Administrative Package Cover Page

This file contains the following documents:

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

Portada de Paquete Administrativo

Este archivo contiene los siguientes documentos:

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

The following summary is provided for this pending industrial 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.

QYK Brands LLC (CN 606303824) proposes to operate the Raywood MAA Plant (RN 112043468), a renewable biobased methacrylic acid (MAA) manufacturing facility. The plant will use a fermentation process to convert glucose feedstock into itaconic acid (IA) followed by a decarboxylation reaction process to convert the IA into renewable MAA. The plant's initial manufacturing capacity will be 7,000 tons per year of renewable MAA. The facility is located at the intersection of FM 770 and CR 182 near Highway 90 in Raywood in Liberty County, Texas 77582.

The application is requesting a hybrid TPDES wastewater permit to discharge via a piped outfall to Cow Island Bayou including utility wastewater (cooling tower and boiler blowdown and reverse osmosis reject water), treated wastewater from the MAA process, treated sanitary wastewater, and miscellaneous wastewater including storm water runoff, pad and equipment washing, hydrostatic test water and fire water. The pollutants expected to the discharge outfall include suspended and dissolved solids. Additional pollutants are included in the Industrial Wastewater Application Technical Report. The wastewater from the Itaconic Acid (IA) process will be land applied via irrigation of a grass crop within the property boundary and the permit will not authorize a discharge of pollutants for this into water in the state.

Sanitary wastewater will be treated internally in a package plant and sampled for compliance with permit limits prior to combining with the utility and treated process wastewater for final discharge to Cow Island Bayou. Utility wastewater may be treated for solids removal and the process wastewater will be biologically treated prior to combining with the utility wastewater for discharge to Cow Island Bayou. The IA process wastewater will be biologically treated prior to land application.

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

AGUAS RESIDUALES INDUSTRIALES **/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 federale de la solicitud de permiso.

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

QYK Brands LLC (CN 606303824) propone operar la planta Raywood MAA (RN 112043468), una instalación de fabricación de ácido metacrílico (MAA) de base biológica renovable. La planta utilizará un proceso de fermentación para convertir la materia prima de glucosa en ácido itacónico (IA), seguido de un proceso de reacción de descarboxilación para convertir el IA en MAA renovable. La capacidad inicial de fabricación de la planta será de 7,000 toneladas anuales de MAA renovable. La instalación está ubicada en la intersección de FM 770 y CR 182 cerca de la autopista 90 en Raywood en el condado de Liberty, Texas 77582.

La solicitud solicita un permiso híbrido de aguas residuales TPDES para descargar a través de un desagüe entubado a Cow Island Bayou, incluidas las aguas residuales de los servicios públicos (torre de enfriamiento y purga de caldera y agua de rechazo de ósmosis inversa), aguas residuales tratadas del proceso MAA, aguas residuales sanitarias tratadas y aguas residuales diversas, incluida la escorrentía de aguas pluviales, el lavado de plataformas y equipos, el agua de prueba hidrostática y el agua contra incendios. Los contaminantes que se espera que salgan del vertido incluyen sólidos suspendidos y disueltos. Los contaminantes adicionales se incluyen en el Informe Técnico de Aplicación de Aguas Residuales Industriales. Las aguas residuales del proceso de Ácido Itacónico (IA) serán tierras aplicadas a través del riego de un cultivo de pasto dentro de los límites de la propiedad y el permiso no autorizará una descarga de contaminantes para esto en el agua del estado.

Las aguas residuales sanitarias se tratarán internamente en una planta de empaquetado y se tomarán muestras para verificar el cumplimiento de los límites de permiso antes de combinarlas con las aguas residuales de servicios públicos y las aguas residuales de proceso tratadas para su descarga final en Cow Island Bayou. Las aguas residuales de los servicios públicos pueden tratarse para la eliminación de sólidos y las aguas residuales del proceso se tratarán biológicamente antes de combinarlas con las aguas residuales de los servicios públicos para su

descarga en Cow Island Bayou. Las aguas residuales del proceso de IA serán tratadas biológicamente antes de la aplicación en tierra.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

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

PROPOSED PERMIT NO. WQ0005491000

APPLICATION. QYK Brands LLC, P.O. Box 427, Raywood, Texas 77582, which will own a renewable biobased methacrylic acid (MAA) manufacturing facility, has applied to the Texas Commission on Environmental Quality (TCEQ) for proposed Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0005491000 (EPA I.D. No. TX0147940) to authorize the discharge of treated wastewater and stormwater at a volume not to exceed a daily average flow of 392,000 gallons per day via Outfall 001; the discharge of stormwater at an intermittent flow-variable volume via Outfalls 002 and 003; and provisions for the disposal of treated wastewater via irrigation of approximately 178 acres. The facility and disposal area will be located at 9 County Road 182, near Raywood, in Liberty County, Texas 77575. The discharge route will be from the plant site via combined Outfalls 001, 002, and 003 to Cow Island Bayou, thence to Turtle Bayou, thence to Anahuac Lake, thence to Trinity River Tidal, thence to Trinity Bay. TCEQ received this application on June 6, 2025. The permit application will be available for viewing and copying at Liberty Municipal Library, 1710 Sam Houston Street, Liberty, in Liberty County, Texas, prior to the date this notice is published in the newspaper. The application, including any updates, and associated notices are available electronically at the following webpage: https://www.tceq.texas.gov/permitting/wastewater/pending-permits/tpdes-applications. This link to an electronic map of the site or facility's general location is provided as a public courtesy and not part of the application or notice. For the exact location, refer to the application. https://gisweb.tceq.texas.gov/LocationMapper/?marker=-94.67,30.042777&level=18

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

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

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

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

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

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

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

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

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

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

Further information may also be obtained from QYK Brands LLC at the address stated above or by calling Mr. Alexander Griffiths, Executive Administrator, at 909-363-0819.

Issuance Date: June 27, 2025

Comisión de Calidad Ambiental del Estado de Texas

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

PERMISO PROPUESTO NO. WQ0005491000

SOLICITUD. QYK Brands LLC, P.O. Box 427, Raywood, Texas 77582, que será propietaria de una planta de fabricación de ácido metacrílico (MAA) de base biológica renovable, ha solicitado a la Comisión de Calidad Ambiental de Texas (TCEQ) para el propuesto Permiso No. WQ0005491000 (EPA I.D. No. TX0147940) del Sistema de Eliminación de Descargas de Contaminantes de Texas (TPDES) para autorizar la descarga de aguas residuales tratadas y aguas pluviales en un volumen que no sobrepasa un flujo promedio diario de 92,000 galones por día a través del Emisario 001; la descarga de aguas pluviales a un volumen de flujo variable intermitente a través de los Emisarios 002 y 003; con disposiciones para la eliminación de aguas residuales tratadas a través del riego de aproximadamente 178 acres. La instalación y la zona de vertido estarán situadas en 9 County Road 182, cerca de Raywood, en Liberty County, Texas 77575. La ruta de vertido será desde el emplazamiento de la planta de los desagües combinados 001, 002 y 003 hasta Cow Island Bayou, de allí a Turtle Bayou, de allí al lago Anahuac, de allí a Trinity River Tidal, de allí a Trinity Bay. La TCEQ recibió esta solicitud el día 6 de junio de 2025. La solicitud para el permiso estará disponible para leerla y copiarla en la Biblioteca Municipal de Liberty, 1710 Sam Houston Street, Liberty, en el Condado de Liberty, Texas, antes de la fecha de publicación de este aviso en el periódico. La solicitud (cualquier actualización y aviso inclusive) está disponible electrónicamente en la siguiente página web:
https://www.tceq.texas.gov/permitting/wastewater/pending-permits/tpdes-applications.
Este enlace a un mapa electrónico de la ubicación general del sitio o de la instalación es proporcionado como una cortesía y no es parte de la solicitud o del aviso. Para la ubicación exacta, consulte la solicitud.
https://gisweb.tceq.texas.gov/LocationMapper/?marker=-94.67,30.042777&level=18

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

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

COMENTARIO PUBLICO / REUNION PUBLICA. Usted puede presentar comentarios públicos o pedir una reunión pública sobre esta solicitud. El propósito de una reunión pública es dar la oportunidad de presentar comentarios o hacer preguntas acerca de la solicitud. La TCEQ realiza una reunión pública si el Director Ejecutivo determina que hay un grado de interés público suficiente en la solicitud o si un legislador local lo pide. Una reunión pública no es una audiencia administrativa de lo contencioso.

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

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

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

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

administrativa de lo contencioso o una reconsideración de la decisión del Director Ejecutivo, la Oficina del Secretario Principal enviará por correo los avisos públicos en relación con la solicitud. 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 del solicitante indicado por nombre y número del permiso específico y/o (2) la lista de correo de todas las solicitudes en un condado especifico. Si desea que se agrega su nombre en una de las listas designe cual lista(s) y 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. 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 QYK Brands LLC a la dirección indicada arriba o llamando al Sr. Alexander Griffiths, Administrador Ejecutivo, al 909-363-0819.

Fecha de emisión: 27 de junio de 2025

Leah Whallon

From: Kathleen Alsup <kathleen.alsup@trinityconsultants.com>
Sent: Tuesday, June 17, 2025 5:48 PM
To: Alexander Griffiths; Leah Whallon
Cc: 'RAKESH TAMMABATTULA'; Connor McNally
Subject: RE: Application for Proposed Permit No. WQ0005491000; QYK Brands LLC; QYK Brands MAA Plant
Attachments: 2026 06 17 QYK Brands NOD1 Response for wq0005491000.pdf; 2026 06 17 QYK Brands Mailing Labels.docx; 2025 06 17 QYK NORI Spanish .docx

Follow Up Flag: Follow up
Flag Status: Flagged

Please find attached QYK Brands response to the Notice of Deficiency letter dated June 16, 2025 addressed to Mr. Allexander Griffiths.

If you have any questions, please call me at 512-970-2409 or e-mail at Kathleen.Alsup@Trinityconsultants.com

Kathleen Alsup
Sr. Consultant
Trinity Consultants
512-970-2409

From: Leah Whallon <Leah.Whallon@Tceq.Texas.Gov>
Sent: Monday, June 16, 2025 5:20:08 PM
To: griff@qyk.us <griff@qyk.us>
Cc: rt@qyk.us <rt@qyk.us>
Subject: Application for Proposed Permit No. WQ0005491000; QYK Brands LLC; QYK Brands MAA Plant

Good Morning,

Please see the attached Notice of Deficiency letter dated June 16, 2025 requesting additional information needed to declare the application administratively complete. Please send the complete response by June 30, 2025.

Please let me know if you have any questions.

Thank you,

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

June 17, 2025

Leah Whallon
Applications Review and Processing Team (MC148)
Water Quality Division
Texas Commission of Environmental Quality

RE: Application for Proposed Permit No.: WQ0005491000 (EPA I.D. No. TX0147940)
Applicant Name: QYK Brands LLC (CN606303824)
Site Name: QYK Brands MAA Plant (RN112227525)
Type of Application: New

VIA EMAIL to leah.whallon@tceq.texas.gov

Dear Ms. Whallon:

QYK Brands LLC received the June 16, 2025 letter to Mr. Alexander Griffiths and provides the following responses below to the information requested that can be used to declare the application is administratively complete.

1. Administrative Report 1.1, Item 1
   Please confirm the landowners on the list with address listed as "unknown" have no mailing address available.

   Please also provide the affected landowner list formatted for mailing labels (Avery 5160) in a Microsoft Word document.

   RESPONSE:
   The online GIS data (December 2024) for Liberty County had no known address listed for those landowners. Attached is a Microsoft Word document containing the formatted mailing labels.

2. The following is a portion of the NORI which contains information relevant to your application. Please read it carefully and indicate if it contains any errors or omissions. The complete notice will be sent to you once the application is declared administratively complete.

   APPLICATION. QYK Brands LLC, P.O. Box 427, Raywood, Texas 77582, which will own a renewable biobased methacrylic acid (MAA) manufacturing facility, has applied to the Texas Commission on Environmental Quality (TCEQ) for proposed Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0005491000 (EPA I.D. No. TX0147940) to authorize the discharge of treated wastewater and stormwater at a volume not to exceed a daily average flow of 392,000 gallons per day via Outfall 001; the discharge of stormwater at an intermittent flow-variable volume via Outfalls 002 and 003; with provisions for the disposal of treated wastewater via irrigation of 178 acres. The facility and disposal area will be located at 9 County Road 182, near Raywood, in Liberty County, Texas 77575. The discharge route will be from the plant site to Cow Island Bayou, thence to Turtle Bayou, thence to Lake Anahuac, thence to Trinity Bay (pending RWA). TCEQ received this application on June 6, 2025. The permit application will be available for viewing and copying at Liberty Municipal Library, 1710 Sam Houston Street, Liberty, in Liberty County, Texas, prior to the date this notice is published in the newspaper. The application, including any updates, and associated notices are available electronically at the following webpage: https://www.tceq.texas.gov/permitting/wastewater/pending-permits/tpdes-applications.

This link to an electronic map of the site or facility's general location is provided as a public courtesy and not part of the application or notice. For the exact location, refer to the application. https://gisweb.tceq.texas.gov/LocationMapper/?marker=-94.67,30.042777&level=18

Further information may also be obtained from QYK Brands LLC at the address stated above or by calling Mr. Alexander Griffiths, Executive Administrator, at 909-363-0819.

RESPONSE:
QYK Brands accepts the language for the NORI as presented.

3. The application indicates that public notices in Spanish are required. After confirming the portion of the NORI above does not contain any errors or omissions, please use the attached template to translate the NORI into Spanish. Only the first and last paragraphs are unique to this application and require translation. Please provide the translated Spanish NORI in a Microsoft Word document.

RESPONSE:
Attached is the Spanish NORI in Microsoft Word format.

If you should have any questions, please do not hesitate to contact Kathleen Alsup by phone at (512) 970-2409 or by e-mail at kathleen.alsup@trinityconsultants.com.

Sincerely,

Kathleen Alsup

Kathleen Alsup
Sr. Consultant
Trinity Consultants

Enclosures
2025 05 17 QYK Brands Mailing Labels
2025 06 17 QYK Brands NORI Spanish

cc: Mr. Rakesh Tammabattula, CEO, QYK Brands LLC, P.O. Box 427, Raywood, Texas 77582
Mr. Alexander Griffiths, Ex Administrator, QYK Brands LLC, P.O. Box 427, Raywood, Texas 77582

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

INDUSTRIAL WASTEWATER PERMIT APPLICATION CHECKLIST

Complete and submit this checklist with the industrial wastewater permit application.

APPLICANT NAME: QYK BRANDS LLC

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	☒	☐	Worksheet 8.0	☐	☒
Administrative Report 1.1	☐	☐	Worksheet 9.0	☐	☒
SPIF	☒	☐	Worksheet 10.0	☐	☒
Core Data Form	☒	☐	Worksheet 11.0	☐	☒
Public Involvement Plan Form	☒	☐	Worksheet 11.1	☐	☒
Plain Language Summary	☒	☐	Worksheet 11.2	☐	☒
Technical Report 1.0	☒	☐	Worksheet 11.3	☐	☒
Worksheet 1.0	☒	☐	Original USGS Map	☒	☐
Worksheet 2.0	☒	☐	Affected Landowners Map	☒	☐
Worksheet 3.0	☒	☐	Landowner Disk or Labels	☒	☐
Worksheet 3.1	☒	☐	Flow Diagram	☒	☐
Worksheet 3.2	☐	☒	Site Drawing	☒	☐
Worksheet 3.3	☐	☒	Original Photographs	☒	☐
Worksheet 4.0	☒	☐	Design Calculations	☒	☐
Worksheet 4.1	☒	☐	Solids Management Plan	☐	☒
Worksheet 5.0	☐	☒	Water Balance	☒	☐
Worksheet 6.0	☐	☒			
Worksheet 7.0	☒	☐			

For TCEQ Use Only

Segment Number _____County _____
Expiration Date _____Region _____
Permit Number _____

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

INDUSTRIAL WASTEWATER PERMIT APPLICATION ADMINISTRATIVE REPORT 1.0

This report is required for all applications for TPDES permits and TLAPs, except applications for oil and gas extraction operations subject to 40 CFR Part 435. Contact the Applications Review and Processing Team at 512-239-4671 with any questions about completing this report.

Applications for oil and gas extraction operations subject to 40 CFR Part 435 must use the Oil and Gas Exploration and Production Administrative Report (TCEQ Form-20893 and 20893-inst[1]).

Item 1. Application Information and Fees (Instructions, Page 26)

a. Complete each field with the requested information, if applicable.

Applicant Name: QYK BRANDS LLC

Permit No.: N/A

EPA ID No.: TX0 N/A

Expiration Date: N/A

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

☒ Industrial Wastewater (wastewater and stormwater)

☐ Industrial Stormwater (stormwater only)

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

☐ Active ☒ Inactive

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

☐ TPDES Permit ☐ TLAP ☒ TPDES with TLAP component

e. Check the box next to the appropriate application type.

☒ New

☐ Renewal with changes ☐ Renewal without changes

☐ Major amendment with renewal ☐ Major amendment without renewal

☐ Minor amendment without renewal

☐ Minor modification without renewal

f. If applying for an amendment or modification, describe the request: N/A

For TCEQ Use Only

Segment Number _____County _____
Expiration Date _____Region _____
Permit Number _____

[1] https://www.tceq.texas.gov/publications/search_forms.html

g. Application Fee

EPA Classification	New	Major Amend. (with or without renewal)	Renewal (with or without changes)	Minor Amend. / Minor Mod. (without renewal)
Minor facility not subject to EPA categorical effluent guidelines (40 CFR Parts 400-471)	☐ $350	☐ $350	☐ $315	☐ $150
Minor facility subject to EPA categorical effluent guidelines (40 CFR Parts 400-471)	☒ $1,250	☐ $1,250	☐ $1,215	☐ $150
Major facility	N/A [2]	☐ $2,050	☐ $2,015	☐ $450

h. Payment Information

Mailed

Check or money order No.: Click to enter text.

Check or money order amt.: Click to enter text.

Named printed on check or money order: Click to enter text.

Epay

Voucher number: 740561 and 740562

Copy of voucher attachment: AR-1h

Item 2. Applicant Information (Instructions, Pages 26)

a. Customer Number, if applicant is an existing customer: CN606303824

Note: Locate the customer number using the TCEQ's Central Registry Customer Search[3].

b. Legal name of the entity (applicant) applying for this permit: QYK BRANDS LLC

Note: The owner of the facility must apply for the permit. The legal name must be spelled exactly as filed with the TX SOS, Texas Comptroller of Public Accounts, County, or in the legal documents forming the entity.

c. Name and title of the person signing the application. (**Note:** The person must be an executive official that meets signatory requirements in 30 TAC § 305.44.)

Prefix: MR Full Name (Last/First Name): Rakesh Tammabattula

Title: CEO Credential: Click to enter text.

d. Will the applicant have overall financial responsibility for the facility?

☒ Yes ☐ No

[2] All facilities are designated as minors until formally classified as a major by EPA.

[3] https://www15.tceq.texas.gov/crpub/index.cfm?fuseaction=cust.CustSearch

Note: The entity with overall financial responsibility for the facility must apply as a co-applicant, if not the facility owner.

Item 3. Co-applicant Information (Instructions, Page 27)

☒ Check this box if there is no co-applicant.; otherwise, complete the below questions.

a. Legal name of the entity (co-applicant) applying for this permit: N/A

Note: The legal name must be spelled exactly as filed with the TX SOS, Texas Comptroller of Public Accounts, County, or in the legal documents forming the entity.

b. Customer Number (if applicant is an existing customer): CNClick to enter text.

Note: Locate the customer number using the TCEQ's Central Registry Customer Search.

c. Name and title of the person signing the application. (**Note:** The person must be an executive official that meets signatory requirements in 30 TAC § 305.44.)

Prefix: Click to enter text. Full Name (Last/First Name): Click to enter text.

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

d. Will the co-applicant have overall financial responsibility for the facility?

☐ Yes ☐ No

Note: The entity with overall financial responsibility for the facility must apply as a co-applicant, if not the facility owner.

Item 4. Core Data Form (Instructions, Pages 27)

a. Complete one Core Data Form (TCEQ Form 10400) for each customer (applicant and co-applicant(s)) and include as an attachment. If the customer type selected on the Core Data Form is Individual, complete Attachment 1 of the Administrative Report. Attachment: AR-4

Item 5. Application Contact Information (Instructions, Page 27)

Provide names of two individuals who can be contact for additional information about this application. Indicate if the individual can be contact about administrative or technical information, or both.

a. ☒ Administrative Contact . ☒ Technical Contact

Prefix: Mr Full Name (Last/First Name): Griffiths/Alexander

Title: Executive Administrator Credential: Click to enter text.

Organization Name: QYK Brands LLC

Mailing Address: PO Box 427 City/State/Zip: Raywood, TX 77582

Phone No: 909-363-0819 Email: Griff@QYK.US

b. ☒ Administrative Contact ☐ Technical Contact

Prefix: Mr Full Name (Last/First Name): Tammabattula/Rakesh

Title: CEO Credential: Click to enter text.

Organization Name: QYK Brands LLC

Mailing Address: PO Box 427 City/State/Zip: Raywood, TX 77582

Phone No: 347-515-6789 Email: RT@QYK.US

Attachment: Click to enter text.

Item 6. Permit Contact Information (Instructions, Page 28)

Provide two names of individuals that can be contacted throughout the permit term.

a. Prefix: Mr Full Name (Last/First Name): Griffiths/Alexander

Title: Executive Administrator Credential: Click to enter text.

Organization Name: QYK Brands LLC

Mailing Address: PO Box 427 City/State/Zip: Raywood, TX 77582

Phone No: 909-363-0819 Email: Griff@QYK.US

b. Prefix: Mr Full Name (Last/First Name): Tammabattula/Rakesh

Title: CEO Credential: Click to enter text.

Organization Name: QYK Brands LLC

Mailing Address: PO Box 427 City/State/Zip: Raywood, TX 77582

Phone No: 347-515-6789 Email: RT@QYK.US

Attachment: Click to enter text.

Item 7. Billing Contact Information (Instructions, Page 28)

The permittee is responsible for paying the annual fee. The annual fee will be assessed for 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 (form TCEQ-20029).

Provide the complete mailing address where the annual fee invoice should be mailed and the name and phone number of the permittee's representative responsible for payment of the invoice.

Prefix: Mr Full Name (Last/First Name): Tammabattula/Rakesh

Title: CEO Credential: Click to enter text.

Organization Name: QYK Brands LLC

Mailing Address: PO Box 427 City/State/Zip: Raywood, TX 77582

Phone No: 347-515-6789 Email: RT@QYK.US

Item 8. DMR/MER Contact Information (Instructions, Page 28)

Provide the name and mailing address of the person delegated to receive and submit DMRs or MERs. **Note:** DMR data must be submitted through the NetDMR system. An electronic reporting account can be established once the facility has obtained the permit number.

Prefix: Mr Full Name (Last/First Name): Griffiths/Alexander

Title: Executive Administrator Credential: Click to enter text.

Organization Name: QYK Brands LLC

Mailing Address: PO Box 427 City/State/Zip: Raywood, TX 77582

Phone No: 909-363-0819 Email: Griff@QYK.US

Item 9. Notice Information (Instructions, Pages 28)

a. Individual Publishing the Notices

Prefix: Ms Full Name (Last/First Name): Wilson/Laurie

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

Organization Name: Site Map LLC

Mailing Address: PO Box 213 City/State/Zip: Bridge City, TX 77611

Phone No: 409-738-2133 Email: Laurie@sitemapllc.com

b. Method for Receiving Notice of Receipt and Intent to Obtain a Water Quality Permit Package (only for NORI, NAPD will be sent via regular mail)

☒ E-mail: Laurie@sitemapllc.com

☐ Fax: Click to enter text.

☐ Regular Mail (USPS)

Mailing Address: Click to enter text.

City/State/Zip Code: Click to enter text.

c. Contact in the Notice

Prefix: Mr Full Name (Last/First Name): Griffiths/Alexander

Title: Executive Administrator Credential: Click to enter text.

Organization Name: QYK Brands LLC

Phone No: 909-363-0819 Email: Griff@QYK.US

d. Public Viewing Location Information

Note: If the facility or outfall is located in more than one county, provide a public viewing place for each county.

Public building name: Liberty County Municipal Library Location within the building: Counter

Physical Address of Building: 1710 Sam Houston Street

City: Liberty County: Liberty

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.

Call the bilingual/ESL coordinator at the nearest elementary and middle schools and obtain the following information to determine if an alternative language notice(s) is 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 Item 8 (Regulated Entity and Permitted Site Information.)

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 ☐ N/A

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: AR-9f

g. Complete one Public Involvement Plan (PIP) Form (TCEQ Form 20960) for each application for a new permit or major amendment and include as an attachment. Attachment: AR-9g

Item 10. Regulated Entity and Permitted Site Information (Instructions Page 29)

a. TCEQ issued Regulated Entity Number (RN), if available: RN 112043468

Note: If your business site is part of a larger business site, a Regulated Entity Number (RN) may already be assigned for the larger site. Use the RN assigned for the larger site. Search the TCEQ's Central Registry to determine the RN or to see if the larger site may already be registered as a Regulated Entity. If the site is found, provide the assigned RN.

b. Name of project or site (the name known by the community where located): QYK Brands MAA Plant

c. Is the location address of the facility in the existing permit the same?

☐ Yes ☐ No ☒ N/A (new permit)

Note: If the facility is located in Bexar, Comal, Hays, Kinney, Medina, Travis, Uvalde, or Williamson County, additional information concerning protection of the Edwards Aquifer may be required.

d. Owner of treatment facility:

Prefix: Click to enter text. Full Name (Last/First Name): Click to enter text.

or Organization Name: QYK Brands LLC

Mailing Address: PO Box 427 City/State/Zip: Raywood, TX 77582

Phone No: 347-515-6789 Email: RT@QYK.US

e. Ownership of facility: ☐ Public ☒ Private ☐ Both ☐ Federal

f. Owner of land where treatment facility is or will be: QYK Brands LLC

Prefix: Click to enter text. Full Name (Last/First Name): Click to enter text.

or Organization Name: QYK Brands LLC

Mailing Address: PO Box 427 City/State/Zip: Raywood, TX 77582

Phone No: 347-515-6789 Email: RT@QYK.US

Note: If not the same as the facility owner, attach a long-term lease agreement in effect for at least six years (In some cases, a lease may not suffice - see instructions). Attachment: Click to enter text.

g. Owner of effluent TLAP disposal site (if applicable): QYK Brands LLC

Prefix: Click to enter text. Full Name (Last/First Name): Click to enter text.

or Organization Name: QYK Brands LLC

Mailing Address: PO Box 427 City/State/Zip: Raywood, TX 77582

Phone No: 347-515-6789 Email: RT@QYK.US

Note: If not the same as the facility owner, attach a long-term lease agreement in effect for at least six years. Attachment: Click to enter text.

h. Owner of sewage sludge disposal site (if applicable):

Prefix: N/A Full Name (Last/First Name): Click to enter text.

or Organization Name: Click to enter text.

Mailing Address: Click to enter text. City/State/Zip: Click to enter text.

Phone No: Click to enter text. Email: Click to enter text.

Note: If not the same as the facility owner, attach a long-term lease agreement in effect for at least six years. Attachment: Click to enter text.

Item 11. TDPES Discharge/TLAP Disposal Information (Instructions, Page 31)

a. Is the facility located on or does the treated effluent cross Native American Land?

☐ Yes ☒ No

b. Attach an original full size USGS Topographic Map (or an 8.5"×11" reproduced portion for renewal or amendment applications) with all required information. Check the box next to each item below to confirm it has been included on the map.

☒ One-mile radius

☒ Applicant's property boundaries

☒ Labeled point(s) of discharge

☒ Effluent disposal site boundaries

☐ Sewage sludge disposal site

☒ Three-miles downstream information

☒ Treatment facility boundaries

☒ Highlighted discharge route(s)

☐ All wastewater ponds

☒ New and future construction

Attachment: AR-11b

c. Is the location of the sewage sludge disposal site in the existing permit accurate?

☐ Yes ☒ No or New Permit

If no, or a new application, provide an accurate location description: Off-site, to be determined. Likely United Site Services 9856 Steelman St, Houston, TX 77017 Registration 455120133

d. Are the point(s) of discharge in the existing permit correct?

☐ Yes ☒ No or New Permit

If no, or a new application, provide an accurate location description: Wastewater and stormwater enter a separated weir box and after sampling is combined for a single discharge into Cow Island Bayou located within the property near the location it passes under the UP railroad track and US Highway 90.

e. Are the discharge route(s) in the existing permit correct?

☐ Yes ☒ No or New Permit

If no, or a new permit, provide an accurate description of the discharge route: Cow Island Bayou flows south under US Highway 90 west and then south of the City of Raywood. This flows eastward once it is south of the city of Raywood until the intersection of Cow Island Bayou with another drainage ditch and flows in a generally southerly direction for approximately 20 miles to Lake Anahuac then Trinity Bay.

f. City nearest the outfall(s): Raywood

g. County in which the outfalls(s) is/are located: Liberty

h. 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, attach copies of letters that show proof of contact and provide the approval letter upon receipt. Attachment: AR-11h

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

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

☐ Yes No or New Permit ☒ N/A

If no, or a new application, provide an accurate location description: Within the approximately 600-acre property owned by QYK Brands the irrigation of wastewater to the land will be in an area northwest of the proposed MAA plant. This is north of Cow Island Bayou.

j. City nearest the disposal site: Raywood

k. County in which the disposal site is located: Liberty

l. For TLAPs, describe how effluent is/will be routed from the treatment facility to the disposal site: Via pipe

m. For TLAPs, identify the nearest watercourse to the disposal site to which rainfall runoff might flow if not contained: Drainage ditch to Cow Island Bayou

Item 12. Miscellaneous Information (Instructions, Page 33)

a. 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: Click to enter text.

b. Do you owe any fees to the TCEQ?

☐ Yes ☒ No

If yes, provide the following information:

Account no.: Click to enter text.

Total amount due: Click to enter text.

c. Do you owe any penalties to the TCEQ?

☐ Yes ☒ No

If yes, provide the following information:

Enforcement order no.: Click to enter text.

Amount due: Click to enter text.

Item 13. Signature Page (Instructions, Page 33)

Permit No: WQ000Click to enter text.

Applicant Name: QYK Brands LLC

Certification: I, Rakesh Tammabattula, 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): Rakesh Tammabattula

Signatory title: CEO

Signature: _____ Date: 06/03/2025
(Use blue ink)

Subscribed and Sworn to before me by the said Rakesh Tammabattula

on this 3rd day of June, 2025.

My commission expires on the 10th day of October, 2025.

_____
Notary Public

[SEAL]

BETTY WELLS RUNKLE
Notary Public, State of Texas
Comm. Expires 10-10-2025
Notary ID 13131065-0

Liberty
County, Texas

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

INDUSTRIAL WASTEWATER PERMIT APPLICATION ADMINISTRATIVE REPORT 1.1

The following information is required for new and amendment applications.

Item 1. Affected Landowner Information (Instructions, Page 35)

a. Attach a landowner map or drawing, with scale, as applicable. Check the box next to each item to confirm it has been provided.

☒ 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 (e.g., irrigation area or subsurface drainfield site) and all evaporation/holding ponds within the applicant's property.

☒ The property boundaries of all landowners surrounding the applicant's property boundaries where the effluent disposal site is located.

☒ The boundaries of the sludge land application site (for land application of sewage sludge for beneficial use) and the property boundaries of landowners within one-quarter mile of 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 (e.g., sludge surface disposal site or sludge monofil) is located.

Attachment: AR1.1-1a

b. Check the box next to the format of the landowners list:

☐ Readable/Writeable CD ☒ Four sets of labels

Attachment: AR1.1-1b

d. Provide the source of the landowners' names and mailing addresses: Liberty County

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

☐ Yes ☒ No

If yes, provide the location and foreseeable impacts and effects this application has on the land(s): Click to enter text.

Item 2. Original Photographs (Instructions, Page 37)

Provide original ground level photographs. Check the box next to each of the following items to indicate it is included.

☐ 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.

Attachment: AR 1.1-2

INDUSTRIAL WASTEWATER PERMIT APPLICATION

SUPPLEMENTAL PERMIT INFORMATION FORM (SPIF)

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

Attachment: SPIF

WATER QUALITY PERMIT

PAYMENT SUBMITTAL FORM

Use this form to submit the Application Fee, if mailing the payment. (Instructions, Page 36-37)

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

Mail this form and the check or money order to:

BY REGULAR U.S. MAIL

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

BY OVERNIGHT/EXPRESS MAIL

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

Fee Code: WQP **Permit No:** WQ000Click to enter text.

1. Check or Money Order Number: N/A
2. Check or Money Order Amount: Click to enter text.
3. Date of Check or Money Order: Click to enter text.
4. Name on Check or Money Order: Click to enter text.
5. APPLICATION INFORMATION

   Name of Project or Site: Click to enter text.

   Physical Address of Project or Site: Click to enter text.

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

Staple Check or Money Order in This Space

ATTACHMENT 1

INDIVIDUAL INFORMATION

Item 1. Individual information (Instructions, Page 38)

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

Prefix (Mr., Ms., or Miss): N/A

Full legal name (first, middle, and last): Click to enter text.

Driver's License or State Identification Number: Click to enter text.

Date of Birth: Click to enter text.

Mailing Address: Click to enter text.

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

Phone No.: Click to enter text.

Fax No.: Click to enter text.

E-mail Address: Click to enter text.

CN: Click to enter text.

INDUSTRIAL WASTEWATER PERMIT APPLICATION CHECKLIST OF COMMON DEFICIENCIES

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

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

☒ Correct and Current Industrial Wastewater Permit Application Forms
(TCEQ Form Nos. 10055 and 10411. Version dated 5/10/2019 or later.)

☒ Water Quality Permit Payment Submittal Form (Page 14)
(Original payment sent to TCEQ Revenue Section. See instructions for mailing address.)

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

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

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

Things to Know:

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

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

☐ N/A ☒ Landowners Labels or CD-RW attached
(See instructions for landowner requirements.)

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

☒ Plain Language Summary

Attachment AR-1h

Payment Voucher

TCEQ ePay Voucher Receipt

Transaction Information

Voucher Number:	740561
Trace Number:	582EA000643381
Date:	01/10/2025 02:34 PM
Payment Method:	CC - Authorization 000001084Q
Voucher Amount:	$1,200.00
Fee Type:	WW PERMIT - MINOR FACILITY SUBJECT TO 40 CFR 400-471 - NEW
ePay Actor:	KATHLEEN ALSUP

Payment Contact Information

Name:	KATHLEEN ALSUP
Company:	RSJ CONSULTING LLC
Address:	4256 ROCK BEND DR, COLLEGE STATION, TX 77845
Phone:	512-970-2409

Site Information

Site Name:	QYK BRANDS MAA PLANT
Site Location:	RAYWOOD TX LIBERTY COUNTY NORTH OF US HIGHWAY 90 AND WEST OF FM 770 AND COUNTY R

Customer Information

Customer Name:	QYK BRANDS LLC
Customer Address:	1000 MAIN ST SUITE 2300I, HOUSTON, TX 77002 6336
State Tax ID:	32096150795

Other Information

Comments:	Proposed facility with no 911 address yet

TCEQ ePay Voucher Receipt

Transaction Information

Voucher Number:	740562
Trace Number:	582EA000643381
Date:	01/10/2025 02:34 PM
Payment Method:	CC - Authorization 000001084Q
Voucher Amount:	$50.00
Fee Type:	30 TAC 305.53B WQ NOTIFICATION FEE
ePay Actor:	KATHLEEN ALSUP

Payment Contact Information

Name:	KATHLEEN ALSUP
Company:	RSJ CONSULTING LLC
Address:	4256 ROCK BEND DR, COLLEGE STATION, TX 77845
Phone:	512-970-2409

Attachment AR-4

Core Data Form

TCEQ Use Only

TCEQ Core Data Form

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

SECTION I: General Information

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

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

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

☐ Other

2. Customer Reference Number *(if issued)*	Follow this link to search for CN or RN numbers in Central Registry**	**3. Regulated Entity Reference Number** *(if issued)*
CN 606303824		**RN 112043468**

SECTION II: Customer Information

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

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

The Customer Name submitted here may be updated automatically based on what is current and active with the Texas Secretary of State (SOS) or Texas Comptroller of Public Accounts (CPA).

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

If new Customer, enter previous Customer below:

QYK BRANDS LLC

7. TX SOS/CPA Filing Number	**8. TX State Tax ID** (11 digits)	**9. Federal Tax ID** (9 digits)	**10. DUNS Number** *(if applicable)*
805644866	32096150795	82-376-8155	081560441

11. Type of Customer:

☒ Corporation ☐ Individual Partnership: ☐ General ☐ Limited
Government: ☐ City ☐ County ☐ Federal ☐ Local ☐ State ☐ Other ☐ Sole Proprietorship ☒ Other: LLC

12. Number of Employees

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

13. Independently Owned and Operated?

☒ **Yes** ☐ **No**

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

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

15. Mailing Address:

PO BOX 427

City	RAYWOOD	**State**	TX	**ZIP**	77582	**ZIP + 4**	

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

18. Telephone Number	19. Extension or Code	20. Fax Number *(if applicable)*
(833) 795-7664		( ) -

SECTION III: Regulated Entity Information

21. General Regulated Entity Information *(If 'New Regulated Entity" is selected, a new permit application is also required.)*

☐ New Regulated Entity ☐ Update to Regulated Entity Name ☒ Update to Regulated Entity Information

The Regulated Entity Name submitted may be updated, in order to meet TCEQ Core Data Standards (removal of organizational endings such as Inc, LP, or LLC).

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

QYK BRANDS MAA PLANT

23. Street Address of the Regulated Entity: ***(No PO Boxes)***								
	9 County Road 182							
	City	Liberty	**State**	TX	**ZIP**	77575	**ZIP + 4**	
24. County	Liberty							

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

25. Description to Physical Location:					
26. Nearest City			**State**	**Nearest ZIP Code**	
RAYWOOD			TX	77582	

Latitude/Longitude are required and may be added/updated to meet TCEQ Core Data Standards. (Geocoding of the Physical Address may be used to supply coordinates where none have been provided or to gain accuracy).

27. Latitude (N) In Decimal:	30.042835		**28. Longitude (W) In Decimal:**	94.669994	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
30	2	34	94	40	12

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)
2869		541715	

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

MANUFACTURER OF MAA VIA A BIOSOURCE

34. Mailing Address:	**PO BOX 427**							
	City	**RAYWOOD**	**State**	**TX**	**ZIP**	**77582**	**ZIP + 4**	
35. E-Mail Address:	**GRIFF@QYK.US**							

36. Telephone Number	37. Extension or Code	38. Fax Number *(if applicable)*
(909) 363-819		( ) -

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

☐ Dam Safety	☐ Districts	☐ Edwards Aquifer	☐ Emissions Inventory Air	☐ Industrial Hazardous Waste
☐ Municipal Solid Waste	☐ New Source Review Air	☐ OSSF	☐ Petroleum Storage Tank	☐ PWS
☐ Sludge	☐ Storm Water	☐ Title V Air	☐ Tires	☐ Used Oil
☐ Voluntary Cleanup	☒ Wastewater	☐ Wastewater Agriculture	☐ Water Rights	☒ Other: PBR
	TBD			177497

SECTION IV: Preparer Information

40. Name:	ALEXANDER GRIFFITHS	41. Title:	EXECUTIVE ADMINISTRATOR

42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(909) 363-0819		( ) -	GRIFF@QYK.US

SECTION V: Authorized Signature

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

Company:	QYK BRANDS LLC	Job Title:	CEO
Name *(In Print)*:	RAKESH TAMMABATTULA	Phone:	(347) 515- 6789
Signature:		Date:	06/02/2025

Attachment AR-9f

Plain Language Summary

The following summary is provided for this pending industrial 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.

QYK Brands LLC (CN 606303824) proposes to operate the Raywood MAA Plant (RN 112043468), a renewable biobased methacrylic acid (MAA) manufacturing facility. The plant will use a fermentation process to convert glucose feedstock into itaconic acid (IA) followed by a decarboxylation reaction process to convert the IA into renewable MAA. The plant's initial manufacturing capacity will be 7,000 tons per year of renewable MAA. The facility is located at the intersection of FM 770 and CR 182 near Highway 90 in Raywood in Liberty County, Texas 77582.

The application is requesting a hybrid TPDES wastewater permit to discharge via a piped outfall to Cow Island Bayou including utility wastewater (cooling tower and boiler blowdown and reverse osmosis reject water), treated wastewater from the MAA process, treated sanitary wastewater, and miscellaneous wastewater including storm water runoff, pad and equipment washing, hydrostatic test water and fire water. The pollutants expected to the discharge outfall include suspended and dissolved solids. Additional pollutants are included in the Industrial Wastewater Application Technical Report. The wastewater from the Itaconic Acid (IA) process will be land applied via irrigation of a grass crop within the property boundary and the permit will not authorize a discharge of pollutants for this into water in the state.

Sanitary wastewater will be treated internally in a package plant and sampled for compliance with permit limits prior to combining with the utility and treated process wastewater for final discharge to Cow Island Bayou. Utility wastewater may be treated for solids removal and the process wastewater will be biologically treated prior to combining with the utility wastewater for discharge to Cow Island Bayou. The IA process wastewater will be biologically treated prior to land application.

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

AGUAS RESIDUALES INDUSTRIALES **/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.

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

QYK Brands LLC (CN 606303824) propone operar la planta Raywood MAA (RN 112043468), una instalación de fabricación de ácido metacrílico (MAA) de base biológica renovable. La planta utilizará un proceso de fermentación para convertir la materia prima de glucosa en ácido itacónico (IA), seguido de un proceso de reacción de descarboxilación para convertir el IA en MAA renovable. La capacidad inicial de fabricación de la planta será de 7,000 toneladas anuales de MAA renovable. La instalación está ubicada en la intersección de FM 770 y CR 182 cerca de la autopista 90 en Raywood en el condado de Liberty, Texas 77582.

La solicitud solicita un permiso híbrido de aguas residuales TPDES para descargar a través de un desagüe entubado a Cow Island Bayou, incluidas las aguas residuales de los servicios públicos (torre de enfriamiento y purga de caldera y agua de rechazo de ósmosis inversa), aguas residuales tratadas del proceso MAA, aguas residuales sanitarias tratadas y aguas residuales diversas, incluida la escorrentía de aguas pluviales, el lavado de plataformas y equipos, el agua de prueba hidrostática y el agua contra incendios. Los contaminantes que se espera que salgan del vertido incluyen sólidos suspendidos y disueltos. Los contaminantes adicionales se incluyen en el Informe Técnico de Aplicación de Aguas Residuales Industriales. Las aguas residuales del proceso de Ácido Itacónico (IA) serán tierras aplicadas a través del riego de un cultivo de pasto dentro de los límites de la propiedad y el permiso no autorizará una descarga de contaminantes para esto en el agua del estado.

Las aguas residuales sanitarias se tratarán internamente en una planta de empaquetado y se tomarán muestras para verificar el cumplimiento de los límites de permiso antes de combinarlas con las aguas residuales de servicios públicos y las aguas residuales de proceso tratadas para su descarga final en Cow Island Bayou. Las aguas residuales de los servicios públicos pueden tratarse para la eliminación de sólidos y las aguas residuales del proceso se tratarán biológicamente antes de combinarlas con las aguas residuales de los servicios públicos para su

descarga en Cow Island Bayou. Las aguas residuales del proceso de IA serán tratadas biológicamente antes de la aplicación en tierra.

Attachment AR-9g
Public Involvement 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.

The site is not within any of the geographical locations listed above.

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.

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)

(County)

(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

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

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

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

(e) Languages commonly spoken in area by percentage

(f) Community and/or Stakeholder Groups

(g) Historic public interest or involvement

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)

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 AR-11b

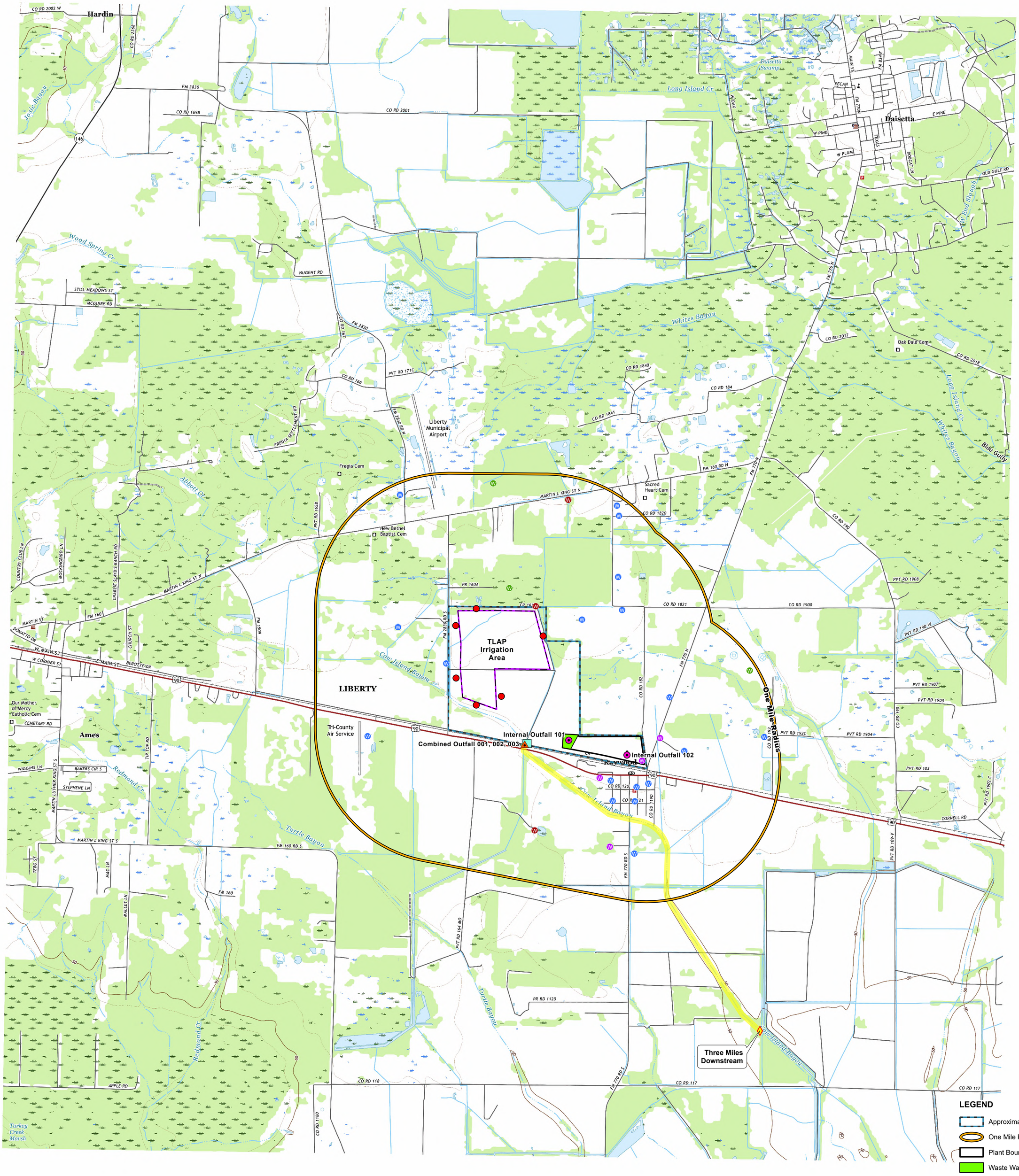
USGS Map

USGS science for a changing world

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

The National Map US Topo

DAISETTA QUADRANGLE
TEXAS - LIBERTY COUNTY
7.5-MINUTE SERIES



LEGEND

- Approximate Property Boundary
- One Mile Property Radius
- Plant Boundary
- Waste Water Treatment Areas
- TLAP Irrigation Area
- Effluent Weir Box
- Proposed Internal Outfall
- Proposed Point of Discharge
- Discharge Route
- Downstream Marker
- Proposed Monitoring Wells-Lysimeters

TWDB Wells

- Domestic / Public Supply
- Irrigation
- Rig Supply
- Stock / Unused

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 15R
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	NAIP, September 2016 - November 2016
Roads	U.S. Census Bureau, 2015
Names	GNIS, 1979 - 2022
Hydrography	National Hydrography Dataset, 2003 - 2018
Contours	National Elevation Dataset, 2004
Boundaries	Multiple sources; see metadata file 2019 - 2021
Wetlands	FWS National Wetlands Inventory Not Available

MN
GN
1°57'
35 MILS
0°51'
15 MILS
UTM GRID AND 2019 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

U.S. National Grid
100,000-m Square ID
UP
Grid Zone Designation
15R

SCALE 1:24 000
1 0.5 0 KILOMETERS 1 2
1000 500 0 METERS 1000 2000
1 0.5 0 1
1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000
MILES
FEET

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.

TEXAS
QUADRANGLE LOCATION

1	2	3
4		5
6	7	8

1 Capers Ridge
2 Hardin
3 Thorson Gully
4 Liberty
5 Devers
6 Moss Bluff
7 Shiloh
8 Whites Bayou
ADJOINING QUADRANGLES

ROAD CLASSIFICATION
Expressway
Secondary Hwy
Ramp
Local Connector
Local Road
4WD
Interstate Route
US Route
State Route

DAISETTA, TX
2022

Attachment AR-11h

Raywood DD#2 Communication

MEMO

TO: Raywood Drainage District No. 2 in care of Board Member Tony Scott

FROM: Rakesh Tammabattula, CEO of QYK Brands

DATE: January 6 , 2025

SUBJECT: Request to Discharge TCEQ Permitted Wastewater into the Raywood Drainage District No. 2 System

QYK Brands LLC is proposing to construct and operate a Methacrylic Acid (MAA) Plant in Raywood, TX north of Highway 90. The project will be pursuing a wastewater discharge permit from the Texas Commission on Environmental Quality (TCEQ). QYK Brands, LLC is seeking authorization to discharge wastewater from the facility that demonstrates compliance with the TCEQ's TPDES Permit when issued. The discharge volume is estimated to be approximately 600,000 gallons per day without the influence of storm water runoff. Although non-compliance issues are not anticipated, QYK Brands LLC will take full responsibility if any should occur related to the quality of the discharge and the Raywood Drainage District #2 will not be held liable for any water quality issues associated with the discharge to the district's drainage system. The location of the discharge outfall is proposed to be located at Cow Island Bayou just north of the Union Pacific Railroad and Highway 90 crossing.

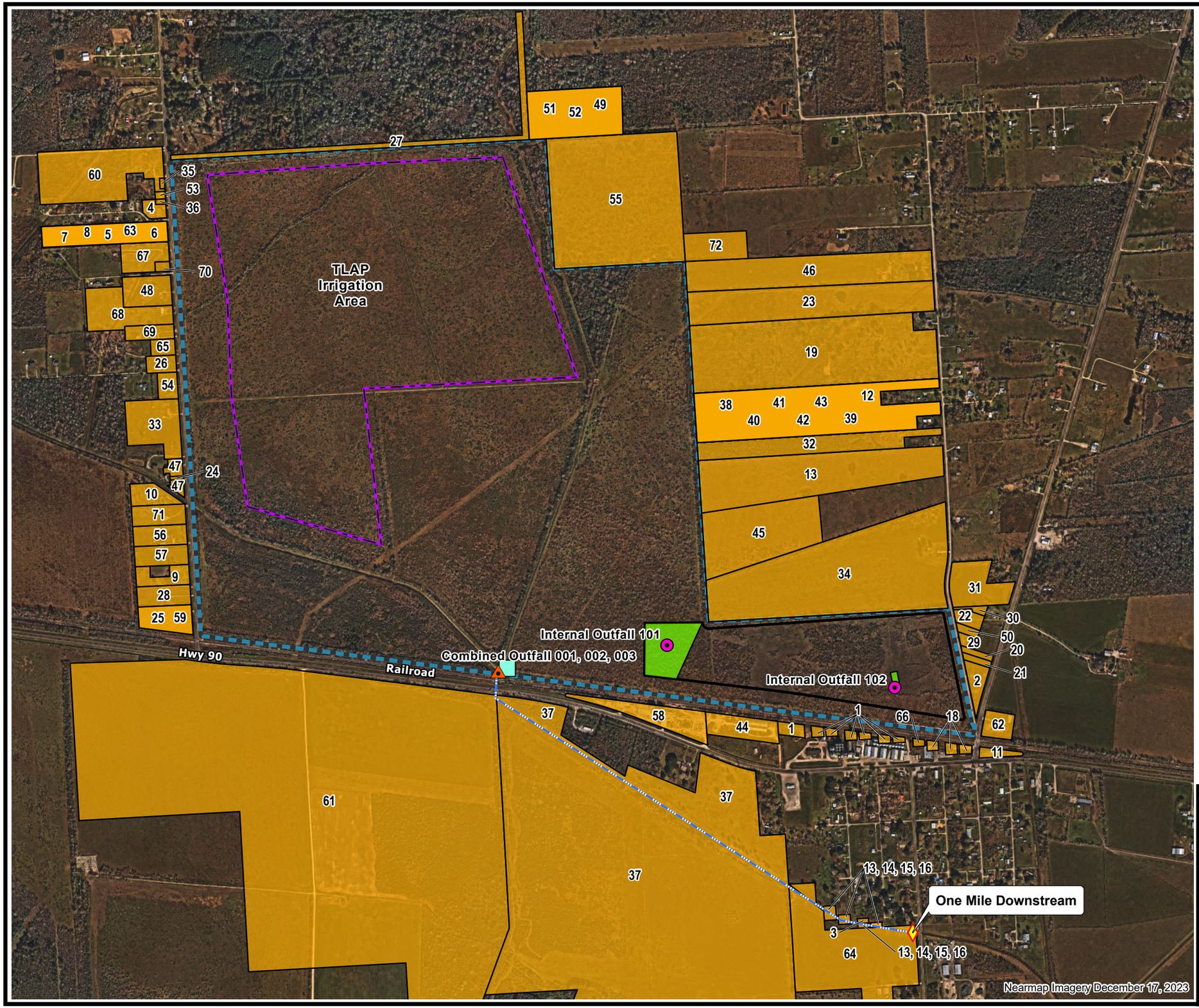
Please sign below to demonstrate that Raywood Drainage District No. 2 acknowledges and approves the discharge of wastewater as described above.

Name and Title

Date

Attachment AR-1.1 Adjacent

Land Owner Information



LEGEND

- Approximate Property Boundary
- Plant Boundary
- TLAP Irrigation Area
- Waste Water Treatment Areas
- 1 Adjacent Landowners
- Effluent Weir Box
- Proposed Point of Discharge
- Proposed Internal Outfall
- Discharge Route
- Downstream Marker

Parcel Source:
Liberty County GIS Data, December 2024

0 500 1,000 FEET

1" = 1,000 FEET
1:12,000

QYK BRANDS MAA PLANT

ADJACENT LANDOWNER MAP

DRAWN BY:	L WILSON	SCALE:	PROJ. NO. TPDES 2024
CHECKED BY:	K ALSUP	AS NOTED	Adjacent Landowner
APPROVED BY:	K ALSUP	DATE PRINTED:	
DATE:	February 2025	*2/19/2025*	

RSJ Consulting

J:\Prj\QYK Brand Plant\TPDES 2024\QYK_GIS.aprx

MAP ID	OWNER NAME	ADDRESS	CITY	STATE	ZIP CODE
1	AMERICAN RICE GROWERS COOP ASSN	PO BOX 188	RAYWOOD	TX	77582
2	ANDRESS JAMES DARRELL	5603 SIMSDALE ST	HOUSTON	TX	77033
3	BLANCHARD LAWRENCE	UNKNOWN			
4	BOSTON DEMETRIA	1819 MICKLE CREEK DRIVE	HOUSTON	TX	77049
5	BROWN ALVIN RAY, LEROY, RALPH, JAMES	516 GARRETT ST	LIBERTY	TX	77575-5510
6	BROWN GERRY L	UNKNOWN			
7	BROWN MELVIN E	8721 TOWN PARK DR	HOUSTON	TX	77036
8	BROWN ROBERT E	UNKNOWN			
9	CEASER VALARIE & JIMMY JR	PO BOX 342	RAYWOOD	TX	77582
10	CHAIRES JULIO TORRES & BRIANNA REYES	297 FM 2830 RD S	LIBERTY	TX	77575
11	CYRUS BUSINESS INC	6200 SAVOY DR STE 638	HOUSTON	TX	77036
12	DRUILHET RACHELLA OZAN	7236 SHADY GROVE	FAYETTEVILLE	NC	28314
13	DUMAS KAREN DENISE	2450 LOUISIANA ST, #400413	HOUSTON	TX	77006
14	DUNWOODY DAVID MORRIS GST EXEMPT TRUST	3417 MILAM SUITE H	HOUSTON	TX	77002
15	DUNWOODY DIANE GST EXEMPT TRUST	3711 SAN FELIPE ST #2 J	HOUSTON	TX	77027
16	DUNWOODY LUCIE MARGARET GST EXEMPT TRUST	3433 WESTHEIMER RD #604	HOUSTON	TX	77027
17	DUNWOODY WILLIAM MCCOMB GST EXEMPT TRUST	3737 BUFFALO SPEEDWAY SUITE 1100	HOUSTON	TX	77098
18	ERICKSON ARVIN & HIROKO REVOCABLE LIVING TRUST	115 QUINCY AVENUE	LONG BEACH	CA	90803
19	FGPT LLC	P O BOX 35518	HOUSTON	TX	77235
20	FONTENOT BERNADINE	24087 PLEASANT RUN RD	MORENO VALLEY	CA	92557
21	GAGNE WILFRED	PO BOX 1520	FRIENDSWOOD	TX	77549
22	GREENAN WILLIAM H AND GWENDOLYN REVOCABLE LIVING TRUST	3613 SAPPHIRE SEA CRT	N LAS VEGAS	NV	89031
23	HARDIE MARTHA & IIVAN	1109 COUNTY ROAD 182	LIBERTY	TX	77575
24	HERMAN BRANDY L	419 FM 2830 SOUTH	LIBERTY	TX	77575
25	HULL-DAISETTA ISD	PO BOX 477	DAISETTA	TX	77533-0477
26	JOHNSON GREGORY G & LINDA M	PO BOX 9103	LIBERTY	TX	77575
27	KALLINA LUCY A EST	PO BOX 413	GARWOOD	TX	77442
28	LACHAPELLE JOEL PETER & IRENE	103 FARM TO MARKET 2830 SOUTH	LIBERTY	TX	77575
29	LEMOND ISABEL	PO BOX 503	RAYWOOD	TX	77582
30	MELONSON CHRISTINE	COCKERELL CIRCLE	RAYWOOD	TX	77582
31	MELONSON FLOYD EST	PO BOX 8	RAYWOOD	TX	77582
32	MENDEZ ISAAC DANIEL TIRU & SONIA MAGDALENA TIRU	2245 1ST ST	PORT NECHES	TX	77651
33	MILLER JOHN B & CHARLOTTE	289 FM 2830	LIBERTY	TX	77575
34	MOSLEY EDDIE	PO BOX 262	RAYWOOD	TX	77582
35	MOSLEY EDWEINA	619 IRONWOOD DR	RICHMOND	TX	77406
36	MOSLEY GROVER	1423 NEWMARK DR	HOUSTON	TX	77014
37	MYRES ALBERT & ANGELA	288 FM 770 N	LIBERTY	TX	77575
38	OZAN CECEL	649 COUNTY ROAD 182	LIBERTY	TX	77575
39	OZAN CLINTON	1815 HIGHWAY 75	BATON ROUGE	LA	70780
40	OZAN DENNIS ESTATE	649 COUNTY ROAD 182	LIBERTY	TX	77575
41	OZAN KENNETH	649 COUNTY ROAD 182	LIBERTY	TX	77575
42	OZAN LARRY G	10014 MAY SHOWER CT	HOUSTON	TX	77095
43	OZAN PATRICIA G	3905 SANDUNE RD APT 2	LIBERTY	TX	77575
44	QUIKRETE COMPANIES INC	5 CONCOURSE PARKWAY SUITE 1900	ATLANTA	GA	30363
45	RAMOS PATRICIA DONATTO	23718 UMBRELLA PINE DR	TOMBALL	TX	77375
46	RAMOS THOMAS	897 COUNTY ROAD 182	LIBERTY	TX	77575

MAP ID	OWNER NAME	ADDRESS	CITY	STATE	ZIP CODE
47	RAYMOND DONOVAN & LAUREN LEDAY	375 FM 2830 S	LIBERTY	TX	77575
48	ROBERTSON MARTIN JR	713 FM 2830 RD S	LIBERTY	TX	77575
49	ROBINSON DEBRA J	14019 TEALSTONE FALLS CT	HOUSTON	TX	77044
50	ROBINSON FREDDIE & ANGELA	2310 PARADISE CANYON DR	PEARLAND	TX	77584
51	ROBINSON LATANYA	10925 BRIAR FOREST DR APT 2192	HOUSTON	TX	77042
52	ROBINSON LEANDER JOSEPH JR	14015 TEALSTONE FALLS CT	HOUSTON	TX	77044
53	ROCK ISLE PROPERTIES LLC	963 FM 2830 SOUTH	LIBERTY	TX	77575
54	RUBIT LEE ROY	497 FM 2830 RD S	LIBERTY	TX	77575
55	SEMIEN WILSON & KELLY	P O BOX 1533	LIBERTY	TX	77575
56	SMITH J T	203 FM 2830 SOUTH	LIBERTY	TX	77575
57	SMITH J T	325 FM 2830 S	LIBERTY	TX	77575
58	SOUTHWEST QUIKRETE INC	5 CONCOURSE PARKWAY SUITE 1900	ATLANTA	GA	30363
59	SPEARS WINIFREE K	79 FM 2830 S	LIBERTY	TX	77575
60	STEWART JOHN	PO BOX 97	RAYWOOD	TX	77582
61	STILSON PROPERTIES INC	262 COUNTY ROAD 494	DAYTON	TX	77535
62	STROOPE RHEA HUDSON	PO BOX 1050	CADDO MILLS	TX	75135
63	TEBO BERNICE	111 TEBO ST	LIBERTY	TX	77575-7207
64	TEEL DEBRA LYNN	PO BOX 5	RAYWOOD	TX	77582
65	TRAHAN SHIVONNE WICKLIFF	408 MAIN STREET	LIBERTY	TX	77575
66	VAUGHN EARNEST G & AUDRA	PO BOX 506	RAYWOOD	TX	77582
67	WALKER ARTHUR J	325 FM 2830 S	LIBERTY	TX	77575
68	WALKER J P	PO BOX 1164	LIBERTY	TX	77575
69	WALKER JOSEPH	699 FM 2830 RD S	LIBERTY	TX	77575
70	WALKER TRACI	325 FM 2830 RD S	LIBERTY	TX	77575
71	WHITE CLIFTON	347 FM-2830 SOUTH	LIBERTY	TX	77575
72	UNKNOWN	UNKNOWN			

Attachment AR1.1-2

Photos of Outfall

LEGEND

- Approximate Property Boundary
- Plant Boundary
- TLAP Irrigation Area
- Wastewater Treatment Areas
- Effluent Weir Box
- Proposed Point of Discharge
- Proposed Internal Outfall
- Discharge Route
- Photo Location and Direction

N

0 300 600
FEET

1" = 600 FEET
1:7,200

QYK BRANDS MAA PLANT

ATTACHMENT AR1.1-2
PHOTO LOCATION MAP

DRAWN BY:	L WILSON	SCALE:		PROJ. NO.	TPDES 2024
CHECKED BY:	K ALSUP		AS NOTED		Photo Location Map
APPROVED BY:	K ALSUP	DATE PRINTED:			
DATE:	February 2025		*2/19/2025*		

RSJ Consulting

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Photo 1 - Cow Island Bayou prior to crossing under Hwy 90 Upstream looking west

Photo 2- Cow Island Bayou near proposed outfall location looking south to Highway 90

Photo 3 - Cow Island Bayou runs south after Hwy 90 for a short distance then turns east and runs along the south side of Raywood, TX. This photo is taken near the Precinct #1 Building almost 1-mile from the outfall discharge

Photo 4 - Further downstream the channelized Cow Island Bayou is overgrown with vegetation.

Attachment AR-SPIF

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

SUPPLEMENTAL PERMIT INFORMATION FORM (SPIF)

FOR AGENCIES REVIEWING DOMESTIC OR INDUSTRIAL TPDES WASTEWATER PERMIT APPLICATIONS

TCEQ USE ONLY:

Application type: ____Renewal ____Major Amendment ____Minor Amendment ____New

County: _____ Segment Number: _____

Admin Complete Date: _____

Agency Receiving SPIF:

_____ Texas Historical Commission _____ U.S. Fish and Wildlife

_____ Texas Parks and Wildlife Department _____ U.S. Army Corps of Engineers

This form applies to TPDES permit applications only. (Instructions, Page 53)

Complete this form as a separate document. TCEQ will mail a copy to each agency as required by our agreement with EPA. If any of the items are not completely addressed or further information is needed, we will contact you to provide the information before issuing the permit. Address each item completely.

Do not refer to your response to any item in the permit application form. Provide each attachment for this form separately from the Administrative Report of the application. The application will not be declared administratively complete without this SPIF form being completed in its entirety including all attachments. Questions or comments concerning this form may be directed to the Water Quality Division's Application Review and Processing Team by email at WQ-ARPTeam@tceq.texas.gov or by phone at (512) 239-4671.

The following applies to all applications:

1. Permittee: QYK Brands LLC

   Permit No. WQ00 TBD EPA ID No. TX TBD

   Address of the project (or a location description that includes street/highway, city/vicinity, and county):

   In Liberty County, north of the City of Raywood. From US Highway 90 turn north on FM 770 cross over railroad track and turn northwest (slight left) on County Road 182 (Woodson School Road). Southeastern portion of property runs along the west side of Woodson School Road for approximately 1,240 feet.

Provide the name, address, phone and fax number of an individual that can be contacted to answer specific questions about the property.

Prefix (Mr., Ms., Miss): Mr.

First and Last Name: Alexander Griffiths

Credential (P.E, P.G., Ph.D., etc.): Click here to enter text.

Title: Project Manager

Mailing Address: PO Box 427

City, State, Zip Code: Raywood, TX 77582

Phone No.: 909-363-0819 Ext.: Click here to enter text. Fax No.: Click here to enter text.

E-mail Address: griff@QYK.US

2. List the county in which the facility is located: Liberty
3. If the property is publicly owned and the owner is different than the permittee/applicant, please list the owner of the property.

Same owner

4. Provide a description of the effluent discharge route. The discharge route must follow the flow of effluent from the point of discharge to the nearest major watercourse (from the point of discharge to a classified segment as defined in 30 TAC Chapter 307). If known, please identify the classified segment number.

The wastewater discharges into Cow Island Bayou on the QYK Brands LLC property. It exits the property and flows south under US Highway 90 west of the City of Raywood. Shortly after passing under Highway 90 the stream turns east and passes south of the City of Raywood until it intersects with another drainage ditch located on the east side of the City of Raywood. It is still Cow Island Bayou and it turns primarily in a southerly direction for approximately 15 miles when it connects with Turtle Bayou in Chambers County and passes under Interstate 10. It eventually empties into tidally influenced Lake Anahuac approximately 20 miles downstream from the discharge. Lake Anahuac southern portion discharges into Trinity Bay Segment 2422.

5. Please provide a separate 7.5-minute USGS quadrangle map with the project boundaries plotted and a general location map showing the project area. Please highlight the discharge route from the point of discharge for a distance of one mile downstream. (This map is required in addition to the map in the administrative report).

Provide original photographs of any structures 50 years or older on the property.

Does your project involve any of the following? Check all that apply.

☒ Proposed access roads, utility lines, construction easements

☐ Visual effects that could damage or detract from a historic property's integrity

☐ Vibration effects during construction or as a result of project design

☒ Additional phases of development that are planned for the future

☐ Sealing caves, fractures, sinkholes, other karst features

☒ Disturbance of vegetation or wetlands

1. List proposed construction impact (surface acres to be impacted, depth of excavation, sealing of caves, or other karst features):

The proposed plant will be located on approximately 50-60 acres in the southeastern portion of the property owned by QYK Brands LLC. Vegetation that has grown up in this vacated land will be cleared for the plant area and the soil will be prepared for building a proper foundation to support the plant equipment.

2. Describe existing disturbances, vegetation, and land use:

Described in Item 1 above.

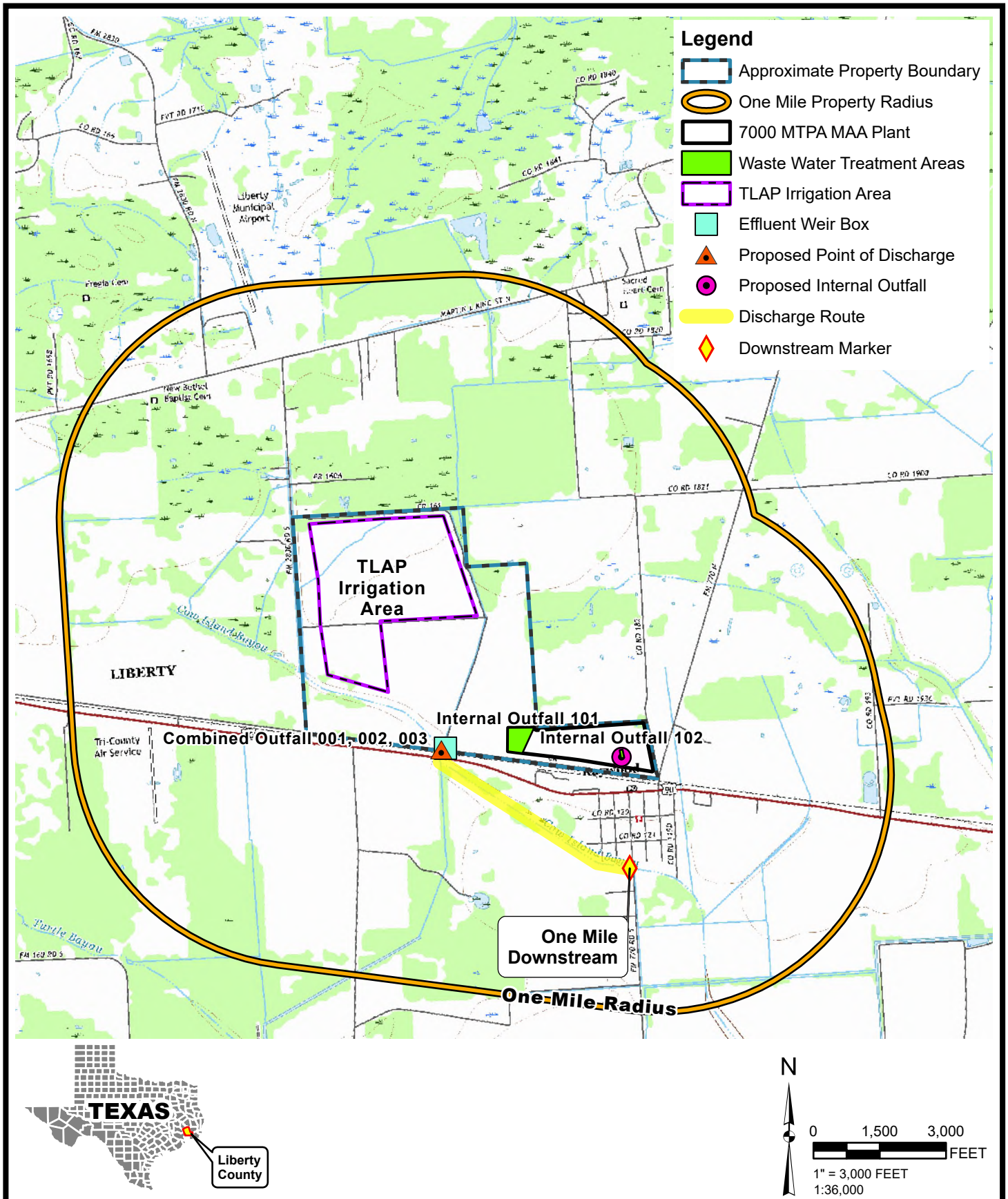
THE FOLLOWING ITEMS APPLY ONLY TO APPLICATIONS FOR NEW TPDES PERMITS AND MAJOR AMENDMENTS TO TPDES PERMITS

3. List construction dates of all buildings and structures on the property:

January 2025 – August 2026

4. Provide a brief history of the property, and name of the architect/builder, if known.

Previously the property had been in agricultural use for over 40 years. There are various companies supporting QYK Brands LLC in the design and construction of this plant.



RSJ Consulting

QYK BRANDS MAA PLANT

SPIF MAP

DRAWN BY:	L WILSON
APPROVED BY:	K ALSUP
PROJECT NO:	TPDES 2024
FILE NO.	SPIF Map
DATE:	FEBRUARY 2025

J:\Prj\QYK Brand Plant\TPDES 2024\QYK_GIS.aprx

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

INDUSTRIAL WASTEWATER PERMIT APPLICATION TECHNICAL REPORT 1.0

The following information **is required** for all applications for a TLAP or an individual TPDES discharge permit.

For **additional information** or clarification on the requested information, please refer to the Instructions for Completing the Industrial Wastewater Permit Application[1] available on the TCEQ website. Please contact the Industrial Permits Team at 512-239-4671 with any questions about this form.

If more than one outfall is included in the application, provide applicable information for each individual outfall. **If an item does not apply to the facility, enter N/A** to indicate that the item has been considered. Include separate reports or additional sheets as **clearly cross-referenced attachments** and provide the attachment number in the space provided for the item the attachment addresses.

NOTE: This application is for an industrial wastewater permit only. Additional authorizations from the TCEQ Waste Permits Division or the TCEQ Air Permits Division may be needed.

Item 1. Facility/Site Information (Instructions, Page 39)

a. Describe the general nature of the business and type(s) of industrial and commercial activities. Include all applicable SIC codes (up to 4).

The proposed facility will initially produce 7,000 tons per year of high-quality Methacrylic Acid with plans to possibly increase the production rate within 5 years after initial startup anticipated in August 2026. The plant falls under SIC code 2869 (Industrial Organic Chemicals, Not Elsewhere Classified). The overall process involves converting glucose generated from biomass sources into Itaconic Acid (IA) through fermentation, followed by the decarboxylation process to produce Methacrylic Acid (MAA). There will be two process areas located at the plant: IA and MAA. A Utility area will treat groundwater to be used in the process areas and for cooling towers and boilers. Potable water will be obtained from an off-site source likely Raywood Water Supply. In the IA process area glucose is prepared for seed and inoculum reactors by diluting with de-mineralized water and then filtering and passing through an ion exchange then sterilization package to keep the microorganism active and alive. A variety of salts and water will be processed first in seed and then inoculum reactors. Media prepared in inoculum reactors (glucose + salts + oxygen) is delivered to the fermenters to produce Itaconic acid + Malic acid + biomass + water + CO2. The IA solution from the fermenters flow to storage tanks prior to the IA recovery and purification steps. Biomass is removed using vacuum centrifuge filters and the liquid goes to a 3-stage evaporator system to concentrate the IA. This is cooled in a crystallizer and the crystals are diluted with water. The IA is then purified across an active carbon bed and ion exchange to ensure high purity IA is ready for MAA production. In the MAA process area, the purified IA will be mixed with a sodium hydroxide solution and then pressurized and heated before entering a catalytic reactor designed for the decarboxylation of IA to form MAA and by-products 2-Hydroxyisobutyric Acid (2-HIB) and Citraconic Acid. The MAA and by-products will then be depressurized, cooled, and separated. The MAA aqueous stream will be recovered in an evaporator and condenser

[1] https://www.tceq.texas.gov/permitting/wastewater/industrial/TPDES_industrial_wastewater_steps.html

process. The condensed aqueous stream will be purified and separated via vacuum distillation to produce a high-quality MAA product.

b. Describe all wastewater-generating processes at the facility.

Process wastewater streams are generated from the IA Process and the MAA Process operations. Other non-process wastewater streams include cooling tower water blowdown, boiler blowdown, reverse osmosis reject water, fire water, hydrostatic test water, line flushing, pad washing and stormwater run-off from process areas.

c. Provide a list of raw materials, major intermediates, and final products handled at the facility.

Materials List

Raw Materials	**Intermediate Products**	**Final Products**
Glucose	Itaconic Acid (IA)	Methacrylic Acid (MAA)
Potassium Phosphate (KH_2PO_4)		2-Hydroxyisobutyric Acid (2-HIB) is a by-product
Ammonia Nitrate (NH_4NO_3)		Citraconic Acid is a by-product
Magnesium Sulfate Solution ($MgSO_4 \cdot 7H_2O$)		Propene (?) is a by-product
Calcium Chloride Solution ($CaCl_2 \cdot 2H_2O$)		
Iron Chloride Solution ($FeCl_3 \cdot 6H_2O$)		
Zinc Sulfate Solution ($ZnSO_4 \cdot 7H_2O$)		
Copper Sulfate Solution ($CuSO_4 \cdot 7H_2O$)		
Caustic Soda (Sodium Hydroxide Solution)		

Attachment: N/A

d. Attach a facility map (drawn to scale) with the following information:

- Production areas, maintenance areas, materials-handling areas, waste-disposal areas, and water intake structures.
- The location of each unit of the WWTP including the location of wastewater collection sumps, impoundments, outfalls, and sampling points, if significantly different from outfall locations.

Attachment: TR-1d

e. Is this a new permit application for an existing facility?

☐ Yes ☒ No

If **yes**, provide background discussion: N/A

f. Is/will the treatment facility/disposal site be located above the 100-year frequency flood level.

☒ Yes ☐ No

List source(s) used to determine 100-year frequency flood plain: FIRM Map Panel 48291C0475D

If **no**, provide the elevation of the 100-year frequency flood plain and describe what protective measures are used/proposed to prevent flooding (including tail water and rainfall run-on controls) of the treatment facility and disposal area: N/A

Attachment: N/A

g. For **new** or **major amendment** permit applications, will any construction operations result in a discharge of fill material into a water in the state?

☐ Yes ☒ No ☐ N/A (renewal only)

h. If **yes** to Item 1.g, has the applicant applied for a USACE CWA Chapter 404 Dredge and Fill permit?

☐ Yes ☐ No

If **yes**, provide the permit number: N/A

If **no**, provide an approximate date of application submittal to the USACE: N/A

Item 2. Treatment System (Instructions, Page 40)

a. List any physical, chemical, or biological treatment process(es) used/proposed to treat wastewater at this facility. Include a description of each treatment process, starting with initial treatment and finishing with the outfall/point of disposal.

Low-strength wastewater streams to be generated include cooling tower blowdown, boiler blowdown, Reverse Osmosis reject water, wash water, fire water, hydrostatic test water, and first flush stormwater from process areas. The low-strength wastewaters may be filtered and pH adjusted if needed. Wastewater from the MAA process area will be treated in an aerobic biological treatment system as well as any first flush stormwater runoff from the process areas if treatment is needed. Sanitary sewer water will be treated in an on-site package plant. All of these wastewater streams will be routed to a single compartment at the weir box near the outfall discharge to Cow Island Bayou.

IA Process wastewater will be treated in an anaerobic system and then irrigated on specified land within the property boundary. If needed the MAA wastewater may also be treated in the anaerobic system with the IA wastewater. No wastewater will be land applied during rainfall events or when the soil is saturated. If needed, the process wastewater will be transported to an off-site disposal facility.

Non-contact stormwater and stormwater collected at the TLAP area will be pumped to separate compartments at the weir box near the outfall discharge. After sampling each of the three compartments (utility/process wastewater and two separate stormwater runoff areas) these waters will be combined into the fourth compartment of the weir box and discharged through a single pipe into the adjacent Cow Island Bayou.

b. Attach a flow schematic **with a water balance** showing all sources of water and wastewater flow into the facility, wastewater flow into and from each treatment unit, and wastewater flow to each outfall/point of disposal.

Attachment: TR-2b

Item 3. Impoundments (Instructions, Page 40)

Does the facility use or plan to use any wastewater impoundments (e.g., lagoons or ponds?)

☐ Yes ☒ No

If **no**, proceed to Item 4. If **yes**, complete **Item 3.a** for **existing** impoundments and **Items 3.a - 3.e** for **new or proposed** impoundments. **NOTE:** See instructions, Pages 40-42, for additional information on the attachments required by Items 3.a – 3.e.

a. Complete the table with the following information for each existing, new, or proposed impoundment. Attach additional copies of the Impoundment Information table, if needed.

Use Designation: Indicate the use designation for each impoundment as Treatment (**T**), Disposal (**D**), Containment (**C**), or Evaporation (**E**).

Associated Outfall Number: Provide an outfall number if a discharge occurs or will occur.

Liner Type: Indicate the liner type as Compacted clay liner (**C**), In-situ clay liner (**I**), Synthetic/plastic/rubber liner (**S**), or Alternate liner (**A**). **NOTE:** See instructions for further detail on liner specifications. If an alternate liner (A) is selected, include an attachment that provides a description of the alternate liner and any additional technical information necessary for an evaluation.

Leak Detection System: If any leak detection systems are in place/planned, enter **Y** for yes. Otherwise, enter **N** for no.

Groundwater Monitoring Wells and Data: If groundwater monitoring wells are in place/planned, enter **Y** for yes. Otherwise, enter **N** for no. Attach any existing groundwater monitoring data.

Dimensions: Provide the dimensions, freeboard, surface area, storage capacity of the impoundments, and the maximum depth (not including freeboard). For impoundments with irregular shapes, submit surface area instead of length and width.

Compliance with 40 CFR Part 257, Subpart D: If the impoundment is required to be in compliance with 40 CFR Part 257, Subpart D, enter **Y** for yes. Otherwise, enter **N** for no.

Date of Construction: Enter the date construction of the impoundment commenced (mm/dd/yy).

Impoundment Information

Parameter	**Pond #**	**Pond #**	**Pond #**	**Pond #**
Use Designation: (T) (D) (C) or (E)				
Associated Outfall Number				
Liner Type (C) (I) (S) or (A)				
Alt. Liner Attachment Reference				
Leak Detection System, Y/N				
Groundwater Monitoring Wells, Y/N				

Parameter	Pond #	Pond #	Pond #	Pond #
Groundwater Monitoring Data Attachment				
Pond Bottom Located Above The Seasonal High-Water Table, Y/N				
Length (ft)				
Width (ft)				
Max Depth From Water Surface (ft), Not Including Freeboard				
Freeboard (ft)				
Surface Area (acres)				
Storage Capacity (gallons)				
40 CFR Part 257, Subpart D, Y/N				
Date of Construction				

Attachment: Click to enter text.

The following information (**Items 3.b – 3.e**) is required only for **new or proposed** impoundments.

b. For new or proposed impoundments, attach any available information on the following items. If attached, check **yes** in the appropriate box. Otherwise, check **no** or **not yet designed**.

1. Liner data

☐ Yes ☐ No ☐ Not yet designed

2. Leak detection system or groundwater monitoring data

☐ Yes ☐ No ☐ Not yet designed

3. Groundwater impacts

☐ Yes ☐ No ☐ Not yet designed

NOTE: Item b.3 is required if the bottom of the pond is not above the seasonal high-water table in the shallowest water-bearing zone.

Attachment: Click to enter text.

For TLAP applications: Items 3.c – 3.e are **not required**, continue to Item 4.

c. Attach a USGS map or a color copy of original quality and scale which accurately locates and identifies all known water supply wells and monitor wells within ½-mile of the impoundments.

Attachment: Click to enter text.

d. Attach copies of State Water Well Reports (e.g., driller's logs, completion data, etc.), and data on depths to groundwater for all known water supply wells including a description of how the depths to groundwater were obtained.

Attachment: Click to enter text.

e. Attach information pertaining to the groundwater, soils, geology, pond liner, etc. used to assess the potential for migration of wastes from the impoundments or the potential for contamination of groundwater or surface water.

Attachment: Click to enter text.

Item 4. Outfall/Disposal Method Information (Instructions, Page 42)

Complete the following tables to describe the location and wastewater discharge or disposal operations for each outfall for discharge, and for each point of disposal for TLAP operations.

If there are more outfalls/points of disposal at the facility than the spaces provided, copies of pages 6 and/0r numbered accordingly (i.e., page 6a, 6b, etc.) may be used to provide information on the additional outfalls.

For TLAP applications: Indicate the disposal method and each individual irrigation area **I**, evaporation pond **E**, or subsurface drainage system **S** by providing the appropriate letter designation for the disposal method followed by a numerical designation for each disposal area in the space provided for **Outfall** number (e.g. **E1** for evaporation pond 1, **I2** for irrigation area No. 2, etc.).

Outfall Longitude and Latitude

Outfall No.	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)
TLAP I	30.058237	-94.685342
Combined 001, 002 and 003 stream flows listed below (single point source discharge to surface water)	30.044955	-94.685288
001 Wastewater at Effluent Weir Box (Continuous)	30.045014	-94.684953
101 MAA Internal	30.045460	-94.676946
102 STP Internal	30.043920	-94.672453
002 TLAP Stormwater at Effluent Weir Box (Variable)	30.045053	-94.685086
003 Non-Contact Stormwater at Effluent Weir Box (Variable)	30.045014	-94.684969

Outfall Location Description

Outfall No.	Location Description
TLAP I	Lift station for TLAP irrigation at the wastewater treatment area near the MAA process area.

Outfall No.	Location Description
Combined Outfall 001, 002 and 003	All wastewater and stormwater runoff are combined together in the last chamber of the Effluent Weir Box and discharged into Cow Island Bayou before the stream crosses under Union Pacific Railroad and US Highway 90.
001	Southeast chamber of Effluent Weir Box adjacent to Cow Island Bayou.
101 MAA Internal	Wastewater treatment area near the MAA Process Unit. Effluent Valve for wastewater exiting from the aerobic treatment system.
102 Sanitary Internal	Sanitary Treatment Package Unit near the Utility and Administrative area. Effluent valve for domestic wastewater after the chlorinator.
002 Stormwater from TLAP	Northwest chamber of the Effluent Weir Box adjacent to Cow Island Bayou.
003 Stormwater Non-Contact	Northeast chamber of the Effluent Weir Box adjacent to Cow Island Bayou.

Description of Sampling Point(s) (if different from Outfall location)

Outfall No.	Description of sampling point
TLAP I	Lift station for TLAP irrigation
Combined 001, 002 and 003	No samples taken at outfall. Individual streams are sampled at the effluent weir box as described below.
001	Southeast chamber of effluent weir box prior to discharge to Cow Island Bayou
Internal 101 MAA Process WW	Effluent Valve for wastewater exiting from the aerobic treatment system.
Internal 102 Sanitary WW	Effluent valve for domestic wastewater after the chlorinator.
002 SW from TLAP	Northwest chamber of effluent weir box prior to discharge to Cow Island Bayou
003 SW Non-Contact	Northeast chamber of effluent sump box prior to discharge to Cow Island Bayou

Outfall Flow Information – Permitted and Proposed

Outfall No.	Permitted Daily Avg Flow (MGD)	Permitted Daily Max Flow (MGD)	Proposed Daily Avg Flow (MGD)	Proposed Daily Max Flow (MGD)	Anticipated Discharge Date (mm/dd/yy)
TLAP I	N/A	N/A	0.009	0.261	08/01/2026
001	N/A	N/A	0.392	0.582	08/01/2026

Outfall No.	Permitted Daily Avg Flow (MGD)	Permitted Daily Max Flow (MGD)	Proposed Daily Avg Flow (MGD)	Proposed Daily Max Flow (MGD)	Anticipated Discharge Date (mm/dd/yy)
101- MAA Internal	N/A	N/A	0.165	0.247	08/01/2026
102 Sanitary Internal	N/A	N/A	0.005	0.10	08/01/2026
002 SW from TLAP	N/A	N/A	Variable	Variable	08/01/2026
003 SW Non-Contact	N/A	N/A	Variable	Variable	08/01/2026

Outfall Discharge – Method and Measurement

Outfall No.	Pumped Discharge? Y/N	Gravity Discharge? Y/N	Type of Flow Measurement Device Used
TLAP I	Y	N	Automated Flow from Lift Station to Irrigation Areas
001	Y	N	Automated Flow based on level indication over Weir or Parshall Flume
101	Y	N	Automated flow meter at discharge from aerobic treatment system
102 Sanitary Internal	Y	N	Automated flow meter at discharge from chlorinator in STP plant
002 SW from TLAP	Y	N	Automated Flow based on level indication over Weir or Parshall Flume
003 SW Non-Contact	Y	N	Automated Flow based on level indication over Weir or Parshall Flume

Outfall Discharge – Flow Characteristics

Outfall No.	Intermittent Discharge? Y/N	Continuous Discharge? Y/N	Seasonal Discharge? Y/N	Discharge Duration (hrs/day)	Discharge Duration (days/mo)	Discharge Duration (mo/yr)
TLAP I	N	Y	N	24	30-31	12
001	N	Y	N	24	30-31	12
101 – MAA Internal	N	Y	N	24	30-31	12

Outfall No.	Intermittent Discharge? Y/N	Continuous Discharge? Y/N	Seasonal Discharge? Y/N	Discharge Duration (hrs/day)	Discharge Duration (days/mo)	Discharge Duration (mo/yr)
102 Sanitary Internal	N	Y	N	24	30-31	12
002 SW from TLAP	Y	N	N	Variable	Variable	Variable
003 SW Non-Contact	Y	N	N	Variable	Variable	Variable

Outfall Wastestream Contributions

Outfall No. 001

Contributing Wastestream	Volume (MGD)	Percent (%) of Total Flow
UTILITY (COOLING TOWER BLOWDOWN, BOILER BLOWDOWN, STEAM CONDENSATE, RO REJECT)	0.400 TO 0.590	65 TO 75
FIRE WATER, HYDROSTATIC TEST WATER, LINE FLUSHING, PAD WASHING, STORM WATER ASSOCIATED WITH PROCESS AREA	VARIABLE/INTERMITTENT	0 TO 5
MAA PROCESS WASTEWATER (OUTFALL 101)	0.160 TO 0.250	20 TO 30
TREATED SANITARY (OUTFALL 102)	0.005 to 0.010	1 TO 2
IA PROCESS WASTEWATER (Not typically discharged via outfall)	INTERMITTENT (0.009 to 0.015)	INTERMITTENT <3%

Outfall No. TLAP I

Contributing Wastestream	Volume (MGD)	Percent (%) of Total Flow
ITACONIC ACID PROCESS	0.008250 to 0.012375	IA ONLY (TYPICAL) - 88 IA AND MAA - 3 to 5
ITACONIC ACID PROCESS	0.001275 to 0.001688	IA ONLY (TYPICAL) – 12 IA AND MAA - 0.5 to 1
MAA PROCESS - INTERMITTENT	0.116700 to 0.175050	IA ONLY - 0 IA AND MAA - 65 to 70
MAA PROCESS - INTERMITTENT	0.048 to 0.072	IA ONLY – 0 IA AND MAA - 25 to 30

Outfall No. 002 AND 003

Contributing Wastestream	Volume (MGD)	Percent (%) of Total Flow
STORMWATER	VARIABLE	100

Contributing Wastestream	Volume (MGD)	Percent (%) of Total Flow

Attachment: Click to enter text.

Item 5. Blowdown and Once-Through Cooling Water Discharges (Instructions, Page 43)

a. Indicate if the facility currently or proposes to:

☒ Yes ☐ No Use cooling towers that discharge blowdown or other wastestreams

☒ Yes ☐ No Use boilers that discharge blowdown or other wastestreams

☐ Yes ☒ No Discharge once-through cooling water

NOTE: If the facility uses or plans to use cooling towers or once-through cooling water, Item 12 **is required**.

b. If **yes** to any of the above, attach an SDS with the following information for each chemical additive.

- Manufacturers Product Identification Number
- Product use (e.g., biocide, fungicide, corrosion inhibitor, etc.)
- Chemical composition including CASRN for each ingredient
- Classify product as non-persistent, persistent, or bioaccumulative
- Product or active ingredient half-life
- Frequency of product use (e.g., 2 hours/day once every two weeks)
- Product toxicity data specific to fish and aquatic invertebrate organisms
- Concentration of whole product or active ingredient, as appropriate, in wastestream.

In addition to each SDS, attach a summary of the above information for each specific wastestream and the associated chemical additives. Specify which outfalls are affected.

Attachment: TR-5b – PROPOSED FACILITY, TO BE PROVIDED WHEN SELECTED

c. Cooling Towers and Boilers

If the facility currently or proposes to use cooling towers or boilers that discharge blowdown or other wastestreams to the outfall(s), complete the following table.

Cooling Towers and Boilers

Type of Unit	Number of Units	Daily Avg Blowdown (gallons/day)	Daily Max Blowdown (gallons/day)
Cooling Towers	1	323,283	475,416
Boilers	4	15,847	23,771

Item 6. Stormwater Management (Instructions, Page 44)

Will any existing/proposed outfalls discharge stormwater associated with industrial activities, as defined at *40 CFR § 122.26(b)(14)*, commingled with any other wastestream?

☒ Yes ☐ No

If **yes**, briefly describe the industrial processes and activities that occur outdoors or in a manner which may result in exposure of the activities or materials to stormwater: Materials are stored within enclosed tanks or containers and material transfers are generally via pipes resulting in no exposure to storm water runoff. Within the IA Process Area the fermentaters are under a roof. Rail loading and material storage will be managed in an enclosed manner and any spills or leaks will be cleaned up immediately.

Item 7. Domestic Sewage, Sewage Sludge, and Septage Management and Disposal (Instructions, Page 44)

Domestic Sewage - Waste and wastewater from humans or household operations that is discharged to a wastewater collection system or otherwise enters a treatment works.

a. Check the box next to the appropriate method of domestic sewage and domestic sewage sludge treatment or disposal. Complete Worksheet 5.0 or Item 7.b if directed to do so.

☒ Domestic sewage is routed (i.e., connected to or transported to) to a WWTP permitted to receive domestic sewage for treatment, disposal, or both. Complete Item 7.b.

☐ Domestic sewage disposed of by an on-site septic tank and drainfield system. Complete Item 7.b.

☐ Domestic and industrial treatment sludge ARE commingled prior to use or disposal.

☐ Industrial wastewater and domestic sewage are treated separately, and the respective sludge IS NOT commingled prior to sludge use or disposal. Complete Worksheet 5.0.

☐ Facility is a POTW. Complete Worksheet 5.0.

☐ Domestic sewage is not generated on-site.

☐ Other (e.g., portable toilets), specify and Complete Item 7.b: Click to enter text.

b. Provide the name and TCEQ, NPDES, or TPDES Permit No. of the waste-disposal facility which receives the domestic sewage/septage. If hauled by motorized vehicle, provide the name and TCEQ Registration No. of the hauler.

Domestic Sewage Plant/Hauler Name

Plant/Hauler Name	Permit/Registration No.
To be Determined but anticipated United Site Services 9856 Steelman St, Houston, TX 77017	455120133

Item 8. Improvements or Compliance/Enforcement Requirements (Instructions, Page 45)

a. Is the permittee currently required to meet any implementation schedule for compliance or enforcement?

☐ Yes ☒ No

b. Has the permittee completed or planned for any improvements or construction projects?

☒ Yes ☐ No

c. If **yes** to either 8.a **or** 8.b, provide a brief summary of the requirements and a status update: THIS IS A NEW INDUSTRIAL PLANT TO BE CONSTRUCTED ON-SITE IN RAYWOOD, TX WITH PROPOSED START-UP IN AUGUST 2026.

Item 9. Toxicity Testing (Instructions, Page 45)

Have any biological tests for acute or chronic toxicity been made on any of the discharges or on a receiving water in relation to the discharge within the last three years?

☐ Yes ☒ No

If **yes**, identify the tests and describe their purposes: Click to enter text.

Additionally, attach a copy of all tests performed which **have not** been submitted to the TCEQ or EPA. **Attachment:** Click to enter text.

Item 10. Off-Site/Third Party Wastes (Instructions, Page 45)

a. Does or will the facility receive wastes from off-site sources for treatment at the facility, disposal on-site via land application, or discharge via a permitted outfall?

☐ Yes ☒ No

If **yes**, provide responses to Items 10.b through 10.d below.

If **no**, proceed to Item 11.

b. Attach the following information to the application:

- List of wastes received (including volumes, characterization, and capability with on-site wastes).
- Identify the sources of wastes received (including the legal name and addresses of the generators).
- Description of the relationship of waste source(s) with the facility's activities.

Attachment: N/A

c. Is or will wastewater from another TCEQ, NPDES, or TPDES permitted facility commingled with this facility's wastewater after final treatment and prior to discharge via the final outfall/point of disposal?

☐ Yes ☒ No

If **yes**, provide the name, address, and TCEQ, NPDES, or TPDES permit number of the contributing facility and a copy of any agreements or contracts relating to this activity.

Attachment: Click to enter text.

d. Is this facility a POTW that accepts/will accept process wastewater from any SIU and has/is required to have an approved pretreatment program under the NPDES/TPDES program?

☐ Yes ☒ No

If **yes**, **Worksheet 6.0** of this application **is required**.

Item 11. Radioactive Materials (Instructions, Page 46)

a. Are/will radioactive materials be mined, used, stored, or processed at this facility?

☐ Yes ☒ No

If **yes**, use the following table to provide the results of one analysis of the effluent for all radioactive materials that may be present. Provide results in pCi/L.

Radioactive Materials Mined, Used, Stored, or Processed

Radioactive Material Name	Concentration (pCi/L)

b. Does the applicant or anyone at the facility have any knowledge or reason to believe that radioactive materials may be present in the discharge, including naturally occurring radioactive materials in the source waters or on the facility property?

☐ Yes ☒ No

If **yes**, use the following table to provide the results of one analysis of the effluent for all radioactive materials that may be present. Provide results in pCi/L. Do not include information provided in response to Item 11.a.

Radioactive Materials Present in the Discharge

Radioactive Material Name	Concentration (pCi/L)

Item 12. Cooling Water (Instructions, Page 46)

a. Does the facility use or propose to use water for cooling purposes?

☒ Yes ☐ No

If **no**, stop here. If **yes**, complete Items 12.b thru 12.f.

b. Cooling water is/will be obtained from a groundwater source (e.g., on-site well).

☒ Yes ☐ No

If **yes**, stop here. If **no**, continue.

c. Cooling Water Supplier

1. Provide the name of the owner(s) and operator(s) for the CWIS that supplies or will supply water for cooling purposes to the facility.

Cooling Water Intake Structure(s) Owner(s) and Operator(s)

CWIS ID				
Owner				
Operator				

2. Cooling water is/will be obtained from a Public Water Supplier (PWS)

   ☐ Yes ☐ No

   If **no**, continue. If **yes**, provide the PWS Registration No. and stop here: PWS No. Click to enter text.

3. Cooling water is/will be obtained from a reclaimed water source?

   ☐ Yes ☐ No

   If **no**, continue. If **yes**, provide the Reuse Authorization No. and stop here: Click to enter text.

4. Cooling water is/will be obtained from an Independent Supplier

   ☐ Yes ☐ No

   If **no**, proceed to Item 12.d. If **yes**, provide the actual intake flow of the Independent Supplier's CWIS that is/will be used to provide water for cooling purposes and proceed: Click to enter text.

d. 316(b) General Criteria

1. The CWIS(s) used to provide water for cooling purposes to the facility has or will have a cumulative design intake flow of 2 MGD or greater.

   ☐ Yes ☐ No

2. At least 25% of the total water withdrawn by the CWIS is/will be used at the facility exclusively for cooling purposes on an annual average basis.

   ☐ Yes ☐ No

3. The CWIS(s) withdraw(s)/propose(s) to withdraw water for cooling purposes from surface waters that meet the definition of Waters of the United States in *40 CFR § 122.2*.

   ☐ Yes ☐ No

   If **no**, provide an explanation of how the waterbody does not meet the definition of Waters of the United States in *40 CFR § 122.2*: Click to enter text.

If **yes** to all three questions in Item 12.d, the facility **meets** the minimum criteria to be subject to the full requirements of Section 316(b) of the CWA. Proceed to **Item 12.f**.

If **no** to any of the questions in Item 12.d, the facility **does not meet** the minimum criteria to be subject to the full requirements of Section 316(b) of the CWA; however, a determination is required based upon BPJ. Proceed to **Item 12.e**.

e. The facility does not meet the minimum requirements to be subject to the fill requirements of Section 316(b) **and uses**/proposes **to use cooling towers**.

☐ Yes ☐ No

If **yes**, stop here. If **no**, complete Worksheet 11.0, Items 1.a, 1.b.1-3 and 6, 2.b.1, and 3.a to allow for a determination based upon BPJ.

f. Oil and Gas Exploration and Production

1. The facility is subject to requirements at 40 CFR Part 435, Subparts A or D.

☐ Yes ☐ No

If **yes**, continue. If **no**, skip to Item 12.g.

2. The facility is an existing facility as defined at 40 CFR § 125.92(k) or a new unit at an existing facility as defined at 40 CFR § 125.92(u).

☐ Yes ☐ No

If **yes**, complete Worksheet 11.0, Items 1.a, 1.b.1-3 and 6, 2.b.1, and 3.a to allow for a determination based upon BPJ. If **no**, skip to Item 12.g.3.

g. Compliance Phase and Track Selection

1. Phase I – New facility subject to 40 CFR Part 125, Subpart I

☐ Yes ☐ No

If **yes**, check the box next to the compliance track selection, attach the requested information, and complete Worksheet 11.0, Items 2 and 3, and Worksheet 11.2.

☐ Track I – AIF greater than 2 MGD, but less than 10 MGD

- Attach information required by *40 CFR §§ 125.86(b)(2)-(4)*.

☐ Track I – AIF greater than 10 MGD

- Attach information required by *40 CFR § 125.86(b)*.

☐ Track II

- Attach information required by *40 CFR § 125.86(c)*.

Attachment: Click to enter text.

2. Phase II – Existing facility subject to 40 CFR Part 125, Subpart J

☐ Yes ☐ No

If **yes**, complete Worksheets 11.0 through 11.3, as applicable.

3. Phase III – New facility subject to 40 CFR Part 125, Subpart N

☐ Yes ☐ No

If **yes**, check the box next to the compliance track selection and provide the requested information.

☐ Track I – Fixed facility

- Attach information required by 40 CFR § 125.136(b) and complete Worksheet 11.0, Items 2 and 3, and Worksheet 11.2.

☐ Track I – Not a fixed facility

- Attach information required by 40 CFR § 125.136(b) and complete Worksheet 11.0, Item 2 (except CWIS latitude/longitude under Item 2.a).

☐ Track II – Fixed facility

- Attach information required by 40 CFR § 125.136(c) and complete Worksheet 11.0, Items 2 and 3.

Attachment: Click to enter text.

Item 13. Permit Change Requests (Instructions, Page 48)

This item is only applicable to existing permitted facilities.

a. Is the facility requesting a **major amendment** of an existing permit?

☐ Yes ☒ No

If **yes**, list each request individually and provide the following information: 1) detailed information regarding the scope of each request and 2) a justification for each request. Attach any supplemental information or additional data to support each request.

N/A - THIS IS A NEW FACILITY PROPOSED TO BE CONSTRUCTED AND BEGIN OPERATING IN AUGUST 2026.

b. Is the facility requesting any **minor amendments** to the permit?

☐ Yes ☒ No

If **yes**, list and describe each change individually.

N/A - THIS IS A NEW FACILITY PROPSED TO BE CONSTRUCTED AND BEGIN OPERATING IN AUGUST 2026.

c. Is the facility requesting any **minor modifications** to the permit?

☐ Yes ☒ No

If **yes**, list and describe each change individually.

N/A - THIS IS A NEW FACILITY PROPOSED TO BE CONSTRUCTED AND BEGIN OPERATING IN AUGUST 2026.

Item 14. Laboratory Accreditation (Instructions, Page 49)

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: NA, THIS IS A PROPOSED FACILITY AND SAMPLES WILL BE COLLECTED AFTER START UP BEGINS

Title: Click to enter text.

Signature: _____

Date: _____

INDUSTRIAL WASTEWATER PERMIT APPLICATION WORKSHEET 1.0: EPA CATEGORICAL EFFLUENT GUIDELINES

This worksheet **is required** for all applications for TPDES permits for discharges of wastewaters subject to EPA categorical effluent limitation guidelines (ELGs).

Item 1. Categorical Industries (Instructions, Page 53)

Is this facility subject to any 40 CFR categorical ELGs outlined on page 53 of the instructions?

☒ Yes ☐ No

If **no**, this worksheet is not required. If **yes**, provide the appropriate information below.

40 CFR Effluent Guideline

Industry	40 CFR Part
OCPSF – BULK CHEMICALS	414

Item 2. Production/Process Data (Instructions, Page 54)

NOTE: For all TPDES permit applications requesting individual permit coverage for discharges of oil and gas exploration and production wastewater (discharges into or adjacent to water in the state, falling under the Oil and Gas Extraction Effluent Guidelines – 40 CFR Part 435), see Worksheet 12.0, Item 2 instead.

a. Production Data

Provide appropriate data for effluent guidelines with production-based effluent limitations.

Production Data

Subcategory	Actual Quantity/Day	Design Quantity/Day	Units
N/A – NONE WITH PRODUCTION-BASED EFFLUENT GUIDELINES			

b. Organic Chemicals, Plastics, and Synthetic Fibers Manufacturing Data (40 CFR Part 414)

Provide each applicable subpart and the percent of total production. Provide data for metal-bearing and cyanide-bearing wastestreams, as required by *40 CFR Part 414, Appendices A and B*.

Percentage of Total Production

Subcategory	Percent of Total Production	Appendix A and B - Metals	Appendix A - Cyanide
BULK CHEMICALS - SUBPARTS G AND I	100	N/A – NO METAL BEARING WASTESTREAMS	N/A- NO CYANIDE-BEARING WASTESTREAMS

c. Refineries (40 CFR Part 419)

Provide the applicable subcategory and a brief justification.

N/A

Item 3. Process/Non-Process Wastewater Flows (Instructions, Page 54)

Provide a breakdown of wastewater flow(s) generated by the facility, including both process and non-process wastewater flow(s). Specify which wastewater flows are to be authorized for discharge under this permit and the disposal practices for wastewater flows, excluding domestic, which are not to be authorized for discharge under this permit.

ALL OF THE FOLLOWING WASTEWATER FLOWS ARE TO BE AUTHORIZED FOR DISCHARGE:

TLAP BY IRRIGATION LAND APPLICATION: ITACONIC ACID PROCESS WASTEWATER AND MAA PROCESS WASTEWATER ONLY WHEN NEEDED. BOTH WILL BE TREATED ANAEROBICALLY PRIOR TO LAND APPLICATION.

OUTFALL 001 DISCHARGE TO COW ISLAND BAYOU: UTILITY WATER (RO REJECT, COOLING TOWER AND BOILER BLOWDOWN, STEAM CONDENSATE), PAD AND LINE FLUSHINGS, FIRST FLUSH STORMWATER FROM PROCESS AREAS, FIRE WATER, HYDROSTATIC TEST WATER WILL BE TREATED FOR pH AND SOLIDS AS NEEDED. MAA PROCESS WASTEWATER WILL BE BIOLOGICALLY TREATED AND THEN COMBINED WITH THE OTHER WASTEWATER STREAMS FOR DISCHARGE VIA OUTFALL 001.
SANITARY WASTEWATER WILL BE TREATED IN AN ON-SITE PACKAGE PLANT AND THE EFFLUENT WILL BE COMBINED WITH OTHER WASTEWATER FOR DISCHARGE VIA OUTFALL 001 TO COW ISLAND BAYOU.

Item 4. New Source Determination (Instructions, Page 54)

Provide a list of all wastewater-generating processes subject to EPA categorical ELGs, identify the appropriate guideline Part and Subpart, and provide the date the process/construction commenced.

Wastewater Generating Processes Subject to Effluent Guidelines

Process	EPA Guideline Part	EPA Guideline Subpart	Date Process/ Construction Commenced
MAA	414	G (414.74) and I (414.91)	PROPOSED TO BEGIN CONSTRUCTION IN 2025 AND OPERATE IN AUGUST 2026

INDUSTRIAL WASTEWATER PERMIT APPLICATION WORKSHEET 2.0: POLLUTANT ANALYSIS

Worksheet 2.0 **is required** for all applications submitted for a TPDES permit. Worksheet 2.0 is not required for applications for a permit to dispose of all wastewater by land disposal or for discharges solely of stormwater associated with industrial activities.

Item 1. General Testing Requirements (Instructions, Page 55)

a. Provide the date range of all sampling events conducted to obtain the analytical data submitted with this application (e.g., 05/01/2018-05/30/2018): SITE HAS NOT BEEN CONSTRUCTED AND THE DATA PROVIDED ARE ONLY ESTIMATES. ACTUAL DATA WILL BE PROVIDED AFTER OPERATIONS BEGIN IN 2026.

b. ☐ Check the box to confirm all samples were collected no more than 12 months prior to the date of application submittal.

c. Read the general testing requirements in the instructions for important information about sampling, test methods, and MALs. If a contact laboratory was used, attach a list which includes the name, contact information, and pollutants analyzed for each laboratory/firm. **Attachment:** N/A

Item 2. Specific Testing Requirements (Instructions, Page 56)

Attach correspondence from TCEQ approving submittal of less than the required number of samples, if applicable. **Attachment:** N/A – PROPOSED FACILITY DATA NOT AVAILABLE

TABLE 1 and TABLE 2 (Instructions, Page 58)

Completion of Tables 1 and 2 is required for all external outfalls for all TPDES permit applications.

Table 1 for Outfall No.: 001 ESTIMATE **Samples are (check one):** ☐ **Composite** ☐ **Grab**

Pollutant	Sample 1 (mg/L)	Sample 2 (mg/L)	Sample 3 (mg/L)	Sample 4 (mg/L)
BOD (5-day)	<50			
CBOD (5-day)	<110			
Chemical oxygen demand	<50			
Total organic carbon	<50			
Dissolved oxygen	>5			
Ammonia nitrogen	<2			
Total suspended solids	<15			
Nitrate nitrogen	<5			
Total organic nitrogen	<5			
Total phosphorus	<5			
Oil and grease	<10			

Pollutant	Sample 1 (mg/L)	Sample 2 (mg/L)	Sample 3 (mg/L)	Sample 4 (mg/L)
Total residual chlorine	<1			
Total dissolved solids	<3500			
Sulfate	<500			
Chloride	<225			
Fluoride	<1			
Total alkalinity (mg/L as CaCO3)	<150			
Temperature (˚F)	<90			
pH (standard units)	6-9			

Table 2 for Outfall No.: 001 **Samples are (check one): ☐ Composite ☐ Grab**

Pollutant	Sample 1 (µg/L)	Sample 2 (µg/L)	Sample 3 (µg/L)	Sample 4 (µg/L)	MAL (µg/L)
Aluminum, total	0-0.2				2.5
Antimony, total	0-0.05				5
Arsenic, total	0-0.05				0.5
Barium, total	0-0.1				3
Beryllium, total	0-0.01				0.5
Cadmium, total	0-0.01				1
Chromium, total	0-0.1				3
Chromium, hexavalent	0-0.05				3
Chromium, trivalent	0-0.1				N/A
Copper, total	0.1-1.1				2
Cyanide, available	0				2/10
Lead, total	0-0.05				0.5
Mercury, total	0-0.01				0.005/0.0005
Nickel, total	0-0.1				2
Selenium, total	0-0.05				5
Silver, total	0-0.05				0.5
Thallium, total	0-0.01				0.5
Zinc, total	0.1-1				5.0

TABLE 3 (Instructions, Page 58)

Completion of Table 3 **is required** for all **external outfalls** which discharge process wastewater.

Partial completion of Table 3 **is required** for all **external outfalls** which discharge non-process wastewater and stormwater associated with industrial activities commingled with other wastestreams (see instructions for additional guidance).

Table 3 for Outfall No.: 001 ESTIMATE **Samples are (check one): ☐ Composite ☐ Grab**

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
Acrylonitrile	ND				50
Anthracene	ND				10
Benzene	ND				10
Benzidine	ND				50
Benzo(a)anthracene	ND				5
Benzo(a)pyrene	ND				5
Bis(2-chloroethyl)ether	ND				10
Bis(2-ethylhexyl)phthalate	ND				10
Bromodichloromethane [Dichlorobromomethane]	ND				10
Bromoform	ND				10
Carbon tetrachloride	ND				2
Chlorobenzene	ND				10
Chlorodibromomethane [Dibromochloromethane]	ND				10
Chloroform	ND				10
Chrysene	ND				5
m-Cresol [3-Methylphenol]	ND				10
o-Cresol [2-Methylphenol]	ND				10
p-Cresol [4-Methylphenol]	ND				10
1,2-Dibromoethane	ND				10
m-Dichlorobenzene [1,3-Dichlorobenzene]	ND				10
o-Dichlorobenzene [1,2-Dichlorobenzene]	ND				10
p-Dichlorobenzene [1,4-Dichlorobenzene]	ND				10
3,3'-Dichlorobenzidine	ND				5
1,2-Dichloroethane	ND				10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
1,1-Dichloroethene [1,1-Dichloroethylene]	ND				10
Dichloromethane [Methylene chloride]	ND				20
1,2-Dichloropropane	ND				10
1,3-Dichloropropene [1,3-Dichloropropylene]	ND				10
2,4-Dimethylphenol	ND				10
Di-n-Butyl phthalate	ND				10
Ethylbenzene	ND				10
Fluoride	ND				500
Hexachlorobenzene	ND				5
Hexachlorobutadiene	ND				10
Hexachlorocyclopentadiene	ND				10
Hexachloroethane	ND				20
Methyl ethyl ketone	ND				50
Nitrobenzene	ND				10
N-Nitrosodiethylamine	ND				20
N-Nitroso-di-n-butylamine	ND				20
Nonylphenol	ND				333
Pentachlorobenzene	ND				20
Pentachlorophenol	ND				5
Phenanthrene	ND				10
Polychlorinated biphenyls (PCBs) (**)	ND				0.2
Pyridine	ND				20
1,2,4,5-Tetrachlorobenzene	ND				20
1,1,2,2-Tetrachloroethane	ND				10
Tetrachloroethene [Tetrachloroethylene]	ND				10
Toluene	<0.1				10
1,1,1-Trichloroethane	ND				10
1,1,2-Trichloroethane	ND				10
Trichloroethene [Trichloroethylene]	ND				10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
2,4,5-Trichlorophenol	ND				50
TTHM (Total trihalomethanes)	ND				10
Vinyl chloride	ND				10

(*) Indicate units if different from µg/L.

(**) Total of detects for PCB-1242, PCB-1254, PCB-1221, PCB-1232, PCB-1248, PCB-1260, and PCB-1016. If all non-detects, enter the highest non-detect preceded by a "<".

TABLE 4 (Instructions, Pages 58-59)

Partial completion of Table 4 **is required** for each **external outfall** based on the conditions below.

a. **Tributyltin**

Is this facility an industrial/commercial facility which currently or proposes to directly dispose of wastewater from the types of operations listed below or a domestic facility which currently or proposes to receive wastewater from the types of industrial/commercial operations listed below?

☐ Yes ☒ No

If **yes**, check the box next to each of the following criteria which apply and provide the appropriate testing results in Table 4 below (check all that apply).

☐ Manufacturers and formulators of tributyltin or related compounds.

☐ Painting of ships, boats and marine structures.

☐ Ship and boat building and repairing.

☐ Ship and boat cleaning, salvage, wrecking and scaling.

☐ Operation and maintenance of marine cargo handling facilities and marinas.

☐ Facilities engaged in wood preserving.

☐ Any other industrial/commercial facility for which tributyltin is known to be present, or for which there is any reason to believe that tributyltin may be present in the effluent.

b. **Enterococci (discharge to saltwater)**

This facility discharges/proposes to discharge directly into saltwater receiving waters **and** Enterococci bacteria are expected to be present in the discharge based on facility processes.

☐ Yes ☒ No

Domestic wastewater is/will be discharged.

☐ Yes ☒ No

If **yes to either** question, provide the appropriate testing results in Table 4 below.

c. E. coli (discharge to freshwater)

This facility discharges/proposes to discharge directly into freshwater receiving waters **and** *E. coli* bacteria are expected to be present in the discharge based on facility processes.

☐ Yes ☒ No

Domestic wastewater is/will be discharged.

☒ Yes ☐ No

If **yes to either** question, provide the appropriate testing results in Table 4 below.

Table 4 for Outfall No.: N/A **Samples are (check one): ☐ Composite ☐ Grab**

Pollutant	Sample 1	Sample 2	Sample 3	Sample 4	MAL
Tributyltin (µg/L)					0.010
Enterococci (cfu or MPN/100 mL)					N/A
E. coli (cfu or MPN/100 mL)					N/A

TABLE 5 (Instructions, Page 59)

Completion of Table 5 **is required** for all **external outfalls** which discharge process wastewater from a facility which manufactures or formulates pesticides or herbicides or other wastewaters which may contain pesticides or herbicides.

If this facility does not/will not manufacture or formulate pesticides or herbicides and does not/will not discharge other wastewaters that may contain pesticides or herbicides, check N/A.

☒ N/A

Table 5 for Outfall No.: Click to enter text. **Samples are (check one): ☐ Composite ☐ Grab**

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
Aldrin					0.01
Carbaryl					5
Chlordane					0.2
Chlorpyrifos					0.05
4,4'-DDD					0.1
4,4'-DDE					0.1
4,4'-DDT					0.02
2,4-D					0.7
Danitol [Fenpropathrin]					—
Demeton					0.20
Diazinon					0.5/0.1
Dicofol [Kelthane]					1
Dieldrin					0.02
Diuron					0.090

Pollutant	**Sample 1 (µg/L)***	**Sample 2 (µg/L)***	**Sample 3 (µg/L)***	**Sample 4 (µg/L)***	**MAL (µg/L)***
Endosulfan I (*alpha*)					0.01
Endosulfan II (*beta*)					0.02
Endosulfan sulfate					0.1
Endrin					0.02
Guthion [Azinphos methyl]					0.1
Heptachlor					0.01
Heptachlor epoxide					0.01
Hexachlorocyclohexane (*alpha*)					0.05
Hexachlorocyclohexane (*beta*)					0.05
Hexachlorocyclohexane (*gamma*) [Lindane]					0.05
Hexachlorophene					10
Malathion					0.1
Methoxychlor					2.0
Mirex					0.02
Parathion (ethyl)					0.1
Toxaphene					0.3
2,4,5-TP [Silvex]					0.3

* Indicate units if different from µg/L.

TABLE 6 (Instructions, Page 59)

Completion of Table 6 **is required** for all **external outfalls**.

Table 6 for Outfall No.: 001 ESTIMATE **Samples are (check one): ☐ Composite ☐ Grab**

Pollutants	Believed Present	Believed Absent	Sample 1 (mg/L)	Sample 2 (mg/L)	Sample 3 (mg/L)	Sample 4 (mg/L)	MAL (µg/L)*
Bromide	☐	☒	0-0.5				400
Color (PCU)	☐	☒					—
Nitrate-Nitrite (as N)	☒	☐	20-100				—
Sulfide (as S)	☐	☒	0-0.5				—
Sulfite (as SO3)	☐	☒	0-0.5				—
Surfactants	☐	☒	0-0.5				—
Boron, total	☐	☒	0-0.1				20
Cobalt, total	☐	☒	0-0.05				0.3
Iron, total	☐	☒	0.1-1				7
Magnesium, total	☒	☐	10-50				20
Manganese, total	☐	☒	0-0.1				0.5
Molybdenum, total	☐	☒	0-0.05				1
Tin, total	☐	☒	0-0.05				5
Titanium, total	☐	☒	0-0.05				30

TABLE 7 (Instructions, Page 60)

Check the box next to any of the industrial categories applicable to this facility. If no categories are applicable, check N/A. If GC/MS testing is required, check the box provided to confirm the testing results for the appropriate parameters are provided with the application.

☐ N/A

Table 7 for Applicable Industrial Categories

Industrial Category	40 CFR Part	Volatiles Table 8	Acids Table 9	Bases/ Neutrals Table 10	Pesticides Table 11
☐ Adhesives and Sealants		☐ Yes	☐ Yes	☐ Yes	No
☐ Aluminum Forming	467	☐ Yes	☐ Yes	☐ Yes	No
☐ Auto and Other Laundries		☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Battery Manufacturing	461	☐ Yes	No	☐ Yes	No
☐ Coal Mining	434	No	No	No	No
☐ Coil Coating	465	☐ Yes	☐ Yes	☐ Yes	No
☐ Copper Forming	468	☐ Yes	☐ Yes	☐ Yes	No
☐ Electric and Electronic Components	469	☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Electroplating	413	☐ Yes	☐ Yes	☐ Yes	No
☐ Explosives Manufacturing	457	No	☐ Yes	☐ Yes	No
☐ Foundries		☐ Yes	☐ Yes	☐ Yes	No
☐ Gum and Wood Chemicals - Subparts A,B,C,E	454	☐ Yes	☐ Yes	No	No
☐ Gum and Wood Chemicals - Subparts D,F	454	☐ Yes	☐ Yes	☐ Yes	No
☐ Inorganic Chemicals Manufacturing	415	☐ Yes	☐ Yes	☐ Yes	No
☐ Iron and Steel Manufacturing	420	☐ Yes	☐ Yes	☐ Yes	No
☐ Leather Tanning and Finishing	425	☐ Yes	☐ Yes	☐ Yes	No
☐ Mechanical Products Manufacturing		☐ Yes	☐ Yes	☐ Yes	No
☐ Nonferrous Metals Manufacturing	421,471	☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Oil and Gas Extraction - Subparts A, D, E, F, G, H	435	☐ Yes	☐ Yes	☐ Yes	No
☐ Ore Mining - Subpart B	440	No	☐ Yes	No	No
☒ Organic Chemicals Manufacturing	414	☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Paint and Ink Formulation	446,447	☐ Yes	☐ Yes	☐ Yes	No
☐ Pesticides	455	☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Petroleum Refining	419	☐ Yes	No	No	No
☐ Pharmaceutical Preparations	439	☐ Yes	☐ Yes	☐ Yes	No
☐ Photographic Equipment and Supplies	459	☐ Yes	☐ Yes	☐ Yes	No
☐ Plastic and Synthetic Materials Manufacturing	414	☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Plastic Processing	463	☐ Yes	No	No	No
☐ Porcelain Enameling	466	No	No	No	No
☐ Printing and Publishing		☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Pulp and Paperboard Mills - Subpart C	430	☐ *	☐ Yes	☐ *	☐ Yes
☐ Pulp and Paperboard Mills - Subparts F, K	430	☐ *	☐ Yes	☐ *	☐ *
☐ Pulp and Paperboard Mills - Subparts A, B, D, G, H	430	☐ Yes	☐ Yes	☐ *	☐ *
☐ Pulp and Paperboard Mills - Subparts I, J, L	430	☐ Yes	☐ Yes	☐ *	☐ Yes
☐ Pulp and Paperboard Mills - Subpart E	430	☐ Yes	☐ Yes	☐ Yes	☐ *
☐ Rubber Processing	428	☐ Yes	☐ Yes	☐ Yes	No
☐ Soap and Detergent Manufacturing	417	☐ Yes	☐ Yes	☐ Yes	No
☐ Steam Electric Power Plants	423	☐ Yes	☐ Yes	No	No
☐ Textile Mills (Not Subpart C)	410	☐ Yes	☐ Yes	☐ Yes	No
☐ Timber Products Processing	429	☐ Yes	☐ Yes	☐ Yes	☐ Yes

* Test if believed present.

TABLES 8, 9, 10, and 11 (Instructions, Page 60)

Completion of Tables 8, 9, 10, and 11 **is required** as specified in Table 7 for all **external outfalls** that contain process wastewater.

Completion of Tables 8, 9, 10, and 11 **may be required** for types of industry not specified in Table 7 for specific parameters that are believed to be present in the wastewater.

Table 8 for Outfall No.: 001 ESTIMATE **Samples are (check one): ☐ Composite ☐ Grab**

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Acrolein	ND				50
Acrylonitrile	ND				50
Benzene	ND				10
Bromoform	ND				10
Carbon tetrachloride	ND				2
Chlorobenzene	ND				10
Chlorodibromomethane	ND				10
Chloroethane	ND				50
2-Chloroethylvinyl ether	ND				10
Chloroform	ND				10
Dichlorobromomethane [Bromodichloromethane]	ND				10
1,1-Dichloroethane	ND				10
1,2-Dichloroethane	ND				10
1,1-Dichloroethylene [1,1-Dichloroethene]	ND				10
1,2-Dichloropropane	ND				10
1,3-Dichloropropylene [1,3-Dichloropropene]	ND				10
Ethylbenzene	ND				10
Methyl bromide [Bromomethane]	ND				50
Methyl chloride [Chloromethane]	ND				50
Methylene chloride [Dichloromethane]	ND				20
1,1,2,2-Tetrachloroethane	ND				10
Tetrachloroethylene [Tetrachloroethene]	ND				10
Toluene	<0.1				10
1,2-Trans-dichloroethylene [1,2-Trans-dichloroethene]	ND				10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
1,1,1-Trichloroethane	ND				10
1,1,2-Trichloroethane	ND				10
Trichloroethylene [Trichloroethene]	ND				10
Vinyl chloride	ND				10

* Indicate units if different from µg/L.

Table 9 for Outfall No.: 001 ESTIMATE **Samples are (check one): ☐ Composite ☐ Grab**

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
2-Chlorophenol	ND				10
2,4-Dichlorophenol	ND				10
2,4-Dimethylphenol	ND				10
4,6-Dinitro-o-cresol	ND				50
2,4-Dinitrophenol	ND				50
2-Nitrophenol	ND				20
4-Nitrophenol	ND				50
p-Chloro-m-cresol	ND				10
Pentachlorophenol	ND				5
Phenol	ND				10
2,4,6-Trichlorophenol	ND				10

* Indicate units if different from µg/L.

Table 10 for Outfall No.: 001 ESTIMATE **Samples are (check one): ☐ Composite ☐ Grab**

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Acenaphthene	ND				10
Acenaphthylene	ND				10
Anthracene	ND				10
Benzidine	ND				50
Benzo(a)anthracene	ND				5
Benzo(a)pyrene	ND				5
3,4-Benzofluoranthene [Benzo(b)fluoranthene]	ND				10
Benzo(ghi)perylene	ND				20
Benzo(k)fluoranthene	ND				5
Bis(2-chloroethoxy)methane	ND				10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Bis(2-chloroethyl)ether	ND				10
Bis(2-chloroisopropyl)ether	ND				10
Bis(2-ethylhexyl)phthalate	ND				10
4-Bromophenyl phenyl ether	ND				10
Butylbenzyl phthalate	ND				10
2-Chloronaphthalene	ND				10
4-Chlorophenyl phenyl ether	ND				10
Chrysene	ND				5
Dibenzo(a,h)anthracene	ND				5
1,2-Dichlorobenzene [o-Dichlorobenzene]	ND				10
1,3-Dichlorobenzene [m-Dichlorobenzene]	ND				10
1,4-Dichlorobenzene [p-Dichlorobenzene]	ND				10
3,3'-Dichlorobenzidine	ND				5
Diethyl phthalate	ND				10
Dimethyl phthalate	ND				10
Di-n-butyl phthalate	ND				10
2,4-Dinitrotoluene	ND				10
2,6-Dinitrotoluene	ND				10
Di-n-octyl phthalate	ND				10
1,2-Diphenylhydrazine (as Azobenzene)	ND				20
Fluoranthene	ND				10
Fluorene	ND				10
Hexachlorobenzene	ND				5
Hexachlorobutadiene	ND				10
Hexachlorocyclopentadiene	ND				10
Hexachloroethane	ND				20
Indeno(1,2,3-cd)pyrene	ND				5
Isophorone	ND				10
Naphthalene	ND				10
Nitrobenzene	ND				10
N-Nitrosodimethylamine	ND				50

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
N-Nitrosodi-n-propylamine	ND				20
N-Nitrosodiphenylamine	ND				20
Phenanthrene	ND				10
Pyrene	ND				10
1,2,4-Trichlorobenzene	ND				10

* Indicate units if different from µg/L.

Table 11 for Outfall No.: 001 ESTIMATE **Samples are (check one): ☐ Composite ☐ Grab**

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Aldrin	ND				0.01
alpha-BHC [alpha-Hexachlorocyclohexane]	ND				0.05
beta-BHC [beta-Hexachlorocyclohexane]	ND				0.05
gamma-BHC [gamma-Hexachlorocyclohexane]	ND				0.05
delta-BHC [delta-Hexachlorocyclohexane]	ND				0.05
Chlordane	ND				0.2
4,4'-DDT	ND				0.02
4,4'-DDE	ND				0.1
4,4'-DDD	ND				0.1
Dieldrin	ND				0.02
Endosulfan I (alpha)	ND				0.01
Endosulfan II (beta)	ND				0.02
Endosulfan sulfate	ND				0.1
Endrin	ND				0.02
Endrin aldehyde	ND				0.1
Heptachlor	ND				0.01
Heptachlor epoxide	ND				0.01
PCB 1242	ND				0.2
PCB 1254	ND				0.2
PCB 1221	ND				0.2
PCB 1232	ND				0.2
PCB 1248	ND				0.2

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
PCB 1260	ND				0.2
PCB 1016	ND				0.2
Toxaphene	ND				0.3

* Indicate units if different from µg/L.

Attachment: Click to enter text.

TABLE 12 (DIOXINS/FURAN COMPOUNDS)

Complete of Table 12 **is required** for **external outfalls**, as directed below. (Instructions, Pages 59-60)

Indicate which compound(s) are manufactured or used at the facility and provide a brief description of the conditions of its/their presence at the facility (check all that apply).

☐ 2,4,5-trichlorophenoxy acetic acid (2,4,5-T) CASRN 93-76-5

☐ 2-(2,4,5-trichlorophenoxy) propanoic acid (Silvex, 2,4,5-TP) CASRN 93-72-1

☐ 2-(2,4,5-trichlorophenoxy) ethyl 2,2-dichloropropionate (Erbon) CASRN 136-25-4

☐ 0,0-dimethyl 0-(2,4,5-trichlorophenyl) phosphorothioate (Ronnel) CASRN 299-84-3

☐ 2,4,5-trichlorophenol (TCP) CASRN 95-95-4

☐ hexachlorophene (HCP) CASRN 70-30-4

☒ None of the above

Description: Click to enter text.

Does the applicant or anyone at the facility know or have any reason to believe that 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) or any congeners of TCDD may be present in the effluent proposed for discharge?

☐ Yes ☒ No

Description: Click to enter text.

If **yes** to either Items a **or** b, complete Table 12 as instructed.

Table 12 for Outfall No.: Click to enter text. **Samples are (check one):** ☐ **Composite** ☐ **Grab**

Compound	Toxicity Equivalent Factors	Wastewater Concentration (ppq)	Wastewater Toxicity Equivalents (ppq)	Sludge Concentration (ppt)	Sludge Toxicity Equivalents (ppt)	MAL (ppq)
2,3,7,8-TCDD	1					10
1,2,3,7,8-PeCDD	1.0					50
2,3,7,8-HxCDDs	0.1					50
1,2,3,4,6,7,8-HpCDD	0.01					50

Compound	Toxicity Equivalent Factors	Wastewater Concentration (ppq)	Wastewater Toxicity Equivalents (ppq)	Sludge Concentration (ppt)	Sludge Toxicity Equivalents (ppt)	MAL (ppq)
2,3,7,8-TCDF	0.1					10
1,2,3,7,8-PeCDF	0.03					50
2,3,4,7,8-PeCDF	0.3					50
2,3,7,8-HxCDFs	0.1					50
2,3,4,7,8-HpCDFs	0.01					50
OCDD	0.0003					100
OCDF	0.0003					100
PCB 77	0.0001					500
PCB 81	0.0003					500
PCB 126	0.1					500
PCB 169	0.03					500
Total						

TABLE 13 (HAZARDOUS SUBSTANCES)

Complete Table 13 **is required** for all **external outfalls** as directed below. (Instructions, Pages 60-61)

Are there any pollutants listed in the instructions (pages 55-62) believed present in the discharge?

☐ Yes ☒ No

Are there pollutants listed in Item 1.c. of Technical Report 1.0 which are believed present in the discharge and have not been analytically quantified elsewhere in this application?

☐ Yes ☒ No

If **yes** to either Items a **or** b, complete Table 13 as instructed.

Table 13 for Outfall No.: Click to enter text. **Samples are (check one):** ☐ **Composite** ☐ **Grab**

Pollutant	CASRN	Sample 1 (µg/L)	Sample 2 (µg/L)	Sample 3 (µg/L)	Sample 4 (µg/L)	Analytical Method

INDUSTRIAL WASTEWATER PERMIT APPLICATION WORKSHEET 3.0: LAND APPLICATION OF EFFLUENT

This worksheet **is required** for all applications for a permit to disposal of wastewater by land application (i.e., TLAP)).

Item 1. Type of Disposal System (Instructions, Page 69)

Check the box next to the type of land disposal requested by this application:

- ☒ Irrigation
- ☐ Evaporation
- ☐ Evapotranspiration beds
- ☐ Drip irrigation system
- ☐ Subsurface application
- ☐ Subsurface soils absorption
- ☒ Surface application
- ☐ Other, specify: Click to enter text.

Item 2. Land Application Area (Instructions, Page 69)

Land Application Area Information

Effluent Application (gallons/day)	Irrigation Acreage (acres)	Describe land use & indicate type(s) of crop(s)	Public Access? (Y/N)
From IA 9,375 – 14,063	10	ALFALFA FORAGE CROP	N
From MAA 164,700 – 247,050 (ONLY IF NEEDED, TYPICALLY WILL BE 0)	178	ALFALFA FOREAGE CROP	N

Item 3. Annual Cropping Plan (Instructions, Page 69)

Attach the required cropping plan that includes each of the following:

- Cool and warm season plant species
- Breakdown of acreage and percent of total acreage for each crop
- Crop growing season
- Harvesting method/number of harvests
- Minimum/maximum harvest height
- Crop yield goals
- Soils map
- Nitrogen requirements per crop
- Additional fertilizer requirements
- Supplemental watering requirements
- Crop salt tolerances

- Justification for not removing existing vegetation to be irrigated

Attachment: TR WS3-3

Item 4. Well and Map Information (Instructions, Page 70)

a. Check each box to confirm the required information is shown and labeled on the attached USGS map:

☒ The exact boundaries of the land application area

☒ On-site buildings

☒ Waste-disposal or treatment facilities

☒ Effluent storage and tailwater control facilities

☒ Buffer zones

☒ All surface waters in the state onsite and within 500 feet of the property boundaries

☒ All water wells within ½-mile of the disposal site, wastewater ponds, or property boundaries

☒ All springs and seeps onsite and within 500 feet of the property boundaries

Attachment: AR-11b USGS MAP BUT ALSO LOOK AT TR-1d, TR WS3-3 FIGURES AND ATTACHMENTS B and C

b. List and cross reference all water wells located on or within 500 feet of the disposal site, wastewater ponds, or property boundaries in the following table. Attach additional pages as necessary to include all of the wells.

Well and Map Information Table

Well ID	Well Use	Producing? Y/N/U	Open, cased, capped, or plugged?	Proposed Best Management Practice
None				

Attachment: Click to enter text.

c. Groundwater monitoring wells or lysimeters are/will be installed around the land application site or wastewater ponds.

☒ Yes ☐ No

If **yes**, provide the existing/proposed location of the monitoring wells or lysimeters on the site map attached for Item 4.a. Additionally, attach information on the depth of the wells or lysimeters, sampling schedule, and monitoring parameters for TCEQ review, possible modification, and approval.

Attachment: Attachment AR-11b and TR WS3-3 FIGURE 3

d. Attach a short groundwater technical report using *30 TAC § 309.20(a)(4)* as guidance. **Attachment:** TR WS3-3 SECTION 3.3

Item 5. Soil Map and Soil Information (Instructions, Page 71)

Check each box to confirm that the following information is attached:

a. ☒ USDA NRCS Soil Survey Map depicting the area to be used for land application with the locations identified by fields and crops.

b. ☒ Breakdown of acreage and percent of total acreage for each soil type.

c. ☐ Copies of laboratory soil analyses. **Attachment:** TR WS3-3 FIGURE 7 SOIL SAMPLES TO BE COLLECTED IN Q1 2025 AND RESULTS WILL BE PROVIDED TO TCEQ

Item 6. Effluent Monitoring Data (Instructions, Page 72)

a. Completion of Table 14 **is required** for all **renewal** and **major amendment** applications. Complete the table with monitoring data for the previous two years for all parameters regulated in the current permit. An additional table has been provided with blank headers for parameters regulated in the current permit which are not listed in Table 14.

Table 14 for Outfall No.: N/A PROPOSED **Samples are (check one):** ☐ **Composite** ☐ **Grab**

Date (mo/yr)	Daily Avg Flow (gpd)	BOD5 (mg/L)	TSS (mg/L)	Nitrogen (mg/L)	Conductivity (mmhos/cm)	Total acres irrigated	Hydraulic Application rate (acre-feet/month)

Date (mo/yr)	Daily Avg Flow (gpd)	BOD5 (mg/L)	TSS (mg/L)	Nitrogen (mg/L)	Conductivity (mmhos/cm)	Total acres irrigated	Hydraulic Application rate (acre-feet/month)

b. Use this table to provide effluent analysis for parameters regulated in the current permit which are not listed in Table 14.

Additional Parameter Effluent Analysis

Date (mo/yr)							
N/A							

c. Attach an explanation of all persistent excursions to permitted parameters and corrective actions taken. **Attachment:** N/A – PROPOSED FACILITY

Item 7. Pollutant Analysis (Instructions, Page 72)

a. Provide the date range of all sampling events conducted to obtain the analytical data submitted with this application (e.g., 05/01/2018-05/30/2018): N/A PROPOSED FACILITY

b. ☐ Check the box to confirm all samples were collected no more than 12 months prior to the date of application submittal.

c. Complete Tables 15 and 16.

Table 15 for Outfall No.: Click to enter text. **Samples are (check one):** ☐ **Composite** ☐ **Grab**

Pollutant	**Sample 1 (mg/L)**	**Sample 2 (mg/L)**	**Sample 3 (mg/L)**	**Sample 4 (mg/L)**
BOD (5-day)				
CBOD (5-day)				
Chemical oxygen demand				
Total organic carbon				
Dissolved oxygen				
Ammonia nitrogen				
Total suspended solids				
Nitrate nitrogen				
Total organic nitrogen				
Total phosphorus				
Oil and grease				
Total residual chlorine				
Total dissolved solids				
Sulfate				
Chloride				
Fluoride				
Total alkalinity (mg/L as CaCO3)				
Temperature (°F)				
pH (standard units)				

Table 16 for Outfall No.: Click to enter text. **Samples are (check one):** ☐ **Composite** ☐ **Grab**

Pollutant	**Sample 1 (µg/L)**	**Sample 2 (µg/L)**	**Sample 3 (µg/L)**	**Sample 4 (µg/L)**	**MAL (µg/L)**
Aluminum, total					2.5
Antimony, total					5

Pollutant	Sample 1 (µg/L)	Sample 2 (µg/L)	Sample 3 (µg/L)	Sample 4 (µg/L)	MAL (µg/L)
Arsenic, total					0.5
Barium, total					3
Beryllium, total					0.5
Cadmium, total					1
Chromium, total					3
Chromium, hexavalent					3
Chromium, trivalent					N/A
Copper, total					2
Cyanide, available					2/10
Lead, total					0.5
Mercury, total					0.005/0.0005
Nickel, total					2
Selenium, total					5
Silver, total					0.5
Thallium, total					0.5
Zinc, total					5.0

INDUSTRIAL WASTEWATER PERMIT APPLICATION WORKSHEET 3.1: SURFACE LAND APPLICATION AND APPLICATION

This worksheet **is required** for all applications for a permit to disposal of wastewater by surface land application or evaporation.

Item 1. Edwards Aquifer (Instructions, Page 73)

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

☐ Yes ☒ No

If **no**, proceed to Item 2. If **yes**, complete Items 1.b **and** 1.c.

b. Check the box next to the subchapter applicable to the facility.

☐ 30 TAC Chapter 213, Subchapter A

☐ 30 TAC Chapter 213, Subchapter B

c. If *30 TAC Chapter 213, Subchapter A* applies, attach **either**: 1) a Geologic Assessment (if conducted in accordance with *30 TAC § 213.5*) **or** 2) a report that contains the following:

- A description of the surface geological units within the proposed land application site and wastewater pond area.
- The location and extent of any sensitive recharge features in the land application site and wastewater pond area
- A list of any proposed BMPs to protect the recharge features.

Attachment: Click to enter text.

Item 2. Surface Spray/Irrigation (Instructions, Page 73)

a. Provide the following information on the irrigation operations:

Area under irrigation (acres): 10 ACRES FOR IA WASTEWATER OR 189 ACRES FOR IA AND MAA COMBINED WASTEWATER

Design application rate (acre-ft/acre/yr): 1.03

Design application frequency (hours/day): 24

Design application frequency (days/week): 7

Design total nitrogen loading rate (lbs nitrogen/acre/year): 281

Average slope of the application area (percent): 0.25

Maximum slope of the application area (percent): 0.5

Irrigation efficiency (percent): 100

Effluent conductivity (mmhos/cm): 7.8-9.3

Soil conductivity (mmhos/cm): 2-8

Curve number: N/A

Describe the application method and equipment: RAINBIRD SPRINKLERS

b. Attach a detailed engineering report which includes a water balance, storage volume calculations, and a nitrogen balance. **Attachment:** TR WS3-3 TABLE 2

Item 3. Evaporation Ponds (Instructions, Page 74)

a. Daily average effluent flow into ponds: N/A gallons per day

b. Attach a separate engineering report of evaporation calculations for average long-term and worst-case critical conditions. **Attachment:** N/A

Item 4. Evapotranspiration Beds (Instructions, Page 74)

a. Provide the following information on the evapotranspiration beds:

Number of beds: N/A

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

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

Void ratio of soil in the beds: N/A

Storage volume within the beds (include units): N/A

Description of any lining to protect groundwater: N/A

b. Attach a certification by a licensed Texas professional engineer that the liner meets TCEQ requirements. **Attachment:** N/A

c. Attach a separate engineering report with water balance, storage volume calculations, and description of the liner. **Attachment:** N/A

Item 5. Overland Flow (Instructions, Page 74)

a. Provide the following information on the overland flow:

Area used for application (acres): N/A

Slopes for application area (percent): N/A

Design application rate (gpm/foot of slope width): N/A

Slope length (feet): N/A

Design BOD5 loading rate (lbs BOD5/acre/day): N/A

Design application frequency (hours/day): N/A

Design application frequency (days/week): N/A

b. Attach a separate engineering report with the method of application and design requirements according to *30 TAC § 217.212*. **Attachment:** N/A

INDUSTRIAL WASTEWATER PERMIT APPLICATION WORKSHEET 4.0: RECEIVING WATERS

This worksheet **is required** for all TPDES permit applications.

Item 1. Domestic Drinking Water Supply (Instructions, Page 80)

a. There is a surface water intake for domestic drinking water supply located within 5 (five) miles downstream from the point/proposed point of discharge.

☐ Yes ☒ No

If **no**, stop here and proceed to Item 2. If **yes**, provide the following information:

1. The legal name of the owner of the drinking water supply intake: Click to enter text.
2. The distance and direction from the outfall to the drinking water supply intake: Click to enter text.

b. Locate and identify the intake on the USGS 7.5-minute topographic map provided for Administrative Report 1.0.

☐ Check this box to confirm the above requested information is provided.

Item 2. Discharge Into Tidally Influenced Waters (Instructions, Page 80)

If the discharge is to tidally influenced waters, complete this section. Otherwise, proceed to Item 3.

a. Width of the receiving water at the outfall: N/A feet

b. Are there oyster reefs in the vicinity of the discharge?

☐ Yes ☐ No

If **yes**, provide the distance and direction from the outfall(s) to the oyster reefs: Click to enter text.

c. Are there sea grasses within the vicinity of the point of discharge?

☐ Yes ☐ No

If **yes**, provide the distance and direction from the outfall(s) to the grasses: Click to enter text.

Item 3. Classified Segment (Instructions, Page 80)

The discharge is/will be directly into (or within 300 feet of) a classified segment.

☐ Yes ☒ No

If **yes**, stop here and do not complete Items 4 and 5 of this worksheet or Worksheet 4.1.

If **no**, complete Items 4 and 5 and Worksheet 4.1 may be required.

Item 4. Description of Immediate Receiving Waters (Instructions, Page 80)

a. Name of the immediate receiving waters: COW ISLAND BAYOU

b. Check the appropriate description of the immediate receiving waters:

☐ Lake or Pond

- Surface area (acres): Click to enter text.
- Average depth of the entire water body (feet): Click to enter text.
- Average depth of water body within a 500-foot radius of the discharge point (feet): Click to enter text.

☐ Man-Made Channel or Ditch

☒ Stream or Creek

☐ Freshwater Swamp or Marsh

☐ Tidal Stream, Bayou, or Marsh

☐ Open Bay

☐ Other, specify:

If **Man-Made Channel or Ditch** or **Stream or Creek** were selected above, provide responses to Items 4.c – 4.g below:

c. For **existing discharges**, check the description below that best characterizes the area **upstream** of the discharge.

For **new discharges**, check the description below that best characterizes the area **downstream** of the discharge.

☐ Intermittent (dry for at least one week during most years)

☒ Intermittent with Perennial Pools (enduring pools containing habitat to maintain aquatic life uses)

☐ Perennial (normally flowing)

Check the source(s) of the information used to characterize the area upstream (existing discharge) or downstream (new discharge):

☐ USGS flow records

☐ personal observation

☐ historical observation by adjacent landowner(s)

☒ other, specify: DISCUSSION WITH RAYWOOD DRAINAGE DISTRICT #2

d. List the names of all perennial streams that join the receiving water within three miles downstream of the discharge point: THERE ARE NONE

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

☐ Yes ☒ No

If **yes**, describe how: Click to enter text.

f. General observations of the water body during normal dry weather conditions: THE STREAM HAS LITTLE FLOW, IS SHALLOW, ABUNDANT VEGETATION IN THE CHANNEL AND BANKS.

Date and time of observation: 12/10/2024 10:30 – 14:30 HOURS

g. The water body was influenced by stormwater runoff during observations.

☐ Yes ☒ No

If **yes**, describe how: Click to enter text.

Item 5. General Characteristics of Water Body (Instructions, Page 81)

a. Is the receiving water upstream of the existing discharge or proposed discharge site influenced by any of the following (check all that apply):

☐ oil field activities
☐ urban runoff
☒ agricultural runoff
☒ septic tanks
☐ upstream discharges
☒ other, specify: RURAL RUNOFF

b. Uses of water body observed or evidence of such uses (check all that apply):

☐ livestock watering
☐ industrial water supply
☐ non-contact recreation
☐ irrigation withdrawal
☐ domestic water supply
☐ navigation
☐ contact recreation
☐ picnic/park activities
☐ fishing
☒ other, specify: DRAINAGE

c. Description which best describes the aesthetics of the receiving water and the surrounding area (check only one):

☐ **Wilderness:** outstanding natural beauty; usually wooded or un-pastured area: water clarity exceptional

☐ **Natural Area:** trees or native vegetation common; some development evident (from fields, pastures, dwellings); water clarity discolored

☒ **Common Setting:** not offensive, developed but uncluttered; water may be colored or turbid

☐ **Offensive:** stream does not enhance aesthetics; cluttered; highly developed; dumping areas; water discolored

INDUSTRIAL WASTEWATER PERMIT APPLICATION WORKSHEET 4.1: WATERBODY PHYSICAL CHARACTERISTICS

The following information **is required** for new applications, EPA-designated Major facilities, and major amendment applications requesting to add an outfall if the receiving waters are perennial or intermittent with perennial pools (including impoundments) for a TDPES permit.

Complete the transects downstream of the existing or proposed discharges.

Item 1. Data Collection (Instructions, Page 82)

a. Date of study: 12/10/2024 Time of study: 10:30 – 14:30 HOURS

Waterbody name: COW ISLAND BAYOU

General location: 1 MILE DOWNSTREAM OF OUTFALL NEAR HIGHWAY 90 AND RAILROAD TRACKS

b. Type of stream upstream of an existing discharge or downstream of a proposed discharge (check only one):

☐ perennial ☒ intermittent with perennial pools ☐ impoundment

c. No. of defined stream bends:

Well: 0 Moderately: 0 Poorly: 2

d. No. of riffles: 1

e. Evidence of flow fluctuations (check one):

☒ Minor ☐ Moderate ☐ Severe

f. Provide the observed stream uses and where there is evidence of channel obstructions/modifications: DRAINAGE AND LIVESTOCK WATERING, DAM/LIVESTOCK CROSSING AT LATTITUDE 30.039635, LONGITUDE -94.678104

g. Complete the following table with information regarding the transect measurements.

Stream Transect Data

Transect Location	Habitat Type*	Water Surface Width (ft)	Stream Depths (ft)**								
QYK01A (SEE FIGURE)	POOL	12	0.07	1	1.5	2	1.5	1.5			
QYK02A	POOL	12	0.00	1	1.5	1.5	1	1			
QYK03A	POOL	12	0.02	1	1	1	1	1			
QYKO4A	POOL	12	0.00	1	1	1.5	1	1			
QYK05A	POOL	12	0.17	1	1	1	1	1			
QYK06A	GLIDE	6	0.02	0.5	0.5	0.5	0.5	0.5			
QYK07A	POOL	10	0.13	1	1	1.5	1.5	1			
QYK08A	POOL	15	0.17	2	2.5	3.5	3	2.5			

Transect Location	Habitat Type*	Water Surface Width (ft)	Stream Depths (ft)**								
QYK09A	POOL	15	0.22	2	3	4	3.5	3			
QYK10A	POOL	12	0.28	1.5	2	2.5	2	2			
QYK11A	POOL	12	0.07	1	1.5	2	1.5	1			
QYK12A	RIFFLE	6	0.17	0.5	0.5	1	0.5	0.5			

* riffle, run, glide, or pool
** channel bed to water surface

Item 2. Summarize Measurements (Instructions, Page 83)

Provide the following information regarding the transect measurements:

Streambed slope of entire reach (from USGS map in ft. /ft.): 0.0

Approximate drainage area above the most downstream transect from USGS map or county highway map (square miles): 5.5 SQUARE MILES

Length of stream evaluated (ft): 5,280 FEET

Number of lateral transects made: 12

Average stream width (ft): 11.33

Average stream depth (ft): 1.44

Average stream velocity (ft/sec): 0.11

Instantaneous stream flow (ft^3/sec): 0.82

Indicate flow measurement method (VERY IMPORTANT – type of meter, floating chip timed over a fixed distance, etc.): FLOATING CHIP OVER A FIXED DISTANCE

Flow fluctuations (i.e., minor, moderate, or severe): MINOR

Size of pools (i.e., large, small, moderate, or none): SMALL

Maximum pool depth (ft): 4

Total number of stream bends: 2

Number well defined: 0

Number moderately defined: 0

Number poorly defined: 2

Total number of riffles: 1

INDUSTRIAL WASTEWATER PERMIT APPLICATION WORKSHEET 7.0: STORMWATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITIES

This worksheet **is required** for all TPDES permit applications requesting individual permit coverage for discharges consisting of **either**: 1) solely of stormwater discharges associated with industrial activities, as defined in *40 CFR § 122.26(b)(14)(i-xi)*, **or** 2) stormwater discharges associated with industrial activities and any of the listed allowable non-stormwater discharges, as defined in the MSGP (TXR05000), Part II, Section A, Item 6.

Discharges of stormwater as defined in *40 CFR § 122.26 (b)(13)* are not required to obtain authorization under a TPDES permit (see exceptions at *40 CFR §§ 122.26(a)(1)* and *(9)*). Authorization for discharge may be required from a local municipal separate storm sewer system.

Item 1. Applicability (Instructions, Page 89)

Do discharges from any of the existing/proposed outfalls consist either 1) solely of stormwater discharges associated with industrial activities **or** 2) stormwater discharges associated with industrial activities and any of the allowable non-stormwater discharges?

☒ Yes ☐ No

If **no**, stop here. If **yes**, proceed as directed.

Item 2. Stormwater Coverage (Instructions, Page 89)

List each existing/proposed stormwater outfall at the facility and indicate which type of authorization covers or is proposed to cover discharges.

Authorization Coverage

Outfall	Authorization under MSGP	Authorized Under Individual Permit
001	☐	☒
002	☐	☒
003	☐	☒
	☐	☐
	☐	☐
	☐	☐
	☐	☐
	☐	☐

If **all** existing/proposed outfalls which discharge stormwater associated with industrial activities (and any of the allowable non-stormwater discharges) are **authorized under the MSGP**, **stop** here.

If **seeking authorization** for any outfalls which discharge stormwater associated with industrial activities (and any of the allowable non-stormwater discharges) **under an individual permit**, **proceed**.

NOTE: The following information is required for each existing/proposed stormwater outfall for which the facility is seeking individual permit authorization under this application

Item 3. Site Map (Instructions, Page 90)

Attach a site map or maps (drawn to scale) of the entire facility with the following information.

- the location of each stormwater outfall to be covered by the permit
- an outline of the drainage area that is within the facility's boundary and that contributes stormwater to each outfall to be covered by the permit
- connections or discharge points to municipal separate storm sewer systems
- locations of all structures (e.g. buildings, garages, storage tanks)
- structural control devices that are designed to reduce pollution in discharges of stormwater associated with industrial activities
- process wastewater treatment units (including ponds)
- bag house and other air treatment units exposed to stormwater (stormwater runoff, snow melt runoff, and surface runoff and drainage)
- landfills; scrapyards; surface water bodies (including wetlands)
- vehicle and equipment maintenance areas
- physical features of the site that may influence discharges of stormwater associated with industrial activities or contribute a dry weather flow
- locations where spills or leaks of reportable quality (as defined in *30 TAC § 327.4*) have occurred during the three years before this application was submitted to obtain coverage under an individual permit
- processing areas, storage areas, material loading/unloading areas, and other locations where significant materials are exposed to stormwater (stormwater runoff, snow melt runoff, and surface runoff and drainage)

☒ Check the box to confirm all above information was provided on the facility site map(s).

Attachment: TRWS7-3

Item 4. Facility/Site Information (Instructions, Page 90)

a. Provide the area of impervious surface and the total area drained by each stormwater outfall requested for authorization by this permit application.

Impervious Surfaces

Outfall	Area of Impervious Surface (include units)	Total Area Drained (include units)
001	20 ACRES	30 ACRES
002	0	198 ACRES
003	0	25 ACRES

b. Provide the following local area rainfall information and the source of the information.

Wettest month: JUNE

Average rainfall for wettest month (total inches): 5.39

25-year, 24-hour rainfall (inches): 12.2

Source: Waterdatafortexas.org/lake-evaporation-rainfall Grid 713 Used data from 1998-2023

c. Attach an inventory, or list, of materials currently handled at the facility that may be exposed to precipitation. **Attachment:** N/A ALL MATERIALS ARE ENCLOSED

d. Attach narrative descriptions of the industrial processes and activities involving the materials in the above-listed inventory that occur outdoors or in some manner that may result in exposure of the materials to precipitation or runoff (see instructions for guidance). **Attachment:** N/A

e. Describe any BMPs and controls the facility uses/proposes to prevent or effectively reduce pollution in stormwater discharges from the facility: CURBS AROUND MATERIAL STORAGE AREAS AND PROCESS AREAS, ROOF OVER FERMENTERS, BERMS AROUND IRRIGATION AREA

Item 5. Pollutant Analysis (Instructions, Page 91)

a. Provide the date range of all sampling events conducted to obtain the analytical data submitted with this application (e.g., 05/01/2018-05/30/2018): THIS IS A PROPOSED FACILITY, DATA WILL BE OBTAINED AFTER OPERATIONS BEGIN.

b. ☐ Check the box to confirm all samples were collected no more than 12 months prior to the date of application submittal.

c. Complete Table 17 as directed on page 92 of the Instructions.

Table 17 for Outfall No.: TO BE PROVIDED LATER WHEN FACILITY IS OPERATING

Pollutant	Grab Sample* Maximum (mg/L)	Composite Sample** Maximum (mg/L)	Grab Sample* Average (mg/L)	Composite Sample** Average (mg/L)	Number of Storm Events Sampled	MAL (mg/L)
pH (standard units)	(max)	—	(min)	—		—
Total suspended solids						—
Chemical oxygen demand						—
Total organic carbon						—
Oil and grease						—
Arsenic, total						0.0005
Barium, total						0.003
Cadmium, total						0.001
Chromium, total						0.003
Chromium, trivalent						—

Pollutant	Grab Sample* Maximum (mg/L)	Composite Sample** Maximum (mg/L)	Grab Sample* Average (mg/L)	Composite Sample** Average (mg/L)	Number of Storm Events Sampled	MAL (mg/L)
Chromium, hexavalent						0.003
Copper, total						0.002
Lead, total						0.0005
Mercury, total						0.000005
Nickel, total						0.002
Selenium, total						0.005
Silver, total						0.0005
Zinc, total						0.005

* Taken during first 30 minutes of storm event

** Flow-weighted composite sample

d. Complete Table 18 as directed on pages 92-94 of the Instructions.

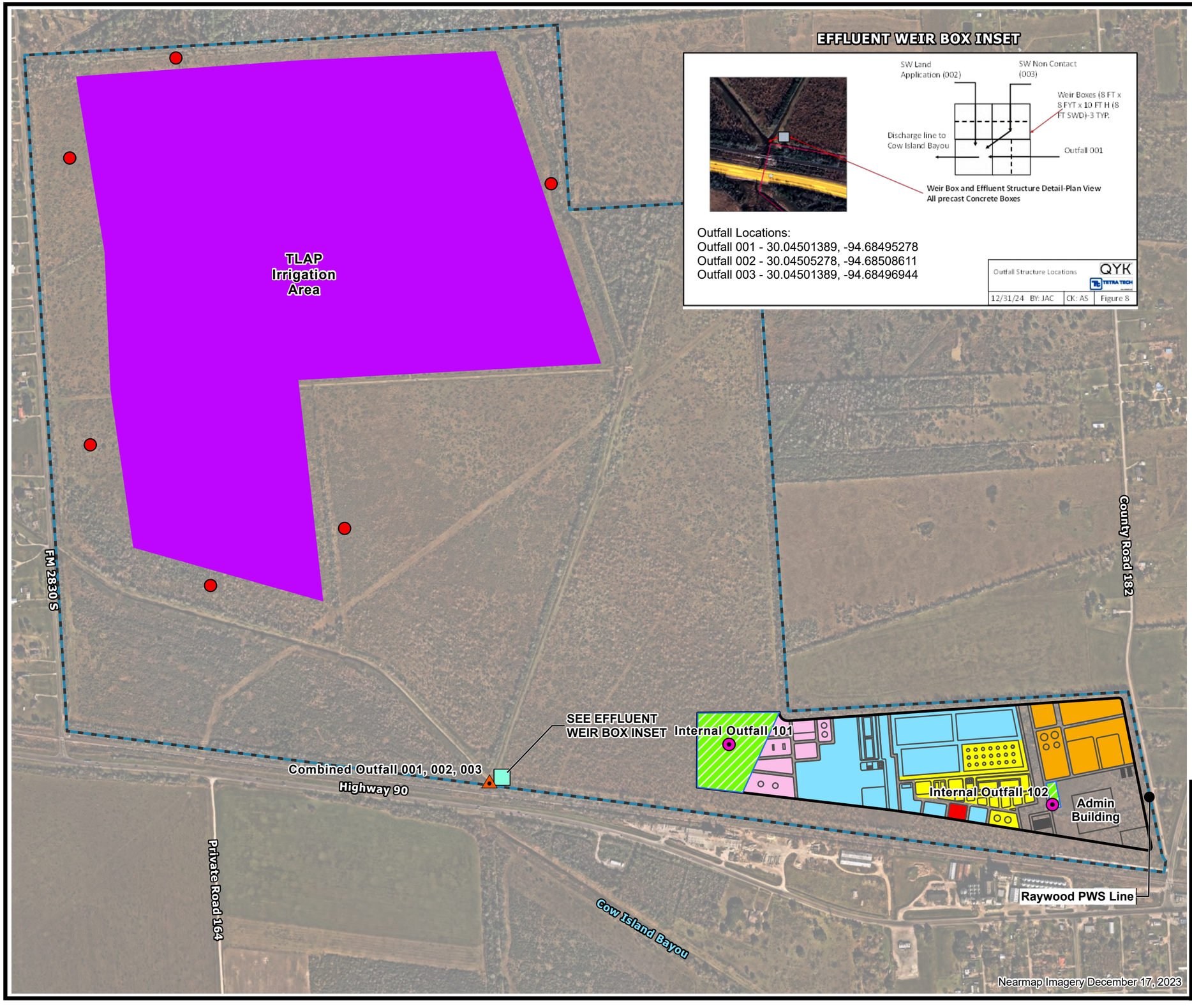
Table 18 for Outfall No.: Click to enter text.

Pollutant	Grab Sample* Maximum (mg/L)	Composite Sample** Maximum (mg/L)	Grab Sample* Average (mg/L)	Composite Sample** Average (mg/L)	Number of Storm Events Sampled

* Taken during first 30 minutes of storm event

Attachment TR-1d

Facility Site Map



EFFLUENT WEIR BOX INSET

Outfall Locations:
Outfall 001 - 30.04501389, -94.68495278
Outfall 002 - 30.04505278, -94.68508611
Outfall 003 - 30.04501389, -94.68496944

Outfall Structure Locations	QYK
12/31/24 BY: JAC	CK: AS | Figure 8

LEGEND

- Approximate Property Boundary
- Plant Boundary
- Proposed Monitoring Wells-Lysimeters
- Proposed Point of Discharge
- Proposed Internal Outfall
- Effluent Weir Box
- Wastewater Treatment Areas (See Attachment TR-1d1)
- TLAP Irrigation Area
- Maintenance Area (to be determined)
- Material Handling Area

Production Areas

- Future Expansion Area
- IA Process Area
- MAA Process Area
- Utility Area

NOTES:
1. Water Intake (Groundwater) to be determined.

0 350 700 FEET

1" = 700 FEET
1:8,400

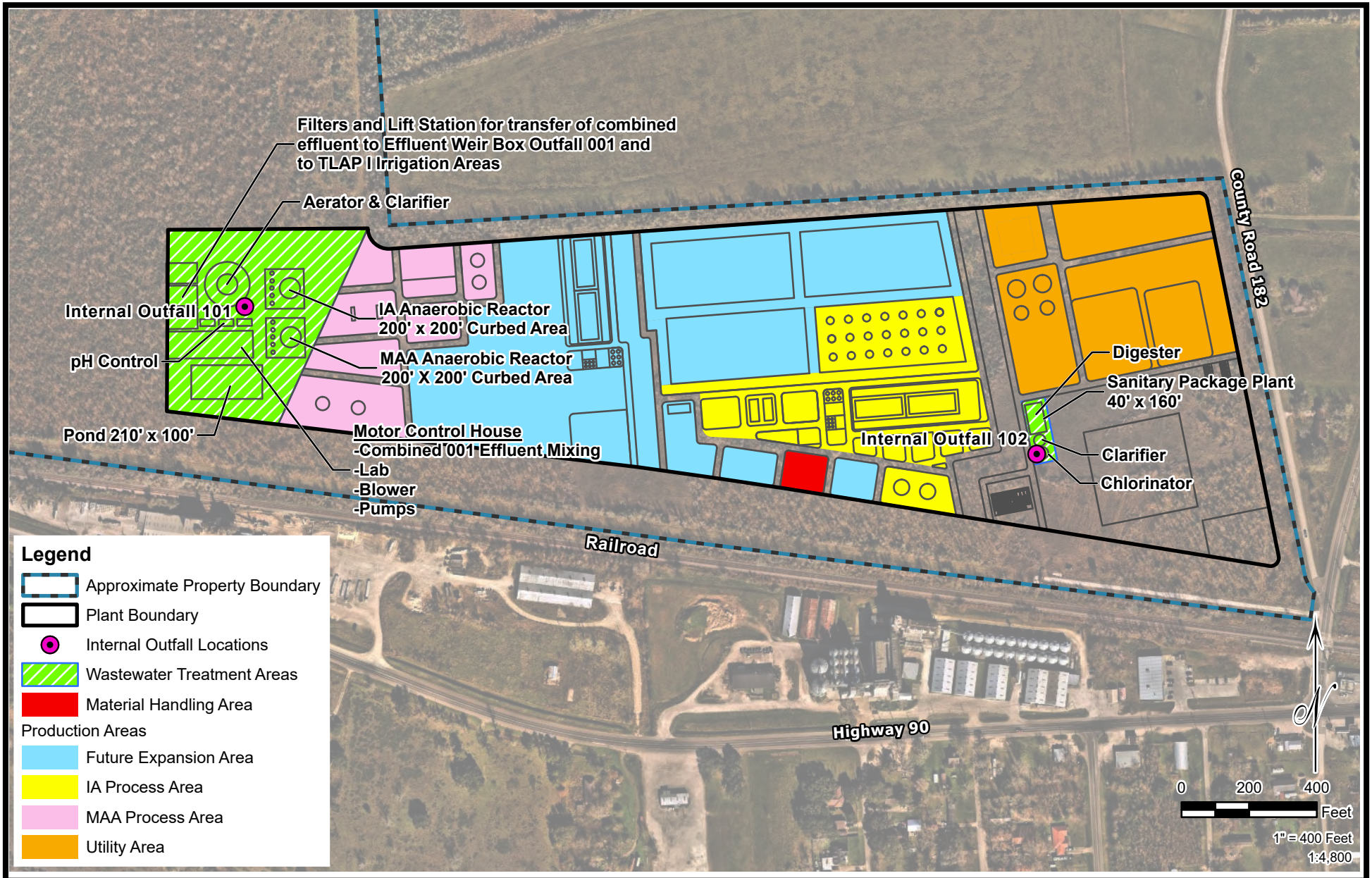
QYK BRANDS MAA PLANT

ATTACHMENT TR-1d
FACILITY MAP

DRAWN BY:	L WILSON	SCALE:	AS NOTED	PROJ. NO.	TPDES 2024
CHECKED BY:	K ALSUP				Facility Map
APPROVED BY:	K ALSUP	DATE PRINTED:	2/19/2025		
DATE:	February 2025				

RSJ Consulting

J:\Prj\QYK Brand Plant\TPDES 2024\QYK_GIS.aprx



J:\Prj\QYK Brand Plant\TPDES 2024\QYK_GIS.aprx

RSJ Consulting

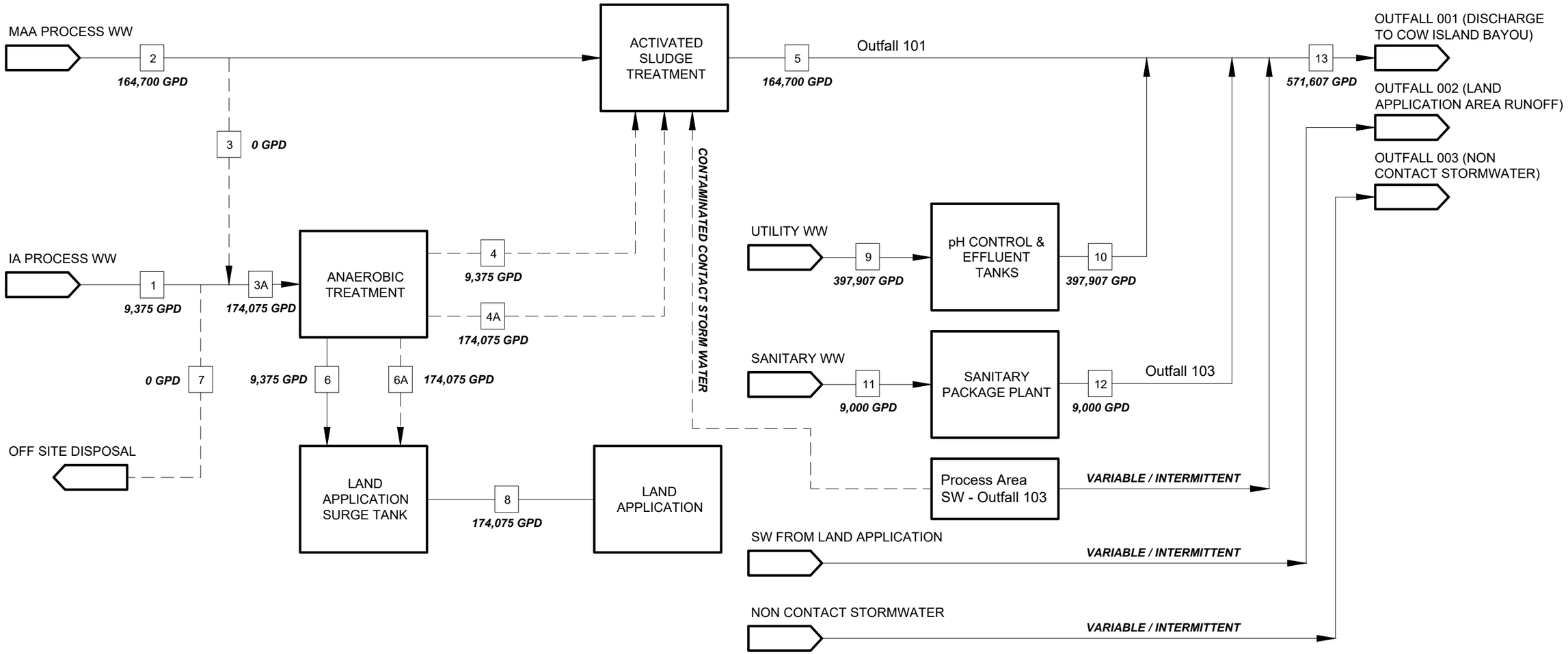
QYK BRANDS MAA PLANT

ATTACHMENT TR-1d1
WASTEWATER TREATMENT AREAS PLOT PLAN

DRAWN BY:	L WILSON
APPROVED BY:	K ALSUP
PROJECT NO:	TPDES 2024
FILE NO.	WWTA Plot Plan
DATE:	FEBRUARY 2025

Attachment TR-2b

Flow Diagram



QYK BRANDS MAA PLANT

ATTACHMENT TR-2B
WATER BALANCE AND FLOW SCHEMATIC

DRAWN BY: L WILSON	SCALE: See bar scale	PROJ. NO.	TPDES 2024
CHECKED BY: K ALSUP		FILE NO.	Flow Diagram.dwg
APPROVED BY: K ALSUP	DATE PRINTED:		
DATE: January 2025			

RSJ Consulting

PROJECT: QYK BRANDS SPECIALTY CHEMICAL PLANT
DOCUMENT: PRELIMINARY WASTEWATER BALANCE - REV A - ISSUED FOR REVIEW
DATE: 12/19/2024

		IA Process WW to Anaerobic Treatment	MAA Process WW to Act. Sludge	MAA Process WW to Anaerobic Treatment	Blend of IA and MMA Process to Anaerobic	Anaerobic Effluent (IA Only)	Anaerobic Effluent (IA and MAA)	MAA Activated Sludge Effluent (Outfall 101)	Anaerobic Effluent for Land Treatment (IA only)	Anaerobic Effluent for Land Treatment (IA and MAA)	IA Off Site Disposal Option	Land Treatment Surge Tank to Irrigation (IA and MAA)	Utility WW (CTBD, BB, RO Reject)	Utility Water pH Control	Sanitary Wastewater from Collection	Sanitary Effluent (Outfall 201)	Combined Outfall 001
Parameter	**Units**	**1**	**2**	**3**	**3A**	**4**	**4A**	**5**	**6**	**6A**	**7**	**8**	**9**	**10**	**11**	**12**	**13**
AVG Flow	GPD	9,375	164,700	0	174,075	9,375	174,075	164,700	9,375	174,075	0	174,075	397,907	397,907	9,000	9,000	571,607
MAX Flow	GPD	14,063	247,050	247,050	261,113	14,063	261,113	261,113	14,063	261,113	14,063	261,113	613,185	613,185	9,000	9,000	883,297
Notes	-	1	2	3	4	5	6	7	5	6	9	8	10	-	9	10	11
BOD (5-day)	mg/L	10,000	1,523	1,523	1,979	4,000	792	76	4,000	792	10,000	792	10	10	300	15	29
CBOD (5-day)	mg/L	10,000	1,523	1,523	1,979	4,000	792	76	4,000	792	10,000	792	10	10	300	15	29
Chemical Oxygen Demand (COD)	mg/L	20,000	2,545	2,545	3,485	8,000	1,394	127	8,000	1,394	20,000	1,394	100	100	600	50	107
Total Organic Carbon (TOC)	mg/L	10,000	1,523	1,523	1,979	4,000	792	76	4,000	792	10,000	792	30	30	300	15	43
Dissolved Oxygen (DO)	mg/L	0	0	0	0	0	0	5	0	0	0	0	5	5	0	5	5
Ammonia Nitrogen	mg/L	100	10	10	15	100	15	5	100	15	100	15	1	1	30	3	2
Total Suspended Solids (TSS)	mg/L	50	50	50	50	50	50	25	50	50	50	50	10	10	10	10	14
Nitrate Nitrogen	mg/L	50	10	10	12	50	12	10	50	12	50	12	1	1	1	15	4
Total Organic Nitrogen	mg/L	100	10	10	15	100	15	10	100	15	100	15	1	1	1	1	4
Total Phosphorus	mg/L	18,537	10	10	1,008	9,269	1,008	10	9,269	1,008	18,537	1,008	1	1	1	1	4
Oil and Grease (O&G)	mg/L	45,595	10	10	2,465	18,238	2,465	10	18,238	2,465	45,595	2,465	10	10	10	10	10
Total Residual Chlorine	mg/L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Total Dissolved Solids (TDS)	mg/L	5,000	5,000	5,000	5,000	6,000	6,000	5,000	6,000	6,000	5,000	6,000	2,500	2,500	750	750	3,193
Sulfate	mg/L	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	250	250	250	250	466
Chloride	mg/L	500	500	500	500	500	500	500	500	500	500	500	100	100	100	100	215
Fluoride	mg/L	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0
Total Alkalinity	mg/L as $CaCO_3$	500	250	250	263	500	263	150	500	263	500	263	75	75	50	50	96
Temperature	°F	100	100	100	100	90	100	90	90	100	100	100	85	85	85	80	86
pH	SU	6.50	7.00	7.00	6.97	6.50	6.97	7.50	6.50	6.97	6.50	6.97	7.50	7.50	7.50	7.50	7.50

Notes

1 IA process WW quality provided by QYK (client)
2 MAA process WW quality derived from chemcial makeup of MAA, which was provided by client
3 MAA alternate path of anaerobic treatment, TBD in future project phase
4 Anaerobic system feed if both IA and MAA are treated
5 Anaerobic system effluent if only IA is treated
6 Anaerobic system effluent if both IA and MAA are treated
7 Extended Aeration Model (from Biowin) effluent projection for MAA process WW with no anaerobic pretreatment
8 Land application of anaerobic effluent form combined IA and MAA streams
9 IA waste can be hauled off site and is assumed to be the same strength as when generated
10 Cooling tower blowdown (CTBD), RO reject, and boiler blowdown (BB) modeled using groundwater ionic concentrations from City of Raywood PWSW. Assume: 3 cooling tower cycles, typcial boiler blowdown, and 75% RO recovery
11 Sanitary flow is based on 25 persons on site average/100 maximum @ 20 GPD/person, using Figure: 30 TAC §217.32(a)(3) Table B.1. Potable water = Sanitary WW

Attachment TR-5b Water

Chemicals and SDS

To Be Provided Later

Attachment TR - WS3

TLAP Engineering and

Cropping Plan

QYK

QYK Brands Methacrylic Acid (MAA) Plant, Raywood, TX in Liberty County

Land Application and Cropping Plan

January 6, 2025

Land Application and Cropping Plan

January 6, 2025

PRESENTED TO

RSJ Consulting
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Prepared by:

John Christiansen, PE Program Manager, Water & Wastewater	Date 1/6/25

Reviewed by:

Mary Jones, PE Sr. Process Engineer	Date 1/6/25

Authorized by:

Jake Wimberly, PG Operations Manager	Date 1/6/25

TABLE OF CONTENTS

FIGURES

TABLES

ATTACHMENTS

1.0 PROJECT DESCRIPTION

The QYK Brands MAA Plant generates process wastewater from the Itaconic Acid (IA) and Methacrylic Acid (MAA) process units. The higher strength IA process wastewater streams collected in Equalization Tanks are generated at daily flows of 0.009 MGD (AVG) to 0.014 MGD (MAX). The IA wastewater is pumped from the Equalization Tank to the Process Wastewater Treatment Area where it is treated using an Upflow Anaerobic Sludge Blanket (UASB) process. The anaerobic effluent is normally land applied. The MAA process wastewater stream may occasionally be combined with the IA wastewater and anaerobically treated prior to land application. The MAA daily flows range between an average of 0.164 MGD and a maximum 0.247 MGD. If both IA and MAA wastewater are irrigated on the land, the combined application flow will be 0.174 to 0.261 MGD. The design of the Land Application Area is based on the case where both IA and MAA wastewater streams are passed through anaerobic treatment and then land applied (Case 4A in Table 1).

The normal operating case for QYK will be to irrigate with only the anaerobically treated IA wastewater (Case 4 in Table 1) and this is a significantly smaller volume than the design case (IA and MAA) for the land application area. This would result in a smaller area of land being used for wastewater application. The larger design case is if the MAA wastewater was needed to be land applied. If MAA is land applied the wastewater would be treated anaerobically before application. Generally, the MAA wastewater will proceed through an aerobic activated sludge treatment plant and be discharged through Outfall 001 to Cow Island Bayou. When a long period of dry weather is present QYK may choose to apply all of the treated process wastewater (IA and MAA).

2.0 WASTEWATER TO BE LAND APPLIED

The wastewater and its anticipated strength of constituents is shown in the two right hand columns of **Table 1**. The values represent the maximum concentration that could be land applied.

Table 1 Characteristics of Wastewater to be Land Applied

		IA PROCESS WW TO ANAEROBIC TREATMENT[1]	MAA PROCESS WW TO ACTIVATED SLUDGE[2]	BLEND OF IA AND MAA PROCESS TO ANAEROBIC TREATMENT[3]	ANAEROBIC EFFLUENT (IA ONLY) FOR LAND APPLICATION[4]	ANAEROBIC EFFLUENT (IA AND MAA) FOR LAND APPLICATION[5]
Parameter	**Unit**	**Case 1**	**Case 2**	**Case 3A**	**Case 4**	**Case 4A**
AVG Flow	GPD	9,375	164,700	174,075	9,375	174,075
MAX Flow	GPD	14,063	247,050	261,113	14,063	261,113
BOD (5-day)	mg/L	10,000	1,523	1,979	4,000	792
CBOD (5-day)	mg/L	10,000	1,523	1,979	4,000	792
Chemical Oxygen Demand (COD)	mg/L	20,000	2,545	3,485	8,000	1,394
Total Organic Carbon (TOC)	mg/L	10,000	1,523	1,979	4,000	792
Ammonia Nitrogen	mg/L	100	10	15	100	15
Total Suspended Solids (TSS)	mg/L	50	50	50	50	50
Nitrate Nitrogen	mg/L	50	10	12	50	12
Total Organic Nitrogen	mg/L	100	10	15	100	15
Total Phosphorus	mg/L	18,537	10	1,008	9,269	1,008
Oil and Grease (O&G)	mg/L	45,595	10	2,465	18,238	2,465
Total Dissolved Solids (TDS)	mg/L	5,000	5,000	5,000	6,000	6,000
Sulfate	mg/L	1,000	1,000	1,000	1,000	1,000
Chloride	mg/L	500	500	500	500	500
Total Alkalinity	mg/L as CaCO3	500	250	263	500	263
Temperature	°F	100	100	100	90	100
pH	SU	6.50	7.00	6.97	6.50	6.97

Notes

1. IA process WW quality provided by QYK
2. MAA process WW quality derived from chemical makeup of MAA wastewater provided by QYK
3. Anaerobic system feed if both IA and MAA are combined and treated
4. Anaerobic system effluent if only IA is treated
5. Anaerobic system effluent if both IA and MAA are treated

3.0 LAND APPLICATION DESIGN AND CROPPING AREA

The Irrigation Areas are located based on the available land owned by QYK Brands LLC. The Irrigation Areas are positioned to have the field periphery be at least 500 FT from the public and located where no field is on a pipeline easement or drainage feature. Using conservative assumptions about the area soils, water application calculations are shown in **Table 2**. These assume a conservative soil permeability which will be verified in field testing to occur in Q1 2025. The design within each area is based on repeating a Standard Zone size of 400 FT x 400 FT or 3.67 acres.

Our calculations show:

- The IA stream requires a 10-acre application area.
- The MAA stream requires a 178-acre application area.
- The combined streams require a 188-acre application area.

The planed Land Application Areas are shown in **Figures 1-7**. Four (4) areas are available:

1. Irrigation Area 1 is the northeast parcel and is 69 Acres. It borders an existing drainage ditch to the east and the perimeter levees prevent runoff from reaching that ditch. These older ditches may be removed during build out. This is sufficient for the IA effluent and some MAA effluent application.
2. Irrigation Area 2 is a 20-acre triangular section of land at the northwest corner of the irrigation areas. It borders an existing drainage ditch to the south and the perimeter levees prevent runoff form reaching that ditch.
3. Irrigation Area 3 is south of Area 2 with a drainage ditch to the north and a dirt road to the south. It is 70 Acres.
4. Irrigation Area 4 is north of Cow Island Bayou and comprises 39 acres.
5. If all areas are used the available application area is 198 acres which exceeds the calculated requirements of the combined IA and MAA application.

Table 2 Land Application Calculations

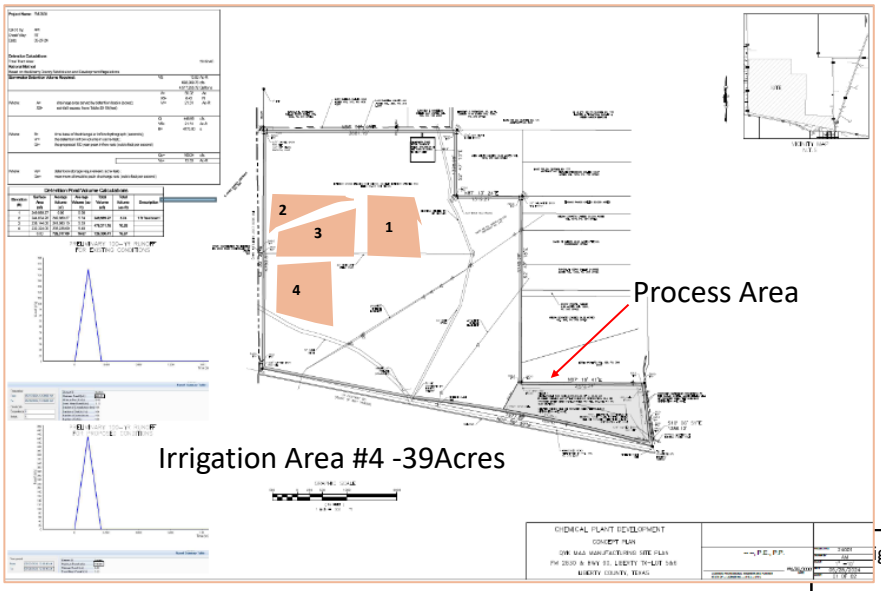
CATEGORY	VALUE, IA ALONE	VALUE, MAA ALONE	VALUE, IA & MAA COMBINED	UNITS
Zone Information				
Length of 1 Standard Zone	400	400	400	FT
Width of 1 Standard Zone	400	400	400	FT
Total Area of 1 Standard Zone	160,000	160,000	160,000	SF
Total Area of 1 Standard Zone	3.70	3.70	3.70	Acres
Soil Type	Loamy Clay Complexes	Loamy Clay Complexes	Loamy Clay Complexes	Assumed Permeability 1 x10^{-6} CM/SEC Break up by tilling
Observation Factor	No Ponding	No Ponding	No Ponding	
Permeability*	1.00E-06	1.00E-06	1.00E-06	CM/SEC
Permeability*	2.83E-03	2.83E-03	2.83E-03	FT/DAY
Average Net Evaporation Rate for TWDB grid	0.00	0.00	0.00	inches/year

CATEGORY	VALUE, IA ALONE	VALUE, MAA ALONE	VALUE, IA & MAA COMBINED	UNITS
Average Net Evaporation Rate for TWDB grid*	0.00E+00	0.00E+00	0.00E+00	FT/DAY
Total Water Loss Permeability + Evaporation	**2.83E-03**	**2.83E-03**	**2.83E-03**	**FT/DAY**
Capacity of 1 Standard Zone	4.54E+02	4.54E+02	4.54E+02	CF/DAY
Capacity of 1 Standard Zone	3,393	3,393	3,393	GPD
Capacity of 1 Standard Zone	2	2	2	GPM
Capacity of 1 Standard Zone	2.84	49.86	52.70	acre-ft/acre/yr
Safety Factor	1.9	1.9	1.9	
System Requirements Overall	9,375	164,700	174,075	GPD
System Requirements Overall	7	114	121	GPM
Recovery	100%	100%	100%	
Applied Water	9,375	164,700	174,075	GPD
Number of Standard Zones (400'x400' Plots) Required	3	49	51	Standard Zones
Acres Required	10.2	178.3	188.5	Acres
Berm Requirements				
24-hour, 25-year Rain	12.4	12.4	12.4	inches
Berm Height Selected	24	24	24	inches
Safety Factor	1.9	1.9	1.9	
Nitrogen Balance				
Applied Wastewater Nitrogen Content	100	100	100	mg/L
Stream Flow	0.01	0.16	0.17	MGD
Mass Nitrogen	7.8	137.4	145.2	lbs./day
Nitrogen applied (day)	0.8	0.8	0.8	lbs. N/ acre/day
Nitrogen applied (year)	281	281	281	lbs. N /acre/year

*The permeability was chosen based on NCRS soil survey findings; the depth to the water table is more than 25 FT and has no frequency of ponding or flooding. Permeabilities should range from 10^{-5} to 10^{-7} CM/SEC, a midpoint was chosen.

+The Net Evaporation Rate for TWDB Grid 713 is just less than zero, based on the last 30 years data.

Irrigation Area 1-69 Acres, 2-20 Acres, 3-70 Acres



- Land application area offset from property line by a minimum of 500'
- Irrigation would use plastic pipe Valley Systems walking sprinklers or "Rainbird" irrigation systems
- Alfalfa Crop
- We estimate 2 months where freeze or rainfall would prevent application and backup disposal needed

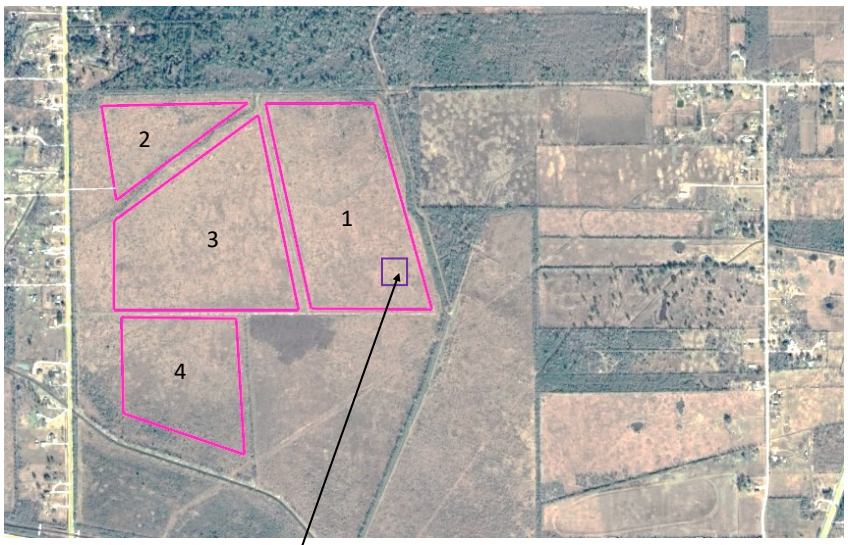
IA requires 10 Acres; MAA requires 178acres
The four Irrigation Areas total 198 Acres

igation Areas for QYK Process WW

QYK
TETRA TECH

12/30/24	BY: JAC	CK: AS	Figure 1

Figure 1 Irrigation Area Detail



400 FT x 400 FT Standard Zone

Google Earth 2024

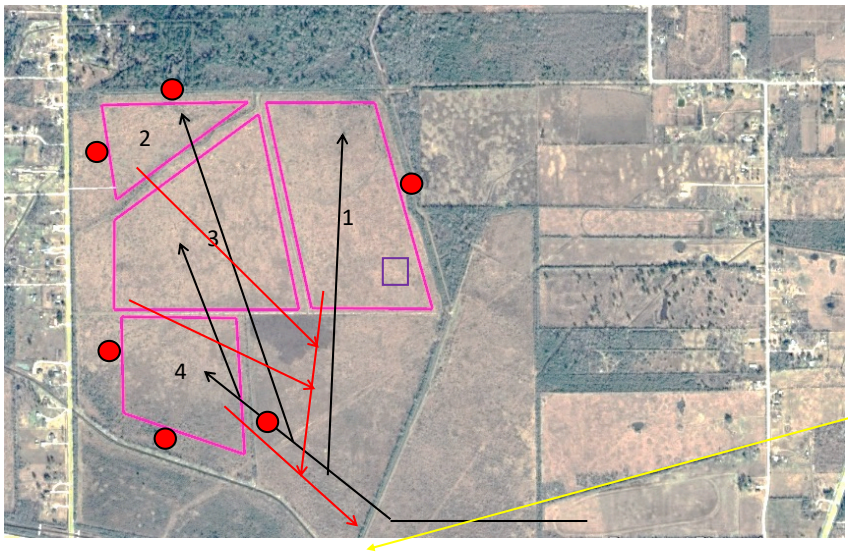
1. The water applied from Anaerobic treatment effluent
2. The flow is 0-121 gpm variable rate
3. The plots are a series of Standard Zones. Each Standard Zone is 400 FT x 400 FT with Rainbird sprinklers to distribute
4. Irrigation Zone 1 is 69 acres and can be used for IA wastewater and some MAA effluent.
5. Irrigation Area 2 is 20 Acres, Area 3 is 70 Acres and Area 4 is 39 Acres. These would be used for MAA wastewater effluent, if land applied.
6. Area Dimensions:
    1. 2350 FT N-S x 1300 FT E-W
    2. Triangular, 1060 FT N-S, 1650 FT-E-W And the Long Side is 1300 FT
    3. This is a Polygon with the West Side 1000 FT L, the South Side 2050 FT L, The East Side 2250 FT L and the North Side 2000 FT L.
    4. Area 4 is another Polygon with the West Side 1000 FT L, the North Side 1300 FT L, the West Side 1510 FT L and the South Side 1430 FT L

Detail of Land Application Area
Plan View

QYK
TETRA TECH

12/30/24	BY: JAC	CK: AS	Figure 2

Figure 2 Land Application Details

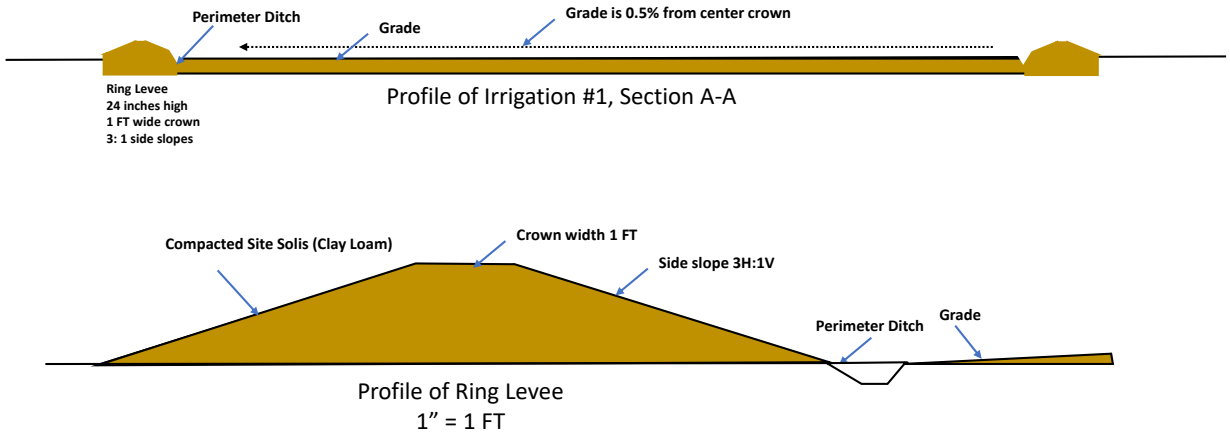


1. The water applied from Anaerobic treatment effluent is delivered to irrigation Areas 1-4 (Black Lines)
2. There are no ponds or surface impoundments
3. The Red line around the irrigation area is the Perimeter Levee, 24 inches high. This contains any stormwater
4. Portable pumps are used to pump Stormwater (after the event) to the Outfall 002 (Red Lines)
5. See Figure 6 for the Outfall Detail
6. Red Circles are proposed Monitoring Wells-Lysimeters (Figure 7)

Vicinity all Outfalls
See Figure 8 for the Outfall Sketch

Detail of Land Application Area Plan View	QYK / TETRA TECH		
12/30/24	BY: JAC	CK: AS	Figure 3

Figure 3 Land Application Water Lines and Proposed Monitoring Wells



Notes: the 24-hour, 25-year storm event used for design is 12.4 inches
The levee height is 24 inches
Safety Factor = 1.9

Detail of Land Application Area Section A-A	QYK / TETRA TECH		
12/30/24	BY: JAC	CK: AS	Figure 4

Figure 4 Land Application Area Section A-A

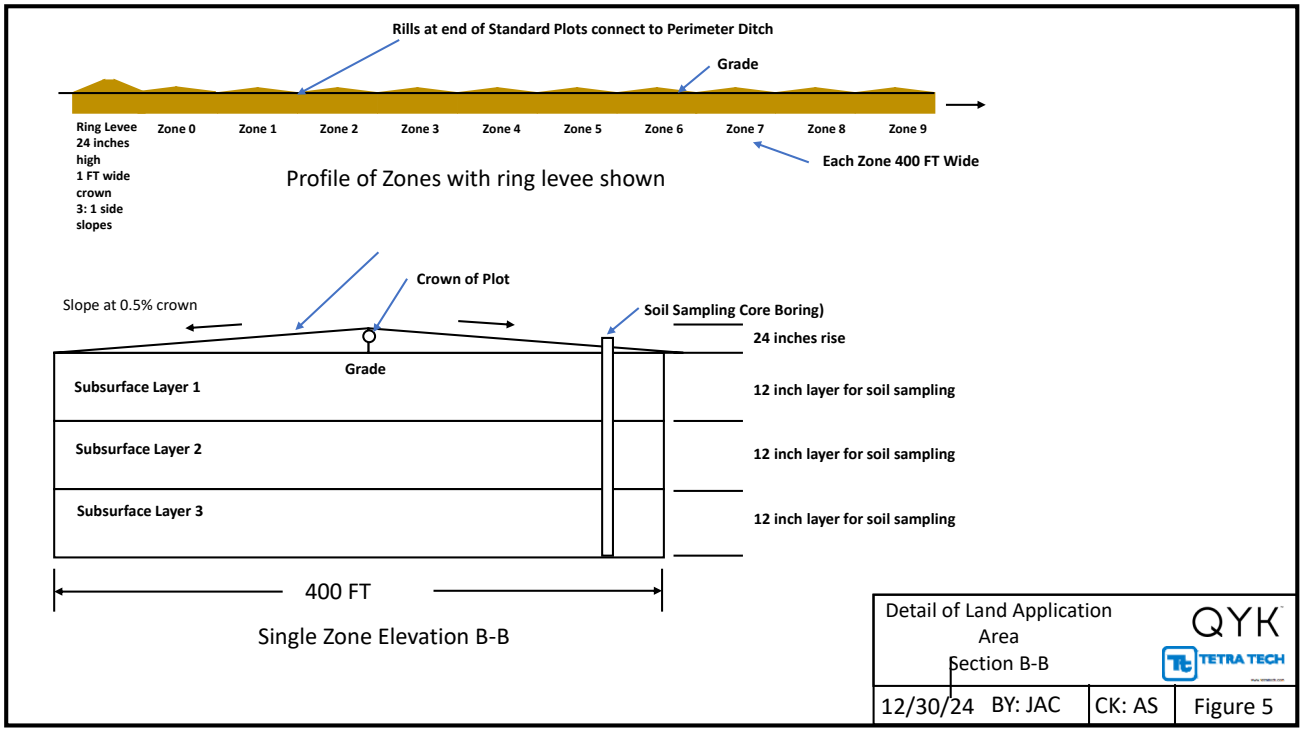


Figure 5 Land Application Area Section B-B

3.1 CROP SELECTION AND GROWING SEASON

Alfalfa has been selected for its seasonal production rates, its uptake of water, high growth rate and use as cattle fodder. There is already significant alfalfa production in the area. Alfalfa will produce forage with the highest protein and total digestible nutrient of any hay crop grown. While there are difficulties with its production in the drier regions of Texas, it is well suited to the clayey, moist soils of Liberty County. Alfalfa is a warm season perennial legume that can live for 30 years. The plant produces a deep tap root that may grow to a depth of 20 feet. Alfalfa will produce maximum yields when planted on fertile deep soils. It is suitable for soils with high salinity as shown in **Figure 6** below. Yield does drop with salinity.

Alfalfa grows rapidly. Alfalfa requires a minimum of 3 feet of fertile soil to develop its root system for high production and stand life. Alfalfa increases soil organic matter content, and its root system can improve soil tilth and improve moisture penetration. Alfalfa can receive a high nitrogen loading, particularly if an inoculum, Rhizobium sp. is applied at planting. Alfalfa is dormant to semi-dormant during the winter months. In the spring or after a cutting alfalfa stems grow from buds that develop from the plant's crown at or slightly below the soil surface. To prevent damage to the crown and developing new buds, a minimum cutting height of 2 inches is recommended. Stems mature and flower at a height between 6 inches and 3 feet, depending upon available water, nutrients, weather conditions, disease and insects. Normally, Alfalfa will begin to bloom 28 to 30 days after each cutting at a height of 1 ½ to 2 feet.

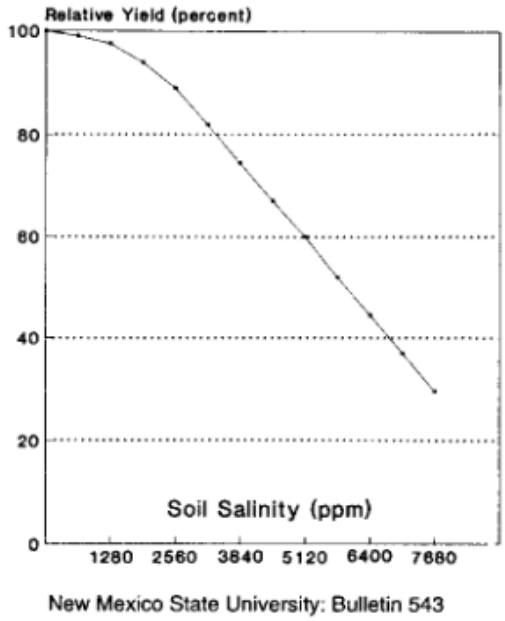


Figure 6 Alfalfa Yield Rate Variation with Soil Salinity, New Mexico Agricultural Bulletin 543

The entire acreage of the irrigation areas will be Alfalfa. There will be no crop rotation. During periods of rainfall there will be no application. The growing season is late February-March dependent on temperatures. Table 3 shows the average site temperatures over the last 12 years (TWDB). During December-January there will be no wastewater application. The area will be prepared by removing existing vegetation.

Table 3 Day and Night Average Temperatures 2011-2023 (TWDB)

MONTH	DAY	NIGHT	RAIN DAYS	PERCENT RAIN
January	61	45	7	23%
February	64	48	7	25%
March	72	55	7	23%
April	77	61	8	27%
May	84	68	10	32%
June	91	73	12	40%
July	91	75	14	45%
August	93	72	14	45%
September	88	63	11	37%
October	81	54	7	23%
November	70	48	6	20%
December	64	32	7	23%

3.2 SOIL AND NUTRIENT INFORMATION

This area has a mixture of soils, as described in the USDA National Conservation Registry of Soils. No on-site investigation has been performed. QYK plans to perform soil analysis in one of the Irrigation Areas in Q1 2025.

The soils are the following:

1. Labelle Clay and Loam (LabA)
2. Labelle-Levac Complex (LaiA)
3. Morey Spindletop Complex (MosA)
4. Orcadia-Aris Complex (OsaA)

The soils of the Land Treatment Area were investigated at the Desktop using United States Department of Agriculture Natural Resources Conservation Service NCRS resources. Soil surveys compiled by the United States Department of Agriculture Natural Resources Conservation Service were utilized where available. The soils are clays and combinations of clay, sandy loam, and clayey loam down to >100 FT depth.

- The LabA is found in the portion of the site where a drainage ditch runs between Irrigation Areas 2 and 3. LabA is clayey loam, a poor draining, nutrient rich soil. The water table associated with LabA is >39 inches deep. It is also found in Irrigation Area 3.
- Irrigation Area 1 and 3 is underlain predominantly by MosA, which is sandy loam, loam, and clayey loam and a poor draining, rich soil. The water table associated with MosA is >51 inches deep.
- Irrigation Area 2 is predominantly underlain by OssA, which is silt loam and clay material common in farmland. The water table associated with OsaA is >25 inches deep.
- Irrigation Area 4 is predominantly underlain by LaiA, which is sandy loam, loam, and clayey loam and a poor draining, rich soil. The water table associated with LaiA is >51 inches deep.

The clay, sandy loams, and clayey loams discovered are suitable to low application rates. These also have a relative low permeability rate so low application rates are required.

The soils nutrient adsorption is such that the nitrogen and phosphorus applied to the soil should be immediately adsorbed. No additional fertilizer requirements are expected. Soils information from NCRS is summarized in **Attachment A**. The predominance of soils in the areas planned for irrigation are shown in **Figure 7**, from NCRS.

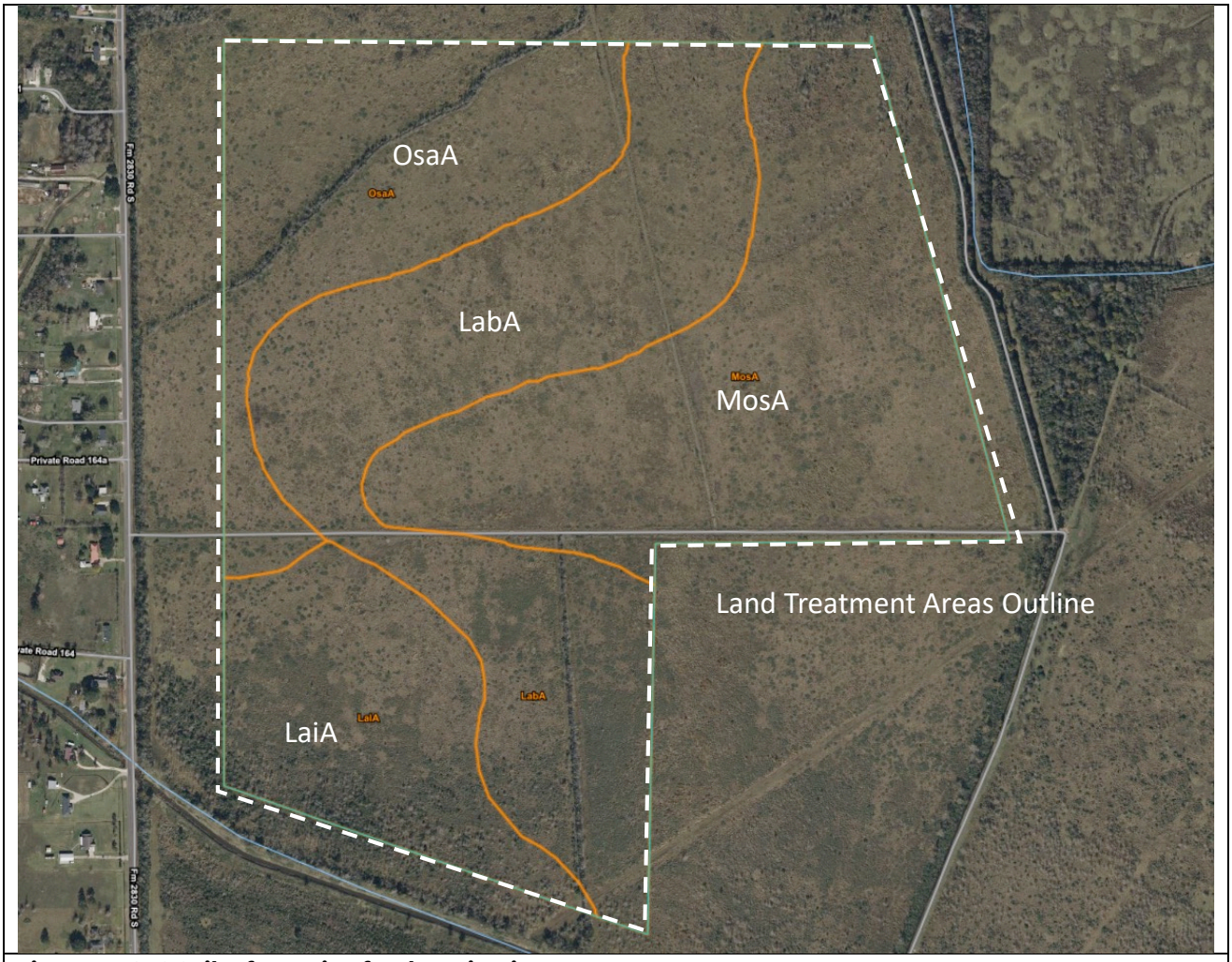


Figure 7 NCRS Soil Information for the Irrigation Areas

During design development we interviewed personnel with the Drainage District who made relevant comments that affect soil management, crop selection, and runoff control.

1. The field soils have been worked for rice and cotton over 40+ years but have been in forage or Alfalfa production for the last several years. Fertilizer application has been minimal to maintain forage production.
2. Even during Hurricane Harvey, there was not severe flooding in the application area.
3. The areas formerly used Valley Systems walking sprinklers on, though the sprinklers were only active in Fall months or during long periods of drought conditions.
4. Soil slopes of 0.5%-1.0% are sufficient to drain excess water off the fields.
5. Additional fertilizer is seldom added to fields using alfalfa. Initial seeding and bacterial application is generally sufficient though the nutrient content of the soils will be determined during the Q1 2025 soil investigation.
6. Growth occurs 10/12 months, with area average temperatures shown for the last 12 years.

The permeability of the soils is low, but the topsoil's area lack of ponding led us to assume a permeability for design of 1 x 10^{-6} cm/sec. This results in a large application area for the wastewater streams.

3.3 GROUNDWATER INFORMATION

The Texas Water Development Board Groundwater Viewer was used to obtain information. The source of groundwater in Liberty County is precipitation on the land surface of the county and adjoining areas to the north. Most of the precipitation runs off or is consumed by evapotranspiration; only a small part migrates downward until it reaches the zone of saturation. The upper surface of the zone of saturation is the water table, below which water is contained in the interstices or pore spaces between the rock particles of the aquifer.

The water bearing aquifers, are of two types:

1. Unconfined aquifers; and
2. Artesian, or confined aquifers.
3. The confined aquifers in the vicinity of the QYK facility are the Jasper, the Chicot, and the Evangeline.

The Jasper aquifer is in the very north portion of Liberty County and just north of the area of the site. It consists of alternating beds of sand and is as deep as 2400 feet. Electrical logs indicate that sand generally constitutes from 30 to 40 percent of the aquifer in the part that contains fresh to slightly saline water. The logs also show that sand zones as much as 250 feet thick are common in the upper part of the aquifer. The Jasper Aquifer supplies only a small portion of the County well water as it predominates in rural areas.

The Chicot aquifer, which includes the Willis Sand, Lissie Formation, Beaumont Clay, and Recent alluvium crops out in all parts of Liberty County. The Chicot consists of gravel, sand, silt, and clay. Sand constitutes about 50 percent of the aquifer. The thickness of the aquifer ranges from less than 100 feet in the northern part of the county to about 480 feet in the southern part. The aquifer slopes to the southeast. Most of the domestic wells drilled in the Raywood area for residential use are in this aquifer. The Chicot aquifer water quality is high. Its chemical parameters meet the requirements of the Safe Drinking Water Act. A water Quality report for one of the domestic groundwater wells near the Land Application is found in Attachment C. The most important geologic characteristics is that there is clay and clayey sand between the surfaces of the unconfined aquifers or water table and the Chicot Aquifer.

The Evangeline aquifer, which is equivalent to the Goliad Sand and the upper part of the Fleming Formation is overlapped by younger sediments and does not appear at the surface in Liberty County. The Evangeline, which is equivalent to part of the "heavily pumped layer" in the Houston area (Wood and Gabrysch, 1965, p. 7-10), consists of sand, gravel, silt, and clay. About 50 percent of the aquifer is sand. The thickness of the Evangeline ranges from 540 feet in the northern part of the county to about 2,240 feet in the southern part. The Public Water Supplies (PWS) in Liberty County including in Raywood are produced from this aquifer due to its high pumping rate. The Evangeline aquifer contains fresh water in the northern half of Liberty County and fresh to slightly saline water in the southern half. The Raywood PWS water is fresh and meets all SWDA

criteria.

Attachments B and C show all the groundwater wells within a 1/2-mile radius of the Land Application site boundaries and the QYK Plant boundaries. While there are Domestic Water Wells approximate 50 Ft (Attachment B) they are 100-420 FT deep with water tables at 48-55 FT deep and do not draw from the water table. The clay, clayey loam and loam soils prevent any applied wastewater from affecting these wells. The PWS wells near the plant and near Raywood are all greater than 100 FT deep and are unaffected by surface industrial activity.

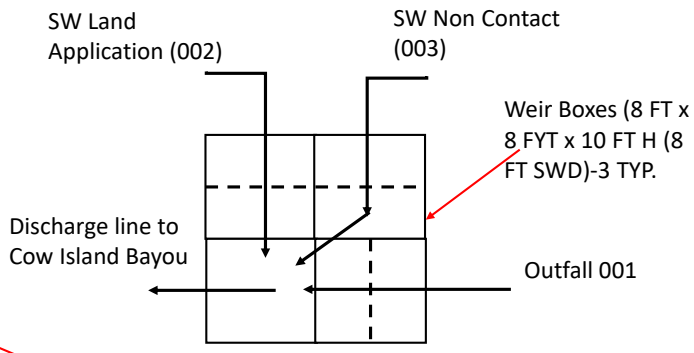
Monitoring wells to 50 FT will be installed around the perimeter of the Land Application Site. These will be screened at the water table and monitored for total dissolved solids, nitrate nitrogen, chlorides, sulfates, pH, and Total Phosphate. The approximate location is shown in Figure 3 and will be set after the field investigation in Q1 2025.

3.4 EVAPORATION AND RUNOFF CONTROL

Based on analyses of the last 30 years of rainfall and evaporation data, supplied for Grid 713 on the TWDB website, the Net Evaporation is slightly less than zero. But **Table 3** shows rainfall occupies <25% of most days each month. But since rainfall occurs most every month, runoff must be managed to prevent oversaturation of the soils. No process wastewater will reach runoff to Outfall 002. If only IA wastewater is used the zones can be rotated to allow each area to be watered in a series operation (10 acres or 3 zones would be watered with effluent every 3-4 days to avoid oversaturation. The use of a high-water uptake crop such as Alfalfa would allow the watered plots to be inspected prior to reapplication. No application of wastewater will occur during and immediately after rain events. The water table is expected to be greater than 5 FT below the surface but will be confirmed during the Q1 2025 soil sampling. If the water table is higher than 5 FT then soil moisture analyses will be used to avoid oversaturating application soil.

The Standard Plots are 400 FT x 400 FT. Each plot will run E-W and have a crown, draining at 0.5% to low areas which drain to a perimeter ditch inside a 24-inch-high containment levee. When rain events occur, no contamination will release from the soil into runoff as long as standing water is removed within a few days. Each of the Irrigation Areas has a ring levee. The ring levee collects all runoff inside the levee. There will be 6-inch diameter HDPE pipe running from the irrigation areas to an effluent box (Outfall 002). After a rain event a portable pump will be used to pump runoff to the Outfall 002 box for discharge. The lines to pump effluent into the land application areas will be buried HDPE with general paths as shown in **Figure 3**. There will also be return lines to Outfall 002. **Figure 8** shows how the Outfalls 001, 002, and 003 will be collocated near Cow Island Bayou. There will be three Precast Concrete Chambers with overflow weirs. Since Stormwater has variable flows it is more reliable to measure flows using water level over weirs or Parshall Flumes than using “Mag Meters”.

Each Outfall 001 (treated wastewater), 002 (stormwater from land application area), and 003 (stormwater from non-contact areas) have their own chamber where pumped flow enters, rises and flows over the weir to be measured. Then each of these chambers connect to the 4th chamber which leads to a large pipe entering Cow Island Bayou.



Weir Box and Effluent Structure Detail-Plan View
All precast Concrete Boxes

Outfall Locations:
1. Outfall 001- 30° 02' 42.05" N 94° 42' 05.83"W
2. Outfall 002- 30° 02' 42.19" N 94° 42' 06.31"W
3. Outfall 003- 30° 02' 42.05" N 94° 42' 05.89"W

Outfall Structure Locations	QYK / TETRA TECH		
12/31/24 BY: JAC	CK: AS	Figure 8	

Figure 8 Outfall Structure Locations

4.0 CONCLUSIONS AND PATH FORWARD

The process wastewater streams from the QYK MAA Facility will be land applied into four (4) Irrigation Areas. IA wastewater will be the predominant stream land applied and will require 10 acres. Area 1 is 68 acres and will be used for all the IA effluent and if needed some opportunistic application of treated MAA wastewater effluent. If all the MAA effluent is applied, it will require 188 acres that can be provided by the three (3) additional irrigation areas of 20, 70, and 38 acres to handle the IA and MAA wastewater. All irrigation areas total 196 Acres which is greater than the 188 acres required for application of the average flow of all process wastewater streams after anaerobic treatment.

The strength of the planned wastewater is shown in **Table 1.**

The design of the four (4) irrigation areas is based on an NCRS survey of the irrigation area soils. It will be updated after a field investigation in Q1 2025. The soil is assumed to be low average permeability of 1 x 10^{-6} cm/sec, which is conservative to address the soils but also reflects area farmer observations that ponding does not occur. The soil is assumed to be clays, sandy loams, and clayey loams which have already been used to grow the planned crop of Alfalfa. Alfalfa was selected as the sole crop due to its salinity tolerance, its growth rate and high rate for uptake of water, and ability to use nitrogen and phosphorus in the wastewater. The irrigation will be by a combination of the Valley Walking Systems, if available or Rainbird systems using 400 FT x 400 FT zones. The zones will be able to be isolated so that operators can avoid over watering. The irrigation areas will each be ringed with a 24-inch-high soil levee. During periods of rain, soil saturation, or cold weather, no land application will be made. The land area will be sloped 0.5% to E-W drains to perimeter ditches inside the levee. Portable pumps can be used to pump the stormwater runoff water to the Outfall 002 effluent chamber.

There are nearby groundwater wells, but they draw from the Chicot and the Evangeline Aquifers, which are deeper than the water table in the area. The NCRS soil survey reports the soil types have expected water table of 25-72 inches (the predominant depth is >45 inches) which is adequate for irrigation.

The soil characteristics, nutrient content, and permeability will be confirmed by a field investigation in Q1 2025.

5.0 REFERENCES

1. Texas | Natural Resources Conservation Service (www.nrcs.usda.gov/conservation-basics/conservation-by-state/texas)
2. NCRS Soil Viewer (websoilsurvey.nrcs.usda.gov/app/)
3. Water Data for Texas-TWDB (waterdatafortexas.org/lake-evaporation-rainfall)
4. Alfalfa Technical Summary- (smith.agrilife.org/files/2019/06/Alfalfa-Production-Texas)

Attachment A
NCRS Soils Information in the Land Treatment Irrigation Areas

Soil Descriptions

LabA—Labelle clay loam, 0 to 1 percent slopes

- Map Unit Setting
- *National map unit symbol:* 2thnk
- *Elevation:* 20 to 100 feet
- *Mean annual precipitation:* 48 to 62 inches
- *Mean annual air temperature:* 68 to 72 degrees F
- *Frost-free period:* 270 to 300 days
- *Farmland classification:* All areas are prime farmland
- Map Unit Composition
- *Labelle and similar soils:* 90 percent
- *Minor components:* 10 percent
- *Estimates are based on observations, descriptions, and transects of the map unit.*
- Description of Labelle
- Setting
- *Landform:* Flats
- *Landform position (three-dimensional):* Talf, dip
- *Down-slope shape:* Linear
- *Across-slope shape:* Convex
- *Parent material:* Loamy fluviomarine deposits derived from igneous, metamorphic and sedimentary rock
- Typical profile
- *A - 0 to 8 inches:* clay loam
- *Bt - 8 to 22 inches:* silty clay loam
- *Btss - 22 to 48 inches:* silty clay
- *Btkg - 48 to 80 inches:* silty clay
- Properties and qualities
- *Slope:* 0 to 1 percent
- *Depth to restrictive feature:* More than 80 inches
- *Drainage class:* Somewhat poorly drained
- *Runoff class:* High
- *Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately low (0.00 to 0.06 in/hr)
- *Depth to water table: About 39 to 65 inches*
- *Frequency of flooding:* None
- *Frequency of ponding:* None
- *Calcium carbonate, maximum content:* 7 percent
- *Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
- *Sodium adsorption ratio, maximum:* 6.0
- *Available water supply, 0 to 60 inches:* Moderate (about 8.9 inches)

- Interpretive groups
- *Land capability classification (irrigated):* 3w
- *Land capability classification (nonirrigated):* 3w
- *Hydrologic Soil Group:* D
- *Ecological site:* R150AY740TX - Northern Blackland
- *Hydric soil rating:* No
- Minor Components
- Morey
- *Percent of map unit:* 5 percent
- *Landform:* Flats
- *Landform position (three-dimensional):* Talf
- *Down-slope shape:* Linear
- *Across-slope shape:* Linear
- *Ecological site:* R150AY741TX - Northern Loamy Prairie
- *Hydric soil rating:* No
- Aris
- *Percent of map unit:* 4 percent
- *Landform:* Flats
- *Landform position (three-dimensional):* Dip
- *Down-slope shape:* Linear
- *Across-slope shape:* Linear
- *Ecological site:* R150AY537TX - Lowland
- *Hydric soil rating:* Yes
- Anahuac
- *Percent of map unit:* 1 percent
- *Landform:* Point bars
- *Landform position (three-dimensional):* Rise
- *Down-slope shape:* Linear
- *Across-slope shape:* Convex
- *Ecological site:* R150AY741TX - Northern Loamy Prairie
- *Hydric soil rating:* No

- **LalA—Labelle-Levac complex, 0 to 1 percent slopes**
- Map Unit Setting
- *National map unit symbol:* 2thnm
- *Elevation:* 20 to 100 feet
- *Mean annual precipitation:* 48 to 62 inches
- *Mean annual air temperature:* 68 to 72 degrees F
- *Frost-free period:* 270 to 300 days
- *Farmland classification:* All areas are prime farmland
- Map Unit Composition
- *Labelle and similar soils:* 60 percent
- *Levac and similar soils:* 35 percent

- *Minor components:* 5 percent
- *Estimates are based on observations, descriptions, and transects of the mapunit.*
- Description of Labelle
- Setting
- *Landform:* Flats
- *Landform position (three-dimensional):* Talf, dip
- *Down-slope shape:* Linear
- *Across-slope shape:* Convex
- *Parent material:* Loamy fluviomarine deposits derived from igneous, metamorphic and sedimentary rock
- Typical profile
- *A - 0 to 7 inches:* loam
- *Bt - 7 to 21 inches:* clay loam
- *Btss - 21 to 48 inches:* clay
- *Btkg - 48 to 80 inches:* clay
- Properties and qualities
- *Slope:* 0 to 1 percent
- *Depth to restrictive feature:* More than 80 inches
- *Drainage class:* Somewhat poorly drained
- *Runoff class:* High
- *Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately low (0.00 to 0.06 in/hr)
- *Depth to water table:* About 39 to 65 inches
- *Frequency of flooding:* None
- *Frequency of ponding:* None
- *Calcium carbonate, maximum content:* 7 percent
- *Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
- *Sodium adsorption ratio, maximum:* 6.0
- *Available water supply, 0 to 60 inches:* Moderate (about 8.8 inches)
- Interpretive groups
- *Land capability classification (irrigated):* 3w
- *Land capability classification (nonirrigated):* 3w
- *Hydrologic Soil Group:* D
- *Ecological site:* R150AY740TX - Northern Blackland
- *Hydric soil rating:* No
- Description of Levac
- Setting
- *Landform:* Flats
- *Landform position (three-dimensional):* Talf
- *Down-slope shape:* Linear
- *Across-slope shape:* Linear
- *Parent material:* Loamy fluviomarine deposits derived from igneous, metamorphic and sedimentary rock

- Typical profile
- *Ap1 - 0 to 7 inches:* loam
- *Ap2 - 7 to 10 inches:* loam
- *Bt - 10 to 22 inches:* clay loam
- *Btkss - 22 to 63 inches:* clay
- *Btkssg - 63 to 80 inches:* clay
- Properties and qualities
- *Slope:* 0 to 1 percent
- *Depth to restrictive feature:* More than 80 inches
- *Drainage class:* Somewhat poorly drained
- *Runoff class:* High
- *Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately low (0.00 to 0.06 in/hr)
- *Depth to water table:* About 45 to 72 inches
- *Frequency of flooding:* None
- *Frequency of ponding:* None
- *Calcium carbonate, maximum content:* 2 percent
- *Maximum salinity:* Nonsaline to very slightly saline (0.0 to 3.0 mmhos/cm)
- *Sodium adsorption ratio, maximum:* 8.0
- *Available water supply, 0 to 60 inches:* Moderate (about 7.5 inches)
- Interpretive groups
- *Land capability classification (irrigated):* 3w
- *Land capability classification (nonirrigated):* 3w
- *Hydrologic Soil Group:* D
- *Ecological site:* R150AY740TX - Northern Blackland
- *Hydric soil rating:* No
- Minor Components
- Aris
- *Percent of map unit:* 3 percent
- *Landform:* Flats
- *Landform position (three-dimensional):* Dip
- *Down-slope shape:* Linear
- *Across-slope shape:* Linear
- *Ecological site:* R150AY537TX - Lowland
- *Hydric soil rating:* Yes
- Morey
- *Percent of map unit:* 2 percent
- *Landform:* Flats
- *Landform position (three-dimensional):* Talf
- *Down-slope shape:* Linear
- *Across-slope shape:* Linear
- *Ecological site:* R150AY741TX - Northern Loamy Prairie
- *Hydric soil rating:* No

- **MosA—Morey-Spindletop complex, 0 to 1 percent slopes**
- Map Unit Setting
- *National map unit symbol:* 2th6h
- *Elevation:* 10 to 100 feet
- *Mean annual precipitation:* 48 to 62 inches
- *Mean annual air temperature:* 68 to 72 degrees F
- *Frost-free period:* 270 to 300 days
- *Farmland classification:* Farmland of statewide importance
- Map Unit Composition
- *Morey and similar soils:* 55 percent
- *Spindletop and similar soils:* 40 percent
- *Minor components:* 5 percent
- *Estimates are based on observations, descriptions, and transects of the mapunit.*
- Description of Morey
- Setting
- *Landform:* Flats
- *Landform position (three-dimensional):* Talf
- *Down-slope shape:* Linear
- *Across-slope shape:* Linear
- *Parent material:* Loamy fluviomarine deposits derived from igneous, metamorphic and sedimentary rock
- Typical profile
- *Ap - 0 to 6 inches:* very fine sandy loam
- *Bt1 - 6 to 14 inches:* loam
- *Bt2 - 14 to 43 inches:* loam
- *Btk - 43 to 63 inches:* clay loam
- *Btkg - 63 to 80 inches:* clay loam
- Properties and qualities
- *Slope:* 0 to 1 percent
- *Depth to restrictive feature:* More than 80 inches
- *Drainage class:* Somewhat poorly drained
- *Runoff class:* High
- *Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately low (0.00 to 0.06 in/hr)
- *Depth to water table:* About 51 to 78 inches
- *Frequency of flooding:* None
- *Frequency of ponding:* None
- *Calcium carbonate, maximum content:* 4 percent
- *Maximum salinity:* Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
- *Sodium adsorption ratio, maximum:* 13.0
- *Available water supply, 0 to 60 inches:* High (about 10.5 inches)
- Interpretive groups

- *Land capability classification (irrigated):* 3w
- *Land capability classification (nonirrigated):* 3w
- *Hydrologic Soil Group:* D
- *Ecological site:* R150AY741TX - Northern Loamy Prairie
- *Hydric soil rating:* No
- Description of Spindletop
- Setting
- *Landform:* Flats
- *Landform position (three-dimensional):* Rise
- *Microfeatures of landform position:* Pimple mounds
- *Down-slope shape:* Convex
- *Across-slope shape:* Convex
- *Parent material:* Loamy fluviomarine deposits derived from igneous, metamorphic and sedimentary rock
- Typical profile
- *A - 0 to 19 inches:* fine sandy loam
- *AE - 19 to 26 inches:* fine sandy loam
- *Bt1 - 26 to 34 inches:* clay
- *Bt2 - 34 to 45 inches:* clay
- *Btkg - 45 to 80 inches:* clay loam
- Properties and qualities
- *Slope:* 0 to 1 percent
- *Depth to restrictive feature:* More than 80 inches
- *Drainage class:* Moderately well drained
- *Runoff class:* Medium
- *Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately high (0.00 to 0.20 in/hr)
- *Depth to water table:* About 57 to 75 inches
- *Frequency of flooding:* None
- *Frequency of ponding:* None
- *Calcium carbonate, maximum content:* 4 percent
- *Maximum salinity:* Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
- *Sodium adsorption ratio, maximum:* 16.0
- *Available water supply, 0 to 60 inches:* Moderate (about 8.7 inches)
- Interpretive groups
- *Land capability classification (irrigated):* 3s
- *Land capability classification (nonirrigated):* 3s
- *Hydrologic Soil Group:* D
- *Ecological site:* R150AY741TX - Northern Loamy Prairie
- *Hydric soil rating:* No
- Minor Components
- Labelle
- *Percent of map unit:* 3 percent

- *Landform:* Flats
- *Landform position (three-dimensional):* Talf, dip
- *Down-slope shape:* Linear
- *Across-slope shape:* Convex
- *Ecological site:* R150AY741TX - Northern Loamy Prairie
- *Hydric soil rating:* No
- Aris
- *Percent of map unit:* 2 percent
- *Landform:* Flats
- *Landform position (three-dimensional):* Dip
- *Down-slope shape:* Linear
- *Across-slope shape:* Linear
- *Ecological site:* R150AY537TX - Lowland
- *Hydric soil rating:* Yes

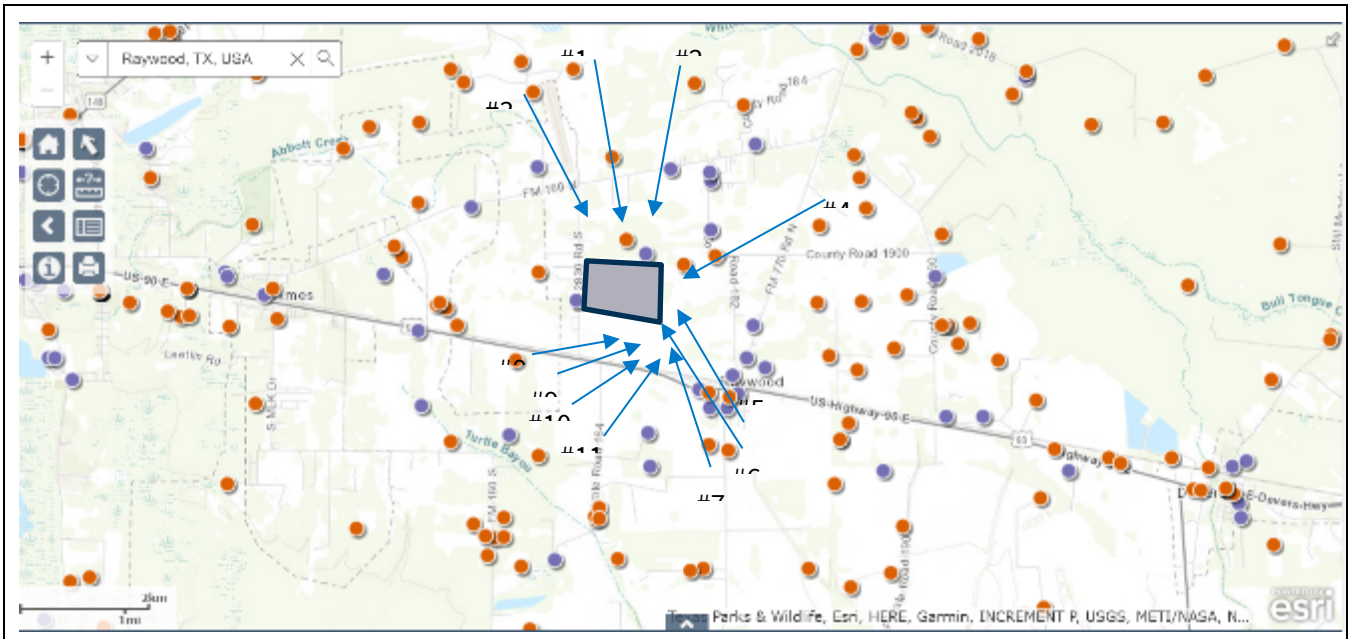
OsaA—Orcadia-Aris complex, 0 to 1 percent slopes

- Map Unit Setting
- *National map unit symbol:* 2thpd
- *Elevation:* 20 to 100 feet
- *Mean annual precipitation:* 48 to 62 inches
- *Mean annual air temperature:* 68 to 72 degrees F
- *Frost-free period:* 270 to 300 days
- *Farmland classification:* Farmland of statewide importance
- Map Unit Composition
- *Orcadia and similar soils:* 60 percent
- *Aris and similar soils:* 35 percent
- *Minor components:* 5 percent
- *Estimates are based on observations, descriptions, and transects of the mapunit.*
- Description of Orcadia
- Setting
- *Landform:* Flats
- *Landform position (three-dimensional):* Rise
- *Microfeatures of landform position:* Bars
- *Down-slope shape:* Linear
- *Across-slope shape:* Convex
- *Parent material:* Loamy fluviomarine deposits derived from igneous, metamorphic and sedimentary rock
- Typical profile
- *A - 0 to 6 inches:* silt loam
- *E - 6 to 11 inches:* silt loam
- *Bt/E - 11 to 17 inches:* silt loam
- *Bt - 17 to 30 inches:* clay
- *Btg - 30 to 80 inches:* clay

- Properties and qualities
- *Slope:* 0 to 1 percent
- *Depth to restrictive feature:* More than 80 inches
- *Drainage class:* Somewhat poorly drained
- *Runoff class:* Very high
- *Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately low (0.00 to 0.06 in/hr)
- *Depth to water table:* About 25 to 66 inches
- *Frequency of flooding:* None
- *Frequency of ponding:* None
- *Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
- *Sodium adsorption ratio, maximum:* 6.0
- *Available water supply, 0 to 60 inches:* High (about 9.9 inches)
- Interpretive groups
- *Land capability classification (irrigated):* 3s
- *Land capability classification (nonirrigated):* 3s
- *Hydrologic Soil Group:* D
- *Ecological site:* R150AY741TX - Northern Loamy Prairie
- *Hydric soil rating:* No
- Description of Aris
- Setting
- *Landform:* Flats
- *Landform position (three-dimensional):* Dip
- *Down-slope shape:* Linear
- *Across-slope shape:* Linear
- *Parent material:* Loamy fluviomarine deposits derived from igneous, metamorphic and sedimentary rock
- Typical profile
- *A - 0 to 6 inches:* loam
- *AE - 6 to 13 inches:* loam
- *Bt1 - 13 to 27 inches:* loam
- *Bt2 - 27 to 72 inches:* clay loam
- *Btg - 72 to 80 inches:* clay loam
- Properties and qualities
- *Slope:* 0 to 1 percent
- *Depth to restrictive feature:* More than 80 inches
- *Drainage class:* Poorly drained
- *Runoff class:* High
- *Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately low (0.00 to 0.06 in/hr)
- *Depth to water table:* About 0 inches
- *Frequency of flooding:* None
- *Frequency of ponding:* None

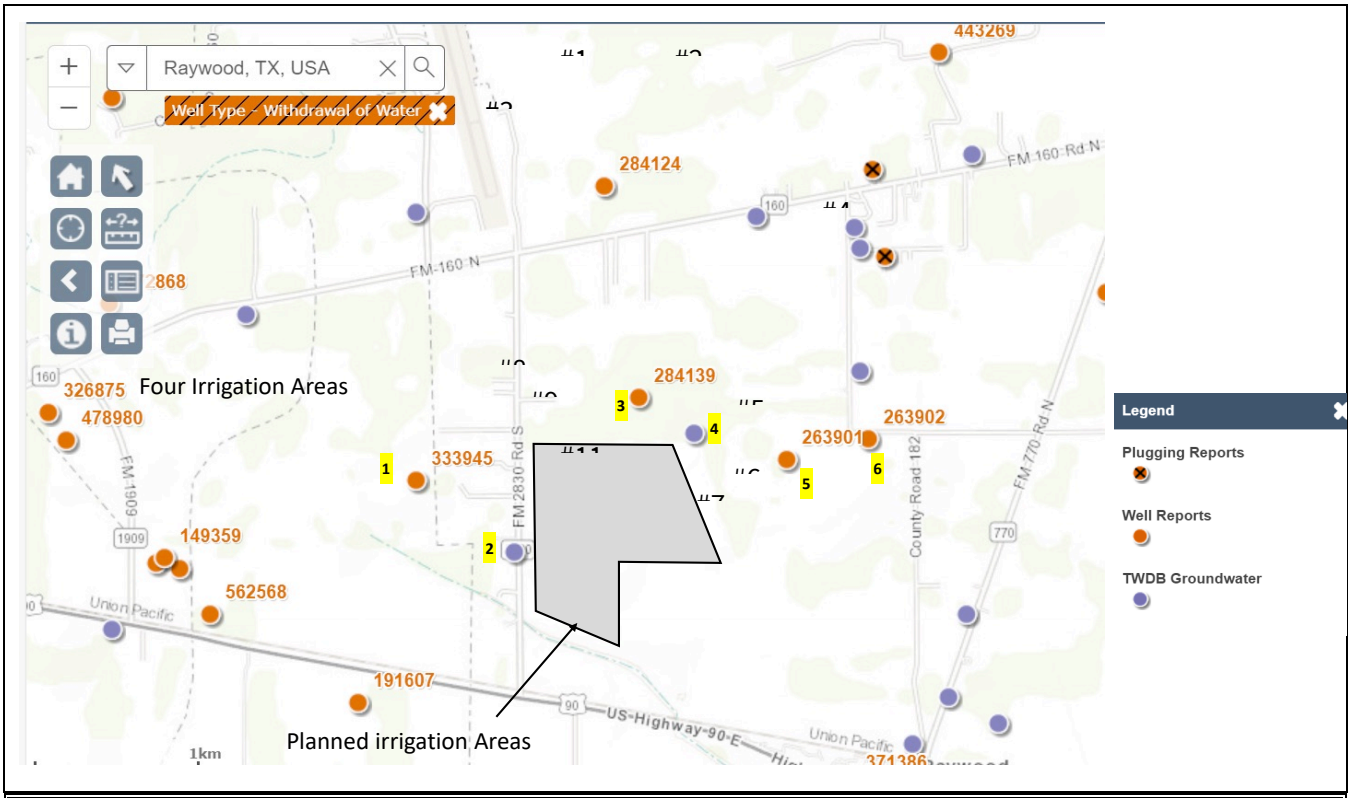
- *Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
- *Sodium adsorption ratio, maximum:* 8.0
- *Available water supply, 0 to 60 inches:* High (about 9.1 inches)
- Interpretive groups
- *Land capability classification (irrigated):* 4w
- *Land capability classification (nonirrigated):* 4w
- *Hydrologic Soil Group:* D
- *Ecological site:* R150AY537TX - Lowland
- *Hydric soil rating:* Yes
- Minor Components
- Morey
- *Percent of map unit:* 3 percent
- *Landform:* Flats
- *Landform position (three-dimensional):* Talf
- *Down-slope shape:* Linear
- *Across-slope shape:* Linear
- *Ecological site:* R150AY741TX - Northern Loamy Prairie
- *Hydric soil rating:* No
- Labelle
- *Percent of map unit:* 2 percent
- *Landform:* Flats
- *Landform position (three-dimensional):* Talf, dip
- *Down-slope shape:* Linear
- *Across-slope shape:* Convex
- *Ecological site:* R150AY741TX - Northern Loamy Prairie
- *Hydric soil rating:* No

Attachment B
Water Wells in the Area of the QYK Brands MAA Plant



MAP#	TWDB WELL ID	DISTANCE, MILES	WELL USE	PRODUCING? Y/N/U	OPEN, CASED, CAPPED, OR PLUGGED?	PROPOSED BEST MANAGEMENT PRACTICE
1	263901	0.59	Domestic	New	Open 180 FT	Public Notice
2	263902	0.57	Domestic	New	Open 330 FT	Public Notice
3	6159503	0.63	Irrigation	Yes	Open 790 FT	Public Notice
4	6159508	0.48	Domestic	Yes	Open 62 FT	Public Notice
5	6159509	0.35	Unused	Yes	Open 151 FT	Public Notice
6	6159810	0.38	Domestic	Yes	Open 135 FT	Public Notice
7	659685	0.39	Raywood Public Water	Yes	Open 845 FT	Public Notice
8	6159812	0.48	Unused	Yes	Open 145 FT	Public Notice
9	371386	0.50	New Well	Yes	Open 420 FT	Public Notice
10	6159802	0.52	Raywood Public Water	Yes	Open 460 FT	Public Notice
11	6159803	0.55	Raywood Public Water	Yes	Open 845 FT	Public Notice

Attachment C
Water Wells in the Area of the QYK Land Application Irrigation Areas



MAP#	TWDB WELL ID	DISTANCE, MILES	WELL USE	PRODUCING? Y/N/U	OPEN, CASED, CAPPED, OR PLUGGED?	PROPOSED BEST MANAGEMENT PRACTICE
1	333945	0.50	Domestic	New, water level 48 FT	Open 180 FT	Public Notice
2	6159511	0.30	Domestic	Yes, 100 FT	Open 100 FT	Public Notice
3	284130	0.30	Domestic	Yes, 55 FT water level	Open 420 FT	Public Notice
4	6159508	0.24	Domestic	Yes	Open 790 FT	Public Notice
5	263901	0.55	Domestic	New, water level 48 FT	Open 190 FT	Public Notice
6	263902	0.65	Domestic	Yes, 68 FT water level	Open 330 FT	Public Notice

One well report is available on Well 6159511, indicating high quality water. This well draws form the Chicot aquifer.

Water Quality Analysis

Sample Date: 8/10/1994 **Sample Time:** 0000 **Sample Number:** 1 **Collection Entity:** U.S. Geological Survey

Sampled Aquifer: Chicot Aquifer

Analyzed Lab: U.S. Geological Survey Lab **Reliability:** From USGS for NAWQA with "Clean Sample" technique

Collection Remarks: No Data

Parameter Code	Parameter Description	Flag	Value*	Units	Plus/Minus
77562	1,1,1,2-TETRACHLOROETHANE, TOTAL, UG/L	<	0.2	ug/L	
34506	1,1,1-TRICHLOROETHANE, TOTAL, UG/L	<	0.2	ug/L	
34516	1,1,2,2-TETRACHLOROETHANE, TOTAL, UG/L	<	0.2	ug/L	
34511	1,1,2-TRICHLOROETHANE, TOTAL, UG/L	<	0.2	ug/L	
34496	1,1-DICHLOROETHANE, TOTAL, UG/L	<	0.2	ug/L	
34501	1,1-DICHLOROETHYLENE, TOTAL, UG/L	<	0.2	ug/L	
77168	1,1-DICHLOROPROPENE, TOTAL, UG/L	<	0.2	ug/L	
77613	1,2,3-TRICHLOROBENZENE IN WHOLE WATER, UG/L	<	0.2	ug/L	
77443	1,2,3-TRICHLOROPROPANE, TOTAL, UG/L	<	0.2	ug/L	
34551	1,2,4-TRICHLOROBENZENE, TOTAL, UG/L	<	0.2	ug/L	
77651	1,2-DIBROMOETHANE, TOTAL, UG/L	<	0.2	ug/L	
34536	1,2-DICHLOROBENZENE, TOTAL, UG/L	<	0.2	ug/L	
32103	1,2-DICHLOROETHANE, TOTAL, UG/L	<	0.2	ug/L	
34541	1,2-DICHLOROPROPANE, TOTAL, UG/L	<	0.2	ug/L	
34566	1,3-DICHLOROBENZENE, TOTAL, UG/L	<	0.2	ug/L	
77173	1,3-DICHLOROPROPANE, TOTAL, UG/L	<	0.2	ug/L	
34571	1,4-DICHLOROBENZENE, TOTAL, UG/L	<	0.2	ug/L	
82660	2, 6-DIETHYLANILINE, WATER, FILTERED, UG/L	<	0.01	ug/L	
77170	2,2-DICHLOROPROPANE, TOTAL, UG/L	<	0.2	ug/L	
34253	A-BHC-ALPHA, TOTAL, UG/L	<	0.01	ug/L	
46342	ALACHLOR (LASSO), DISSOLVED, UG/L	<	0.01	ug/L	
00415	ALKALINITY, PHENOLPHTHALEIN (MG/L)		0	mg/L	
00410	ALKALINITY, TOTAL (MG/L AS CACO3)		309	mg/L as CACO 3	
01106	ALUMINUM, DISSOLVED (UG/L AS AL)		3	ug/L	
01095	ANTIMONY, DISSOLVED (UG/L AS SB)	<	1	ug/L	
01000	ARSENIC, DISSOLVED (UG/L AS AS)		1	ug/L	
39632	ATRAZINE, WATER, DISSOLVED, UG/L	<	0.02	ug/L	
01005	BARIUM, DISSOLVED (UG/L AS BA)		320	ug/L	
82673	BENFLURALIN, 0.7 UM FILT, TOT RECV, WATER, UG/L	<	0.01	ug/L	
34030	BENZENE IN WTR SMPL GC-MS, HEXADECONE EXTR.(UG/L)	<	0.2	ug/L	
01010	BERYLLIUM, DISSOLVED (UG/L AS BE)	<	1	ug/L	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO3)		377.09	mg/L	
04029	BROMACIL,DISSOLVED,WATER,TOTAL RECOVERABLE (UG/L)	<	0.05	ug/L	

Parameter Code	Parameter Description	Flag	Value*	Units	Plus/Minus
71870	BROMIDE, DISSOLVED, (MG/L AS BR)		0.08	mg/L	
81555	BROMOBENZENE, TOTAL, UG/L	<	0.2	ug/L	
77297	BROMOCHLOROMETHANE, IN WHOLE WATER, UG/L	<	0.2	ug/L	
32101	BROMODICHLOROMETHANE, TOTAL, UG/L	<	0.2	ug/L	
32104	BROMOFORM, TOTAL, UG/L	<	0.2	ug/L	
04028	BUTYLATE,DISSOLVED,WATER,TOTAL RECOVERABLE (UG/L)	<	0.01	ug/L	
01025	CADMIUM, DISSOLVED (UG/L AS CD)	<	1	ug/L	
00910	CALCIUM (MG/L)		85	mg/L	
82680	CARBARYL, 0.7 UM FILT, TOT RECV, WATER, UG/L	<	0.05	ug/L	
82674	CARBOFURAN, 0.7 UM FILT, TOT RECV, WATER, UG/L	<	0.01	ug/L	
32102	CARBON TETRACHLORIDE, TOTAL, UG/L	<	0.2	ug/L	
00681	CARBON, DISSOLVED ORGANIC (MG/L AS C)		0.2	mg/L	
00445	CARBONATE ION, CALCULATED (MG/L AS CO3)		0	mg/L	
00940	CHLORIDE, TOTAL (MG/L AS CL)		44	mg/L	
34301	CHLOROBENZENE, TOTAL, UG/L	<	0.2	ug/L	
34311	CHLOROETHANE, TOTAL, UG/L	<	0.2	ug/L	
32106	CHLOROFORM, TOTAL, UG/L	<	0.2	ug/L	
01030	CHROMIUM, DISSOLVED (UG/L AS CR)		10	ug/L	
77093	CIS-1,2-DICHLOROETHYLENE, TOTAL, UG/L	<	0.2	ug/L	
34704	CIS-1,3-DICHLOROPROPENE, TOTAL, UG/L	<	0.2	ug/L	
82687	CIS-PERMETHRIN, 0.7 UM FILT, TOT RECV, WATER, UG/L	<	0.02	ug/L	
01035	COBALT, DISSOLVED (UG/L AS CO)	<	3	ug/L	
01040	COPPER, DISSOLVED (UG/L AS CU)	<	1	ug/L	
04041	CYANAZINE,DISSOLVED,WATER,TOTAL RECOVERABLE (UG/L)	<	0.01	ug/L	
82682	DCPA, 0.7 UM FILT, TOT RECV, WATER, UG/L	<	0	ug/L	
04040	DEETHYLATRAZINE,DISSOLVED,WATER,TOTAL RECOV.(UG/L)	<	0	ug/L	
39572	DIAZINON, DISSOLVED, UG/L	<	0.01	ug/L	
32105	DIBROMOCHLOROMETHANE, TOTAL, UG/L	<	0.2	ug/L	
82625	DIBROMOCHLOROPROPANE,WATER,TOTAL RECOVERABLE,UG/L	<	1	ug/L	
30217	DIBROMOMETHANE, WATER, WHOLE RECOVERABLE, UG/L	<	0.2	ug/L	
34668	DICHLORODIFLUOROMETHANE, TOTAL, UG/L	<	0.2	ug/L	
39381	DIELDRIN, DISSOLVED, UG/L	<	0.01	ug/L	
82662	DIMETHOATE, 0.7 UM FILT, TOT RECV, WATER, UG/L	<	0.02	ug/L	
82677	DISULFOTON, 0.7 UM FILT, TOT RECV, WATER, UG/L	<	0.06	ug/L	
38933	DURSBAN (CHLOROPYRIFOS) DISSOLVED, UG/L	<	0.01	ug/L	
82668	EPTC, 0.7 UM FILT, TOT RECV, WATER, UG/L	<	0	ug/L	
82663	ETHALFLURALIN, 0.7 UM FILT, TOT RECV, WATER, UG/L	<	0.01	ug/L	
82672	ETHOPROP, 0.7 UM FILT, TOT RECV, WATER, UG/L	<	0.01	ug/L	
34371	ETHYLBENZENE, TOTAL, UG/L	<	0.2	ug/L	
00950	FLUORIDE, DISSOLVED (MG/L AS F)		0.5	mg/L	
04095	FONOFOS,DISSOLVED,WATER,TOTAL RECOVERABLE (UG/L)	<	0.01	ug/L	
77652	FREON 113, WATER, TOTAL RECOVERABLE, UG/L	<	0.2	ug/L	

Parameter Code	Parameter Description	Flag	Value*	Units	Plus/Minus
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CACO3)		237	mg/L as CACO3	
39702	HEXACHLOROBUTADIENE, TOTAL, UG/L	<	0.2	ug/L	
01046	IRON, DISSOLVED (UG/L AS FE)		40	ug/L	
77223	ISOPROPYLBENZENE IN WHOLE WATER, TOTAL, UG/L	<	0.2	ug/L	
01049	LEAD, DISSOLVED (UG/L AS PB)	<	1	ug/L	
39341	LINDANE, WATER, DISSOLVED, UG/L	<	0.01	ug/L	
82666	LINURON, 0.7 UM FILT, TOT RECV, WATER, UG/L	<	0.04	ug/L	
00920	MAGNESIUM (MG/L)		6.3	mg/L	
39532	MALATHION, DISSOLVED, UG/L	<	0.01	ug/L	
01056	MANGANESE, DISSOLVED (UG/L AS MN)		27	ug/L	
77226	MESITYLENE (1,3,5-TRIMETHYLBENZENE), TOTAL, UG/L	<	0.2	ug/L	
34413	METHYL BROMIDE, TOTAL, UG/L	<	0.2	ug/L	
34418	METHYL CHLORIDE, TOTAL (UG/L)	<	0.2	ug/L	
82686	METHYLAZINPHOS, 0.7 UM FILT, TOT RECV, WATER, UG/L	<	0.05	ug/L	
38260	METHYLENE BLUE ACTIVE SUBSTANCE, MG/L	<	0.02	mg/L	
34423	METHYLENE CHLORIDE, TOTAL, UG/L	<	0.2	ug/L	
82667	METHYLPARATHION, 0.7 UM FILT, TOT RECV, WATER,UG/L	<	0.03	ug/L	
39415	METOLACHLOR, WATER, DISSOLVED, UG/L	<	0.01	ug/L	
82630	METRIBUZIN (SENCOR), WATER, DISSOLVED, UG/L	<	0.01	ug/L	
82671	MOLINATE, 0.7 UM FILT, TOT RECV, WATER, UG/L	<	0.01	ug/L	
01060	MOLYBDENUM, DISSOLVED (UG/L AS MO)	<	1	ug/L	
34696	NAPHTHALENE, TOTAL, UG/L	<	0.2	ug/L	
82684	NAPROPAMIDE, 0.7 UM FILTER, TOT RECV, WATER, UG/L	<	0.01	ug/L	
77342	N-BUTYLBENZENE, WHOLE WATER, UG/L	<	0.2	ug/L	
01065	NICKEL, DISSOLVED (UG/L AS NI)	<	1	ug/L	
71851	NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO3)	<	0.22	mg/L as NO3	
00613	NITRITE NITROGEN, DISSOLVED (MG/L AS N)	<	0.01	mg/L as N	
00631	NITRITE PLUS NITRATE, DISSOLVED (MG/L AS N)	<	0.05	mg/L as N	
00608	NITROGEN, AMMONIA, DISSOLVED (MG/L AS N)		0.04	mg/L as N	
00623	NITROGEN, KJELDAHL, DISSOLVED (MG/L AS N)	<	0.2	mg/L as N	
77224	N-PROPYLBENZENE, TOTAL, UG/L	<	0.2	ug/L	
77275	O-CHLOROTOLUENE IN WHOLE WATER, UG/L	<	0.2	ug/L	
34653	P,P' DDE, DISSOLVED, UG/L	<	0.01	ug/L	
39542	PARATHION, WATER, DISSOLVED, UG/L	<	0.02	ug/L	
77277	P-CHLOROTOLUENE, WATER, TOTAL RECOVERABLE, UG/L	<	0.2	ug/L	
82669	PEBULATE, 0.7 UM FILT, TOT RECV, WATER, UG/L	<	0.01	ug/L	
82683	PENDIMETHALIN, 0.7 UM FILT, TOT RECV, WATER, UG/L	<	0.02	ug/L	
00400	PH (STANDARD UNITS), FIELD		7.1	SU	

Parameter Code	Parameter Description	Flag	Value*	Units	Plus/Minus
32730	PHENOLS, TOTAL (UG/L)	<	1	ug/L	
82664	PHORATE, 0.7 UM FILT, TOT RECV, WATER, UG/L	<	0.01	ug/L	
00666	PHOSPHORUS, DISSOLVED (MG/L AS P)		0.04	mg/L as P	
00671	PHOSPHORUS, DISSOLVED ORTHOPHOSPHATE (MG/L AS P)		0.02	mg/L as P	
77356	P-ISOPROPYLTOLUENE, WATER, TOTAL RECOVERABLE, UG/L	<	0.2	ug/L	
00937	POTASSIUM, TOTAL (MG/L AS K)		4.7	mg/L	
04037	PROMETON,DISSOLVED,WATER,TOTAL RECOVERABLE (UG/L)	<	0.01	ug/L	
82676	PRONAMIDE, 0.7 UM FILT, TOT RECV, WATER, UG/L	<	0.01	ug/L	
04024	PROPACHLOR,DISSOLVED,WATER,TOTAL RECOVERABLE(UG/L)	<	0.02	ug/L	
82679	PROPANIL, 0.7 UM FILT, TOT RECV, WATER, UG/L	<	0.02	ug/L	
82685	PROPARGITE, 0.7 UM FILT, TOT RECV, WATER, UG/L	<	0.01	ug/L	
49236	PROPHAM, WATER, 0.7 UM FILT, TOT RECV, UG/L	<	0.05	ug/L	
77222	PSEUDOCOMENE (1,2,4-TRIMETHYLBENZENE), TOTAL, UG/L	<	0.2	ug/L	
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		1.42		
70300	RESIDUE, TOTAL FILTERABLE (DRIED AT 180C), MG/L		462	mg/L	
77350	SEC BUTYLBENZENE, WATER, TOTAL RECOVERABLE, UG/L	<	0.2	ug/L	
01145	SELENIUM, DISSOLVED (UG/L AS SE)	<	1	ug/L	
00955	SILICA, DISSOLVED (MG/L AS SI02)		27	mg/L as SIO2	
01075	SILVER, DISSOLVED (UG/L AS AG)	<	1	ug/L	
04035	SIMAZINE,DISSOLVED,WATER,TOTAL RECOVERABLE (UG/L)	<	0.01	ug/L	
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		1.95		
00932	SODIUM, CALCULATED, PERCENT		38	PCT	
00929	SODIUM, TOTAL (MG/L AS NA)		69	mg/L	
00094	SPECIFIC CONDUCTANCE, FIELD (UMHOS/CM AT 25C)		760	MICR	
77128	STYRENE, TOTAL, UG/L	<	0.2	ug/L	
00945	SULFATE, TOTAL (MG/L AS SO4)		1.8	mg/L as SO4	
82670	TEBUTHIURON, 0.7 UM FILT, TOT RECV, WATER, UG/L	<	0.02	ug/L	
00010	TEMPERATURE, WATER (CELSIUS)		26	C	
82665	TERBACIL, 0.7 UM FILT, TOT RECV, WATER, UG/L	<	0.03	ug/L	
82675	TERBUFOS, 0.7 UM FILT, TOT RECV, WATER, UG/L	<	0.01	ug/L	
77353	TERT-BUTYLBENZENE, WATER, TOTAL RECOVERABLE, UG/L	<	0.2	ug/L	
78032	TERT-BUTYLMETHYLETHER, TOTAL RECOVERABLE, UG/L	<	0.2	ug/L	
34475	TETRACHLOROETHYLENE, TOTAL, UG/L	<	0.2	ug/L	
82681	THIOBENCARB, 0.7 UM FILT, TOT RECV, WATER, UG/L	<	0.01	ug/L	
34010	TOLUENE IN WTR SMPL GC-MS, HEXADONE EXTR. (UGL/)	<	0.2	ug/L	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		423	mg/L	
34546	TRANS-1,2-DICHLOROETHENE, TOTAL, UG/L	<	0.2	ug/L	

34699	TRANS-1,3-DICHLOROPROPENE, TOTAL, UG/L	<	0.2	ug/L	
82678	TRIALLATE, 0.7 UM FILT, TOT RECV, WATER, UG/L	<	0.01	ug/L	
39180	TRICHLOROETHYLENE, TOTAL, UG/L	<	0.2	ug/L	
Parameter Code	**Parameter Description**	**Flag**	**Value***	**Units**	**Plus/Minus**
34488	TRICHLOROFLUOROMETHANE, TOTAL, UG/L	<	0.2	ug/L	
49235	TRICLOPYR, 0.7 UM FILT, TOT RECV, WATER, UG/L	<	0.05	ug/L	
82661	TRIFLURALIN (TREFLAN), 0.7U FILT,TOT REC,WTR,UG/L	<	0.01	ug/L	
22703	URANIUM, NATURAL, DISSOLVED (UG/L AS U)		3	ug/L	
39175	VINYL CHLORIDE, TOTAL, UG/L	<	0.2	ug/L	
81551	XYLENE, TOTAL, UG/L	<	0.2	ug/L	
01090	ZINC, DISSOLVED (UG/L AS ZN)		25	ug/L	

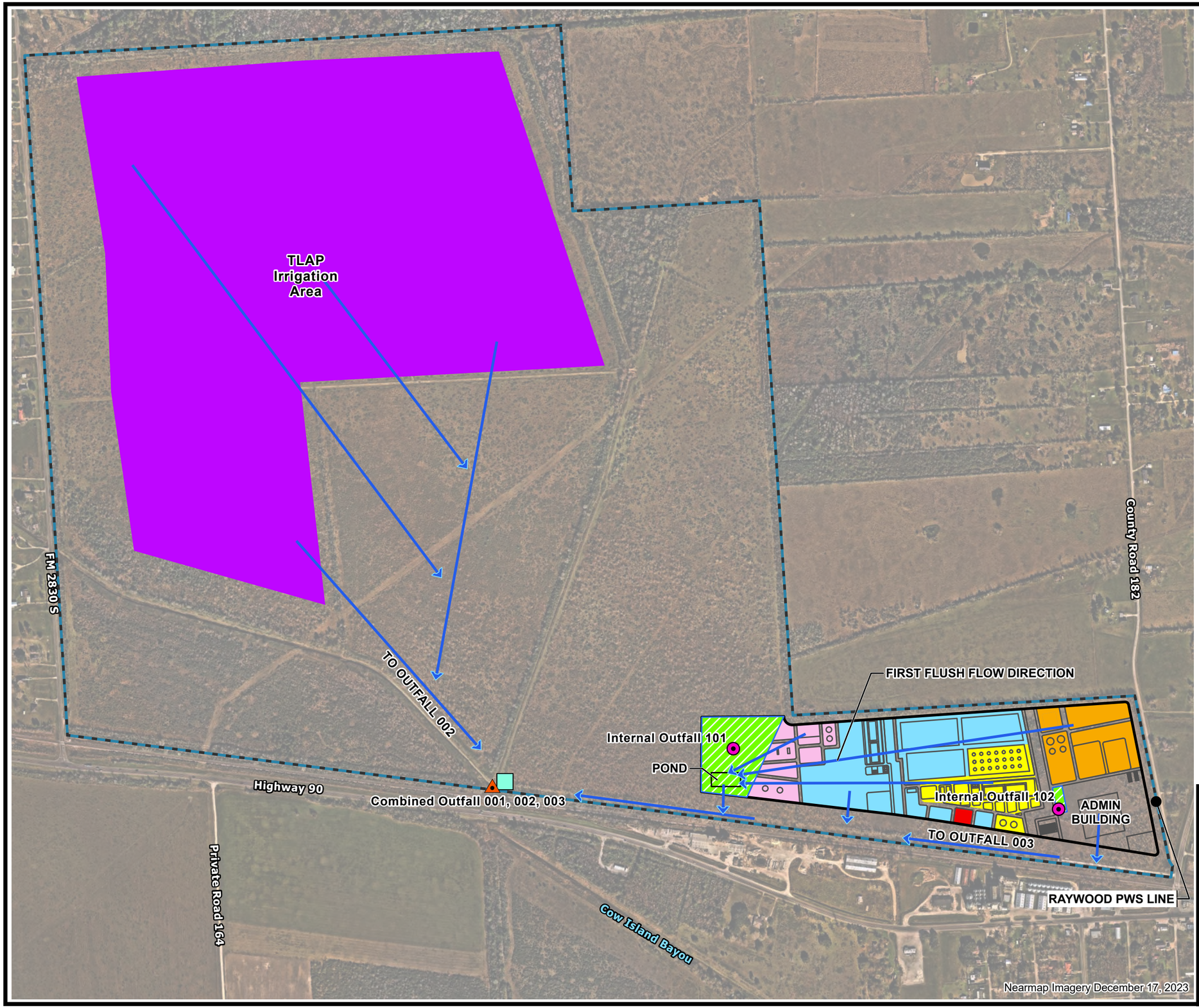
Attachment WS-4

Receiving Water Transect Locations

Worksheet 4.1 – Receiving Water Transect Locations

Attachment WS7-3

Stormwater Site Map



LEGEND

- Approximate Property Boundary
- Plant Boundary
- Storm Water Flow Direction
- Wastewater Treatment Areas
- Effluent Weir Box
- Proposed Point of Discharge
- Proposed Internal Outfall
- TLAP Irrigation Area
- Maintenance Area (to be determined)
- Material Handling Area

Production Areas

- Future Expansion Area
- IA Process Area
- MAA Process Area
- Utility Area

NOTES:
1. IA Process, MAA Process and Utility Areas flow to the Wastewater Treatment Areas.
2. Water Intake (Groundwater) to be determined.

0 350 700 FEET

1" = 700 FEET
1:8,400

QYK BRANDS MAA PLANT

ATTACHMENT TRWS7-3
STORM WATER SITE MAP

DRAWN BY:	L WILSON	SCALE:		PROJ. NO.	TPDES 2024
CHECKED BY:	K ALSUP		AS NOTED		Storm Water Site Map
APPROVED BY:	K ALSUP	DATE PRINTED:			
DATE:	February 2025		*2/19/2025*		

RSJ Consulting

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