number: 1    Collection Entity: Texas Water Development Board

Sampled Aquifer: Carrizo Sand

Analyzed Lab: Texas Department of Health

Reliability: Collected from pumped well, but not filtered or preserved

Collection Remarks: No Data

Parameter Code	Parameter Description	Flag	Value*	Units	Plus/Minus
00415	ALKALINITY, PHENOLPHTHALEIN (MG/L)		0	mg/L	
00410	ALKALINITY, TOTAL (MG/L AS CaCO <sub>3</sub> )		128.69	mg/L as CaCO <sub>3</sub>	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO <sub>3</sub> )		157.05	mg/L	
00910	CALCIUM (MG/L)		74	mg/L	
00445	CARBONATE ION, CALCULATED (MG/L AS CO <sub>3</sub> )		0	mg/L	
00940	CHLORIDE, TOTAL (MG/L AS CL)		83	mg/L	
00950	FLUORIDE, DISSOLVED (MG/L AS F)		0.3	mg/L	
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CaCO <sub>3</sub> )		225	mg/L as CaCO <sub>3</sub>	
00920	MAGNESIUM (MG/L)		10	mg/L	
71851	NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO <sub>3</sub> )		4.5	mg/L as NO <sub>3</sub>	
00400	PH (STANDARD UNITS), FIELD		7.2	SU	
00937	POTASSIUM, TOTAL (MG/L AS K)		5	mg/L	
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		0		
00955	SILICA, DISSOLVED (MG/L AS SiO <sub>2</sub> )		35	mg/L as SiO <sub>2</sub>	
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		1.36		
00932	SODIUM, CALCULATED, PERCENT		31	PCT	
00929	SODIUM, TOTAL (MG/L AS Na)		47	mg/L	
00094	SPECIFIC CONDUCTANCE, FIELD (UMHOS/CM AT 25C)		735	MICR	
00945	SULFATE, TOTAL (MG/L AS SO <sub>4</sub> )		73	mg/L as SO <sub>4</sub>	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		409	mg/L	



### Water Quality Analysis

Sample Date: 6/27/1990    Sample Time: 1200    Sample Number: 1    Collection Entity: Texas Water Development Board

Sampled Aquifer: Carrizo Sand

Analyzed Lab: Texas Department of Health

Reliability: Sampled using TWDB protocols

Collection Remarks: No Data

Parameter Code	Parameter Description	Flag	Value*	Units	Plus/Minus
34551	1,2,4-TRICHLOROBENZENE, TOTAL, UG/L	<	5	ug/L	
34536	1,2-DICHLOROBENZENE, TOTAL, UG/L	<	5	ug/L	
34346	1,2-DIPHENYLHYDRAZINE, TOTAL, UG/L	<	5	ug/L	
34566	1,3-DICHLOROBENZENE, TOTAL, UG/L	<	5	ug/L	
34571	1,4-DICHLOROBENZENE, TOTAL, UG/L	<	5	ug/L	
34621	2,4,6-TRICHLOROPHENOL, TOTAL, UG/L	<	11	ug/L	
34601	2,4-DICHLOROPHENOL, TOTAL, UG/L	<	11	ug/L	
34606	2,4-DIMETHYLPHENOL, TOTAL, UG/L	<	11	ug/L	
34616	2,4-DINITROPHENOL, TOTAL, UG/L	<	21	ug/L	
34611	2,4-DINITROTOLUENE, TOTAL, UG/L	<	5	ug/L	
51002	2,6-DINITRO-2-CRESOL, TOTAL, UG/L	<	21	ug/L	
34626	2,6-DINITROTOLUENE, TOTAL, UG/L	<	5	ug/L	
34581	2-CHLORONAPHTHALENE, TOTAL, UG/L	<	5	ug/L	
34591	2-NITROPHENOL, TOTAL, UG/L	<	11	ug/L	
34631	3,3'-DICHLOROBENZIDINE, TOTAL, UG/L	<	5	ug/L	
51006	4,4'-DDD, TOTAL, UG/L	<	11	ug/L	
51005	4,4'-DDE, TOTAL, UG/L	<	11	ug/L	
51007	4,4'-DDT, TOTAL, UG/L	<	11	ug/L	
34636	4-BROMOPHENYL PHENYL ETHER, TOTAL, UG/L	<	5	ug/L	
77421	4-CHLORO-3-CRESOL, TOTAL, UG/L	<	11	ug/L	
34641	4-CHLOROPHENYL PHENYL ETHER, TOTAL, UG/L	<	5	ug/L	
34646	4-NITROPHENOL, TOTAL, UG/L	<	21	ug/L	
34253	A-BHC-ALPHA, TOTAL, UG/L	<	11	ug/L	
34205	ACENAPHTHENE, TOTAL, UG/L	<	5	ug/L	
34200	ACENAPHTHYLENE, TOTAL, UG/L	<	5	ug/L	
39330	ALDRIN, TOTAL, UG/L	<	11	ug/L	
39086	ALKALINITY FIELD DISSOLVED AS CaCO3		126	mg/L as CaCO3	
00415	ALKALINITY, PHENOLPHTHALEIN (MG/L)		0	mg/L	
00410	ALKALINITY, TOTAL (MG/L AS CaCO3)		121	mg/L as CaCO3	
01503	ALPHA, DISSOLVED (PC/L)		14	PC/L	4
01106	ALUMINUM, DISSOLVED (UG/L AS AL)	<	50	ug/L	
34220	ANTHRACENE, TOTAL, UG/L	<	5	ug/L	

**Texas Water Development Board (TWDB)**  
**Groundwater Database (GWDB)**  
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**68-57-209**

Parameter Code	Parameter Description	Flag	Value*	Units	Plus/Minus
01000	ARSENIC, DISSOLVED (UG/L AS AS)	<	10	ug/L	
01005	BARIUM, DISSOLVED (UG/L AS BA)		84	ug/L	
34255	B-BHC-BETA, TOTAL, UG/L	<	11	ug/L	
39120	BENZIDINE, TOTAL, UG/L	<	5	ug/L	
34527	BENZO(A) ANTHRACENE, TOTAL, UG/L	<	5	ug/L	
34247	BENZO-(A)-PYRENE, TOTAL, UG/L	<	5	ug/L	
34230	BENZO(B)FLUORANTHENE, TOTAL, UG/L	<	5	ug/L	
34521	BENZO(GHI)PERYLENE, TOTAL, UG/L	<	5	ug/L	
34242	BENZO(K)FLUORANTHENE, TOTAL, UG/L	<	5	ug/L	
03503	BETA, DISSOLVED (PC/L)		14	PC/L	6
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO3)		147.66	mg/L	
34278	BIS (2-CHLOROETHOXY) METHANE, TOTAL, UG/L	<	5	ug/L	
34273	BIS (2-CHLOROETHYL) ETHER, TOTAL, UG/L	<	5	ug/L	
34283	BIS (2-CHLOROISOPROPYL) ETHER, TOTAL, UG/L	<	5	ug/L	
39100	BIS(2-ETHYLHEXYL) PHTHALATE, TOTAL, UG/L	<	5	ug/L	
01020	BORON, DISSOLVED (UG/L AS B)		360	ug/L	
71870	BROMIDE, DISSOLVED, (MG/L AS BR)		0.4	mg/L	
51003	BUTYLBENZYL PHTHALATE, TOTAL, UG/L	<	5	ug/L	
01025	CADMIUM, DISSOLVED (UG/L AS CD)	<	10	ug/L	
00915	CALCIUM, DISSOLVED (MG/L AS CA)		66	mg/L	
00445	CARBONATE ION, CALCULATED (MG/L AS CO3)		0	mg/L	
00941	CHLORIDE, DISSOLVED (MG/L AS CL)		79	mg/L	
77966	CHLOROPHENOL, TOTAL, UG/L	<	11	ug/L	
01030	CHROMIUM, DISSOLVED (UG/L AS CR)	<	20	ug/L	
34320	CHRYSENE, TOTAL, UG/L	<	5	ug/L	
01040	COPPER, DISSOLVED (UG/L AS CU)	<	20	ug/L	
46323	DELTA-BHC, TOTAL, UG/L	<	11	ug/L	
51004	DIBENZO (A,H) ANTHRACENE, TOTAL, UG/L	<	5	ug/L	
39380	DIELDRIN, TOTAL, UG/L	<	11	ug/L	
34336	DIETHYL PHTHALATE, TOTAL, UG/L	<	5	ug/L	
34341	DIMETHYL PHTHALATE, TOTAL, UG/L	<	5	ug/L	
39110	DI-N-BUTYL PHTHALATE, TOTAL, UG/L	<	5	ug/L	
34596	DI-N-OCTYL PHTHALATE, TOTAL, UG/L	<	5	ug/L	
77579	DIPHENYLAMINE, TOTAL, UG/L	<	5	ug/L	
34361	ENDOSULFAN - ALPHA, TOTAL, UG/L	<	21	ug/L	
34356	ENDOSULFAN - BETA, TOTAL, UG/L	<	21	ug/L	
34351	ENDOSULFAN SULFATE, TOTAL, UG/L	<	21	ug/L	
34366	ENDRIN ALDEHYDE, TOTAL, UG/L	<	11	ug/L	
39390	ENDRIN, TOTAL, UG/L	<	21	ug/L	
34376	FLUORANTHENE, TOTAL, UG/L	<	5	ug/L	
34381	FLUORENE, TOTAL, UG/L	<	5	ug/L	
00950	FLUORIDE, DISSOLVED (MG/L AS F)		0.27	mg/L	
39340	GAMMA-BHC (LINDANE), TOTAL, UG/L	<	11	ug/L	

**Texas Water Development Board (TWDB)**  
**Groundwater Database (GWDB)**  
**Well Information Report for State Well Number**  
**68-57-209**

Parameter Code	Parameter Description	Flag	Value*	Units	Plus/Minus
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CaCO3)		202	mg/L as CaCO3	
39420	HEPTACHLOR EPOXIDE, TOTAL, UG/L	<	21	ug/L	
39410	HEPTACHLOR, TOTAL, UG/L	<	11	ug/L	
39700	HEXACHLOROBENZENE (HCB), TOTAL, UG/L	<	5	ug/L	
39702	HEXACHLOROBUTADIENE, TOTAL, UG/L	<	5	ug/L	
34386	HEXACHLOROCYCLOPENTADIENE, TOTAL, UG/L	<	5	ug/L	
34396	HEXACHLOROETHANE, TOTAL, UG/L	<	5	ug/L	
34403	INDENO (1,2,3-CD) PYRENE	<	5	ug/L	
71865	IODIDE (MG/L AS I)	<	0.1	mg/L	
01046	IRON, DISSOLVED (UG/L AS FE)		71	ug/L	
34408	ISOPHORONE, TOTAL, UG/L	<	5	ug/L	
01049	LEAD, DISSOLVED (UG/L AS PB)	<	50	ug/L	
00925	MAGNESIUM, DISSOLVED (MG/L AS MG)		9.2	mg/L	
01056	MANGANESE, DISSOLVED (UG/L AS MN)	<	20	ug/L	
71890	MERCURY, DISSOLVED (UG/L AS HG)	<	0.2	ug/L	
01060	MOLYBDENUM, DISSOLVED (UG/L AS MO)	<	20	ug/L	
34696	NAPHTHALENE, TOTAL, UG/L	<	5	ug/L	
00618	NITRATE NITROGEN, DISSOLVED (MG/L AS N)		1.55	mg/L as N	
71851	NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO3)		6.86	mg/L as NO3	
00613	NITRITE NITROGEN, DISSOLVED (MG/L AS N)	<	0.01	mg/L as N	
34447	NITROBENZENE, TOTAL, UG/L	<	5	ug/L	
00608	NITROGEN, AMMONIA, DISSOLVED (MG/L AS N)		0.04	mg/L as N	
00623	NITROGEN, KJELDAHL, DISSOLVED (MG/L AS N)		0.1	mg/L as N	
34438	N-NITROSODIMETHYLAMINE, TOTAL, UG/L	<	5	ug/L	
34428	N-NITROSO-DI-N-PROPYLAMINE, TOTAL, UG/L	<	5	ug/L	
34433	N-NITROSODIPHENYLAMINE, TOTAL, UG/L	<	5	ug/L	
00090	OXIDATION REDUCTION POTENTIAL (ORP), MILLIVOLTS		123.4	MV	
39032	PENTACHLOROPHENOL (PCP), TOTAL, UG/L	<	21	ug/L	
00400	PH (STANDARD UNITS), FIELD		6.65	SU	
34461	PHENANTHRENE, TOTAL, UG/L	<	5	ug/L	
34694	PHENOL, TOTAL, UG/L	<	11	ug/L	
00671	PHOSPHORUS, DISSOLVED ORTHOPHOSPHATE (MG/L AS P)		0.02	mg/L as P	
00935	POTASSIUM, DISSOLVED (MG/L AS K)		6	mg/L	
34469	PYRENE, TOTAL, UG/L	<	5	ug/L	
09503	RADIUM 226, DISSOLVED, PC/L		4.7	PC/L	0.4
81366	RADIUM 228, DISSOLVED (PC/L AS RA-228)		1.8	PC/L	0.7
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		0		



Texas Water Development Board (TWDB)  
Groundwater Database (GWDB)  
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Parameter Code	Parameter Description	Flag	Value*	Units	Plus/Minus
01145	SELENIUM, DISSOLVED (UG/L AS SE)		3	ug/L	
00955	SILICA, DISSOLVED (MG/L AS SI02)		35	mg/L as SIO2	
01075	SILVER, DISSOLVED (UG/L AS AG)	<	10	ug/L	
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		1.53		
00932	SODIUM, CALCULATED, PERCENT		34	PCT	
00930	SODIUM, DISSOLVED (MG/L AS NA)		50	mg/L	
00094	SPECIFIC CONDUCTANCE, FIELD (UMHOS/CM AT 25C)		640	MICR	
01080	STRONTIUM, DISSOLVED (UG/L AS SR)		370	ug/L	
00946	SULFATE, DISSOLVED (MG/L AS SO4)		69	mg/L as SO4	
00010	TEMPERATURE, WATER (CELSIUS)		25	C	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		394	mg/L	
01085	VANADIUM, DISSOLVED (UG/L AS V)	<	20	ug/L	
01090	ZINC, DISSOLVED (UG/L AS ZN)		86	ug/L	

\* Value may not display all significant digits for parameter in results, check Scanned Documents for laboratory paperwork..

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GWDB Reports and Downloads

Well Basic Details

Scanned Documents

State Well Number	6857210
County	Medina
River Basin	Nueces
Groundwater Management Area	13
Regional Water Planning Area	L - South Central Texas
Groundwater Conservation District	Medina County GCD
Latitude (decimal degrees)	29.102223
Latitude (degrees minutes seconds)	29° 06' 08" N
Longitude (decimal degrees)	-98.947778
Longitude (degrees minutes seconds)	098° 56' 52" W
Coordinate Source	+/- 1 Second
Aquifer Code	124CZWX - Carrizo Sand and Wilcox Group, Undifferentiated
Aquifer	Carrizo-Wilcox
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	655
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	200
Well Depth Source	Owner
Drilling Start Date	
Drilling End Date	0/0/1962
Drilling Method	
Borehole Completion	

Well Type	Withdrawal of Water
Well Use	Plugged or Destroyed
Water Level Observation	Historical
Water Quality Available	No
Pump	None
Pump Depth (feet below land surface)	
Power Type	
Annular Seal Method	
Surface Completion	
Owner	Morales Feed Lot
Driller	E.H. Cannon Drlg
Other Data Available	
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	Texas Water Development Board
Created Date	10/7/2015
Last Update Date	10/7/2015

Remarks Destroyed. Historical observation well.

**Casing**

Diameter (in.)	Casing Type	Casing Material	Schedule	Gauge	Top Depth (ft.)	Bottom Depth (ft.)
12	Blank				0	160
12	Screen				160	200

**Well Tests - No Data**

**Lithology - No Data**

**Annular Seal Range - No Data**

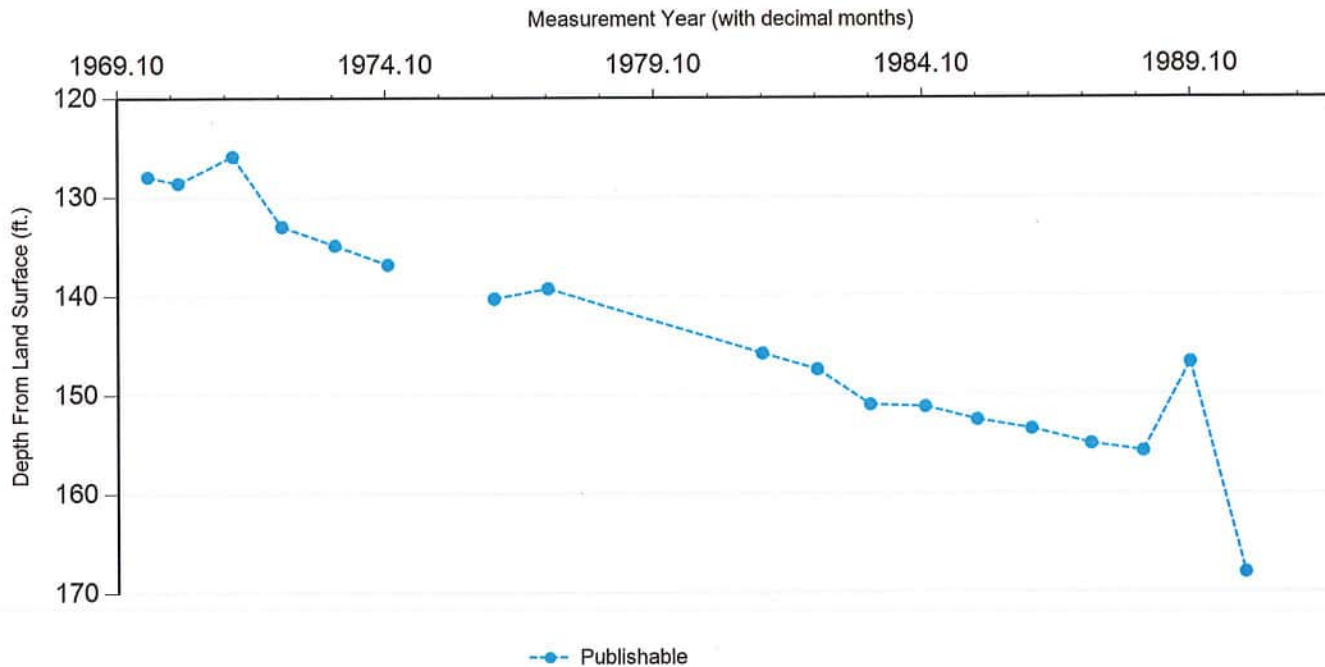
**Borehole - No Data**

**Plugged Back - No Data**

**Filter Pack - No Data**

**Packers - No Data**

### Water Level Measurements



Status Code	Date	Time	Water Level (ft. below land surface)	Change value in ( ) indicates rise in level	Water Elevation (ft. above sea level)	Meas #	Measuring Agency	Method	Remark ID	Comments
P	9/3/1969		127.95		527.05	1	Texas Water Development Board	Steel Tape		
P	3/25/1970		128.6	0.65	526.4	1	Texas Water Development Board	Steel Tape		
P	3/30/1971		125.89	(2.71)	529.11	1	Texas Water Development Board	Steel Tape		
P	2/28/1972		133	7.11	522	1	Texas Water Development Board	Steel Tape		
P	2/23/1973		134.9	1.90	520.1	1	Texas Water Development Board	Steel Tape		
P	2/20/1974		136.86	1.96	518.14	1	Texas Water Development Board	Steel Tape		
X	2/19/1975					1	Texas Water Development Board	Steel Tape	25	
P	2/13/1976		140.3		514.7	1	Texas Water Development Board	Steel Tape		
P	2/16/1977		139.29	(1.01)	515.71	1	Texas Water Development Board	Steel Tape		
P	2/9/1981		145.85	6.56	509.15	1	Texas Water Development Board	Steel Tape		
P	2/17/1982		147.46	1.61	507.54	1	Texas Water Development Board	Steel Tape		
P	2/15/1983		151.03	3.57	503.97	1	Texas Water Development Board	Steel Tape		
P	2/23/1984		151.23	0.20	503.77	1	Texas Water Development Board	Steel Tape		
P	2/11/1985		152.54	1.31	502.46	1	Texas Water Development Board	Steel Tape		
P	2/19/1986		153.47	0.93	501.53	1	Texas Water Development Board	Steel Tape		
P	3/27/1987		154.97	1.50	500.03	1	Texas Water Development Board	Steel Tape		
P	3/16/1988		155.72	0.75	499.28	1	Texas Water Development Board	Steel Tape		
P	2/3/1989		146.75	(8.97)	508.25	1	Texas Water Development Board	Steel Tape		
P	2/7/1990		168	21.25	487	1	Texas Water Development Board	Steel Tape		
X	1/25/1991					1	Texas Water Development Board		18	



**Texas Water Development Board (TWDB)  
Groundwater Database (GWDB)  
Well Information Report for State Well Number  
68-57-210**

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**Code Descriptions**

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Status Code	Status Description
P	Publishable
X	No Measurement

Remark ID	Remark Description
18	Well destroyed
25	Unable to measure due to wet or leaking casing

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**Water Quality Analysis - No Data Available**

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Texas Water Development Board (TWDB)  
Groundwater Database (GWDB)  
Well Information Report for State Well Number  
68-57-211

GWDB Reports and Downloads

Well Basic Details

Scanned Documents

State Well Number	6857211
County	Medina
River Basin	Nueces
Groundwater Management Area	13
Regional Water Planning Area	L - South Central Texas
Groundwater Conservation District	Medina County GCD
Latitude (decimal degrees)	29.094722
Latitude (degrees minutes seconds)	29° 05' 41" N
Longitude (decimal degrees)	-98.944445
Longitude (degrees minutes seconds)	098° 56' 40" W
Coordinate Source	+/- 1 Second
Aquifer Code	124CRRZ - Carrizo Sand
Aquifer	Carrizo-Wilcox
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	625
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	219
Well Depth Source	Unknown
Drilling Start Date	
Drilling End Date	0/0/1964
Drilling Method	Mud (Hydraulic) Rotary
Borehole Completion	Gravel Pack w/Perforations

Well Type	Withdrawal of Water
Well Use	Irrigation
Water Level Observation	None
Water Quality Available	No
Pump	Turbine
Pump Depth (feet below land surface)	
Power Type	Gasoline Engine
Annular Seal Method	
Surface Completion	
Owner	Chester Boyd
Driller	E.H. Cannon Drlg
Other Data Available	
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	Texas Water Development Board
Created Date	11/15/1994
Last Update Date	10/7/2015

Remarks Drawdown 35 feet pumping 1657 gpm on 2/11/64.

**Casing**

Diameter (in.)	Casing Type	Casing Material	Schedule	Gauge	Top Depth (ft.)	Bottom Depth (ft.)
12	Blank				0	219

**Well Tests - No Data**

**Lithology - No Data**

**Annular Seal Range - No Data**

**Borehole - No Data**

**Plugged Back - No Data**

**Filter Pack - No Data**

**Packers - No Data**

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**Water Level Measurements**

No Data Available

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Water Quality Analysis - No Data Available

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### GWDB Reports and Downloads

### Well Basic Details

### Scanned Documents

State Well Number	6857212
County	Medina
River Basin	Nueces
Groundwater Management Area	13
Regional Water Planning Area	L - South Central Texas
Groundwater Conservation District	Medina County GCD
Latitude (decimal degrees)	29.094445
Latitude (degrees minutes seconds)	29° 05' 40" N
Longitude (decimal degrees)	-98.931389
Longitude (degrees minutes seconds)	098° 55' 53" W
Coordinate Source	+/- 1 Second
Aquifer Code	124CRRZ - Carrizo Sand
Aquifer	Carrizo-Wilcox
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	615
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	183
Well Depth Source	Owner
Drilling Start Date	
Drilling End Date	0/0/1963
Drilling Method	
Borehole Completion	Gravel Pack w/Perforations

Well Type	Withdrawal of Water
Well Use	Irrigation
Water Level Observation	None
Water Quality Available	No
Pump	Turbine
Pump Depth (feet below land surface)	
Power Type	Electric Motor
Annular Seal Method	
Surface Completion	
Owner	Chester Boyd
Driller	E. H. Cannon
Other Data Available	
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	Texas Water Development Board
Created Date	9/3/1969
Last Update Date	10/7/2015

Remarks Slotted. Gravel packed. Pump set at 160 ft. Development test: drawdown of 34 ft while pumping 1620 gpm on Feb. 26,1963.

#### Casing

Diameter (in.)	Casing Type	Casing Material	Schedule	Gauge	Top Depth (ft.)	Bottom Depth (ft.)
12	Blank				0	183

#### Well Tests - No Data

#### Lithology - No Data

#### Annular Seal Range - No Data

#### Borehole - No Data

#### Plugged Back - No Data

#### Filter Pack - No Data

#### Packers - No Data



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**Water Level Measurements**

No Data Available

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Water Quality Analysis - No Data Available

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### GWDB Reports and Downloads

### Well Basic Details

### Scanned Documents

State Well Number	6857213
County	Medina
River Basin	Nueces
Groundwater Management Area	13
Regional Water Planning Area	L - South Central Texas
Groundwater Conservation District	Medina County GCD
Latitude (decimal degrees)	29.108612
Latitude (degrees minutes seconds)	29° 06' 31" N
Longitude (decimal degrees)	-98.921667
Longitude (degrees minutes seconds)	098° 55' 18" W
Coordinate Source	+/- 1 Second
Aquifer Code	124CRRZ - Carrizo Sand
Aquifer	Carrizo-Wilcox
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	615
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	
Well Depth Source	
Drilling Start Date	
Drilling End Date	
Drilling Method	
Borehole Completion	

Well Type	Withdrawal of Water
Well Use	Stock
Water Level Observation	Miscellaneous Measurements
Water Quality Available	No
Pump	Turbine
Pump Depth (feet below land surface)	
Power Type	Gasoline Engine
Annular Seal Method	
Surface Completion	
Owner	Paul Marbach
Driller	
Other Data Available	
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	
Created Date	11/15/1994
Last Update Date	11/15/1994

Remarks

**Casing - No Data**

**Well Tests - No Data**

**Lithology - No Data**

**Annular Seal Range - No Data**

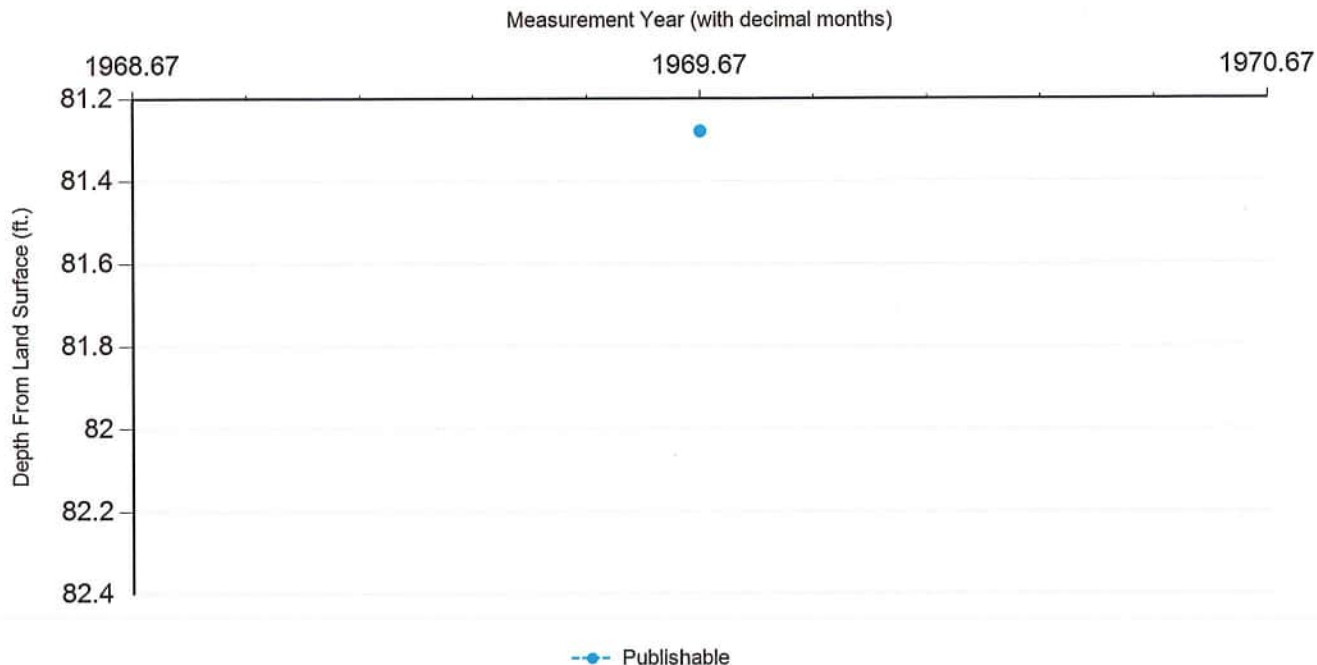
**Borehole - No Data**

**Plugged Back - No Data**

**Filter Pack - No Data**

**Packers - No Data**

### Water Level Measurements



Status Code	Date	Time	Water Level (ft. below land surface)	Change value in ( ) Indicates rise in level	Water Elevation (ft. above sea level)	Meas #	Measuring Agency	Method	Remark ID	Comments
P	9/3/1969		81.28		533.72	1	Other or Source of Measurement Unknown	Unknown		

### Code Descriptions

Status Code	Status Description
P	Publishable

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Water Quality Analysis - No Data Available

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**Texas Water Development Board (TWDB)**  
**Groundwater Database (GWDB)**  
**Well Information Report for State Well Number**  
**68-57-214**

[GWDB Reports and Downloads](#)

**Well Basic Details**

[Scanned Documents](#)

State Well Number	6857214
County	Medina
River Basin	Nueces
Groundwater Management Area	13
Regional Water Planning Area	L - South Central Texas
Groundwater Conservation District	Medina County GCD
Latitude (decimal degrees)	29.108056
Latitude (degrees minutes seconds)	29° 06' 29" N
Longitude (decimal degrees)	-98.946945
Longitude (degrees minutes seconds)	098° 56' 49" W
Coordinate Source	+/- 1 Second
Aquifer Code	124CRRZ - Carrizo Sand
Aquifer	Carrizo-Wilcox
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	680
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	256
Well Depth Source	Driller's Log
Drilling Start Date	
Drilling End Date	7/0/1970
Drilling Method	Mud (Hydraulic) Rotary
Borehole Completion	Gravel Pack w/Perforations

Well Type	Withdrawal of Water
Well Use	Irrigation
Water Level Observation	Miscellaneous Measurements
Water Quality Available	No
Pump	Turbine
Pump Depth (feet below land surface)	
Power Type	Electric Motor
Annular Seal Method	
Surface Completion	
Owner	Morales Feed Lot
Driller	E.H. Cannon Drlg
Other Data Available	Drillers Log
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	Texas Water Development Board
Created Date	7/24/1970
Last Update Date	10/7/2015

Remarks Drawdown of 90 ft while pumping 600 gpm in July 1970.

**Casing**

Diameter (In.)	Casing Type	Casing Material	Schedule	Gauge	Top Depth (ft.)	Bottom Depth (ft.)
12	Blank	Steel			0	151
12	Screen	Steel			151	251
12	Blank	Steel			251	256

**Well Tests - No Data**

**Lithology - No Data**

**Annular Seal Range - No Data**

**Borehole - No Data**

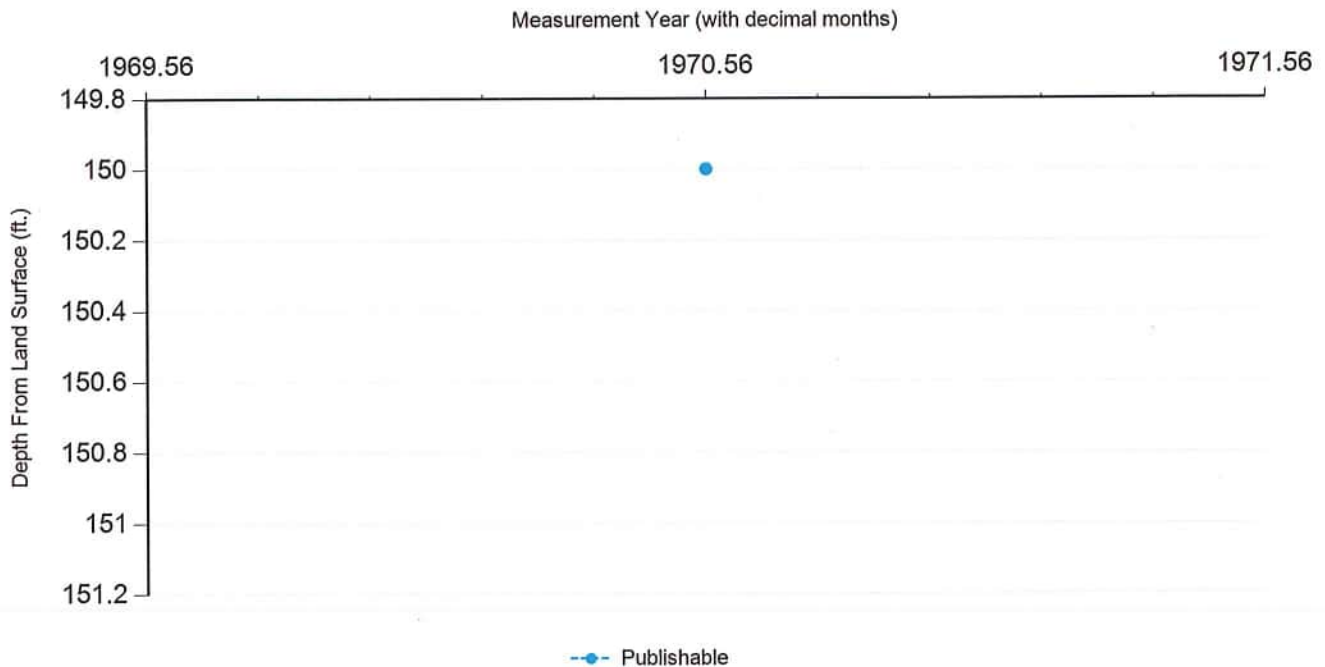
**Plugged Back - No Data**

**Filter Pack - No Data**

**Packers - No Data**



### Water Level Measurements



Status Code	Date	Time	Water Level (ft. below land surface)	Change value in ( ) indicates rise in level	Water Elevation (ft. above sea level)	Meas #	Measuring Agency	Method	Remark ID	Comments
P	7/24/1970		150		530	1	Other or Source of Measurement Unknown	Unknown		

### Code Descriptions

Status Code	Status Description
P	Publishable

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**Water Quality Analysis - No Data Available**

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GWDB Reports and Downloads

Well Basic Details

Scanned Documents

State Well Number	6857216
County	Frio
River Basin	Nueces
Groundwater Management Area	13
Regional Water Planning Area	L - South Central Texas
Groundwater Conservation District	Evergreen UWCD
Latitude (decimal degrees)	29.087778
Latitude (degrees minutes seconds)	29° 05' 16" N
Longitude (decimal degrees)	-98.934445
Longitude (degrees minutes seconds)	098° 56' 04" W
Coordinate Source	+/- 1 Second
Aquifer Code	124CRRZ - Carrizo Sand
Aquifer	Carrizo-Wilcox
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	619
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	235
Well Depth Source	Unknown
Drilling Start Date	
Drilling End Date	0/0/1971
Drilling Method	
Borehole Completion	

Well Type	Withdrawal of Water
Well Use	Irrigation
Water Level Observation	None
Water Quality Available	No
Pump	Turbine
Pump Depth (feet below land surface)	
Power Type	Electric Motor
Annular Seal Method	
Surface Completion	
Owner	Cloud O. Fargason
Driller	Strickers Water Well Srv
Other Data Available	
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	
Created Date	10/27/1994
Last Update Date	10/27/1994

**Remarks** Slotted from 135 to 235 ft. Gravel packed. Pump set at 140 ft. Reported yield 600 gpm. Development test: drawdown of 24 ft pumping 1850 gpm for 5 hours on Mar.19,1971 .

**Casing - No Data**

**Well Tests - No Data**

**Lithology - No Data**

**Annular Seal Range - No Data**

**Borehole - No Data**

**Plugged Back - No Data**

**Filter Pack - No Data**

**Packers - No Data**

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**Water Level Measurements**

No Data Available

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Water Quality Analysis - No Data Available

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Texas Water Development Board (TWDB)  
Groundwater Database (GWDB)  
Well Information Report for State Well Number  
68-57-217

GWDB Reports and Downloads

Well Basic Details

Scanned Documents

State Well Number	6857217
County	Frio
River Basin	Nueces
Groundwater Management Area	13
Regional Water Planning Area	L - South Central Texas
Groundwater Conservation District	Evergreen UWCD
Latitude (decimal degrees)	29.0875
Latitude (degrees minutes seconds)	29° 05' 15" N
Longitude (decimal degrees)	-98.942778
Longitude (degrees minutes seconds)	098° 56' 34" W
Coordinate Source	+/- 1 Second
Aquifer Code	124CRRZ - Carrizo Sand
Aquifer	Carrizo-Wilcox
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	620
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	255
Well Depth Source	Unknown
Drilling Start Date	
Drilling End Date	0/0/1971
Drilling Method	
Borehole Completion	

Well Type	Withdrawal of Water
Well Use	Irrigation
Water Level Observation	None
Water Quality Available	No
Pump	Turbine
Pump Depth (feet below land surface)	
Power Type	Electric Motor
Annular Seal Method	
Surface Completion	
Owner	Cloud O. Fargason
Driller	Strickers Water Well Srv
Other Data Available	
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	
Created Date	10/27/1994
Last Update Date	10/27/1994

Remarks Slotted form 130 to 251 ft. Pump set at 170 ft. Reported yield 1000 gpm.

Casing - No Data

Well Tests - No Data

Lithology - No Data

Annular Seal Range - No Data

Borehole - No Data

Plugged Back - No Data

Filter Pack - No Data

Packers - No Data



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**Water Level Measurements**

No Data Available

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Water Quality Analysis - No Data Available

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GWDB Reports and Downloads

Well Basic Details

Scanned Documents

State Well Number	6857218
County	Medina
River Basin	Nueces
Groundwater Management Area	13
Regional Water Planning Area	L - South Central Texas
Groundwater Conservation District	Medina County GCD
Latitude (decimal degrees)	29.099445
Latitude (degrees minutes seconds)	29° 05' 58" N
Longitude (decimal degrees)	-98.9475
Longitude (degrees minutes seconds)	098° 56' 51" W
Coordinate Source	+/- 1 Second
Aquifer Code	124CZWX - Carrizo Sand and Wilcox Group, Undifferentiated
Aquifer	Carrizo-Wilcox
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	640
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	516
Well Depth Source	Driller's Log
Drilling Start Date	
Drilling End Date	5/18/1976
Drilling Method	Mud (Hydraulic) Rotary
Borehole Completion	Gravel Pack w/Perforations

Well Type	Withdrawal of Water
Well Use	Irrigation
Water Level Observation	None
Water Quality Available	No
Pump	Turbine
Pump Depth (feet below land surface)	
Power Type	Electric Motor
Annular Seal Method	
Surface Completion	
Owner	Pete Morales Feed Lot
Driller	Thomas May & Sons W.W. Drlg Co.
Other Data Available	Drillers Log; Specific Capacity
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	Texas Water Development Board
Created Date	11/15/1976
Last Update Date	10/7/2015

**Remarks** Reported yield 513 GPM with 280 feet drawdown after 20 hours in 1976. Specific capacity 1.8 GPM/ft.

**Casing**

Diameter (in.)	Casing Type	Casing Material	Schedule	Gauge	Top Depth (ft.)	Bottom Depth (ft.)
12	Blank	Steel			0	283
12	Screen	Steel			283	516

**Well Tests - No Data**

**Lithology - No Data**

**Annular Seal Range - No Data**

**Borehole - No Data**

**Plugged Back - No Data**

**Filter Pack - No Data**

**Packers - No Data**

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**Water Level Measurements**

No Data Available

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Water Quality Analysis - No Data Available

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**Texas Water Development Board (TWDB)**  
**Groundwater Database (GWDB)**  
**Well Information Report for State Well Number**  
**68-57-221**

**GWDB Reports and Downloads**

**Well Basic Details**

**Scanned Documents**

State Well Number	6857221
County	Medina
River Basin	Nueces
Groundwater Management Area	13
Regional Water Planning Area	L - South Central Texas
Groundwater Conservation District	Medina County GCD
Latitude (decimal degrees)	29.109445
Latitude (degrees minutes seconds)	29° 06' 34" N
Longitude (decimal degrees)	-98.928055
Longitude (degrees minutes seconds)	098° 55' 41" W
Coordinate Source	+/- 1 Second
Aquifer Code	124CRRZ - Carrizo Sand
Aquifer	Carrizo-Wilcox
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	630
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	190
Well Depth Source	Driller's Log
Drilling Start Date	
Drilling End Date	8/31/1992
Drilling Method	Mud (Hydraulic) Rotary
Borehole Completion	Gravel Pack w/Screen

Well Type	Withdrawal of Water
Well Use	Public Supply
Water Level Observation	None
Water Quality Available	No
Pump	Submersible
Pump Depth (feet below land surface)	
Power Type	Electric Motor
Annular Seal Method	
Surface Completion	
Owner	Gusville Trailer Park
Driller	D & S Drilling
Other Data Available	Drillers Log
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	G1630031B
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	Texas Water Development Board
Created Date	1/4/1996
Last Update Date	10/7/2015

Remarks Well #2. Reported jetted 100 GPM when drilled.

**Casing**

Diameter (in.)	Casing Type	Casing Material	Schedule	Gauge	Top Depth (ft.)	Bottom Depth (ft.)
5	Blank	Plastic (PVC)			0	150
5	Screen	Plastic (PVC)			150	190

**Well Tests - No Data**

**Lithology - No Data**

**Annular Seal Range - No Data**

**Borehole - No Data**

**Plugged Back - No Data**

**Filter Pack - No Data**

**Packers - No Data**



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**Water Level Measurements**

No Data Available

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Water Quality Analysis - No Data Available

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GWDB Reports and Downloads

Well Basic Details

Scanned Documents

State Well Number	6857222
County	Medina
River Basin	Nueces
Groundwater Management Area	13
Regional Water Planning Area	L - South Central Texas
Groundwater Conservation District	Medina County GCD
Latitude (decimal degrees)	29.108889
Latitude (degrees minutes seconds)	29° 06' 32" N
Longitude (decimal degrees)	-98.933611
Longitude (degrees minutes seconds)	098° 56' 01" W
Coordinate Source	+/- 5 Seconds
Aquifer Code	124CRRZ - Carrizo Sand
Aquifer	Carrizo-Wilcox
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	650
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	135
Well Depth Source	Another Government Agency
Drilling Start Date	
Drilling End Date	0/0/1930
Drilling Method	
Borehole Completion	

Well Type	Withdrawal of Water
Well Use	Domestic
Water Level Observation	Miscellaneous Measurements
Water Quality Available	Yes
Pump	Piston
Pump Depth (feet below land surface)	
Power Type	Electric Motor
Annular Seal Method	
Surface Completion	
Owner	C Weldon
Driller	Les Upton
Other Data Available	
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	U.S. Geological Survey
Created Date	7/21/2014
Last Update Date	7/21/2014

Remarks Well J-7-37 in B-5601 and J-7-13 in USGS WSP-678.

**Casing**

Diameter (in.)	Casing Type	Casing Material	Schedule	Gauge	Top Depth (ft.)	Bottom Depth (ft.)
6	Blank				0	90
6	Screen				90	135

**Well Tests - No Data**

**Lithology - No Data**

**Annular Seal Range - No Data**

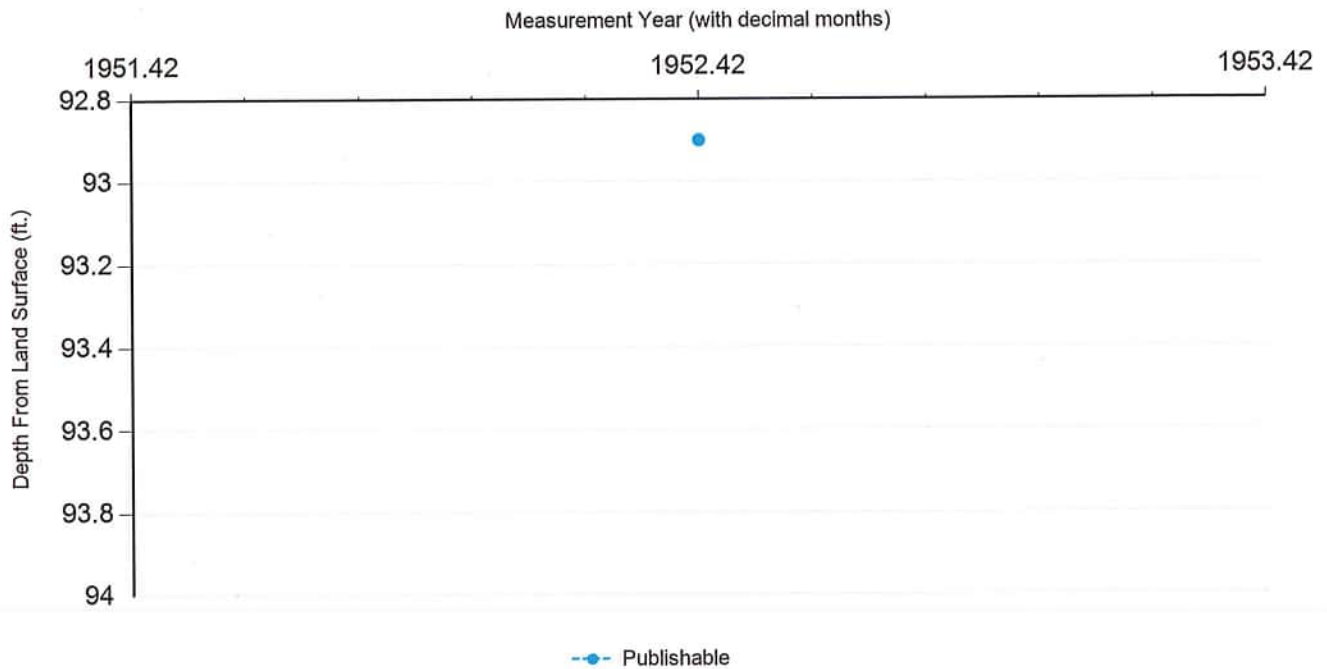
**Borehole - No Data**

**Plugged Back - No Data**

**Filter Pack - No Data**

**Packers - No Data**

### Water Level Measurements



Status Code	Date	Time	Water Level (ft. below land surface)	Change value in ( ) indicates rise in level	Water Elevation (ft. above sea level)	Meas #	Measuring Agency	Method	Remark ID	Comments
P	6/2/1952		92.9		557.1	1	U.S. Geological Survey	Steel Tape		

### Code Descriptions

Status Code	Status Description
P	Publishable

### Water Quality Analysis

Sample Date: 5/20/1930    Sample Time: 0000    Sample Number: 1    Collection Entity: Other Federal Agencies

Sampled Aquifer: Carrizo Sand

Analyzed Lab: WPA

Reliability: From a report; unknown sample collection & preservation

Collection Remarks: No Data

Parameter Code	Parameter Description	Flag	Value*	Units	Plus/Minus
00415	ALKALINITY, PHENOLPHTHALEIN (MG/L)		0	mg/L	
00410	ALKALINITY, TOTAL (MG/L AS CaCO3)		31.95	mg/L as CaCO 3	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO3)		38.99	mg/L	
00910	CALCIUM (MG/L)		16	mg/L	
00445	CARBONATE ION, CALCULATED (MG/L AS CO3)		0	mg/L	
00940	CHLORIDE, TOTAL (MG/L AS CL)		42	mg/L	
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CaCO3)		56	mg/L as CaCO 3	
00920	MAGNESIUM (MG/L)		4	mg/L	
71851	NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO3)		2.3	mg/L as NO3	
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		0		
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		1.56		
00932	SODIUM, CALCULATED, PERCENT		51	PCT	
00929	SODIUM, TOTAL (MG/L AS Na)	calculate d	27	mg/L	
00945	SULFATE, TOTAL (MG/L AS SO4)		20	mg/L as SO4	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		130	mg/L	

\* Value may not display all significant digits for parameter in results, check Scanned Documents for laboratory paperwork..

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GWDB Reports and Downloads

Well Basic Details

Scanned Documents

State Well Number	6857223
County	Medina
River Basin	Nueces
Groundwater Management Area	13
Regional Water Planning Area	L - South Central Texas
Groundwater Conservation District	Medina County GCD
Latitude (decimal degrees)	29.0925
Latitude (degrees minutes seconds)	29° 05' 33" N
Longitude (decimal degrees)	-98.954167
Longitude (degrees minutes seconds)	098° 57' 15" W
Coordinate Source	+/- 10 Seconds
Aquifer Code	124CRRZ - Carrizo Sand
Aquifer	Carrizo-Wilcox
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	638
Land Surface Elevation Method	Altimeter
Well Depth (feet below land surface)	110
Well Depth Source	Another Government Agency
Drilling Start Date	
Drilling End Date	0/0/1900
Drilling Method	Dug
Borehole Completion	Perforated or Slotted

Well Type	Withdrawal of Water
Well Use	Domestic
Water Level Observation	Miscellaneous Measurements
Water Quality Available	No
Pump	Piston
Pump Depth (feet below land surface)	
Power Type	Electric Motor
Annular Seal Method	
Surface Completion	
Owner	J J Wipff
Driller	Johnson
Other Data Available	
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	U.S. Geological Survey
Created Date	10/7/2015
Last Update Date	10/7/2015

Remarks Well J-7-33 in B-5601. Well J-7-18 in USGS WSP 678.

**Casing**

Diameter (in.)	Casing Type	Casing Material	Schedule	Gauge	Top Depth (ft.)	Bottom Depth (ft.)
60	Blank	Rock or Stone			0	90
6	Screen				90	110

**Well Tests - No Data**

**Lithology - No Data**

**Annular Seal Range - No Data**

**Borehole - No Data**

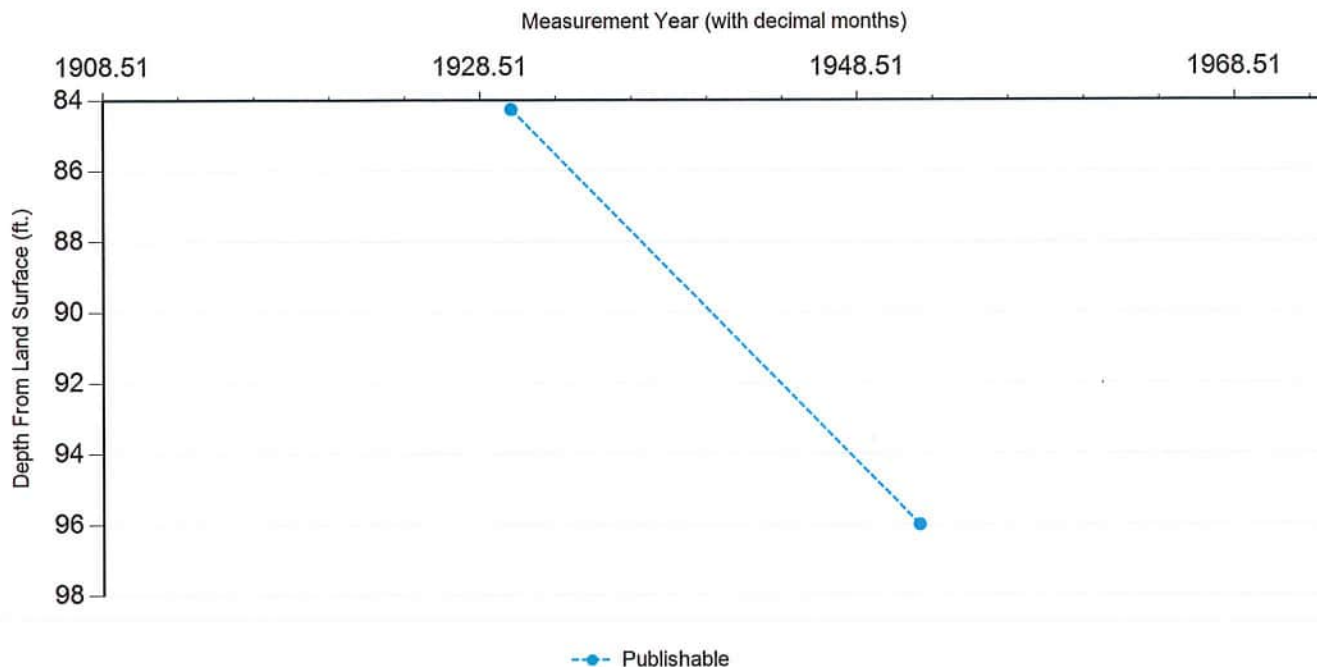
**Plugged Back - No Data**

**Filter Pack - No Data**

**Packers - No Data**



### Water Level Measurements



Status Code	Date	Time	Water Level (ft. below land surface)	Change value in ( ) indicates rise in level	Water Elevation (ft. above sea level)	Meas #	Measuring Agency	Method	Remark ID	Comments
P	2/21/1930		84.26		553.74	1	U.S. Geological Survey	Steel Tape		
P	10/10/1951		96	11.74	542	1	U.S. Geological Survey	Steel Tape		

### Code Descriptions

Status Code	Status Description
P	Publishable

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**Water Quality Analysis - No Data Available**

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## GWDB Reports and Downloads

## Well Basic Details

## Scanned Documents

State Well Number	6857224
County	Medina
River Basin	Nueces
Groundwater Management Area	13
Regional Water Planning Area	L - South Central Texas
Groundwater Conservation District	Medina County GCD
Latitude (decimal degrees)	29.097222
Latitude (degrees minutes seconds)	29° 05' 50" N
Longitude (decimal degrees)	-98.948889
Longitude (degrees minutes seconds)	098° 56' 56" W
Coordinate Source	+/- 10 Seconds
Aquifer Code	124CRRZ - Carrizo Sand
Aquifer	Carrizo-Wilcox
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	644
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	114
Well Depth Source	Another Government Agency
Drilling Start Date	
Drilling End Date	0/0/1900
Drilling Method	
Borehole Completion	

Well Type	Withdrawal of Water
Well Use	Domestic
Water Level Observation	Miscellaneous Measurements
Water Quality Available	No
Pump	Piston
Pump Depth (feet below land surface)	
Power Type	Electric Motor
Annular Seal Method	
Surface Completion	
Owner	August Wipff
Driller	W Lancaster
Other Data Available	
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	U.S. Geological Survey
Created Date	2/11/2013
Last Update Date	2/11/2013

**Remarks** Well J-7-34 in B-5601, and J-7-17 in USGS WSP 678. In USGS paper, date completed is 1900, and depth was 114'. Looks like well was redone in 1950 to a depth of 114'. Don't change drill date due to water levels taken prior to well being redone.

**Casing - No Data**

**Well Tests - No Data**

**Lithology - No Data**

**Annular Seal Range - No Data**

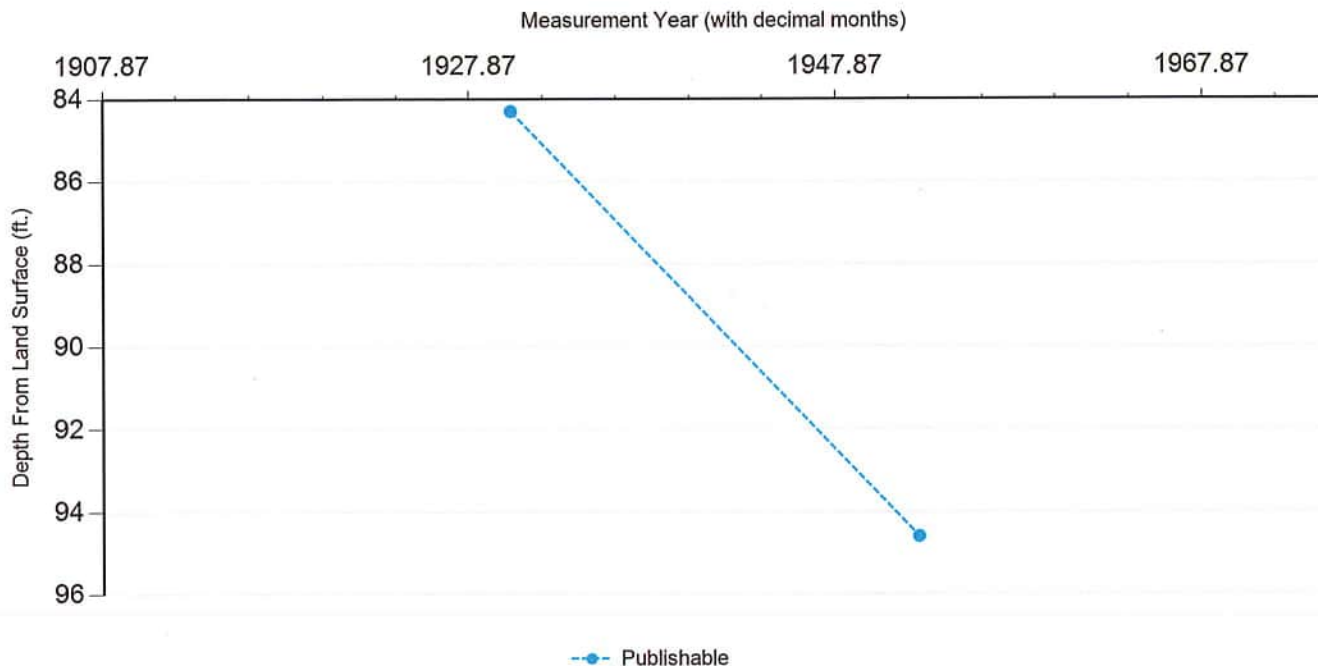
**Borehole - No Data**

**Plugged Back - No Data**

**Filter Pack - No Data**

**Packers - No Data**

### Water Level Measurements



Status Code	Date	Time	Water Level (ft. below land surface)	Change value in ( ) indicates rise in level	Water Elevation (ft. above sea level)	Meas #	Measuring Agency	Method	Remark ID	Comments
P	2/21/1930		84.3		559.7	1	U.S. Geological Survey	Steel Tape		
P	5/29/1952		94.6	10.30	549.4	1	U.S. Geological Survey	Steel Tape		

### Code Descriptions

Status Code	Status Description
P	Publishable

---

**Water Quality Analysis - No Data Available**

---

*GWDB DISCLAIMER: Except where noted, all of the information provided in the Texas Water Development Board (TWDB) Groundwater Database (<https://www.twdb.texas.gov/groundwater/data/gwdbbrpt.asp>) is believed to be accurate and reliable; however, the TWDB assumes no responsibility for any errors appearing in rules or otherwise. Further, TWDB assumes no responsibility for the use of the information provided. PLEASE NOTE that users of these data are responsible for checking the accuracy, completeness, currency and/or suitability of all information themselves. TWDB makes no guarantees or warranties as to the accuracy, completeness, currency, or suitability of the information provided via the Groundwater Database (GWDB). TWDB specifically disclaims any and all liability for any claims or damages that may result from providing GWDB data or the information it contains. For additional information or answers to questions concerning the TWDB GWDB, contact the Groundwater Data Team at [GroundwaterData@twdb.texas.gov](mailto:GroundwaterData@twdb.texas.gov).*



### GWDB Reports and Downloads

### Well Basic Details

### Scanned Documents

State Well Number	6857225
County	Medina
River Basin	Nueces
Groundwater Management Area	13
Regional Water Planning Area	L - South Central Texas
Groundwater Conservation District	Medina County GCD
Latitude (decimal degrees)	29.101112
Latitude (degrees minutes seconds)	29° 06' 04" N
Longitude (decimal degrees)	-98.943056
Longitude (degrees minutes seconds)	098° 56' 35" W
Coordinate Source	+/- 10 Seconds
Aquifer Code	124CRRZ - Carrizo Sand
Aquifer	Carrizo-Wilcox
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	644
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	140
Well Depth Source	Another Government Agency
Drilling Start Date	
Drilling End Date	0/0/1947
Drilling Method	
Borehole Completion	Perforated or Slotted

Well Type	Withdrawal of Water
Well Use	Domestic
Water Level Observation	Miscellaneous Measurements
Water Quality Available	No
Pump	Piston
Pump Depth (feet below land surface)	
Power Type	Electric Motor
Annular Seal Method	
Surface Completion	
Owner	B Hardcastle
Driller	Les Upton
Other Data Available	
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	U.S. Geological Survey
Created Date	10/7/2015
Last Update Date	10/7/2015

Remarks Well J-7-36 in B-5601.

#### Casing

Diameter (in.)	Casing Type	Casing Material	Schedule	Gauge	Top Depth (ft.)	Bottom Depth (ft.)
6	Blank				0	92
6	Screen				92	140

Well Tests - No Data

Lithology - No Data

Annular Seal Range - No Data

Borehole - No Data

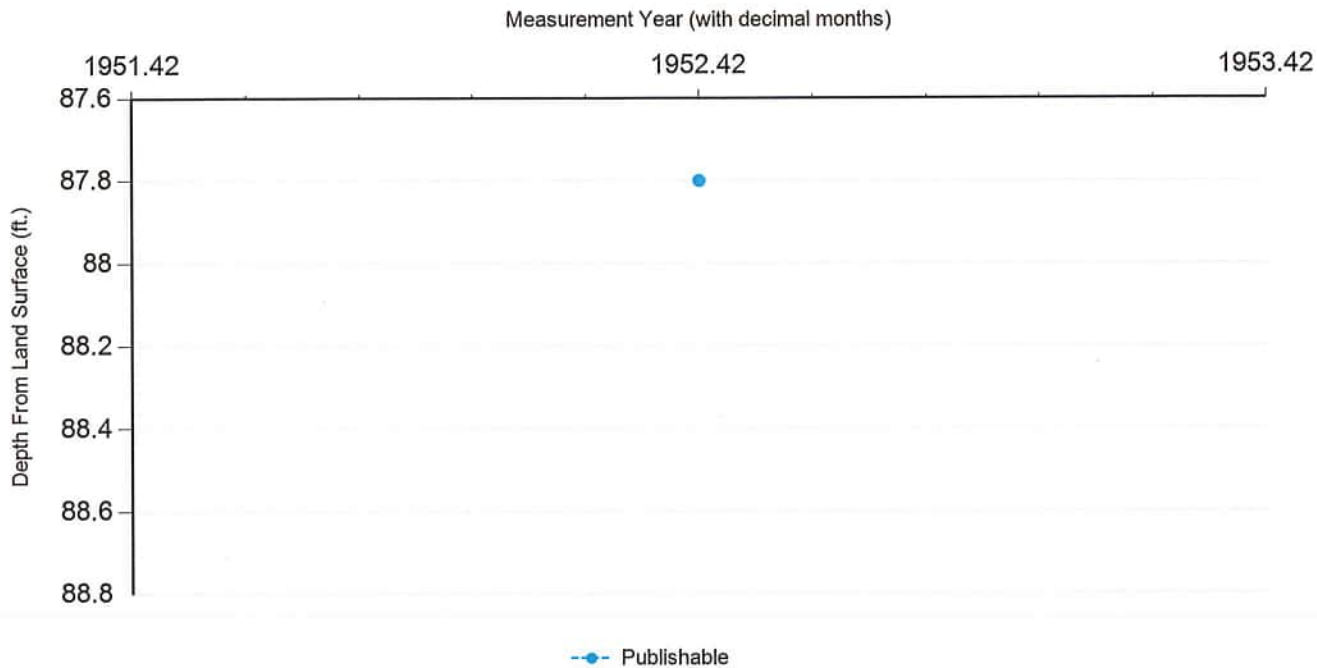
Plugged Back - No Data

Filter Pack - No Data

Packers - No Data



### Water Level Measurements



Status Code	Date	Time	Water Level (ft. below land surface)	Change value in ( ) indicates rise in level	Water Elevation (ft. above sea level)	Meas #	Measuring Agency	Method	Remark ID	Comments
P	6/2/1952		87.8		556.2	1	U.S. Geological Survey	Steel Tape		

### Code Descriptions

Status Code	Status Description
P	Publishable

---

**Water Quality Analysis - No Data Available**

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*GWDB DISCLAIMER: Except where noted, all of the information provided in the Texas Water Development Board (TWDB) Groundwater Database (<https://www.twdb.texas.gov/groundwater/data/gwdbbrpt.asp>) is believed to be accurate and reliable; however, the TWDB assumes no responsibility for any errors appearing in rules or otherwise. Further, TWDB assumes no responsibility for the use of the information provided. PLEASE NOTE that users of these data are responsible for checking the accuracy, completeness, currency and/or suitability of all information themselves. TWDB makes no guarantees or warranties as to the accuracy, completeness, currency, or suitability of the information provided via the Groundwater Database (GWDB). TWDB specifically disclaims any and all liability for any claims or damages that may result from providing GWDB data or the information it contains. For additional information or answers to questions concerning the TWDB GWDB, contact the Groundwater Data Team at [GroundwaterData@twdb.texas.gov](mailto:GroundwaterData@twdb.texas.gov).*

**Texas Water Development Board (TWDB)**  
**Groundwater Database (GWDB)**  
**Well Information Report for State Well Number**  
**68-57-226**

**GWDB Reports and Downloads**

**Well Basic Details**

**Scanned Documents**

State Well Number	6857226
County	Medina
River Basin	Nueces
Groundwater Management Area	13
Regional Water Planning Area	L - South Central Texas
Groundwater Conservation District	Medina County GCD
Latitude (decimal degrees)	29.098056
Latitude (degrees minutes seconds)	29° 05' 53" N
Longitude (decimal degrees)	-98.923055
Longitude (degrees minutes seconds)	098° 55' 23" W
Coordinate Source	+/- 5 Seconds
Aquifer Code	124CRRZ - Carrizo Sand
Aquifer	Carrizo-Wilcox
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	607
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	109
Well Depth Source	Another Government Agency
Drilling Start Date	
Drilling End Date	0/0/1940
Drilling Method	
Borehole Completion	

Well Type	Withdrawal of Water
Well Use	Domestic
Water Level Observation	Miscellaneous Measurements
Water Quality Available	No
Pump	Piston
Pump Depth (feet below land surface)	
Power Type	Electric Motor
Annular Seal Method	
Surface Completion	
Owner	Bill Driscoll
Driller	A F Mann
Other Data Available	
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	U.S. Geological Survey
Created Date	6/24/1999
Last Update Date	6/24/1999

Remarks Well J-7-58 in B-5601.

**Casing**

Diameter (in.)	Casing Type	Casing Material	Schedule	Gauge	Top Depth (ft.)	Bottom Depth (ft.)
6	Blank					

**Well Tests - No Data**

**Lithology - No Data**

**Annular Seal Range - No Data**

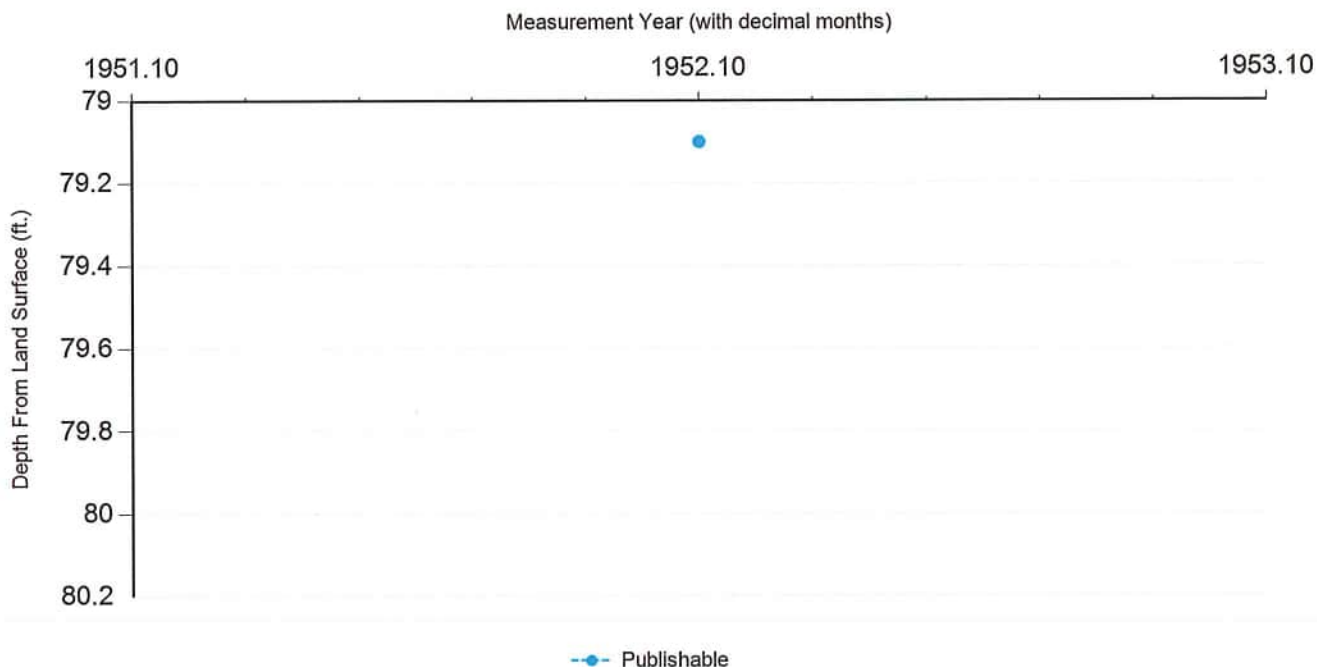
**Borehole - No Data**

**Plugged Back - No Data**

**Filter Pack - No Data**

**Packers - No Data**

### Water Level Measurements



Status Code	Date	Time	Water Level (ft. below land surface)	Change value in ( ) indicates rise in level	Water Elevation (ft. above sea level)	Meas #	Measuring Agency	Method	Remark ID	Comments
P	2/7/1952		79.1		527.9	1	U.S. Geological Survey	Steel Tape		

### Code Descriptions

Status Code	Status Description
P	Publishable

---

**Water Quality Analysis - No Data Available**

---

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GWDB Reports and Downloads

Well Basic Details

Scanned Documents

State Well Number	6857505
County	Frio
River Basin	Nueces
Groundwater Management Area	13
Regional Water Planning Area	L - South Central Texas
Groundwater Conservation District	Evergreen UWCD
Latitude (decimal degrees)	29.079722
Latitude (degrees minutes seconds)	29° 04' 47" N
Longitude (decimal degrees)	-98.948334
Longitude (degrees minutes seconds)	098° 56' 54" W
Coordinate Source	+/- 1 Second
Aquifer Code	124CRRZ - Carrizo Sand
Aquifer	Carrizo-Wilcox
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	605
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	170
Well Depth Source	Unknown
Drilling Start Date	
Drilling End Date	0/0/1963
Drilling Method	
Borehole Completion	

Well Type	Withdrawal of Water
Well Use	Domestic
Water Level Observation	Historical
Water Quality Available	No
Pump	Submersible
Pump Depth (feet below land surface)	
Power Type	Electric Motor
Annular Seal Method	
Surface Completion	
Owner	W.W. Thompson
Driller	Thompson Water Well Srv
Other Data Available	
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	
Created Date	10/27/1994
Last Update Date	10/27/1994

Remarks Slotted from 150 to 170 ft. Obser- vation well. Cased to 170 ft.

Casing - No Data

Well Tests - No Data

Lithology - No Data

Annular Seal Range - No Data

Borehole - No Data

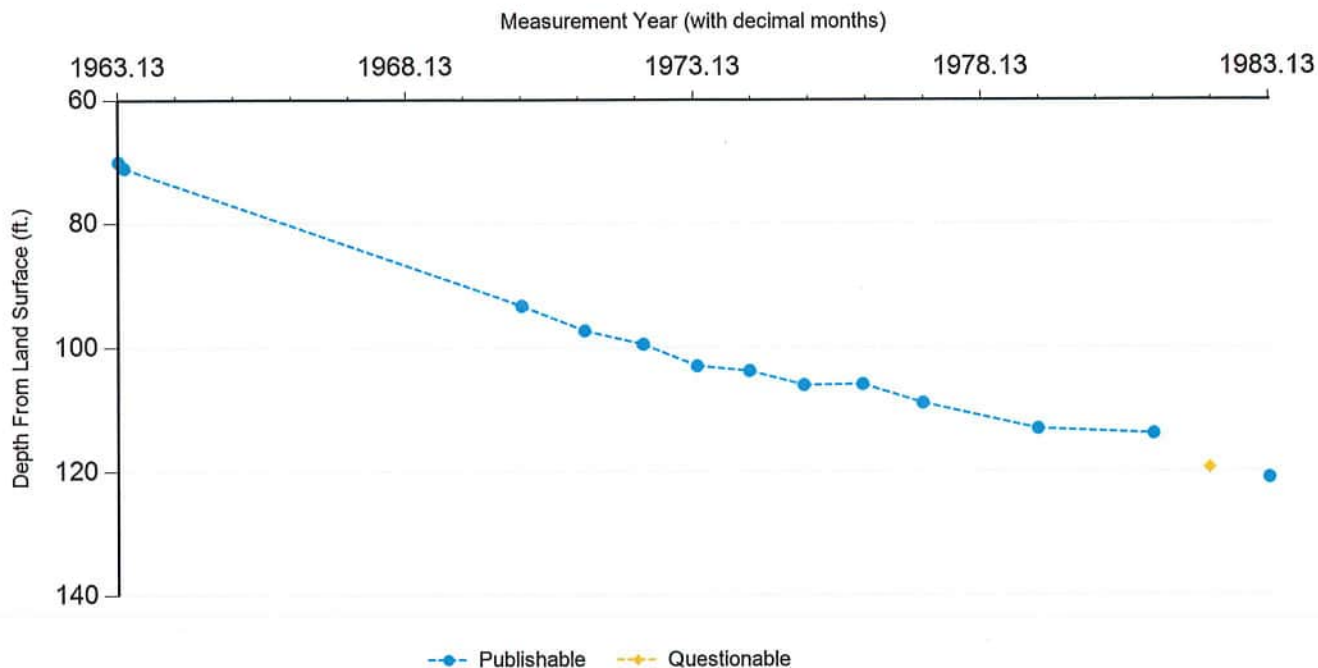
Plugged Back - No Data

Filter Pack - No Data

Packers - No Data



### Water Level Measurements



Status Code	Date	Time	Water Level (ft. below land surface)	Change value in ( ) indicates rise in level	Water Elevation (ft. above sea level)	Meas #	Measuring Agency	Method	Remark ID	Comments
P	2/0/1963		71		534	1	Other or Source of Measurement Unknown	Unknown		
P	2/23/1963		70	(1.00)	535	1	Registered Water Well Driller	Unknown		
P	2/25/1970		93.27	23.27	511.73	1	Texas Water Development Board	Steel Tape		
P	3/30/1971		97.27	4.00	507.73	1	Texas Water Development Board	Steel Tape		
P	4/7/1972		99.45	2.18	505.55	1	Texas Water Development Board	Steel Tape		
P	3/12/1973		102.97	3.52	502.03	1	Texas Water Development Board	Steel Tape		
P	2/11/1974		103.77	0.80	501.23	1	Texas Water Development Board	Steel Tape		
P	1/21/1975		106.06	2.29	498.94	1	Texas Water Development Board	Steel Tape		
P	1/28/1976		105.93	(0.13)	499.07	1	Texas Water Development Board	Steel Tape		
P	2/14/1977		108.98	3.05	496.02	1	Texas Water Development Board	Steel Tape		
P	2/13/1979		113.12	4.14	491.88	1	Texas Water Development Board	Steel Tape		
P	2/18/1981		113.93	0.81	491.07	1	Texas Water Development Board	Steel Tape		
Q	2/12/1982		119.44	5.51	485.56	1	Texas Water Development Board	Steel Tape	4	
P	2/24/1983		121.04	1.60	483.96	1	Texas Water Development Board	Steel Tape		
X	2/28/1983					1	Texas Water Development Board		33	

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**Code Descriptions**

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Status Code	Status Description
P	Publishable
Q	Questionable
X	No Measurement

Remark ID	Remark Description
4	Well pumped recently
33	Well removed from Water Level Program due to owner request

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**Water Quality Analysis - No Data Available**

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**GWDB DISCLAIMER:** Except where noted, all of the information provided in the Texas Water Development Board (TWDB) Groundwater Database (<https://www.twdb.texas.gov/groundwater/data/gwdbbrpt.asp>) is believed to be accurate and reliable; however, the TWDB assumes no responsibility for any errors appearing in rules or otherwise. Further, TWDB assumes no responsibility for the use of the information provided. PLEASE NOTE that users of these data are responsible for checking the accuracy, completeness, currency and/or suitability of all information themselves. TWDB makes no guarantees or warranties as to the accuracy, completeness, currency, or suitability of the information provided via the Groundwater Database (GWDB). TWDB specifically disclaims any and all liability for any claims or damages that may result from providing GWDB data or the information it contains. For additional information or answers to questions concerning the TWDB GWDB, contact the Groundwater Data Team at [GroundwaterData@twdb.texas.gov](mailto:GroundwaterData@twdb.texas.gov).

**ATTACHMENT U**

**GROUNDWATER QUALITY REPORT**

Attachment U- rev 6/5/2024

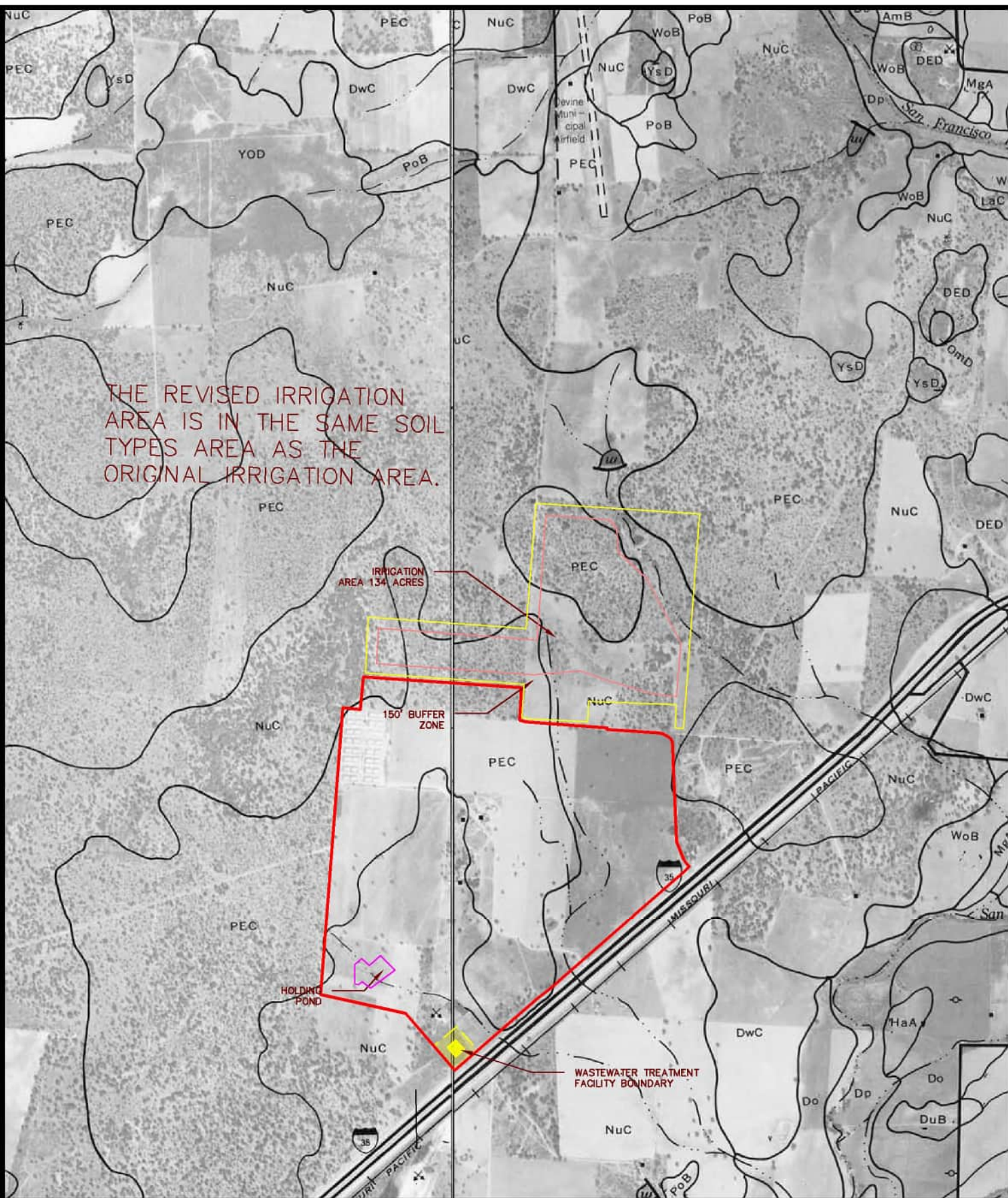
Groundwater Quality Report

The site was used as a CAFO for many years. Most of the cattle were confined to the northwest corner of the property for concentrated feeding. This area was cleaned by washing the manure into unlined lagoons on the western property line and immediately east of the feeding area. See attached aerial image. The aquifer in this area slopes from northwest to southeast. Downslope in the aquifer from these lagoons is the Public Water System of the Gusville Mobile Home Park. (PWS – TX1630031). This is Well #17 on the USGS map. Attached is the TCEQ Drinking Water Watch report for the Gusville Mobile Home Park. Over the past 20 years the system had only one incident of Ecoli contamination which was then rectified. Given that the unlined lagoons with untreated manure from the concentrated cattle feeding operation has not contaminated the groundwater the treated water from the proposed wastewater treatment plant, which will produce wastewater with a Biochemical Oxygen Demand of less than 5 mg/liter and is allowed for direct human contact per TCEQ rules, should pose no threat to any groundwater regardless of application rate. The storage lagoon for the treated wastewater for the proposed wastewater plant will meet the requirements of 30 TAC 309.13(d). The existing water wells on the site will be used for additional irrigation and for keeping the ponds on the property full to provide recreational facilities for the proposed subdivision residents.

**ATTACHMENT V**

**SOIL MAP AND SOIL ANALYSES**





# **SOIL MAP** **AGAPE OAKS**

**AGAPE OAKS**  
YANCEY, TEXAS



**Southwest  
Engineers**

GONZALEZ  
2017 State Licensed Surveyor  
P. 032-032-22-11  
BUTRA  
2017 State Licensed Surveyor  
P. 032-032-22-11  
DASTON  
2017 State Licensed Surveyor  
P. 032-032-22-11

TPR/HOL 0-1000  
www.southwestengineers.com

SCALE: 1" = 1000'

DRAWN BY: MG DATE: 08/23

CHECKED BY: MAI DATE: 08/23

FILE: 0339-032-22

## Soil Analysis Report

Soil, Water and Forage Testing Laboratory  
Department of Soil and Crop Sciences  
2478 TAMU  
College Station, TX 77843-2478

Report generated for:  
Yancey Water Supply Corp.  
Scooter Mangold  
PO Box 127  
YANCEY, TX 78886

Visit our website: <http://soiltesting.tamu.edu>

Sample received on: 7/26/2024

Printed on: 8/21/2024

Area Represented: 74 acres

SWFTL recommends <40 acres/sample

Medina County

Laboratory Number: 664661

Customer Sample ID: AO1

Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS (ESTABLISHMENT)

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess.
pH	6.2	(5.8)	-	Slightly Acid						
Conductivity	22	(-)	umho/cm	None						
Nitrate-N	5	(-)	ppm**	Fertilizer Recommended						
Phosphorus	21	(50)	ppm	30 lbs N/acre						
Potassium	58	(125)	ppm	60 lbs P2O5/acre						
Calcium	385	(180)	ppm	50 lbs K2O/acre						
Magnesium	52	(50)	ppm	0 lbs Ca/acre						
Sulfur	3	(13)	ppm	0 lbs Mg/acre						
Sodium	10	(-)	ppm	15 lbs S/acre						
Iron										
Zinc										
Manganese										
Copper										
Boron										
Limestone Requirement										0.00 tons 100ECCE/acre
Detailed Salinity Test (Saturated Paste Extract)										
pH										5.9
Conductivity										0.20 mmhos/cm
Sodium										23 ppm 1.022 meq/L
Potassium										15 ppm 0.391 meq/L
Calcium										13 ppm 0.627 meq/L
Magnesium										3 ppm 0.243 meq/L
TKN	1567		ppm	SAR						
TN	1843		ppm	SSP						
										1.55
										44.76

\*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. \*\*ppm=mg/kg

**Nitrogen:** Apply an additional 40 lbs/A of nitrogen upon 75% vegetative cover.

**Sulfur:** Available sulfur may be found deeper in soil profile, thus limiting any response to added sulfur.

Online fertilizer calculators to determine appropriate fertilizers and application rates.  
<http://soiltesting.tamu.edu>

# Soil Analysis Report

Soil, Water and Forage Testing Laboratory  
Department of Soil and Crop Sciences  
2478 TAMU  
College Station, TX 77843-2478

Report generated for:  
Yancey Water Supply Corp.  
Scooter Mangold  
PO Box 127  
YANCEY, TX 78886

Visit our website: <http://soiltesting.tamu.edu>

Sample received on: 7/26/2024  
Printed on: 8/21/2024  
Area Represented: 80 acres  
SWFTL recommends <40 acres/sample

Medina County  
Laboratory Number: 664662  
Customer Sample ID: AO2

Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS (ESTABLISHMENT)

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess.
pH	6.6	(5.8)	-	Slightly Acid						
Conductivity	14	(-)	umho/cm	None						
Nitrate-N	2	(-)	ppm**	CL*						
Phosphorus	6	(50)	ppm	Fertilizer Recommended						
Potassium	25	(125)	ppm	35 lbs N/acre						
Calcium	376	(180)	ppm	90 lbs P2O5/acre						
Magnesium	30	(50)	ppm	80 lbs K2O/acre						
Sulfur	2	(13)	ppm	0 lbs Ca/acre						
Sodium	9	(-)	ppm	10 lbs Mg/acre						
Iron				15 lbs S/acre						
Zinc										
Manganese										
Copper										
Boron										
Limestone Requirement										0.00 tons 100ECCE/acre
				Detailed Salinity Test (Saturated Paste Extract)						
				pH		6.0				
				Conductivity		0.12 mmhos/cm				
				Sodium		14 ppm			0.621 meq/L	
				Potassium		6 ppm			0.152 meq/L	
				Calcium		6 ppm			0.324 meq/L	
TKN	1868		ppm	Magnesium		1 ppm			0.095 meq/L	
TN	1832		ppm	SAR		1.36				
				SSP		52.10				

\*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. \*\*ppm=mg/kg

**Nitrogen:** Apply an additional 40 lbs/A of nitrogen upon 75% vegetative cover.

**Potassium:** Split apply potassium fertilizer if recommendation is for more than 75 lbs K2O per acre.

**Sulfur:** Available sulfur may be found deeper in soil profile, thus limiting any response to added sulfur.

Online fertilizer calculators to determine appropriate fertilizers and application rates.  
<http://soiltesting.tamu.edu>



# Soil Analysis Report

Soil, Water and Forage Testing Laboratory  
Department of Soil and Crop Sciences  
2478 TAMU  
College Station, TX 77843-2478

Report generated for:  
Yancey Water Supply Corp.  
Scooter Mangold  
PO Box 127  
YANCEY, TX 78886

Visit our website: <http://soiltesting.tamu.edu>

Sample received on: 7/26/2024  
Printed on: 8/21/2024  
Area Represented: 80 acres  
SWFTL recommends <40 acres/sample

Medina County  
Laboratory Number: 664663  
Customer Sample ID: AO3

Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS (ESTABLISHMENT)

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess.
pH	5.0	(5.8)	-	Strongly Acid						
Conductivity	15	(-)	umho/cm	None						
Nitrate-N	2	(-)	ppm**							
Phosphorus	23	(50)	ppm							
Potassium	30	(125)	ppm							
Calcium	240	(180)	ppm							
Magnesium	23	(50)	ppm							
Sulfur	2	(13)	ppm							
Sodium	9	(-)	ppm							
Iron										
Zinc										
Manganese										
Copper										
Boron										
Limestone Requirement										1.00 tons 100ECCE/acre
Detailed Salinity Test (Saturated Paste Extract)										
pH										4.9
Conductivity										0.12 mmhos/cm
Sodium										17 ppm 0.731 meq/L
Potassium										6 ppm 0.162 meq/L
Calcium										3 ppm 0.166 meq/L
Magnesium										0 ppm 0.038 meq/L
TKN	1893		ppm							
TN	1947		ppm							
SAR										2.29
SSP										66.68

\*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. \*\*ppm=mg/kg

Limestone recommendations are based on 100 ECCE liming products. Limestone applications >3 tons/acre should be made >4 months prior to crop establishment to lessen micro-nutrient availability issues.

**Nitrogen:** Apply an additional 40 lbs/A of nitrogen upon 75% vegetative cover.

**Potassium:** Split apply potassium fertilizer if recommendation is for more than 75 lbs K2O per acre.

**Sulfur:** Available sulfur may be found deeper in soil profile, thus limiting any response to added sulfur.

Online fertilizer calculators to determine appropriate fertilizers and application rates.  
<http://soiltesting.tamu.edu>



**Address:** 2478 TAMU  
College Station, Texas 77843-2478

**Phone:** (979) 845-4816  
**Email:** soiltesting@tamu.edu  
**Web:** soiltesting.tamu.edu

## **STATEMENT #413247**

**Account #:** 106506  
**Statement Date:** 7/29/2024  
**Statement By:** JW  
**PO #:**

**Yancey Water Supply Corp.**  
**ATTN: Scooter Mangold**  
**PO Box 127**  
**YANCEY, TX 78886**

Lab(s) submitted for:

Samples collected in Medina County

Quantity:	Test Code:	Lab Numbers:	Test Performed:	Test Price:	Total Price:
3	S9	664661 - 664663	Routine + Detailed Salinity	\$37.00	\$111.00
3	M11	664661 - 664663	TKN	\$30.00	\$90.00
3	M10	664661 - 664663	Total Nitrogen	\$20.00	\$60.00
				<b>TOTAL</b>	<b>\$261.00</b>

Payment Date:	Payment Details:	Amount:
7/29/2024	Check - Reference #1139	\$261.00
		<b>TOTAL \$261.00</b>

**PAID IN FULL**

<b>Statement Total:</b>	<b>\$261.00</b>
<b>- Payments:</b>	<b>\$261.00</b>
<b>+ Refunds:</b>	
<b>Balance Due:</b>	<b>\$0.00</b>

If you need to update your address or phone number, please send a note including the new information with your next sample.  
**Thank you for allowing us to serve your needs.**

**Soil, Water, and Forage Testing Laboratory; 2478 TAMU; College Station, TX 77843-2478**

## **Attachment V- Soil Maps**

Attached are the Medina County USDA soil maps with the Agape Oaks area highlighted. As discussed in annual Cropping plan ( Attachment P), all impervious area over the entire site will be used for irrigation.





SCALE: 1" = 1000'

DRAWN BY: MAG DATE: 07/23

CHECKED BY: MAI DATE: 07/23

FILE: 0339-032-22

## SOIL SAMPLE MAP

AGAPE OAKS WWTP

**AGAPE OAKS**  
YANCEY, TEXAS



**Southwest  
Engineers**

TDP E-INT. E-1006  
www.southwesteng.com

GONZALES

3030 Santa Barbara Blvd.  
P.O. Box 679, Suite 100, El Paso, TX 79901

REDA

2014 Construction Permit, No. 11

P. 01-01-01

2014-2015

P. 01-01-01

**ATTACHMENT W**

**ENGINEERING REPORT**

**WATER BALANCE AND STORAGE  
VOLUME CALCULATIONS**

Attachment W  
Engineering Report

See attached Water Balance Calculations.

See attached Storage Volume Calculations.

Nitrogen Balance:

$$\frac{250,000 \text{ gallons}}{\text{day}} \times \frac{365 \text{ days}}{\text{year}} \times \frac{8.33 \text{ lbs}}{\text{gallon}} \times \frac{2}{1,000,000} \text{ N} \times \frac{1}{137 \text{ acres}} = 11.1 \frac{\text{lbs N}}{\text{acre}}/\text{year}$$

The method of application will be a spray irrigation using a center pivot sprinkler system.

Irrigation Efficiency: 100%-7%(Evaporation calculated in Storage Volume Calculations)  
=93% efficiency

Signature:

Mark A. Ince, P.E.

Storage Volume Calculations

Month	Effluent Applied to Land	Mean Rainfall Distribution	Max Rainfall	Max Runoff	Infiltrated Rainfall	Total Available Water	Distribution of Mean	Net Minimum Evaporation	Storage	Accumulated Storage
January	0.97	3.45%	3.35	1.45	1.90	2.87	2.36%	-0.029	1.00	2.10
February	0.97	3.59%	3.48	1.55	1.93	2.90	1.96%	-0.024	0.85	2.95
March	0.97	7.38%	7.16	4.73	2.43	3.40	6.28%	-0.077	-1.71	1.24
April	0.97	7.17%	6.95	4.54	2.41	3.38	6.28%	-0.077	-2.35	-1.12
May	0.97	13.01%	12.62	9.91	2.71	3.68	14.67%	-0.180	-9.20	-10.32
June	0.97	9.42%	9.14	6.58	2.56	3.53	7.09%	-0.087	-8.93	-19.24
July	0.97	16.91%	16.4	13.59	2.81	3.78	21.19%	-0.260	-11.41	-30.66
August	0.97	5.49%	5.32	3.08	2.24	3.21	5.38%	-0.066	-6.12	-36.77
September	0.97	16.24%	15.75	12.95	2.80	3.77	19.32%	-0.237	-5.02	-41.80
October	0.97	8.08%	7.84	5.36	2.48	3.45	8.39%	-0.103	-4.27	-46.06
November	0.97	5.70%	5.53	3.26	2.27	3.24	4.48%	-0.055	0.10	0.10
December	0.97	3.55%	3.44	1.52	1.92	2.89	2.61%	-0.032	1.00	1.10
Total	11.64	100.00%	96.98	68.51	28.47	40.11	100.00%	-1.227	--	2.95**

Water Balance Calculations

Month	Average Rainfall	Average Runoff	Average Infiltrated Rainfall	Evapotranspiration	Leaching	Total Water Needs	Effluent Required in Root Zone	Evaporation from Reservoir Surface	Effluent to be Applied to Land	Consumption from Reservoir
January	1.81	0.42	1.40	1.35	0.00	1.35	0.00	0.024	0.00	0.02
February	1.50	0.26	1.24	1.71	0.35	2.06	0.81	0.033	0.95	0.98
March	2.28	0.70	1.59	3.42	1.35	4.77	3.19	0.044	3.71	3.75
April	2.08	0.57	1.51	3.69	1.61	5.30	3.79	0.063	4.41	4.47
May	3.83	1.83	2.00	7.47	4.04	11.51	9.51	0.038	11.05	11.09
June	2.88	1.10	1.78	7.11	3.94	11.05	9.27	0.094	10.78	10.88
July	2.87	1.10	1.78	8.55	5.01	13.56	11.78	0.094	13.70	13.79
August	2.49	0.83	1.66	5.49	2.83	8.32	6.66	0.098	7.75	7.85
September	3.66	1.69	1.97	5.49	2.60	8.09	6.12	0.104	7.12	7.23
October	3.52	1.58	1.94	4.86	2.16	7.02	5.08	0.051	5.91	5.96
November	2.29	0.70	1.59	2.43	0.62	3.05	1.46	0.036	1.70	1.73
December	1.52	0.27	1.25	1.08	0.00	1.08	0.00	0.030	0.00	0.03
Total	30.73	11.03	19.70	52.65	24.52	77.17	57.68	0.709	67.08	67.78

**ATTACHMENT X**

**LINER CERTIFICATION**



## Attachment X

### Liner Certification

The storage pond for the lagoon will lined with in-situ clay that meets the requirements of 30 TAC309.13(d) and 30 TAC 217.

The site was previously used as a feedlot. As part of the closure plan the ponds were dredged to remove manure that had washed into the ponds. The ponds will be used as amenities for the proposed subdivision.

## Leah Whallon

---

**From:** Mark Ince <mark.ince@swengineers.com>  
**Sent:** Monday, September 9, 2024 9:22 AM  
**To:** Leah Whallon  
**Cc:** yanceywater@yahoo.com; Jane Twyford  
**Subject:** RE: Application for Proposed Permit No. WQ0016603001; Yancey Water Supply Corporation; Agape Oaks WWTP  
**Attachments:** WQ0016465001-nori-esp.docx

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

Good Morning Leah,  
All looks good. Attached is the Spanish NORI.  
Thanks,

### ***Mark Ince, P.E.***

Project Engineer  
**p:** (830) 672-7546 ext 433  
**a:** 307 Saint Lawrence Street, Gonzales, Texas 78629  
**w:** [swengineers.com](http://swengineers.com)  
TBPE No. F-1909

---

**From:** Leah Whallon <Leah.Whallon@Tceq.Texas.Gov>  
**Sent:** Friday, August 30, 2024 3:19 PM  
**To:** Mark Ince <mark.ince@swengineers.com>  
**Cc:** yanceywater@yahoo.com  
**Subject:** Application for Proposed Permit No. WQ0016603001; Yancey Water Supply Corporation; Agape Oaks WWTP

Good Afternoon,

Please see the attached Notice of Deficiency letter dated August 30, 2024 requesting additional information needed to declare the application administratively complete. Please send the complete response by September 13, 2024.

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](mailto:leah.whallon@tceq.texas.gov)

How is our customer service? Fill out our online customer satisfaction survey at  
[www.tceq.texas.gov/customersurvey](http://www.tceq.texas.gov/customersurvey)

# Comisión de Calidad Ambiental del Estado de Texas



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

### PERMISO PROPUESTO NO.

**SOLICITUD.** Yancey Water Supply Corporation, P.O. Box 127 Yancey, Texas 78886, ha solicitado a la Comisión de Calidad Ambiental de Texas (TCEQ) para el propuesto Permiso No. WQ0016603001 de disposición de aguas residuales para autorizar la disposición de aguas residuales tratadas en un volumen que no sobrepasa un flujo promedio diario de 250,000 galones por día por medio aplicación superficial de 137 acres. La planta de tratamiento de aguas domésticos residuales y el área de disposición estarán ubicados aproximadamente 0.11 millas al norte de la intersección de County Road 7612 y la I-35 Frontage Road en el Condado de Medina, Texas 78016. La TCEQ recibió esta solicitud el día 21 de agosto de 2024. La solicitud para el permiso estará disponible para leerla y copiarla en Biblioteca pública Driscoll, 202 East Hondo Avenue, Devine, 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=-98.945,29.099722&level=18>

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

**COMENTARIO PUBLICO / REUNION PUBLICA.** Usted puede presentar **comentarios públicos o pedir una reunión pública sobre esta solicitud.** El propósito de una reunión pública es dar la oportunidad de presentar comentarios o hacer preguntas acerca de la solicitud. La TCEQ realiza una reunión pública si el Director Ejecutivo determina que hay un grado de interés público suficiente en la solicitud o si un legislador local lo pide. Una reunión pública no es una audiencia administrativa de lo contencioso.

**OPORTUNIDAD DE UNA AUDIENCIA ADMINISTRATIVA DE LO CONTENCIOSO.** Después del plazo para presentar comentarios públicos, el Director Ejecutivo considerará todos los comentarios apropiados y preparará una respuesta a todo los comentarios públicos esenciales, pertinentes, o significativos. **A menos que la solicitud haya sido referida directamente a una audiencia administrativa de lo contencioso, la respuesta a los**

**comentarios y la decisión del Director Ejecutivo sobre la solicitud serán enviados por correo a todos los que presentaron un comentario público y a las personas que están en la lista para recibir avisos sobre esta solicitud. Si se reciben comentarios, el aviso también proveerá instrucciones para pedir una reconsideración de la decisión del Director Ejecutivo y para pedir una audiencia administrativa de lo contencioso.** Una audiencia administrativa de lo contencioso es un procedimiento legal similar a un procedimiento legal civil en un tribunal de distrito del estado.

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

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

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

**CONTACTOS E INFORMACIÓN A LA AGENCIA.** Todos los comentarios públicos y solicitudes deben ser presentadas electrónicamente vía <http://www14.tceq.texas.gov/epic/eComment/> o por escrito dirigidos a la Comisión de Texas de Calidad Ambiental, Oficial de la Secretaría (Office of Chief Clerk), MC-105, P.O. Box 13087, Austin, Texas 78711-3087. Tenga en cuenta que

cualquier información personal que usted proporcione, incluyendo su nombre, número de teléfono, dirección de correo electrónico y dirección física pasarán a formar parte del registro público de la Agencia. Para obtener más información acerca de esta solicitud de permiso o el proceso de permisos, llame al programa de educación pública de la TCEQ, gratis, al 1-800-687-4040. Si desea información en Español, puede llamar al 1-800-687-4040.

También se puede obtener información adicional del Yancey Water Supply Corporation a la dirección indicada arriba o llamando a Sr. Mark Ince, P.E., Southwest Engineers Inc., at 830-672-7546.

Fecha de emisión: 30 de agosto de 2024

**From:** [Mark Ince](#)  
**To:** [Sara Holmes](#); [Jane Twyford](#); [yanceywater@yahoo.com](mailto:yanceywater@yahoo.com)  
**Cc:** [Hannah Zellner](#); [Morgen Gore](#)  
**Subject:** RE: WQ0016603001 - NOD  
**Date:** Tuesday, October 8, 2024 11:26:32 AM  
**Attachments:** [Copy of Irrigation Spreadsheet 10-8-2024.xlsm](#)

---

Sara, Morgen has made the corrections. Please see attached.

Thanks,

***Mark Ince, P.E.***

Project Engineer

**p:** (830) 672-7546 ext 433

**a:** 307 Saint Lawrence Street, Gonzales, Texas 78629

**w:** [swengineers.com](http://swengineers.com)

TBPE No. F-1909

---

**From:** Sara Holmes <[Sara.Holmes@tceq.texas.gov](mailto:Sara.Holmes@tceq.texas.gov)>  
**Sent:** Tuesday, October 8, 2024 8:50 AM  
**To:** Jane Twyford <[jane.twyford@swengineers.com](mailto:jane.twyford@swengineers.com)>; Mark Ince <[mark.ince@swengineers.com](mailto:mark.ince@swengineers.com)>; [yanceywater@yahoo.com](mailto:yanceywater@yahoo.com)  
**Cc:** Hannah Zellner <[Hannah.Zellner@Tceq.Texas.Gov](mailto:Hannah.Zellner@Tceq.Texas.Gov)>  
**Subject:** RE: WQ0016603001 - NOD

Jane,

Thank you for those responses. We will review this and get back to you should we have additional questions/comments.

Thank you,  
Sara Holmes

---

**From:** Jane Twyford <[jane.twyford@swengineers.com](mailto:jane.twyford@swengineers.com)>  
**Sent:** Tuesday, October 8, 2024 7:21 AM  
**To:** Sara Holmes <[Sara.Holmes@tceq.texas.gov](mailto:Sara.Holmes@tceq.texas.gov)>; Mark Ince <[mark.ince@swengineers.com](mailto:mark.ince@swengineers.com)>; [yanceywater@yahoo.com](mailto:yanceywater@yahoo.com)  
**Cc:** Hannah Zellner <[Hannah.Zellner@Tceq.Texas.Gov](mailto:Hannah.Zellner@Tceq.Texas.Gov)>  
**Subject:** RE: WQ0016603001 - NOD

Sarah,

Here is the information!

Sorry for the late response!



Thanks,

**Jane Twyford**

Engineering Assistant

p: (830) 672-7546

a: 307 Saint Lawrence Street, Gonzales, Texas 78629

w: [swengineers.com](http://swengineers.com)

TBPE No. F-1909

---

**From:** Sara Holmes <[Sara.Holmes@tceq.texas.gov](mailto:Sara.Holmes@tceq.texas.gov)>

**Sent:** Wednesday, October 2, 2024 11:09 AM

**To:** Jane Twyford <[jane.twyford@swengineers.com](mailto:jane.twyford@swengineers.com)>; Mark Ince <[mark.ince@swengineers.com](mailto:mark.ince@swengineers.com)>;  
[yanceywater@yahoo.com](mailto:yanceywater@yahoo.com)

**Cc:** Hannah Zellner <[Hannah.Zellner@Tceq.Texas.Gov](mailto:Hannah.Zellner@Tceq.Texas.Gov)>

**Subject:** RE: WQ0016603001 - NOD

Jane,

Thank you for your phone call today. As we discussed, I have attached a copy of the water balance model for you to see where all those input values are supposed to go. I've also attached a PPT that goes through the water balance as well and explains a bit more about the inputs and outputs of the model. As for my remaining comments, I will list them below:

1. Please adjust Table 3.0(1) in Worksheet 3.0 to include the phases in order and the land use ( hayland, pastureland, etc.)
2. Please list the acres of each phase on the soil map and site map.
3. Please input the nutrient requirement information into a revised cropping plan.
4. Please provide all the input value sources used in the first 10 columns of the water balance model. Please note that wastewater applied at 250,000 gal/day on 134 acres calculates to be an application rate of 2.00 ac-ft/ac/yr. Please revise the water balance.

Please let me know if you have any questions and let's continue to use October 10<sup>th</sup> as our deadline.

Thank you!

Sara Holmes

---

**From:** Jane Twyford <[jane.twyford@swengineers.com](mailto:jane.twyford@swengineers.com)>

**Sent:** Tuesday, October 1, 2024 7:20 PM

**To:** Sara Holmes <[Sara.Holmes@tceq.texas.gov](mailto:Sara.Holmes@tceq.texas.gov)>; Mark Ince <[mark.ince@swengineers.com](mailto:mark.ince@swengineers.com)>;  
[yanceywater@yahoo.com](mailto:yanceywater@yahoo.com)

**Cc:** Hannah Zellner <[Hannah.Zellner@Tceq.Texas.Gov](mailto:Hannah.Zellner@Tceq.Texas.Gov)>

**Subject:** RE: WQ0016603001 - NOD

Sarah,

Here are most of the comments. I am still confused on the water balance sheet. Maybe we can call about it? I'm not sure where we are going wrong. We used the TCEQ instructions which I have attached in this email.

Please let me know.

Thanks,  
Jane

---

**From:** Sara Holmes <[Sara.Holmes@tceq.texas.gov](mailto:Sara.Holmes@tceq.texas.gov)>  
**Sent:** Thursday, September 26, 2024 8:37 AM  
**To:** Mark Ince <[mark.ince@swengineers.com](mailto:mark.ince@swengineers.com)>; [yanceywater@yahoo.com](mailto:yanceywater@yahoo.com)  
**Cc:** Hannah Zellner <[Hannah.Zellner@Tceq.Texas.Gov](mailto:Hannah.Zellner@Tceq.Texas.Gov)>; Jane Twyford <[jane.twyford@swengineers.com](mailto:jane.twyford@swengineers.com)>  
**Subject:** WQ0016603001 - NOD

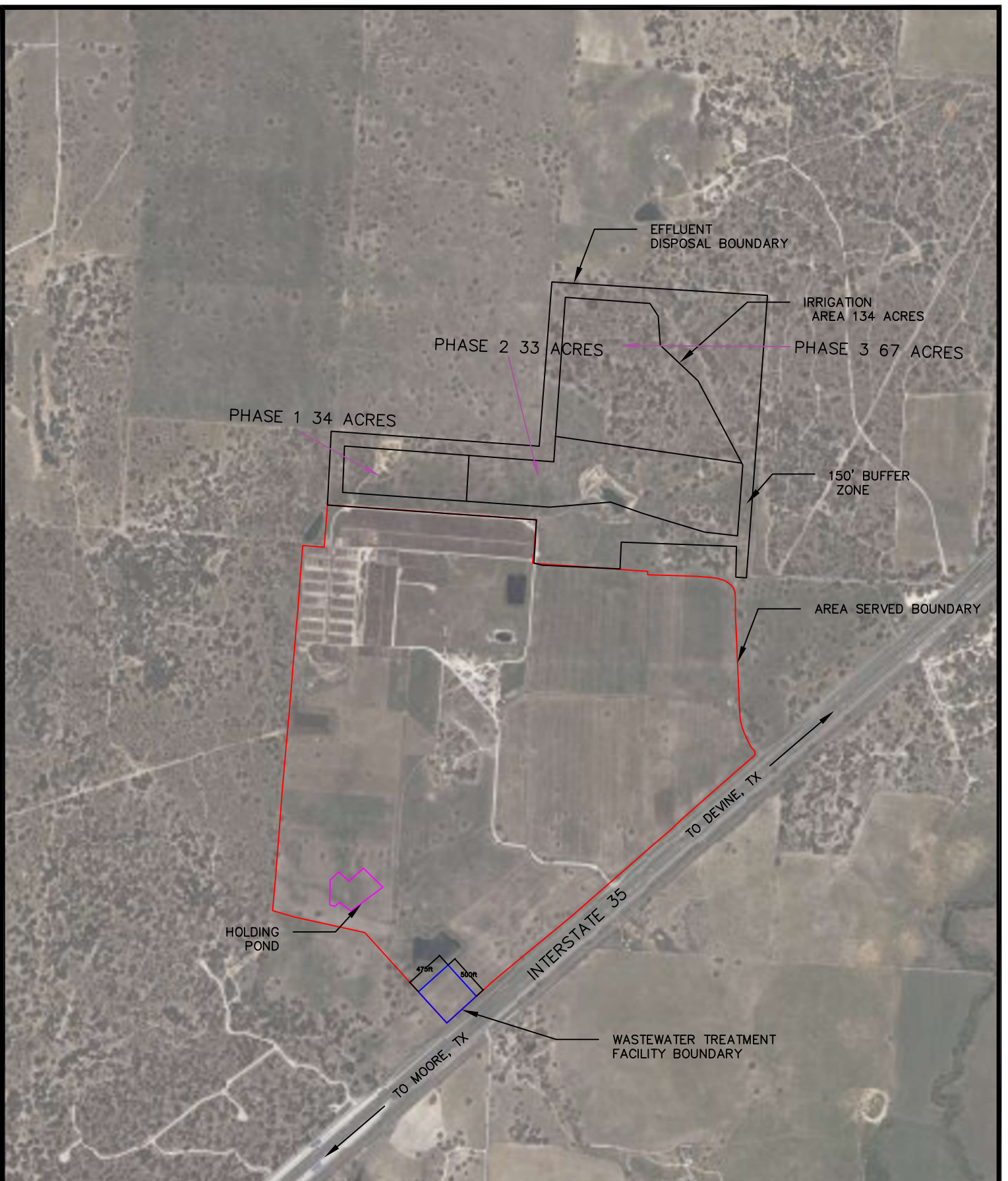
Good morning,

We have received the application for WQ0016603001 – Agape Oaks WWTP, and it is missing information necessary to complete our review. Please provide the updated information listed above in the attachment of this email within 14 days or by October 10<sup>th</sup>, 2024.

Any revisions can be sent electronically. If you have any questions, please let me know.

Thank you,

Sara Holmes  
Natural Resource Specialist  
Water Quality Assessment Team  
Texas Commission on Environmental Quality  
PO Box 13087  
Austin, TX 78711-3087  
MC-150  
512-239-4534



SCALE: NO SCALE

DRAWN BY: JMT DATE: 03/24

CHECKED BY: MAI DATE: 03/24

FILE: 0339-032-22

# SITE DRAWING

AGAPE OAKS WASTE WATER TREATMENT PLANT

**AGAPE OAKS**  
YANCEY, TEXAS



**Southwest  
Engineers**

TBPE NO. F-1909  
www.sweengineers.com

GONZALES

307 Saint Lawrence Street  
P.O. Box 679, 75401 F-1909, 679, 1004

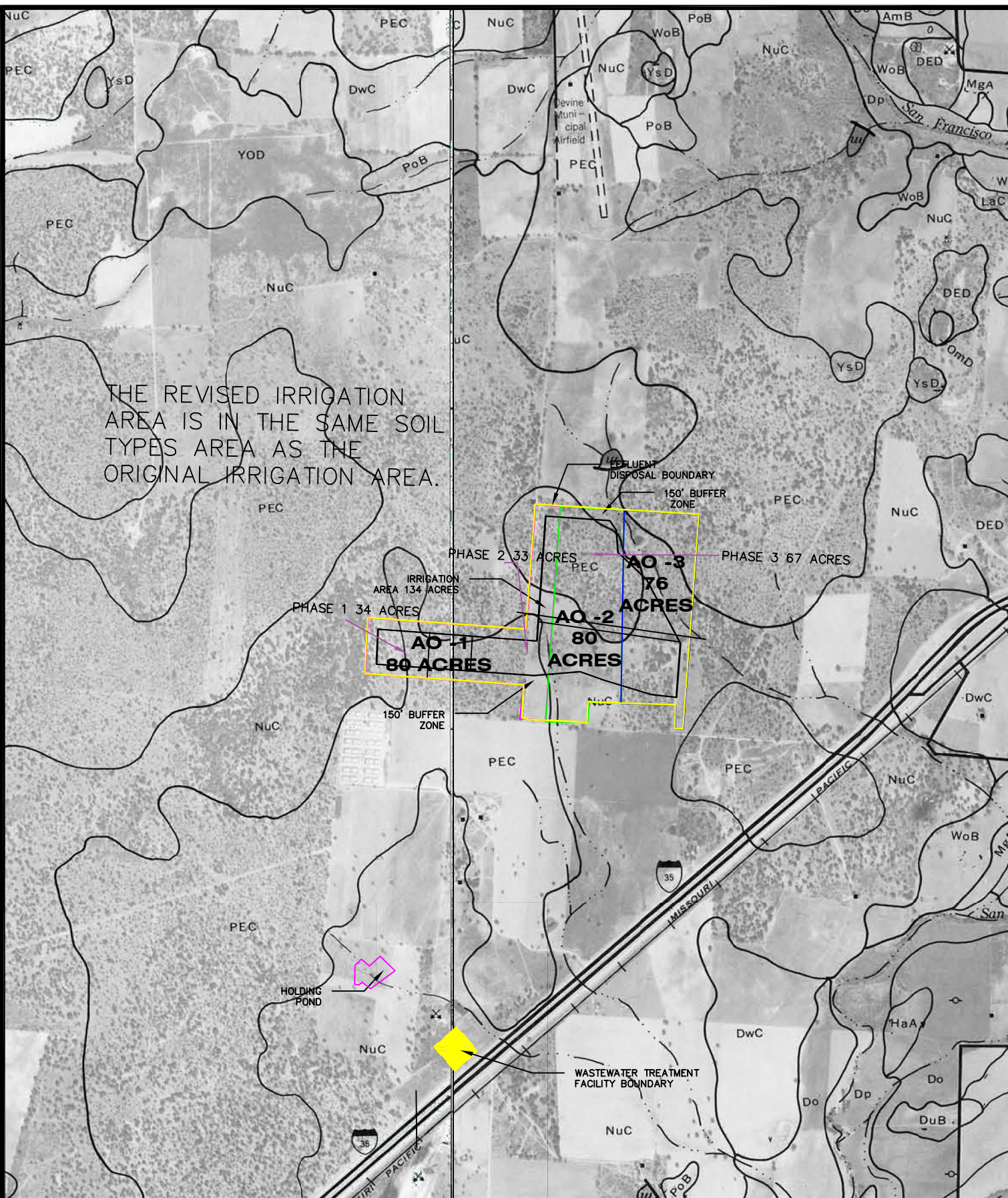
BUDA

205 Chatham Park Loop, Ste. B  
P.O. Box 312, 4336

BASTROP

704 Main Street, #101  
P.O. Box 312, 4336





SCALE: 1" = 1000'

DRAWN BY: MG DATE: 08/23

CHECKED BY: MAI DATE: 08/23

FILE: 0339-032-22

## SOIL MAP

### AGAPE OAKS

**AGAPE OAKS**  
YANCEY, TEXAS



**Southwest  
Engineers**

TBPE NO. F-1909  
www.sweengineers.com

GONZALES

307 Saint Lawrence Street  
P: 830.679.7541 F: 830.679.4034

BUDA

200 Channon Park Loop, Ste. B  
P: 512.312.4336

FAUSTROF

704 Main Street, #101  
P: 512.312.4336

# DOMESTIC WASTEWATER PERMIT APPLICATION WORKSHEET 3.0: LAND DISPOSAL OF EFFLUENT

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

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

Identify the method of land disposal:

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

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

For existing authorizations, provide Registration Number: N/A

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

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

Table 3.0(1) – Land Application Site Crops

Crop Type & Land Use	Irrigation Area (acres)	Effluent Application (GPD)	Public Access? Y/N
Hayland use; winter rye and Bermuda grass	34	75,000	N
Hayland use; winter rye and Bermuda grass	67	125,000	N
Hayland use; winter rye and Bermuda grass	134	250,000	N

## Attachment S

### Annual Cropping Plan

The wastewater treatment plant will produce effluent meeting TCEQ standards as Type 1 effluent. This facility is located in Medina County. Medina County has established a policy that ground water produced in the County must be utilized in the County for new subdivisions. Agape Oaks will utilize all the treated effluent as water for hay fields in non-developed areas. Plantings will be Bermuda grass for warm weather and winter rye for cool weather. The site is covered with sandy loam with a high concentration of organic material due to the many years of operation as a feedlot. The hay field areas will be harvested at the maximum rate possible for maximum revenue. Fertilizer will be added as needed to maximize hay production.

Bermuda grass has a high salt tolerance of ECe ranging from 24 to 33 dS m<sup>-1</sup>. The growing season in Texas is the warm months from early Spring through late Fall. Rye grass has a Moderate salt tolerance of ECe ranging from 4 to 8 dS m<sup>-1</sup>. The growing season for rye is from late fall to early Spring.

The wastewater from the treatment plant is from residential sources and combined with the use of membrane technology the salinity level of the effluent should be very low.

Crop		Crop N requirement	Crop P2O5 requirement	lbs DM or air dried produced per year	% N (in column D value)	% P (in column D value)	% K (in column D value)	Crop N Removal Rate
Coastal Grazing + 1 Hay								
VH		160	70	7700	1.88%	0.19%	1.40%	145
Crop P2O5 Removal Rate	NO3-N ppm	Max N lbs	P rate	P Factor	K rate			
80	160	69	1.38	150	1			
K Factor								
Grain Sorg. 6000#; SG Moderate			Midland Bermuda 4000					
Grazed			#					



**WATER BALANCE CALCULATIONS, all units in inches (unless otherwise specified)**

Permittee:		TWDB Data Quadrangle:
Permit No.:	WQ0016603001	809

The water balance calculations are designed to evaluate the maximum application rate (hydraulic loading rate) for the land area where irrigation is to occur. The applicant's proposed application rate must not exceed the maximum calculated application rate or the maximum application rate based on agronomic analysis.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9a)	(9b)	(10)	(11)
Month	Avg Rain	Avg Runoff	Avg Infiltration	Evapotranspiration	Required Leach	Total Water Needs	Effluent Needed in Root Zone	Raw Net Evaporation from Reservoir	Reservoir Net Evaporation (as inches on plot acres)	Effluent Needed Based on Irrigation Efficiency	Reservoir Consumption (as inches on plot acres)
Units →	inches	inches	inches	inches	inches	inches	inches	inches	inches	inches	inches
January	1.95	0.06	1.89	1.50	0.00	1.50	0.00	0.27	0.01	0.00	0.01
February	1.41	0.00	1.41	1.90	0.01	1.91	0.50	0.88	0.02	0.59	0.61
March	2.15	0.10	2.04	3.80	0.03	3.83	1.79	1.41	0.03	2.10	2.13
April	2.30	0.14	2.16	4.10	0.03	4.13	1.98	1.99	0.04	2.33	2.37
May	4.09	0.86	3.23	8.30	0.09	8.39	5.15	0.96	0.02	6.06	6.08
June	2.81	0.30	2.52	7.90	0.09	7.99	5.48	3.54	0.08	6.44	6.52
July	2.89	0.32	2.56	9.50	0.12	9.62	7.05	4.20	0.09	8.30	8.39
August	2.26	0.13	2.13	6.10	0.07	6.17	4.04	4.69	0.10	4.75	4.85
September	3.72	0.68	3.05	6.10	0.05	6.15	3.10	1.71	0.04	3.65	3.69
October	3.23	0.46	2.77	5.40	0.04	5.44	2.67	1.00	0.02	3.14	3.16
November	2.30	0.14	2.16	2.70	0.01	2.71	0.55	0.60	0.01	0.65	0.66
December	1.57	0.01	1.56	1.20	0.00	1.20	0.00	0.57	0.01	0.00	0.01
Totals	30.67	3.21	27.47	58.50	0.54	59.04	32.31	21.81	0.49	38.01	38.50

Crop is	Grass										
CN	61.00	dimensionless									
Ce	0.20	mmhos/cm									
Cl	12.00	mmhos/cm									
Pond area	3.00	acres									
Irrigation area	134.00	acres									
Irrigation Efficiency, K	0.85	dimensionless									
Design Flow	0.250	MGD									
<div>Recommended rate for permit = 3.21 ac-in/ac/month OR ac-ft/ac/year</div> <div>Limiting factor = Click this cell to choose from list.</div> <div>Gross rate check (from flow, acres) = 2.09 OK</div>											

- (2) Average rainfall – Data source: Texas Water Development Board (see Quadrangle above)
- (3) Average runoff =  $(average\ rainfall - (0.2 * ((1000 / CN) - 10)))^2 / ((average\ rainfall + (0.8 * ((1000 / CN) - 10)))$
- (4) Average infiltrated rainfall =  $(average\ rainfall - average\ runoff)$
- (5) Evapotranspiration – Data Source: Borelli, Bulletin 6019
- (6) Required leaching = [← Edit](#)
- If:  $evapotranspiration - average\ infiltrated\ rainfall \leq 0$ , then 0;
- If:  $evapotranspiration - average\ infiltrated\ rainfall > 0$ ,  $Ce / (Cl - Ce) * (evapotranspiration - avg\ infiltrated\ rainfall)$
- (7) Total water needs =  $evapotranspiration + required\ leaching$
- (8) Effluent needed in root zone =  $total\ water\ needs - average\ infiltrated\ rainfall$
- (9a) Net evaporation – Data source: Texas Water Development Board (see Quadrangle above)
- (9b) Raw net evaporation from reservoir surface =  $(net\ evaporation\ from\ reservoir) * ((pond\ area) / (irrigation\ area))$

- (10) Effluent needed based on irrigation efficiency =  $(\text{effluent needed in root zone})/(\text{irrigation efficiency})$   
 (11) Consumption from reservoir =  $\text{net evaporation from reservoir surface} + \text{effluent needed based on irrigation efficiency}$

**STORAGE CALCULATIONS, all units in inches (unless otherwise specified)**

Permittee:   
 Permit No.:

The storage calculations are designed to evaluate the storage capacity and surface area of the

(12)	(13)	(14a)	(14b)	(15)	(16)	(17)	(18a)	(18b)	(19)	(20)
Month	Effluent Available (as inches on plot acres)	Average Rainfall Distrib. (%)	Rain Worst Year	Field Runoff Worst Year	Infiltrated Rain	Avail Water	Average Net Evap. Distrib. (%)	Low Net Evap. from Reservoir Surface	Effluent to Storage (as inches on plot acres)	Accum Storage (as inches on plot acres)
<i>Units →</i>	<i>inches</i>	<i>inches</i>	<i>inches</i>	<i>inches</i>	<i>inches</i>	<i>inches</i>	<i>inches</i>	<i>inches</i>	<i>inches</i>	<i>inches</i>
January	2.09	6.36%	3.30	0.48	2.81	4.90	1.23%	0.00	2.09	6.42
February	2.09	4.59%	2.38	0.16	2.22	4.31	4.05%	0.01	2.08	8.50
March	2.09	6.99%	3.62	0.63	2.99	5.08	6.47%	0.01	1.10	9.60
April	2.09	7.48%	3.88	0.75	3.13	5.22	9.14%	0.01	0.89	10.49
May	2.09	13.34%	6.91	2.64	4.27	6.36	4.38%	0.01	-2.75	0
June	2.09	9.17%	4.75	1.22	3.53	5.62	16.24%	0.02	-3.18	0
July	2.09	9.41%	4.88	1.30	3.58	5.67	19.25%	0.03	-5.04	0
August	2.09	7.38%	3.82	0.72	3.10	5.19	21.49%	0.03	-1.55	0
September	2.09	12.14%	6.29	2.20	4.09	6.18	7.83%	0.01	-0.35	0
October	2.09	10.53%	5.46	1.65	3.81	5.90	4.57%	0.01	0.16	0.16
November	2.09	7.49%	3.88	0.75	3.13	5.22	2.75%	0.00	2.09	2.24
December	2.09	5.11%	2.65	0.24	2.41	4.50	2.61%	0.00	2.09	4.33
Totals	25.08	100%	51.82	12.76	39.06	64.14	100%	0.15	—	10.49

Worst (low) net evap. = -6.63 inches  
 Corresponding rain = 51.82 inches  
 Worst-case net year = 2007

Storage required = 117.14 ac-ft  
 Actual storage = ac-ft  
 Additional storage required = 117.14 ac-ft  
 Storage days = 153 days

← You must manually enter a starting value for accumulated storage. [Click the link for instructions.](#)  
[Instructions for setting the accumulated storage start value'](#)

FALSE ← Special case (all positive storage values)

- (13) Effluent available for irrigation (assumes design flow is applied to entire acreage unless different flow values are justified).  
 (14a) Average rainfall distribution - Data source: Texas Water Development Board (see Quadrangle in Water Balance Calculations above)  
 (14b) Rainfall worst year =  $(\text{rainfall distribution as fraction or } \%/100) * \text{maximum annual rainfall}$   
 (15) Field runoff worst year =  $(\text{rainfall worst year} - (0.2 * ((1000/CN) - 10)))^2 / ((\text{rainfall worst year} + (0.8 * ((1000/CN) - 10))))$   
 (16) Infiltrated rainfall = (rainfall worst year- field runoff worst year)  
 (17) Available water = (effluent available for land application + infiltrated rainfall check)  
 (18a) Average net evaporation distribution - Data source: Texas Water Development Board (see Quadrangle in Water Balance Calculations above)  
 (18b) Net low evaporation from reservoir surface =  $[(\text{low net evaporation}) * (\text{net low evaporation avg. dist})] * [(\text{pond area}) / (\text{irrigation area})]$   
 (19) Storage =  
   If:  $(\text{total water needs} - \text{infiltrated rainfall}) < 0$ ,  $(\text{effluent available for land application} - \text{net low evaporation from reservoir surface})$ ;  
   If:  $(\text{total water needs} - \text{infiltrated rainfall}) \geq 0$ ,  
    $(\text{effluent available for land application} - \text{net low evaporation from reservoir surface}) * [(\text{total water needs} - \text{infiltrated rainfall}) / (\text{irrigation efficiency})]$   
 (20) Accumulated storage =  
   If:  $\text{net low evaporation from reservoir surface} + \text{storage} \leq 0$ , 0  
   If:  $\text{net low evaporation from reservoir surface} + \text{storage} > 0$ , enter value

**WATER BALANCE CALCULATIONS, all units in inches (unless otherwise specified)**

Permittee:   TWDB Data Quadrangle: 809  
Permit No.: WQ0016603001

The water balance calculations are designed to evaluate the maximum application rate (hydraulic loading rate) for the land area where irrigation is to occur. The applicant's proposed application rate must not exceed the maximum calculated application rate or the maximum application rate based on agronomic analysis.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9a)	(9b)	(10)	(11)
Month	Avg Rain	Avg Runoff	Avg Infiltration	Evapotranspiration	Required Leach	Total Water Needs	Effluent Needed in Root Zone	Raw Net Evaporation from Reservoir	Reservoir Net Evaporation (as inches on plot acres)	Effluent Needed Based on Irrigation Efficiency	Reservoir Consumption (as inches on plot acres)
Units →	inches	inches	inches	inches	inches	inches	inches	inches	inches	inches	inches
January	1.95	0.06	1.89	1.50	0.00	1.50	0.00	0.27	0.01	0.00	0.01
February	1.41	0.00	1.41	1.90	0.16	2.06	0.66	0.88	0.02	0.77	0.79
March	2.15	0.10	2.04	3.80	0.59	4.39	2.34	1.41	0.03	2.76	2.79
April	2.30	0.14	2.16	4.10	0.65	4.75	2.59	1.99	0.04	3.05	3.09
May	4.09	0.86	3.23	8.30	1.69	9.99	6.76	0.96	0.02	7.95	7.97
June	2.81	0.30	2.52	7.90	1.79	9.69	7.18	3.54	0.08	8.45	8.53
July	2.89	0.32	2.56	9.50	2.31	11.81	9.25	4.20	0.09	10.88	10.97
August	2.26	0.13	2.13	6.10	1.32	7.42	5.29	4.69	0.10	6.22	6.33
September	3.72	0.68	3.05	6.10	1.02	7.12	4.07	1.71	0.04	4.79	4.83
October	3.23	0.46	2.77	5.40	0.88	6.28	3.50	1.00	0.02	4.12	4.14
November	2.30	0.14	2.16	2.70	0.18	2.88	0.72	0.60	0.01	0.85	0.86
December	1.57	0.01	1.56	1.20	0.00	1.20	0.00	0.57	0.01	0.00	0.01
Totals	30.67	3.21	27.47	58.50	10.59	69.09	42.36	21.81	0.49	49.84	50.33

Crop is	Grass	
CN	61.00	dimensionless
Ce	2.00	mmhos/cm
Cl	8.00	mmhos/cm
Pond area	3.00	acres
Irrigation area	134.00	acres
Irrigation Efficiency, K	0.85	dimensionless
Design Flow	0.250	MGD

Maximum calculated application rate = 4.19 ac-in/ac/month OR ac-ft/ac/year

Applicant's proposed application rate = ac-in/ac/month OR ac-ft/ac/year

Maximum rate from agronomic analysis = N/A ac-in/ac/month OR ac-ft/ac/year

Recommended rate for permit = 4.19 ac-in/ac/month OR ac-ft/ac/year

Limiting factor = Click this cell to choose from list.

Gross rate check (from flow, acres) = 2.09 OK

- (2) Average rainfall – Data source: Texas Water Development Board (see Quadrangle above)
- (3) Average runoff =  $(average\ rainfall - (0.2 * ((1000 / CN) - 10)))^2 / ((average\ rainfall + (0.8 * ((1000 / CN) - 10))))$
- (4) Average infiltrated rainfall =  $(average\ rainfall - average\ runoff)$
- (5) Evapotranspiration – Data Source: Borelli, Bulletin 6019
- (6) Required leaching = ← Edit
- If:  $evapotranspiration - average\ infiltrated\ rainfall \leq 0$ , then 0;
- If:  $evapotranspiration - average\ infiltrated\ rainfall > 0$ ,  $Ce / (Cl - Ce) * (evapotranspiration - avg\ infiltrated\ rainfall)$
- (7) Total water needs =  $evapotranspiration + required\ leaching$
- (8) Effluent needed in root zone =  $total\ water\ needs - average\ infiltrated\ rainfall$
- (9a) Net evaporation – Data source: Texas Water Development Board (see Quadrangle above)
- (9b) Raw net evaporation from reservoir surface =  $(net\ evaporation\ from\ reservoir) * ((pond\ area) / (irrigation\ area))$

- (10) Effluent needed based on irrigation efficiency =  $(\text{effluent needed in root zone})/(\text{irrigation efficiency})$   
(11) Consumption from reservoir =  $\text{net evaporation from reservoir surface} + \text{effluent needed based on irrigation efficiency}$

STORAGE CALCULATIONS, all units in inches (unless otherwise specified)

Permittee: 0  
Permit No.: WQ0016603001

The storage calculations are designed to evaluate the storage capacity and surface area of the

(12)	(13)	(14a)	(14b)	(15)	(16)	(17)	(18a)	(18b)	(19)	(20)
Month	Effluent Available (as inches on plot acres)	Average Rainfall Distrib. (%)	Rain Worst Year	Field Runoff Worst Year	Infiltrated Rain	Avail Water	Average Net Evap. Distrib. (%)	Low Net Evap. from Reservoir Surface	Effluent to Storage (as inches on plot acres)	Accum Storage (as inches on plot acres)
Units →	inches	inches	inches	inches	inches	inches	inches	inches	inches	inches
January	2.09	6.36%	3.30	0.48	2.81	4.90	1.23%	0.00	2.09	6.26
February	2.09	4.59%	2.38	0.16	2.22	4.31	4.05%	0.01	2.08	8.34
March	2.09	6.99%	3.62	0.63	2.99	5.08	6.47%	0.01	0.44	8.79
April	2.09	7.48%	3.88	0.75	3.13	5.22	9.14%	0.01	0.17	8.96
May	2.09	13.34%	6.91	2.64	4.27	6.36	4.38%	0.01	-4.64	0
June	2.09	9.17%	4.75	1.22	3.53	5.62	16.24%	0.02	-5.19	0
July	2.09	9.41%	4.88	1.30	3.58	5.67	19.25%	0.03	-7.62	0
August	2.09	7.38%	3.82	0.72	3.10	5.19	21.49%	0.03	-3.03	0
September	2.09	12.14%	6.29	2.20	4.09	6.18	7.83%	0.01	-1.49	0
October	2.09	10.53%	5.46	1.65	3.81	5.90	4.57%	0.01	-0.82	0
November	2.09	7.49%	3.88	0.75	3.13	5.22	2.75%	0.00	2.09	2.09
December	2.09	5.11%	2.65	0.24	2.41	4.50	2.61%	0.00	2.09	4.17
Totals	25.08	100%	51.82	12.76	39.06	64.14	100%	0.15	—	8.96

Worst (low) net evap. = -6.63 inches  
Corresponding rain = 51.82 inches  
Worst-case net year = 2007

Storage required = 100.02 ac-ft  
Actual storage = 30 ac-ft  
Additional storage required = 70.02 ac-ft  
Storage days = 130 days

2.09 ← You must manually enter a starting value for accumulated storage. [Click the link for instructions.](#)  
[Instructions for setting the accumulated storage start value'](#)

FALSE ← Special case (all positive storage values)

- (13) Effluent available for irrigation (assumes design flow is applied to entire acreage unless different flow values are justified).  
(14a) Average rainfall distribution - Data source: Texas Water Development Board (see Quadrangle in Water Balance Calculations above)  
(14b) Rainfall worst year =  $(\text{rainfall distribution as fraction or } \%/100) * \text{maximum annual rainfall}$   
(15) Field runoff worst year =  $(\text{rainfall worst year} - (0.2*((1000/\text{CN}) - 10)))^2 / ((\text{rainfall worst year} + (0.8*((1000/\text{CN}) - 10))))$   
(16) Infiltrated rainfall = (rainfall worst year- field runoff worst year)  
(17) Available water = (effluent available for land application + infiltrated rainfall check)  
(18a) Average net evaporation distribution - Data source: Texas Water Development Board (see Quadrangle in Water Balance Calculations above)  
(18b) Net low evaporation from reservoir surface =  $[(\text{low net evaporation}) * (\text{net low evaporation avg. dist})] * [(\text{pond area}) / (\text{irrigation area})]$   
(19) Storage =  
If:  $(\text{total water needs} - \text{infiltrated rainfall}) < 0$ ,  $(\text{effluent available for land application} - \text{net low evaporation from reservoir surface})$ ;  
If:  $(\text{total water needs} - \text{infiltrated rainfall}) \geq 0$ ,  
 $(\text{effluent available for land application} - \text{net low evaporation from reservoir surface}) * [(\text{total water needs} - \text{infiltrated rainfall}) / (\text{irrigation efficiency})]$   
(20) Accumulated storage =  
If:  $\text{net low evaporation from reservoir surface} + \text{storage} \leq 0$ , 0  
If:  $\text{net low evaporation from reservoir surface} + \text{storage} > 0$ , enter value