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, el Aviso de Recepción de Solicitud e Intención de Obtener un Permiso)
   - Inglés
   - Idioma alternativo (español)
3. Solicitud original

Section 15. Plain Language Summary (Instructions Page 40)

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

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

DOMESTIC WASTEWATER

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

The City of Manvel (CN600580633) operates the Manvel Central Wastewater Treatment Plant (RN101612232), a wastewater treatment plant. The facility is located at 7315 Corporate Drive and 7240 Corporate Drive, in Manvel, Brazoria County, Texas 77578.

The City of Manvel proposes to construct an additional outfall to discharge from train 2.

Discharges from the facility are expected to contain five-day carbonaceous biochemical oxygen demand (CBOD5), total suspended solids (TSS), ammonia nitrogen (NH3-N), and Escherichia coli. Additional potential pollutants are included in the Domestic Technical Report 1.0, Section 7. Pollutant Analysis of Treated Effluent and Domestic Worksheet 4.0 in the permit application package. Domestic wastewater is treated by a coarse screen, grit removal system, fine screens, MBR treatment train, aerobic digester basins, and UV disinfection.

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

AGUAS RESIDUALES DOMÉSTICAS

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

La ciudad de Manvel (CN600580633) opera la Planta Central de Tratamiento de Aguas Residuales de Manvel (RN101612232), una planta de tratamiento de aguas residuales. La instalación está ubicada en 7315 Corporate Drive y 7240 Corporate Drive, en Manvel, Condado de Brazoria, Texas 77578.

La ciudad de Manvel propone construir un emisario adicional para descargar desde el tren 2.

Se espera que las descargas de la instalación contengan demanda bioquímica de oxígeno carbonoso (CBOD5) de cinco días, sólidos suspendidos totales (SST), nitrógeno amoniacal (NH3-N) y Escherichia coli. Se incluyen contaminantes potenciales adicionales en el Informe Técnico Nacional 1.0, Sección 7. Análisis de Contaminantes del Efluente Tratado y Hoja de Trabajo Doméstico 4.0 en el paquete de solicitud de permiso. Las aguas residuales domésticas se tratan mediante un tamiz grueso, un sistema de eliminación de arena, tamices finos, un tren de tratamiento MBR, tanques de digestión aeróbica y desinfección UV.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

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

PERMIT NO. WQ0013872001

APPLICATION. City of Manvel, 20025 Morris Avenue, Manvel, Texas 77575, has applied to the Texas Commission on Environmental Quality (TCEQ) to amend Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0013872001 (EPA I.D. No. TX0118397) to authorize an increase in the discharge of treated wastewater to a volume not to exceed an annual average flow of 5,000,000 gallons per day via additional Outfall 002. The domestic wastewater treatment facility is located at 7315 Corporate Drive, Manvel, in Brazoria County, Texas 77578. The discharge route is from the plant site via Outfalls 001 and 002 to Brazoria County Flood Control Ditch; thence to Chocolate Bayou Above Tidal. TCEQ received this application on June 10, 2024. The permit application will be available for viewing and copying at Manvel Public Library, Front Desk of Library, 20514 Highway 6, Suite B, Manvel, 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=-95.37,29.474166&level=18

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

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

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

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

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

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

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

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

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

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

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

Further information may also be obtained from City of Manvel at the address stated above or by calling Mr. Ray Word, Superintendent, at 281-734-4401.

Issuance Date: July 18, 2024

Comisión de Calidad Ambiental del Estado de Texas

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

PERMISO NO. WQ0013872001

SOLICITUD. Ciudad de Manvel, 20025 Morris Avenue, Manvel, Texas 77575, ha solicitado a la Comisión de Calidad Ambiental del Estado de Texas (TCEQ) para modificar el Permiso No. WQ0013872001 (EPA I.D. No. TX0118397) del Sistema de Eliminación de Descargas de Contaminantes de Texas (TPDES) para autorizar la descarga de aguas residuales tratadas en un volumen que no sobrepasa un flujo promedio anual de 5,000,000 de galones por día y a través del Emisario 002 adicional. La planta está ubicada en 7315 Corporate Drive, Manvel, en el condado de Brazoria, Texas 77578. La ruta de descarga es desde el sitio de la planta a través de los desagües 001 y 002 hasta la zanja de control de inundaciones del condado de Brazoria; de allí a Chocolate Bayou Above Tidal. La TCEQ recibió esta solicitud el 10 de junio de 2024. La solicitud para el permiso estará disponible para leerla y copiarla en la Biblioteca Pública de Manvel, en el mostrador de enfrente, 20514 Highway 6, Suite B, Manvel, Texas antes de la fecha de publicación de este aviso en el periódico. La solicitud, incluidas las actualizaciones y los avisos asociados, están disponibles 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=-95.37,29.474166&level=18

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

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

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

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

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

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

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

También se puede obtener información adicional de la ciudad de Manvela la dirección indicada arriba o llamando a Sr. Ray Word al 281-734-4401.

Fecha de emisión 18 de julio de 2024

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

DOMESTIC WASTEWATER PERMIT APPLICATION CHECKLIST

Complete and submit this checklist with the application.

APPLICANT: City of Manvel

PERMIT NUMBER: WQ0013872001

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

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

For TCEQ Use Only

Segment Number _____County _____
Expiration Date _____Region _____
Permit Number _____

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

APPLICATION FOR A DOMESTIC WASTEWATER PERMIT ADMINISTRATIVE REPORT 1.0

If you have questions about completing this form please contact the Applications Review and Processing Team at 512-239-4671.

Section 1. Application Fees (Instructions Page 29)

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

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

Minor Amendment (for any flow) $150.00 ☐

Payment Information:

Mailed Check/Money Order Number: 201963

Check/Money Order Amount: $2,050.00

Name Printed on Check: City of Manvel

EPAY Voucher Number: N/A

Copy of Payment Voucher enclosed? Yes ☐

Section 2. Type of Application (Instructions Page 29)

☐ New TPDES

☐ Major Amendment *with* Renewal

☒ Major Amendment *without* Renewal

☐ Renewal without changes

☐ New TLAP

☐ Minor Amendment *with* Renewal

☐ Minor Amendment *without* Renewal

☐ Minor Modification of permit

For amendments or modifications, describe the proposed changes: New outfall for standalone treatment train.

For existing permits:

Permit Number: WQ0013872001

EPA I.D. (TPDES only): TX0118397

Expiration Date: February 27, 2028

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

(Instructions Page 29)

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

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

City of Manvel

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

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

CN: 600580633

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

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

First and Last Name: Daniel S. Johnson

Credential (P.E, P.G., Ph.D., etc.): P.E.

Title: City Manager

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

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

N/A

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

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

CN: N/A

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

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

First and Last Name: N/A

Credential (P.E, P.G., Ph.D., etc.): N/A

Title: N/A

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

C. Core Data Form

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

Attachment: Attachment AR-1

Section 4. Application Contact Information (Instructions Page 30)

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

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

First and Last Name: Cassandra Villarreal

Credential (P.E, P.G., Ph.D., etc.): M.S.

Title: Environmental Scientist

Organization Name: Freese & Nichols, Inc.

Mailing Address: 801 Cherry St, Suite 2800

City, State, Zip Code: Fort Worth, Texas 76102

Phone No.: 817-735-7294 Ext.: N/A Fax No.: 817-735-7492

E-mail Address: cassandra.villarreal@freese.com

Check one or both: ☒ Administrative Contact ☒ Technical Contact

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

First and Last Name: Ray Word

Credential (P.E, P.G., Ph.D., etc.): N/A

Title: Superintendent

Organization Name: City of Manvel

Mailing Address: 20025 Morris Avenue

City, State, Zip Code: Manvel, Texas 77578

Phone No.: 281-734-4401 Ext.: N/A Fax No.: 281-489-0634

E-mail Address: ray.word@cityofmanvel.com

Check one or both: ☒ Administrative Contact ☒ Technical Contact

Section 5. Permit Contact Information (Instructions Page 30)

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

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

First and Last Name: Ray Word

Credential (P.E, P.G., Ph.D., etc.): N/A

Title: Superintendent

Organization Name: City of Manvel

Mailing Address: 20025 Morris Avenue

City, State, Zip Code: Manvel, Texas 77578

Phone No.: 281-734-4401 Ext.: N/A Fax No.: 281-489-0634

E-mail Address: ray.word@cityofmanvel.com

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

First and Last Name: Robbie Hall

Credential (P.E, P.G., Ph.D., etc.): N/A

Title: Director of Community Service

Organization Name: City of Manvel

Mailing Address: 20025 Morris Avenue

City, State, Zip Code: Manvel, Texas 77578

Phone No.: 832-336-4542 Ext.: N/A Fax No.: 281-668-5061

E-mail Address: rhall@cityofmanvel.com

Section 6. Billing Information (Instructions Page 30)

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

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

First and Last Name: Brenda Derouen

Credential (P.E, P.G., Ph.D., etc.): N/A

Title: Utility Billing Clerk

Organization Name: City of Manvel

Mailing Address: 20025 Morris Avenue

City, State, Zip Code: Manvel, Texas, 77578

Phone No.: 832-336-4072 Ext.: N/A Fax No.: 281-489-0634

E-mail Address: bderouen@cityofmanvel.com

Section 7. DMR/MER Contact Information (Instructions Page 31)

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

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

First and Last Name: Ray Word

Credential (P.E, P.G., Ph.D., etc.): N/A

Title: Superintendent

Organization Name: City of Manvel

Mailing Address: 20025 Morris Avenue

City, State, Zip Code: Manvel, Texas 77578

Phone No.: 281-734-4401 Ext.: N/A Fax No.: 281-489-0634

E-mail Address: ray.word@cityofmanvel.com

DMR data is required to be submitted electronically. Create an account at:

https://www.tceq.texas.gov/permitting/netdmr/netdmr.html.

Section 8. Public Notice Information (Instructions Page 31)

A. Individual Publishing the Notices

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

First and Last Name: Tammy Bell

Credential (P.E, P.G., Ph.D., etc.): N/A

Title: City Secretary

Organization Name: City of Manvel

Mailing Address: 20025 Morris Avenue

City, State, Zip Code: Manvel, Texas 77578

Phone No.: 832-336-4064 Ext.: N/A Fax No.: 281-489-0634

E-mail Address: tbell@cityofmanvel.com

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

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

☒ E-mail Address

☐ Fax

☒ Regular Mail

C. Contact person to be listed in the Notices

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

First and Last Name: Ray Word

Credential (P.E, P.G., Ph.D., etc.): N/A

Title: Superintendent

Organization Name: City of Manvel

Phone No.: 281-734-4401 Ext.: N/A

E-mail: ray.word@cityofmanvel.com

D. Public Viewing Information

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

Public building name: Manvel Public Library

Location within the building: Font Desk of Library

Physical Address of Building: 20514 Hwy 6, Ste. B

City: Manvel County: Brazoria

Contact Name: Carolynn Waites

Phone No.: 281-489-7593 Ext.: N/A

E. Bilingual Notice Requirements:

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

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

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

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

   ☒ Yes ☐ No

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

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

   ☒ Yes ☐ No

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

   ☐ Yes ☒ No

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

   ☐ Yes ☒ No

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

F. Public Involvement Plan Form

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

Attachment: Attachment AR-2

Section 9. Regulated Entity and Permitted Site Information (Instructions Page 33)

A. If the site is currently regulated by TCEQ, provide the Regulated Entity Number (RN) issued to this site. **RN**101612232

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

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

Manvel Central Water Reclamation Facility

C. Owner of treatment facility: City of Manvel

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

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

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

First and Last Name: City of Manvel

Mailing Address: 20025 Morris Ave.

City, State, Zip Code: Manvel, Texas 77578

Phone No.: 281-489-0630 E-mail Address: N/A

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

Attachment: N/A

E. Owner of effluent disposal site:

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

First and Last Name: N/A

Mailing Address: N/A

City, State, Zip Code: N/A

Phone No.: N/A E-mail Address: N/A

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

Attachment: N/A

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

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

First and Last Name: N/A

Mailing Address: N/A

City, State, Zip Code: N/A

Phone No.: N/A E-mail Address: N/A

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

Attachment: N/A

Section 10. TPDES Discharge Information (Instructions Page 34)

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

☒ Yes ☐ No

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

N/A

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

☐ Yes ☒ No

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

Discharge route for outfall 001 will remain the same. An additional outfall (outfall 002) will be constructed along Brazoria County Flood Control Ditch No. 12

City nearest the outfall(s): Manvel

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

Outfall 001 Latitude: 29.473580 Longitude: -95.367526

Outfall 002 Latitude: 29.47625 Longitude: -95.3693916

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

☒ Yes ☐ No

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

☐ Authorization granted ☒ Authorization pending

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

Attachment: Attachment AR-3

D. For all applications involving an average daily discharge of 5 MGD or more, provide the names of all counties located within 100 statute miles downstream of the point(s) of discharge.

Brazoria County

Section 11. TLAP Disposal Information (Instructions Page 36)

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

☐ Yes ☐ No

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

N/A

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

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

D. Disposal Site Latitude: Click here to enter text. Longitude: Click here to enter text.

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

N/A

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

N/A

Section 12. Miscellaneous Information (Instructions Page 37)

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

☐ Yes ☒ No

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

☐ Yes ☐ No ☒ Not Applicable

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

N/A

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

☐ Yes ☒ No

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

N/A

D. Do you owe any fees to the TCEQ?

☐ Yes ☒ No

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

Account number: N/A Amount past due: N/A

E. Do you owe any penalties to the TCEQ?

☐ Yes ☒ No

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

Enforcement order number: N/A Amount past due: N/A

Section 13. Attachments (Instructions Page 38)

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

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

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

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

Attachment AR-4

☐ Attachment 1 for Individuals as co-applicants

☒ Other Attachments. Please specify: AR-1 (Core Data Form), AR-2 (PIP), AR-3 (Drainage Ditch Communication), AR-4 (USGS Topo)

Section 14. Signature Page (Instructions Page 39)

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

Permit Number: WQ0013872001

Applicant: City of Manvel

Certification:

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

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

Signatory name (typed or printed): Daniel S. Johnson

Signatory title: City Manager

Signature: DSJohnson Date: 5/30/2024

(Use blue ink)

Subscribed and Sworn to before me by the said Daniel S. Johnson

on this 30 day of May, 2024.

My commission expires on the 19 day of January, 2028.

Notary Public

TAMMY BELL
My Notary ID # 124791421
Expires January 19, 2028
[SEAL]

Brazoria County, Texas

Section 15. Plain Language Summary (Instructions Page 40)

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

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

DOMESTIC WASTEWATER

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

The City of Manvel (CN600580633) operates the Manvel Central Wastewater Treatment Plant (RN101612232), a wastewater treatment plant. The facility is located at 7315 Corporate Drive and 7240 Corporate Drive, in Manvel, Brazoria County, Texas 77578.

The City of Manvel proposes to construct an additional outfall to discharge from train 2.

Discharges from the facility are expected to contain five-day carbonaceous biochemical oxygen demand (CBOD5), total suspended solids (TSS), ammonia nitrogen (NH3-N), and Escherichia coli. Additional potential pollutants are included in the Domestic Technical Report 1.0, Section 7. Pollutant Analysis of Treated Effluent and Domestic Worksheet 4.0 in the permit application package. Domestic wastewater is treated by a coarse screen, grit removal system, fine screens, MBR treatment train, aerobic digester basins, and UV disinfection.

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

AGUAS RESIDUALES DOMÉSTICAS

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

La ciudad de Manvel (CN600580633) opera la Planta Central de Tratamiento de Aguas Residuales de Manvel (RN101612232), una planta de tratamiento de aguas residuales. La instalación está ubicada en 7315 Corporate Drive y 7240 Corporate Drive, en Manvel, Condado de Brazoria, Texas 77578.

La ciudad de Manvel propone construir un emisario adicional para descargar desde el tren 2.

Se espera que las descargas de la instalación contengan demanda bioquímica de oxígeno carbonoso (CBOD5) de cinco días, sólidos suspendidos totales (SST), nitrógeno amoniacal (NH3-N) y Escherichia coli. Se incluyen contaminantes potenciales adicionales en el Informe Técnico Nacional 1.0, Sección 7. Análisis de Contaminantes del Efluente Tratado y Hoja de Trabajo Doméstico 4.0 en el paquete de solicitud de permiso. Las aguas residuales domésticas se tratan mediante un tamiz grueso, un sistema de eliminación de arena, tamices finos, un tren de tratamiento MBR, tanques de digestión aeróbica y desinfección UV.

DOMESTIC ADMINISTRATIVE REPORT 1.1

The following information is required for new and amendment applications.

Section 1. Affected Landowner Information (Instructions Page 41)

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

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

B. ☒ Indicate by a check mark that a separate list with the landowners' names and mailing addresses cross-referenced to the landowner's map has been provided. Attachment AR-5

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

☐ USB Drive ☒ Four sets of labels

D. Provide the source of the landowners' names and mailing addresses: Brazoria County Appraisal District, 500 N Chenango St #101, Angleton, Texas 77515

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

☐ Yes ☒ No

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

N/A

Section 2. Original Photographs (Instructions Page 44)

Provide original ground level photographs. Indicate with checkmarks that the following information is provided. Attachment AR-6

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

Section 3. Buffer Zone Map (Instructions Page 44)

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

Attachment AR-7

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

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

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

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

☒ Yes ☐ No

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

SUPPLEMENTAL PERMIT INFORMATION FORM (SPIF)

FOR AGENCIES REVIEWING DOMESTIC 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)

The SPIF must be completed as a separate document. The TCEQ will mail a copy of the SPIF to each agency as required by the TCEQ agreement with EPA. If any of the items are not completely addressed or further information is needed, you will be contacted to provide the information before the permit is issued. Each item must be completely addressed.

Do not refer to a response of any item in the permit application form. Each attachment must be provided with this form separately from the administrative report of the application. The application will not be declared administratively complete without this form being completed in its entirety including all attachments.

The following applies to all applications:

1. Permittee: City of Manvel

   Permit No. WQ00 13872001 EPA ID No. TX 0118397

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

   7315 Corporate Drive, Manvel, in Brazoria County, Texas 77578 and 7240 Corporate Drive, Manvel, in Brazoria County, Texas 77578.

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: Ray Word

Credential (P.E, P.G., Ph.D., etc.): N/A

Title: Superintendent

Mailing Address: 20025 Morris Avenue

City, State, Zip Code: Manvel, Texas 77578

Phone No.: 281-734-4401 Ext.: N/A Fax No.: 281-489-0634

E-mail Address: ray.word@cityofmanvel.com

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

N/A

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.

To Brazoria County Flood Control Ditch No. 12; thence to Chocolate Bayou Above Tidal Segment No. 1108 of Jan Jacinto River Basin.

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

Provide original photographs of any structures 50 years or older on the property. Attachment AR-8

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

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

The construction impact of the new outfall is 0.04 acres and the depth of excavation is 6 feet.

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

The land usage consists of activities related to wastewater treatment such as the use of aeration basins, clarifiers, chlorine contact basins, and aerobic digesters. The vegetation around the wastewater treatment facility is mowed but, soil is not exposed.

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

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

The original facility was built between 1995 and 1999, which included aeration basin and a clarifier. An additional aeration basin unit was constructed between 2002 and 2004. A second clarifier was constructed in 2008. Lastly, an additional aeration basin and clarifier was added in 2017.

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

The property prior to construction of the Manvel WWTP between 1995 and 1999 was undeveloped. The facility was originally permitted on October 15, 1999. The facility had three aeration basins and three clarifiers built over its lifetime.

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CHECKLIST OF COMMON DEFICIENCIES

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

Core Data Form (TCEQ Form No. 10400) ☒ Yes
(Required for all 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 ☒ Yes
(TCEQ Form Nos. 10053 and 10054. Version dated 6/25/2018 or later.)

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

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

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

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

Things to Know:

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

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

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

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

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

DOMESTIC WASTEWATER PERMIT APPLICATION

DOMESTIC TECHNICAL REPORT 1.0

The Following Is Required For All Applications

Renewal, New, And Amendment

Section 1. Permitted or Proposed Flows (Instructions Page 51)

A. Existing/Interim I Phase

Design Flow (MGD): Attachment TR-1

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

Estimated construction start date: Click here to enter text

Estimated waste disposal start date: Click here to enter text

B. Interim II Phase

Design Flow (MGD): Attachment TR-1

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

Estimated construction start date: Click here to enter text

Estimated waste disposal start date: Click here to enter text

C. Final Phase

Design Flow (MGD): Attachment TR-1

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

Estimated construction start date: Click here to enter text

Estimated waste disposal start date: Click here to enter text

D. Current operating phase: Existing

Provide the startup date of the facility: October 1999

Section 2. Treatment Process (Instructions Page 51)

A. Treatment process description

Provide a detailed description of the treatment process. **Include the type of**

treatment plant, mode of operation, and all treatment units. Start with the plant's head works and finish with the point of discharge. Include all sludge processing and drying units. **If more than one phase exists or is proposed in the permit, a description of *each phase* must be provided**. Process description:

Attachment TR-2

Port or pipe diameter at the discharge point, in inches: Outfall 001: 36-inch, Outfall 002:

B. Treatment Units

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

Table 1.0(1) – Treatment Units

Treatment Unit Type	Number of Units	Dimensions (L x W x D)
Attachment TR-3		

C. Process flow diagrams

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

Attachment: Attachment TR-4

Section 3. Site Drawing (Instructions Page 52)

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

- The boundaries of the treatment facility;
- The boundaries of the area served by the treatment facility;
- If land disposal of effluent, the boundaries of the disposal site and all storage/holding ponds; and
- If sludge disposal is authorized in the permit, the boundaries of the land application or disposal site.

Attachment: Attachment TR-5

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

City of Manvel north of Atchison, Topeka, and Santa Fe Railroad and east of Highway 288.

Section 4. Unbuilt Phases (Instructions Page 52)

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

Yes ☐ No ☒

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

Yes ☐ No ☒

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

N/A

Section 5. Closure Plans (Instructions Page 53)

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

Yes ☒ No ☐

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

Yes ☐ No ☒

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

In Interim Phase II, the existing package plant will be decommissioned.

Section 6. Permit Specific Requirements (Instructions Page 53)

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

A. Summary transmittal

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

Yes ☐ No ☒

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

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

Summary of transmittal letter to be submitted upon completion of final design.

B. Buffer zones

Have the buffer zone requirements been met?

Yes ☒ No ☐

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

The buffer zone is requirement is met by ownership, a restrictive easement, and a nuisance odor prevention plan.

C. Other actions required by the current permit

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

Yes ☒ No ☐

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

Prior to construction of the treatment facilities for each phase (Interim II [1.5 MGD], III [2.0 MGD], and Final [4.0 MGD] phases) the permittee shall submit to the TCEQ Wastewater Permitting Section (MC 148) a summary transmittal letter in accordance with the requirements in 30 TAC § 217.6(d). The permittee shall comply with the requirements of 30 TAC § 309.13(a) through (d).

D. Grit and grease treatment

1. Acceptance of grit and grease waste

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

Yes ☐ No ☒

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

2. Grit and grease processing

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

N/A

3. Grit disposal

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

Yes ☐ No ☐

If No, contact the TCEQ Municipal Solid Waste team at 512-239-0000. Note: A registration or permit is required for grit disposal. Grit shall not be combined with treatment plant sludge. See the instruction booklet for additional information on grit disposal requirements and restrictions.

Describe the method of grit disposal.

N/A

4. Grease and decanted liquid disposal

Note: A registration or permit is required for grease disposal. Grease shall not be combined with treatment plant sludge. For more information, contact the TCEQ Municipal Solid Waste team at 512-239-0000.

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

N/A

E. Stormwater management

1. Applicability

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

Yes ☒ No ☐

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

Yes ☐ No ☒

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

2. MSGP coverage

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

Yes ☐ No ☒

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

TXR05 Click here to enter text or TXRNE Click here to enter text

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

Yes ☒ No ☐

3. Conditional exclusion

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

Yes ☐ No ☒

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

N/A

4. Existing coverage in individual permit

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

Yes ☐ No ☒

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

N/A

5. Zero stormwater discharge

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

Yes ☐ No ☒

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

N/A

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

6. Request for coverage in individual permit

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

Yes ☐ No ☒

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

N/A

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

F. Discharges to the Lake Houston Watershed

Does the facility discharge in the Lake Houston watershed?
Yes ☐ No ☒

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

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

1. Acceptance of sludge from other WWTPs

Does the facility accept or will it accept sludge from other treatment plants at the facility site?
Yes ☐ No ☒

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

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

N/A

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

2. Acceptance of septic waste

Is the facility accepting or will it accept septic waste?

Yes ☐ No ☒

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

Yes ☐ No ☐

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

Yes ☐ No ☐

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

N/A

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

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

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

Yes ☐ No ☒

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

N/A

Section 7. Pollutant Analysis of Treated Effluent (Instructions Page 58)

Is the facility in operation?

Yes ☒ No ☐

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

If yes, provide effluent analysis data for the listed pollutants. ***Wastewater treatment facilities*** complete Table 1.0(2). **W*ater treatment facilities*** discharging filter backwash water, complete Table 1.0(3).

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

Table 1.0(2) - Pollutant Analysis for Wastewater Treatment Facilities

Pollutant	**Average Conc.**	**Max Conc.**	**No. of Samples**	**Sample Type**	**Sample Date/Time**
$CBOD_5$, mg/l	2.57	2.57	1	Composite	6/13/23 @ 8:50
Total Suspended Solids, mg/l	7.40	7.40	1	Composite	6/13/23 @ 8:50
Ammonia Nitrogen, mg/l	0.280	0.280	1	Composite	6/13/23 @ 8:50
Nitrate Nitrogen, mg/l	1.81	1.81	1	Composite	6/13/23 @ 8:50
Total Kjeldahl Nitrogen, mg/l	<1.00	<1.00	1	Composite	6/13/23 @ 8:50
Sulfate, mg/l	34.6	34.6	1	Composite	6/13/23 @ 8:50
Chloride, mg/l	159	159	1	Composite	6/13/23 @ 8:50
Total Phosphorus, mg/l	4.36	4.36	1	Composite	6/13/23 @ 8:50
pH, standard units	7.98	7.98	1	Grab	6/13/23 @ 8:50
Dissolved Oxygen*, mg/l	7.89	7.89	1	Grab	6/13/23 @ 8:50
Chlorine Residual, mg/l	5.10	5.10	1	Grab	6/13/23 @ 8:50
E.coli (CFU/100ml) freshwater	5.20	5.20	1	Grab	6/13/23 @ 8:50
Entercocci (CFU/100ml)	N/A	N/A	N/A	N/A	N/A

Pollutant	Average Conc.	Max Conc.	No. of Samples	Sample Type	Sample Date/Time
saltwater					
Total Dissolved Solids, mg/l	648	648	1	Composite	6/13/23 @ 8:50
Electrical Conductivity, µmohs/cm, †	1240	1240	1	Grab	6/13/23 @ 8:50
Oil & Grease, mg/l	<5.00	<5.00	1	Grab	6/13/23 @ 8:50
Alkalinity ($CaCO_3$)*, mg/l	225	225	1	Grab	6/13/23 @ 8:50

*TPDES permits only

†TLAP permits only

Table 1.0(3) - Pollutant Analysis for Water Treatment Facilities

Pollutant	Average Conc.	Max Conc.	No. of Samples	Sample Type	Sample Date/Time
Total Suspended Solids, mg/l					
Total Dissolved Solids, mg/l					
pH, standard units					
Fluoride, mg/l					
Aluminum, mg/l					
Alkalinity ($CaCO_3$), mg/l					

Section 8. Facility Operator (Instructions Page 60)

Facility Operator Name: Ray A. Word

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

Facility Operator's License Number: WW0060674

Section 9. Sewage Sludge Management and Disposal (Instructions

Page 60)

A. Sludge disposal method

Identify the current or anticipated sludge disposal method or methods from the following list. Check all that apply.

- ☐ Permitted landfill
- ☐ Permitted or Registered land application site for beneficial use
- ☐ Land application for beneficial use authorized in the wastewater permit
- ☒ Permitted sludge processing facility
- ☐ Marketing and distribution as authorized in the wastewater permit
- ☐ Composting as authorized in the wastewater permit
- ☐ Permitted surface disposal site (sludge monofill)
- ☐ Surface disposal site (sludge monofill) authorized in the wastewater permit
- ☐ Transported to another permitted wastewater treatment plant or permitted sludge processing facility. If you selected this method, a written statement or contractual agreement from the wastewater treatment plant or permitted sludge processing facility accepting the sludge must be included with this application.
- ☐ Other: Click here to enter text.

B. Sludge disposal site

Disposal site name: EverGro Organic Recycling, Inc.

TCEQ permit or registration number: WQ0005244000, RN109962696

County where disposal site is located: Harris

C. Sludge transportation method

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

Name of the hauler: MagnaFlow Environmental Services, Inc.

Hauler registration number: 21484

Sludge is transported as a:

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

Section 10. Permit Authorization for Sewage Sludge Disposal (Instructions Page 60)

A. Beneficial use authorization

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

Yes ☐ No ☒

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

Yes ☐ No ☐

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

Yes ☐ No ☐

B. Sludge processing authorization

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

Sludge Composting	Yes ☐	No ☒
Marketing and Distribution of sludge	Yes ☐	No ☒
Sludge Surface Disposal or Sludge Monofill	Yes ☐	No ☒
Temporary storage in sludge lagoons	Yes ☐	No ☒

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

Yes ☐ No ☐

Section 11. Sewage Sludge Lagoons (Instructions Page 61)

Does this facility include sewage sludge lagoons?

Yes ☐ No ☒

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

A. Location information

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

- Original General Highway (County) Map:

  Attachment: Click here to enter text.

- USDA Natural Resources Conservation Service Soil Map:

  Attachment: Click here to enter text.

- Federal Emergency Management Map:

  Attachment: Click here to enter text.

- Site map:

  Attachment: Click here to enter text.

Discuss in a description if any of the following exist within the lagoon area.

Check all that apply.

☐ Overlap a designated 100-year frequency flood plain

☐ Soils with flooding classification

☐ Overlap an unstable area

☐ Wetlands

☐ Located less than 60 meters from a fault

☐ None of the above

Attachment: Click here to enter text.

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

N/A

B. Temporary storage information

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

Nitrate Nitrogen, mg/kg: Click here to enter text.

Total Kjeldahl Nitrogen, mg/kg: Click here to enter text.

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

Phosphorus, mg/kg: Click here to enter text.

Potassium, mg/kg: Click here to enter text.

pH, standard units: Click here to enter text.

Ammonia Nitrogen mg/kg: Click here to enter text.

Arsenic: Click here to enter text.

Cadmium: Click here to enter text.

Chromium: Click here to enter text.

Copper: Click here to enter text.

Lead: Click here to enter text.

Mercury: Click here to enter text.

Molybdenum: Click here to enter text.

Nickel: Click here to enter text.

Selenium: Click here to enter text.

Zinc: Click here to enter text.

Total PCBs: Click here to enter text.

Provide the following information:

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

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

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

C. Liner information

Does the active/proposed sludge lagoon(s) have a liner with a maximum hydraulic conductivity of $1x10^{-7}$ cm/sec?

Yes ☐ No ☐

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

N/A

D. Site development plan

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

N/A

Attach the following documents to the application.

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

  Attachment: Click here to enter text.

- Copy of the closure plan

  Attachment: Click here to enter text.

- Copy of deed recordation for the site

  Attachment: Click here to enter text.

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

  Attachment: Click here to enter text.

- Description of the method of controlling infiltration of groundwater and surface water from entering the site

  Attachment: Click here to enter text.

- Procedures to prevent the occurrence of nuisance conditions

  Attachment: Click here to enter text.

E. Groundwater monitoring

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

Yes ☐ No ☐

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

Attachment: Click here to enter text.

Section 12. Authorizations/Compliance/Enforcement (Instructions Page 63)

A. Additional authorizations

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

Yes ☐ No ☒

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

N/A

B. Permittee enforcement status

Is the permittee currently under enforcement for this facility?

Yes ☐ No ☒

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

Yes ☐ No ☒

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

Click here to enter text.

Section 13. RCRA/CERCLA Wastes (Instructions Page 63)

A. RCRA hazardous wastes

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

Yes ☐ No ☒

B. Remediation activity wastewater

Has the facility received in the past three years, does it currently receive, or will

it receive CERCLA wastewater, RCRA remediation/corrective action wastewater or other remediation activity wastewater?

Yes ☐ No ☒

C. Details about wastes received

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

Attachment: Click here to enter text.

Section 14. Laboratory Accreditation (Instructions Page 64)

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: Daniel S. Johnson

Title: City Manager

Signature: DSJohnson

Date: 5/30/2024

DOMESTIC TECHNICAL REPORT 1.1

The following is required for new and amendment applications

Section 1. Justification for Permit (Instructions Page 66)

A. Justification of permit need

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

To address the growth projected in the City's central sewer basin, the City of Manvel desires to expand the capacity of the existing WWTP by 1.0 MGD initially. Due to the site restrictions at the existing WWTP, the 1.0 MGD expansion is proposed to be built on the property owned by the City to the west of the existing WWTP site. The 1.0 MGD expansion will be built as a separate and standalone treatment train with a new Outfall 002 adjacent to the expansion site. The new Outfall 002 is located approximately 1,350 feet upstream of the existing Outfall 001 in the same drainage ditch. The existing 0.5 MGD WWTP will continue using the existing Outfall 001. Ultimately, the City intends to decommission the existing 0.5 MGD package WWTP and expand the 1.0 MGD train in phases to an ultimate capacity of 5.0 MGD in a future year to be determined.

B. Regionalization of facilities

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

1. Municipally incorporated areas

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

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

Yes ☐ No ☐ Not Applicable ☒

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

If yes, attach correspondence from the city.

Attachment: Click here to enter text

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

proposed facility or expansion attached.

Attachment: Click here to enter text.

2. Utility CCN areas

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

Yes ☐ No ☒

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

Attachment: Click here to enter text.

3. Nearby WWTPs or collection systems

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

Yes ☒ No ☐

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

Attachment: Attachment TR-6

If yes, attach copies of your certified letters to these facilities **and** their response letters concerning connection with their system.

Attachment: Attachment TR-6

Does a permitted domestic wastewater treatment facility or a collection system located within three (3) miles of the proposed facility currently have the capacity to accept or is willing to expand to accept the volume of wastewater proposed in this application?

Yes ☐ No ☒

If yes, attach an analysis of expenditures required to connect to a permitted wastewater treatment facility or collection system located within 3 miles versus the cost of the proposed facility or expansion.

Attachment: Click here to enter text.

Section 2. Organic Loading (Instructions Page 67)

Is this facility in operation?

Yes ☒ No ☐

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

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

A. Current organic loading

Facility Design Flow (flow being requested in application): 1.5 MGD (Phase I), 2.0 MGD (Phase II), 4.0 MGD (Final Phase)

Average Influent Organic Strength or BOD_5 Concentration in mg/l: 365mg/L

Average Influent Loading (lbs/day = total average flow X average BOD_5 conc. X 8.34): Attachment TR-7

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

Influent concentration from Manvel WWTP Discharge Monitoring Reports (DMRs); Average plus one standard deviation of BOD concentrations from March 2019 to April 2021.

B. Proposed organic loading

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

Table 1.1(1) – Design Organic Loading

Source	Total Average Flow (MGD)	Influent BOD_5 Concentration (mg/l)
Municipality	Phase I: 1.5 MGD Phase II: 2.0 MGD Final Phase: 4.0 MGD	365
Subdivision		

Source	Total Average Flow (MGD)	Influent BOD_5 Concentration (mg/l)
Trailer park – transient		
Mobile home park		
School with cafeteria and showers		
School with cafeteria, no showers		
Recreational park, overnight use		
Recreational park, day use		
Office building or factory		
Motel		
Restaurant		
Hospital		
Nursing home		
Other		
TOTAL FLOW from all sources	Phase I: 1.5 MGD Phase II: 2.0 MGD Final Phase: 4.0 MGD	
AVERAGE BOD_5 from all sources		365

Section 3. Proposed Effluent Quality and Disinfection

(Instructions Page 68)

A. Existing/Interim I Phase Design Effluent Quality

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

Total Suspended Solids, mg/l: 5 mg/L

Ammonia Nitrogen, mg/l: 2 mg/L

Total Phosphorus, mg/l: N/A

Dissolved Oxygen, mg/l: 6 mg/L

Other: E. Coli, CFU or MPN/100 ml: 126

B. Interim II Phase Design Effluent Quality

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

Total Suspended Solids, mg/l: 5 mg/L

Ammonia Nitrogen, mg/l: 2 mg/L

Total Phosphorus, mg/l: N/A

Dissolved Oxygen, mg/l: 6 mg/L

Other: E. Coli, CFU or MPN/100 ml: 126

C. Final Phase Design Effluent Quality

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

Total Suspended Solids, mg/l: 5 mg/L

Ammonia Nitrogen, mg/l: 2 mg/L

Total Phosphorus, mg/l: N/A

Dissolved Oxygen, mg/l: 6 mg/L

Other: E. Coli, CFU or MPN/100 ml:126

D. Disinfection Method

Identify the proposed method of disinfection.

☒ Chlorine: <4.0 mg/l after 20 minutes detention time at peak flow

Dechlorination process: Chlorine Contact Chamber

☒ Ultraviolet Light: 20 seconds contact time at peak flow

☐ Other: Click here to enter text.

Section 4. Design Calculations (Instructions Page 68)

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

Attachment: Attachment TR-8

Section 5. Facility Site (Instructions Page 68)

A. 100-year floodplain

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

Yes ☒ No ☐

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

Click here to enter text.

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

FEMA Website for FIRMette Maps 48039c0130K

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

Yes ☐ No ☒

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

Yes ☐ No ☐

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

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

B. Wind rose

Attach a wind rose. **Attachment**: Attachment TR-9

Section 6. Permit Authorization for Sewage Sludge Disposal (Instructions Page 69)

A. Beneficial use authorization

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

Yes ☐ No ☒

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

Attachment: Attachment TR-10

B. Sludge processing authorization

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

☐ Sludge Composting

☐ Marketing and Distribution of sludge

☐ Sludge Surface Disposal or Sludge Monofill

If any of the above sludge options are selected, attach a completed DOMESTIC WASTEWATER PERMIT APPLICATION: SEWAGE SLUDGE TECHNICAL REPORT (TCEQ Form No. 10056).

Attachment: N/A

Section 7. Sewage Sludge Solids Management Plan (Instructions Page 69)

Attach a solids management plan to the application.

Attachment: N/A

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

- Treatment units and processes dimensions and capacities
- Solids generated at 100, 75, 50, and 25 percent of design flow
- Mixed liquor suspended solids operating range at design and projected actual flow
- Quantity of solids to be removed and a schedule for solids removal
- Identification and ownership of the ultimate sludge disposal site

- For facultative lagoons, design life calculations, monitoring well locations and depths, and the ultimate disposal method for the sludge from the facultative lagoon

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

DOMESTIC TECHNICAL REPORT WORKSHEET 2.0

RECEIVING WATERS

The following is required for all TPDES permit applications

Section 1. Domestic Drinking Water Supply (Instructions Page 73)

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

Yes ☐ No ☒

If yes, provide the following:
Owner of the drinking water supply: Click here to enter text.

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

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

Attachment: Click here to enter text.

Section 2. Discharge into Tidally Affected Waters (Instructions Page 73)

Does the facility discharge into tidally affected waters?

Yes ☐ No ☒

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

A. Receiving water outfall

Width of the receiving water at the outfall, in feet: N/A

B. Oyster waters

Are there oyster waters in the vicinity of the discharge?

Yes ☐ No ☐

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

N/A

C. Sea grasses

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

Yes ☐ No ☐

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

N/A

Section 3. Classified Segments (Instructions Page 73)

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

Yes ☐ No ☒

If yes, this Worksheet is complete.

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

Section 4. Description of Immediate Receiving Waters (Instructions Page 75)

Name of the immediate receiving waters: Brazoria County Flood Control Ditch No. 12

A. Receiving water type

Identify the appropriate description of the receiving waters.

☐ Stream

☐ Freshwater Swamp or Marsh

☐ Lake or Pond

Surface area, in acres: Click here to enter text

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

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

☒ Man-made Channel or Ditch

☐ Open Bay

☐ Tidal Stream, Bayou, or Marsh

☐ Other, specify: Click here to enter text.

B. Flow characteristics

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

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

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

☐ Perennial - normally flowing

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

☐ USGS flow records

☐ Historical observation by adjacent landowners

☒ Personal observation

☐ Other, specify: Click here to enter text.

C. Downstream perennial confluences

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

None

D. Downstream characteristics

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

Yes ☐ No ☒

If yes, discuss how.

Click here to enter text.

E. Normal dry weather characteristics

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

Gently flowing, up to 3 feet wide, 6 inches to 1 foot deep. The ditch banks consist of manicured grass.

Date and time of observation: 6/5/2024 @ 8:45 AM

Was the water body influenced by stormwater runoff during observations?

Yes ☐ No ☒

Section 5. General Characteristics of the Waterbody (Instructions Page 74)

A. Upstream influences

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

- ☐ Oil field activities
- ☐ Upstream discharges
- ☐ Septic tanks
- ☒ Urban runoff
- ☒ Agricultural runoff
- ☐ Other(s), specify N/A

B. Waterbody uses

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

- ☐ Livestock watering
- ☐ Irrigation withdrawal
- ☐ Fishing
- ☐ Contact recreation
- ☐ Non-contact recreation
- ☐ Navigation

☐ Domestic water supply ☐ Industrial water supply

☐ Park activities ☒ Other(s), specify Flood Protection/ Drainage

C. Waterbody aesthetics

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

☐ Wilderness: outstanding natural beauty; usually wooded or unpastured area; water clarity exceptional

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

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

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

DOMESTIC WORKSHEET 4.0

POLLUTANT ANALYSES REQUIREMENTS*

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

This worksheet is not required for minor amendments without renewal

Section 1. Toxic Pollutants (Instructions Page 87)

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

Grab ☒ Composite ☒

Date and time sample(s) collected: 6/13/2023 @ 8:50 & 5:00

Table 4.0(1) – Toxics Analysis

Pollutant	AVG Effluent Conc. (µg/l)	MAX Effluent Conc. (µg/l)	Number of Samples	MAL (µg/l)
Acrylonitrile	<50.0	<50.0	1	50
Aldrin	<0.01	<0.01	1	0.01
Aluminum	168.0	168.0	1	2.5
Anthracene	<10.0	<10.0	1	10
Antimony	<5.00	<5.00	1	5
Arsenic	3.08	3.08	1	0.5
Barium	47.7	47.7	1	3
Benzene	<10.0	<10.0	1	10
Benzidine	<50.0	<50.0	1	50
Benzo(a)anthracene	<5.00	<5.00	1	5

Pollutant	AVG Effluent Conc. (µg/l)	MAX Effluent Conc. (µg/l)	Number of Samples	MAL (µg/l)
Benzo(a)pyrene	<5.00	<5.00	1	5
Bis(2-chloroethyl)ether	<10.0	<10.0	1	10
Bis(2-ethylhexyl)phthalate	<10.0	<10.0	1	10
Bromodichloromethane	17.7	17.7	1	10
Bromoform	<10.0	<10.0	1	10
Cadmium	<1.00	<1.00	1	1
Carbon Tetrachloride	<2.00	<2.00	1	2
Carbaryl	<5.00	<5.00	1	5
Chlordane*	<0.20	<0.20	1	0.2
Chlorobenzene	<10.0	<10.0	1	10
Chlorodibromomethane	<10.0	<10.0	1	10
Chloroform	40.4	40.4	1	10
Chlorpyrifos	<0.05	<0.05	1	0.05
Chromium (Total)	<3.00	<3.00	1	3
Chromium (Tri) **(*1)**	<0.003	<0.003	1	N/A
Chromium (Hex)	3.21	3.21	1	3
Copper	12.0	12.0	1	2
Chrysene	<5.00	<5.00	1	5
p-Chloro-m-Cresol	<10.0	<10.0	1	10
4,6-Dinitro-o-Cresol	<50.0	<50.0	1	50
p-Cresol	<10.0	<10.0	1	10

Pollutant	AVG Effluent Conc. (µg/l)	MAX Effluent Conc. (µg/l)	Number of Samples	MAL (µg/l)
Cyanide **(*2)**	<10.0	<10.0	1	10
4,4'- DDD	<0.10	<0.10	1	0.1
4,4'- DDE	<0.10	<0.10	1	0.1
4,4'- DDT	<0.02	<0.02	1	0.02
2,4-D	<0.70	<0.70	1	0.7
Demeton (O and S)	<0.20	<0.20	1	0.20
Diazinon	<0.10	<0.10	1	0.5/0.1
1,2-Dibromoethane	<10.0	<10.0	1	10
m-Dichlorobenzene	<10.0	<10.0	1	10
o-Dichlorobenzene	<10.0	<10.0	1	10
p-Dichlorobenzene	<10.0	<10.0	1	10
3,3'-Dichlorobenzidine	<5.00	<5.00	1	5
1,2-Dichloroethane	<10.0	<10.0	1	10
1,1-Dichloroethylene	<10.0	<10.0	1	10
Dichloromethane	<20.0	<20.0	1	20
1,2-Dichloropropane	<10.0	<10.0	1	10
1,3-Dichloropropene	<10.0	<10.0	1	10
Dicofol	<1.00	<1.00	1	1
Dieldrin	<0.02	<0.02	1	0.02
2,4-Dimethylphenol	<10.0	<10.0	1	10
Di-n-Butyl Phthalate	<10.0	<10.0	1	10

Pollutant	AVG Effluent Conc. (µg/l)	MAX Effluent Conc. (µg/l)	Number of Samples	MAL (µg/l)
Diuron	<0.09	<0.09	1	0.09
Endosulfan I (alpha)	<0.01	<0.01	1	0.01
Endosulfan II (beta)	<0.02	<0.02	1	0.02
Endosulfan Sulfate	<0.10	<0.10	1	0.1
Endrin	<0.02	<0.02	1	0.02
Ethylbenzene	<10.0	<10.0	1	10
Fluoride	1370	1370	1	500
Guthion	<0.10	<0.10	1	0.1
Heptachlor	<0.01	<0.01	1	0.01
Heptachlor Epoxide	<0.01	<0.01	1	0.01
Hexachlorobenzene	<5.00	<5.00	1	5
Hexachlorobutadiene	<10.0	<10.0	1	10
Hexachlorocyclohexane (alpha)	<0.05	<0.05	1	0.05
Hexachlorocyclohexane (beta)	<0.05	<0.05	1	0.05
gamma-Hexachlorocyclohexane (Lindane)	<0.05	<0.05	1	0.05
Hexachlorocyclopentadiene	<10.0	<10.0	1	10
Hexachloroethane	<20.0	<20.0	1	20
Hexachlorophene	<10.0	<10.0	1	10
Lead	<0.50	<0.50	1	0.5
Malathion	<0.10	<0.10	1	0.1

Pollutant	AVG Effluent Conc. (µg/l)	MAX Effluent Conc. (µg/l)	Number of Samples	MAL (µg/l)
Mercury	<0.005	<0.005	1	0.005
Methoxychlor	<2.00	<2.00	1	2
Methyl Ethyl Ketone	<50.0	<50.0	1	50
Mirex	<0.02	<0.02	1	0.02
Nickel	2.62	2.62	1	2
Nitrate-Nitrogen	19,800	19,800	1	100
Nitrobenzene	<10.0	<10.0	1	10
N-Nitrosodiethylamine	<20.0	<20.0	1	20
N-Nitroso-di-n-Butylamine	<20.0	<20.0	1	20
Nonylphenol	<333	<333	1	333
Parathion (ethyl)	<0.10	<0.10	1	0.1
Pentachlorobenzene	<20.0	<20.0	1	20
Pentachlorophenol	<5.00	<5.00	1	5
Phenanthrene	<10.0	<10.0	1	10
Polychlorinated Biphenyls (PCB's) **(*3)**	<0.20	<0.20	1	0.2
Pyridine	<20.0	<20.0	1	20
Selenium	<5.00	<5.00	1	5
Silver	<0.50	<0.50	1	0.5
1,2,4,5-Tetrachlorobenzene	<20.0	<20.0	1	20
1,1,2,2-Tetrachloroethane	<10.0	<10.0	1	10

Pollutant	AVG Effluent Conc. (µg/l)	MAX Effluent Conc. (µg/l)	Number of Samples	MAL (µg/l)
Tetrachloroethylene	<10.0	<10.0	1	10
Thallium	<0.50	<0.50	1	0.5
Toluene	<10.0	<10.0	1	10
Toxaphene	<0.30	<0.30	1	0.3
2,4,5-TP (Silvex)	<0.30	<0.30	1	0.3
Tributyltin (see instructions for explanation)	N/A	N/A	N/A	0.01
1,1,1-Trichloroethane	<10.0	<10.0	1	10
1,1,2-Trichloroethane	<10.0	<10.0	1	10
Trichloroethylene	<10.0	<10.0	1	10
2,4,5-Trichlorophenol	<10.0	<10.0	1	50
TTHM (Total Trihalomethanes)	63.96	63.96	1	10
Vinyl Chloride	<10.0	<10.0	1	10
Zinc	55.4	55.4	1	5

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

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

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

Section 2. Priority Pollutants

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

Grab ☒ Composite ☒

Date and time sample(s) collected: 6/13/2023 @ 8:50 & 5:00

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

Pollutant	AVG Effluent Conc. (µg/l)	MAX Effluent Conc. (µg/l)	Number of Samples	MAL (µg/l)
Antimony		<5.00		5
Arsenic		3.08		0.5
Beryllium		<0.500		0.5
Cadmium		<1.00		1
Chromium (Total)		<3.00		3
Chromium (Hex)		3.21		3
Chromium (Tri) (*1)		<0.003		N/A
Copper		12.0		2
Lead		<0.500		0.5
Mercury		<0.005		0.005
Nickel		2.62		2
Selenium		<5.00		5
Silver		<0.500		0.5
Thallium		<0.500		0.5
Zinc		55.4		5
Cyanide (*2)		<10.0		10
Phenols, Total		<10.0		10

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

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

Table 4.0(2)B – Volatile Compounds

Pollutant	AVG Effluent Conc. (µg/l)	MAX Effluent Conc. (µg/l)	Number of Samples	MAL (µg/l)
Acrolein	<50.0	<50.0	1	50
Acrylonitrile	<50.0	<50.0	1	50
Benzene	<10.0	<10.0	1	10
Bromoform	<10.0	<10.0	1	10
Carbon Tetrachloride	<2.00	<2.00	1	2
Chlorobenzene	<10.0	<10.0	1	10
Chlorodibromomethane	<10.0	<10.0	1	10
Chloroethane	<50.0	<50.0	1	50
2-Chloroethylvinyl Ether	<10.0	<10.0	1	10
Chloroform	40.4	40.4	1	10
Dichlorobromomethane [Bromodichloromethane]	17.1	17.1	1	10
1,1-Dichloroethane	<10.0	<10.0	1	10
1,2-Dichloroethane	<10.0	<10.0	1	10
1,1-Dichloroethylene	<10.0	<10.0	1	10
1,2-Dichloropropane	<10.0	<10.0	1	10
1,3-Dichloropropylene [1,3-Dichloropropene]	<10.0	<10.0	1	10
1,2-Trans-Dichloroethylene	<10.0	<10.0	1	10
Ethylbenzene	<10.0	<10.0	1	10
Methyl Bromide	<50.0	<50.0	1	50
Methyl Chloride	<50.0	<50.0	1	50
Methylene Chloride	<20.0	<20.0	1	20
1,1,2,2-Tetrachloroethane	<10.0	<10.0	1	10
Tetrachloroethylene	<10.0	<10.0	1	10

Pollutant	AVG Effluent Conc. (µg/l)	MAX Effluent Conc. (µg/l)	Number of Samples	MAL (µg/l)
Toluene	<10.0	<10.0	1	10
1,1,1-Trichloroethane	<10.0	<10.0	1	10
1,1,2-Trichloroethane	<10.0	<10.0	1	10
Trichloroethylene	<10.0	<10.0	1	10
Vinyl Chloride	<10.0	<10.0	1	10

Table 4.0(2)C – Acid Compounds

Pollutant	AVG Effluent Conc. (µg/l)	MAX Effluent Conc. (µg/l)	Number of Samples	MAL (µg/l)
2-Chlorophenol	<10.0	<10.0	1	10
2,4-Dichlorophenol	<10.0	<10.0	1	10
2,4-Dimethylphenol	<10.0	<10.0	1	10
4,6-Dinitro-o-Cresol	<50.0	<50.0	1	50
2,4-Dinitrophenol	<50.0	<50.0	1	50
2-Nitrophenol	<20.0	<20.0	1	20
4-Nitrophenol	<50.0	<50.0	1	50
P-Chloro-m-Cresol	<10.0	<10.0	1	10
Pentalchlorophenol	<5.00	<5.00	1	5
Phenol	<10.0	<10.0	1	10
2,4,6-Trichlorophenol	<10.0	<10.0	1	10

Table 4.0(2)D – Base/Neutral Compounds

Pollutant	AVG Effluent Conc. (µg/l)	MAX Effluent Conc. (µg/l)	Number of Samples	MAL (µg/l)
Acenaphthene	<10.0	<10.0	1	10
Acenaphthylene	<10.0	<10.0	1	10
Anthracene	<10.0	<10.0	1	10
Benzidine	<50.0	<50.0	1	50
Benzo(a)Anthracene	<5.00	<5.00	1	5
Benzo(a)Pyrene	<5.00	<5.00	1	5
3,4-Benzofluoranthene	<10.0	<10.0	1	10
Benzo(ghi)Perylene	<20.0	<20.0	1	20
Benzo(k)Fluoranthene	<5.00	<5.00	1	5
Bis(2-Chloroethoxy)Methane	<10.0	<10.0	1	10
Bis(2-Chloroethyl)Ether	<10.0	<10.0	1	10
Bis(2-Chloroisopropyl)Ether	<10.0	<10.0	1	10
Bis(2-Ethylhexyl)Phthalate	<10.0	<10.0	1	10
4-Bromophenyl Phenyl Ether	<10.0	<10.0	1	10
Butyl benzyl Phthalate	<10.0	<10.0	1	10
2-Chloronaphthalene	<10.0	<10.0	1	10
4-Chlorophenyl phenyl ether	<10.0	<10.0	1	10
Chrysene	<5.00	<5.00	1	5
Dibenzo(a,h)Anthracene	<5.00	<5.00	1	5
1,2-(o)Dichlorobenzene	<10.0	<10.0	1	10
1,3-(m)Dichlorobenzene	<10.0	<10.0	1	10
1,4-(p)Dichlorobenzene	<10.0	<10.0	1	10
3,3-Dichlorobenzidine	<5.00	<5.00	1	5
Diethyl Phthalate	<10.0	<10.0	1	10
Dimethyl Phthalate	<10.0	<10.0	1	10

Pollutant	AVG Effluent Conc. (µg/l)	MAX Effluent Conc. (µg/l)	Number of Samples	MAL (µg/l)
Di-n-Butyl Phthalate	<10.0	<10.0	1	10
2,4-Dinitrotoluene	<10.0	<10.0	1	10
2,6-Dinitrotoluene	<10.0	<10.0	1	10
Di-n-Octyl Phthalate	<10.0	<10.0	1	10
1,2-Diphenylhydrazine (as Azo-benzene)	<20.0	<20.0	1	20
Fluoranthene	<10.0	<10.0	1	10
Fluorene	<10.0	<10.0	1	10
Hexachlorobenzene	<5.00	<5.00	1	5
Hexachlorobutadiene	<10.0	<10.0	1	10
Hexachlorocyclo-pentadiene	<10.0	<10.0	1	10
Hexachloroethane	<20.0	<20.0	1	20
Indeno(1,2,3-cd)pyrene	<5.00	<5.00	1	5
Isophorone	<10.0	<10.0	1	10
Naphthalene	<10.0	<10.0	1	10
Nitrobenzene	<10.0	<10.0	1	10
N-Nitrosodimethylamine	<50.0	<50.0	1	50
N-Nitrosodi-n-Propylamine	<20.0	<20.0	1	20
N-Nitrosodiphenylamine	<20.0	<20.0	1	20
Phenanthrene	<10.0	<10.0	1	10
Pyrene	<10.0	<10.0	1	10
1,2,4-Trichlorobenzene	<10.0	<10.0	1	10

Table 4.0(2)E - Pesticides

Pollutant	AVG Effluent Conc. (µg/l)	MAX Effluent Conc. (µg/l)	Number of Samples	MAL (µg/l)
Aldrin	<0.01	<0.01	1	0.01
alpha-BHC (Hexachlorocyclohexane)	<0.05	<0.05	1	0.05
beta-BHC (Hexachlorocyclohexane)	<0.05	<0.05	1	0.05
gamma-BHC (Hexachlorocyclohexane)	<0.05	<0.05	1	0.05
delta-BHC (Hexachlorocyclohexane)	<0.05	<0.05	1	0.05
Chlordane	<0.20	<0.20	1	0.2
4,4-DDT	<0.02	<0.02	1	0.02
4,4-DDE	<0.10	<0.10	1	0.1
4,4,-DDD	<0.10	<0.10	1	0.1
Dieldrin	<0.02	<0.02	1	0.02
Endosulfan I (alpha)	<0.01	<0.01	1	0.01
Endosulfan II (beta)	<0.02	<0.02	1	0.02
Endosulfan Sulfate	<0.10	<0.10	1	0.1
Endrin	<0.02	<0.02	1	0.02
Endrin Aldehyde	<0.10	<0.10	1	0.1
Heptachlor	<0.01	<0.01	1	0.01
Heptachlor Epoxide	<0.01	<0.01	1	0.01
PCB-1242	<0.20	<0.20	1	0.2
PCB-1254	<0.20	<0.20	1	0.2
PCB-1221	<0.20	<0.20	1	0.2
PCB-1232	<0.20	<0.20	1	0.2

Pollutant	AVG Effluent Conc. (µg/l)	MAX Effluent Conc. (µg/l)	Number of Samples	MAL (µg/l)
PCB-1248	<0.20	<0.20	1	0.2
PCB-1260	<0.20	<0.20	1	0.2
PCB-1016	<0.20	<0.20	1	0.2
Toxaphene	<0.30	<0.30	1	0.3

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

Section 3. Dioxin/Furan Compounds

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

☐ 2,4,5-trichlorophenoxy acetic acid
Common Name 2,4,5-T, CASRN 93-76-5

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

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

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

☐ 2,4,5-trichlorophenol
Common Name TCP, CASRN 95-95-4

☐ hexachlorophene
Common Name HCP, CASRN 70-30-4

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

Click here to enter text

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

Yes ☐ No ☐

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

Click here to enter text.

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

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

Grab ☐ Composite ☐

Date and time sample(s) collected: Click here to enter text.

TABLE 4.0(2)F - DIOXIN/FURAN COMPOUNDS

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

Compound	Toxic Equivalency Factors	Wastewater Concentration (ppq)	Wastewater Equivalents (ppq)	Sludge Concentration (ppt)	Sludge Equivalents (ppt)	MAL (ppq)
PCB 126	0.1					0.5
PCB 169	0.03					0.5
Total						

DOMESTIC WORKSHEET 5.0

TOXICITY TESTING REQUIREMENTS

The following is required for facilities with a currently-operating design flow greater than or equal to 1.0 MGD, with an EPA-approved pretreatment program (or those that are required to have one under 40 CFR Part 403), or are required by the TCEQ to perform Whole Effluent Toxicity testing. This worksheet is not required for minor amendments without renewal.

Section 1. Required Tests (Instructions Page 97)

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

7-day Chronic: 17

48-hour Acute: 8

Section 2. Toxicity Reduction Evaluations (TREs)

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

Yes ☐ No ☒

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

N/A

Section 3. Summary of WET Tests

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

Table 5.0(1) – Summary of WET Tests

Test Date	Test Species	NOEC Survival	NOEC Sub-lethal
	Submitted via DMRs		

DOMESTIC WORKSHEET 6.0

INDUSTRIAL WASTE CONTRIBUTION

The following is required for all publicly owned treatment works (POTWs)

Section 1. All POTWs (Instructions Page 99)

A. Industrial users

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

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

Categorical IUs:

Number of IUs: 0 (zero)

Average Daily Flows, in MGD: 0 (zero)

Significant IUs – non-categorical:

Number of IUs: 0 (zero)

Average Daily Flows, in MGD: 0 (zero)

Other IUs:

Number of IUs: 0 (zero)

Average Daily Flows, in MGD: 0 (zero)

B. Treatment plant interference

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

Yes ☐ No ☒

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

N/A

C. Treatment plant pass through

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

Yes ☐ No ☒

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

N/A

D. Pretreatment program

Does your POTW have an approved pretreatment program?

Yes ☐ No ☒

If yes, complete Section 2 only of this Worksheet.

Is your POTW required to develop an approved pretreatment program?

Yes ☐ No ☒

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

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

Section 2. POTWs with Approved Programs or Those Required to Develop a Program (Instructions Page 100)

A. Substantial modifications

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

Yes ☐ No ☐

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

N/A

B. Non-substantial modifications

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

Yes ☐ No ☐

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

N/A

C. Effluent parameters above the MAL

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

Table 6.0(1) – Parameters Above the MAL

Pollutant	Concentration	MAL	Units	Date

D. Industrial user interruptions

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

Yes ☐ No ☐

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

N/A

Section 3. Significant Industrial User (SIU) Information and Categorical Industrial User (CIU) (Instructions Page 100)

A. General information

Company Name: N/A

SIC Code: Click here to enter text.

Telephone number: Click here to enter text. Fax number: Click here to enter text.

Contact name: Click here to enter text.

Address: Click here to enter text.

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

B. Process information

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

N/A

C. Product and service information

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

N/A

D. Flow rate information

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

Process Wastewater:

Discharge, in gallons/day: N/A

Discharge Type: ☐ Continuous ☐ Batch ☐ Intermittent

Non-Process Wastewater:

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

Discharge Type: ☐ Continuous ☐ Batch ☐ Intermittent

E. Pretreatment standards

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

Yes ☐ No ☐

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

Yes ☐ No ☐

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

Category: Click here to enter text.
Subcategories: Click here to enter text.

Category: Click here to enter text.
Subcategories: Click here to enter text.

Category: Click here to enter text.
Subcategories: Click here to enter text.

Category: Click here to enter text.
Subcategories: Click here to enter text.

Category: Click here to enter text.
Subcategories: Click here to enter text.

F. Industrial user interruptions

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

Yes ☐ No ☐

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

N/A

ATTACHMENT AR-1

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 **Major Amendment**

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 600580633		**RN 101612232**

SECTION II: Customer Information

4. General Customer Information | **5. Effective Date for Customer Information Updates** (mm/dd/yyyy) 5/20/2024

☐ New Customer ☒ Update to Customer Information ☐ Change in Regulated Entity Ownership

☐ Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)

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

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

City of Manvel

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

11. Type of Customer:

☐ Corporation ☐ Individual Partnership: ☐ General ☐ Limited

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

12. Number of Employees

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

13. Independently Owned and Operated?

☒ **Yes** ☐ **No**

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

☐ Owner ☐ Operator ☒ Owner & Operator ☐ Other:

☐ Occupational Licensee ☐ Responsible Party ☐ VCP/BSA Applicant

15. Mailing Address:

20025 Morris Avenue

City	Manvel	**State**	TX	**ZIP**	77575	**ZIP + 4**	3801

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

18. Telephone Number	**19. Extension or Code**	**20. Fax Number** *(if applicable)*

(281) 489-0634		(281) 489-0634

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.)*

Manvel Central Water Reclamation Facility

23. Street Address of the Regulated Entity: ***(No PO Boxes)***	7315 Corporate Drive							
	City	Manvel	**State**	TX	**ZIP**	77578	**ZIP + 4**	
24. County	Brazoria							

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

25. Description to Physical Location:	N/A				
26. Nearest City			**State**		**Nearest ZIP Code**
Manvel			TX		77578

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

27. Latitude (N) In Decimal:	29.4737912		**28. Longitude (W) In Decimal:**	-95.3720581	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
29	28	25.647	-95	22	19.4082

29. Primary SIC Code (4 digits)	**30. Secondary SIC Code** (4 digits)	**31. Primary NAICS Code** (5 or 6 digits)	**32. Secondary NAICS Code** (5 or 6 digits)
4952		221320	

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

Wastewater Treatment

34. Mailing Address:	**20025 Morris Avenue**							
	City	**Manvel**	**State**	**TX**	**ZIP**	**77578**	**ZIP + 4**	
35. E-Mail Address:	**rhall@cityofmanvel.com**							

36. Telephone Number	**37. Extension or Code**	**38. Fax Number** *(if applicable)*
(281) 585-4997		( ) -

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
			23960	
☐ Sludge	☐ Storm Water	☐ Title V Air	☐ Tires	☐ Used Oil
☐ Voluntary Cleanup	☒ Wastewater	☐ Wastewater Agriculture	☐ Water Rights	☐ Other:
	WQ0013872001			

SECTION IV: Preparer Information

40. Name:	Cassandra Villarreal	41. Title:	Environmental Scientist

42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(817) 735-7294		( ) -	cassandra.villarreal@freese.com

SECTION V: Authorized Signature

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

Company:	Freese and Nichols, Inc	Job Title:	Environmental Scientist
Name *(In Print)*:	Cassandra Villarreal	Phone:	(817) 735- 7294
Signature:	CVillarreal	Date:	6/10/2024

ATTACHMENT AR-2

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.

This permit has not had significant public interest in the last permit cycles.

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-3

Drainage Ditch Communication

MEMORANDUM

FREESE AND NICHOLS

Innovative approaches
Practical results
Outstanding service

11200 Broadway St., Suite 2320 + Pearland, Texas 77584 + 832-456-4700 + FAX 817-735-7491

www.freese.com

TO: Brazoria County Conservation and Reclamation District No. 3

CC: Dong Nguyen, P.E. (AL&B Engineering Services, LLC)

FROM: Murali Erat, P.E. (Freese and Nichols, Inc.)

SUBJECT: Outfall No. 2 for Manvel Central Water Reclamation Facility

DATE: 3/11/2024

PROJECT: Manvel Central Water Reclamation Facility Expansion

City of Manvel currently owns and operates the Central Water Reclamation Facility (WRF) located at 7240 Corporate Drive, Manvel, TX 77578. The facility discharges its treated wastewater effluent into Brazoria County Flood Control Ditch No. 12. City of Manvel intends to expand the Central WRF at a site adjacent to the existing facility and is requesting Brazoria Country Conservation and Reclamation District No. 3 (C&R3) for authorization to add a second outfall in Ditch No. 12 for the discharge of treated wastewater effluent from the proposed expansion. The second outfall will be located about 1,300-feet upstream of the existing outfall in Ditch No. 12.

Freese and Nichols, Inc. conducted a drainage analysis to demonstrate no adverse impact to offsite stormwater runoff from the proposed expansion of the Central WRF during a 100-year storm event based on C&R3 drainage criteria. The drainage analysis was submitted to C&R3 on March 4, 2024. The results of the drainage analysis for existing and proposed conditions is shown in Table 1 below.

Table 1 – Stormwater Runoff - Existing and Proposed Conditions for 100-year Storm Event

	Discharge (cfs)	Volume (Acre-Feet)
Existing	78.0	10.0
Proposed	68.1	9.2

The release rate from the existing and the proposed second outfall of the Central WRF to Ditch No. 12 to shown below in Table 2.

Table 2 – Release Rate of Outfalls from Central WRF

Phase	Peak Discharge (MGD)	
	Existing Outfall No. 1	Proposed Outfall No. 2
Phase 1	2.0	4.0
Phase 2	0.0	8.0
Phase 3	0.0	16.0
Phase 4	0.0	20.0

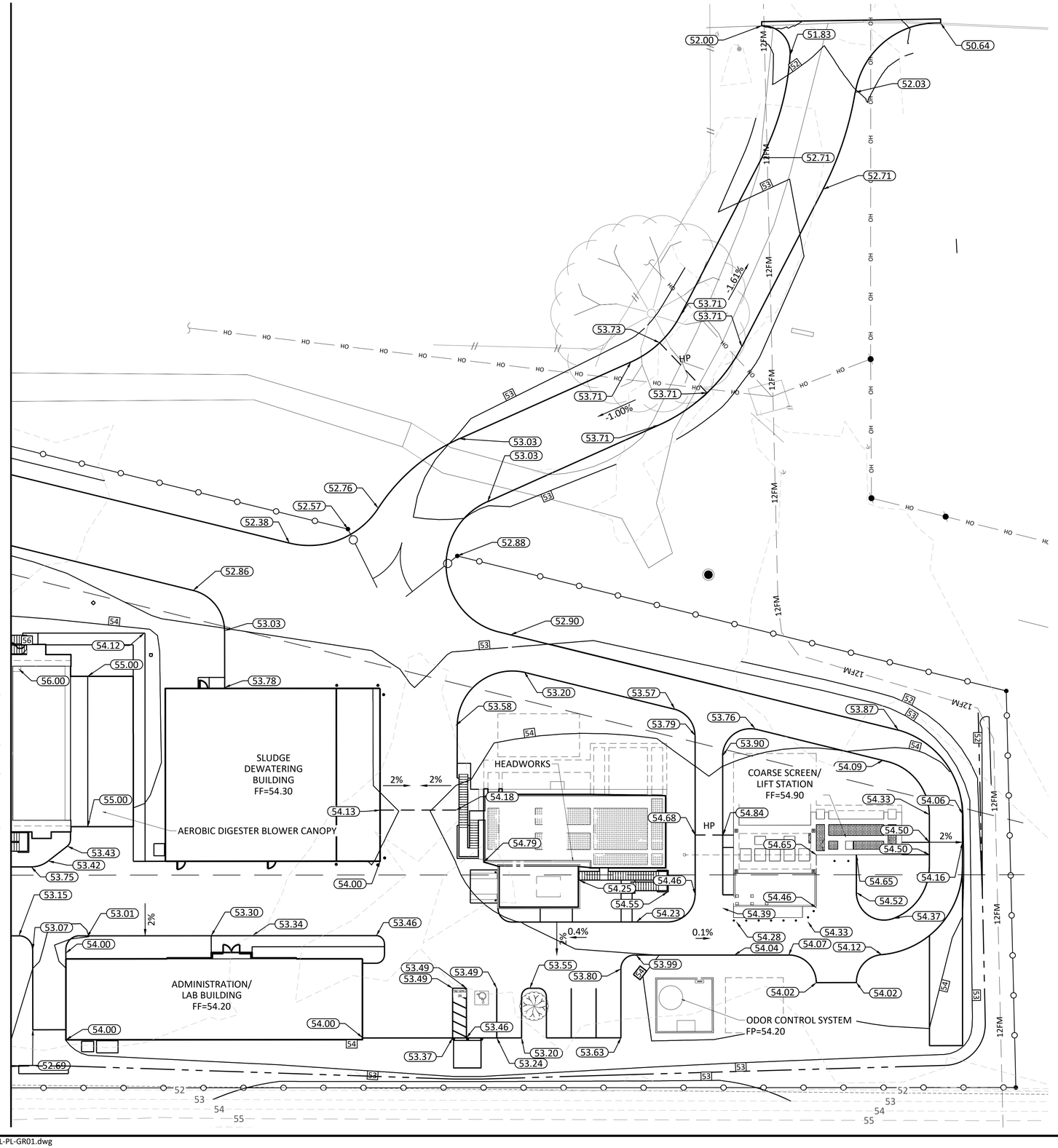
The current project for the expansion of the Central WRF is in Phase 1. During Phase 1, both Outfalls No. 1 and No. 2 will be used. During Phase 2 (anticipated in year 2028), Outfall No. 1 will be decommissioned and only Outfall No. 2 will be used.

City of Mavel has coordinated with the Texas Commission on Environmental Quality (TCEQ) for discharge of treated wastewater effluent into Outfall No. 2. City is currently in the process of submitting an amendment to the Central WRF discharge permit to include Outfall No. 2 in the facility's discharge permit.

As requested, a grading plan for the proposed Central WRF is attached with this memorandum. Please let us know if you need further information.

Thanks,

Murali Erat, P.E.
Project Manager
Freese and Nichols, Inc.
Murali.Erat@freese.com
(832) 456-4709



LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- FLOW LINE
- TOP OF PAVEMENT (52.00)
- HIGH POINT (HP)

NOTES:

1. ALL SIDEWALKS AND ADA PARKING SHALL BE INSTALLED PER CURRENT ADA/TAS REGULATIONS.
2. SLOPES GRADE BACK TO EXISTING AT A MAX OF A 4:1 SLOPE.

0 20' 40'
SCALE IN FEET

Freese and Nichols, Inc.
Texas Registered Engineering Firm F-2144

STATE OF TEXAS
ISAAC D. WOOD
142408
LICENSED
PROFESSIONAL ENGINEER
1/19/2024

FREESE NICHOLS

11200 Broadway Street, Suite 2320
Pearland, Texas 77584
Phone - (832) 456-4700
Web - www.freese.com

CITY OF MANVEL, BRAZORIA COUNTY, TEXAS

CENTRAL WRF EXPANSION

CIVIL

DETAILED GRADING PLAN I

F&N JOB NO. MNV22106
DATE JAN 2024
DESIGNED IDW
DRAWN IDW
REVISED -
CHECKED BMB
FILE NAME CV-ALL-PL-GR01.dwg

NO.	ISSUE	BY	DATE

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VERIFY SCALE 0 1"

SHEET C-20
SEQ. 37

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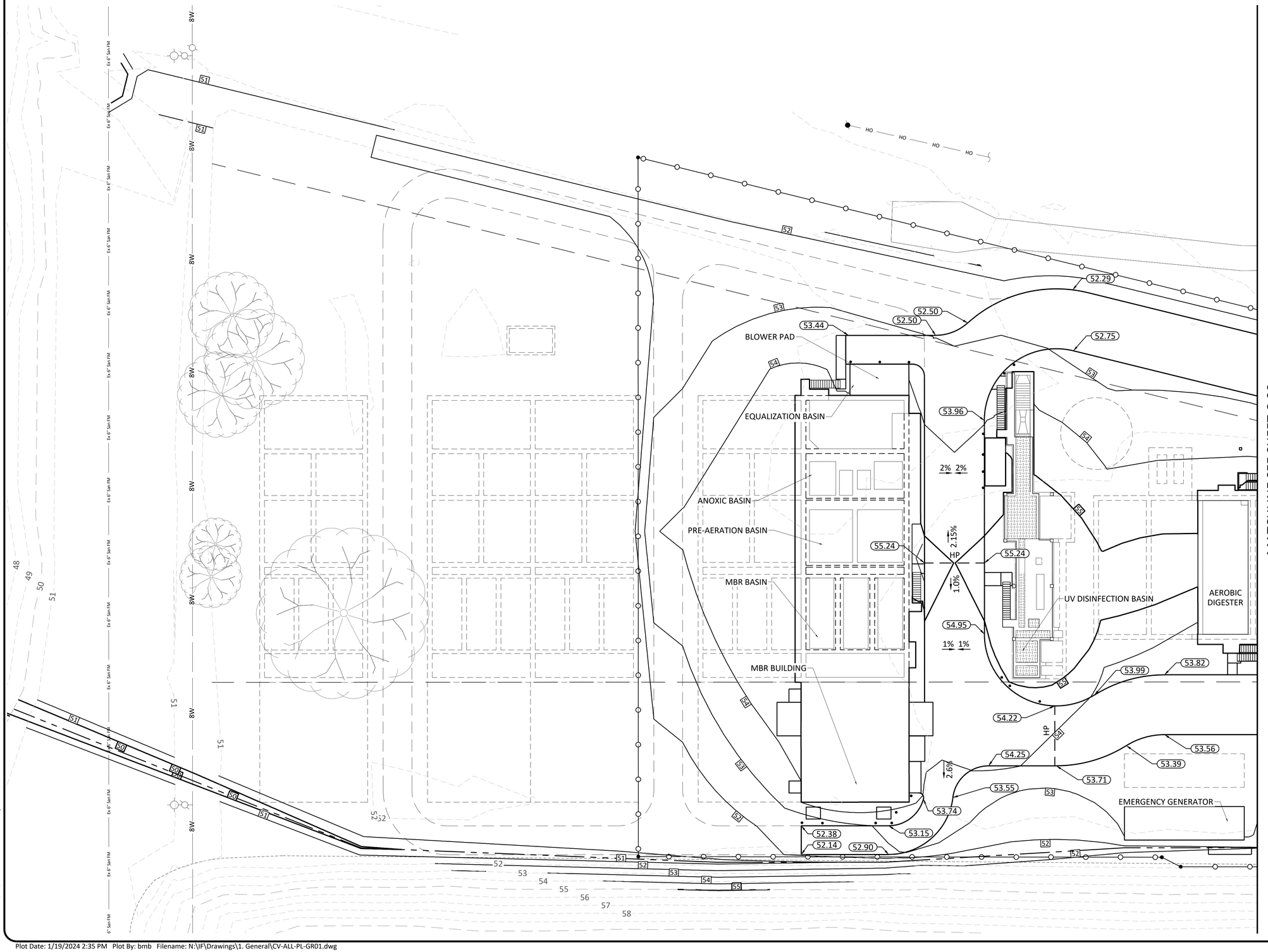

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Freese and Nichols, Inc.
Texas Registered Engineering Firm F-2144

STATE OF TEXAS
ISAAC D. WOOD
142408
LICENSED
PROFESSIONAL ENGINEER
1/19/2024

FREESE NICHOLS
11200 Broadway Street, Suite 2320
Pearland, Texas 77584
Phone - (832) 456-4700
Web - www.freese.com

CITY OF MANVEL, BRAZORIA COUNTY, TEXAS

CENTRAL WRF EXPANSION

CIVIL

DETAILED GRADING PLAN II

F&N JOB NO.	MNV22106
DATE	JAN 2024
DESIGNED	IDW
DRAWN	IDW
REVISED	-
CHECKED	BMB
FILE NAME	CV-ALL-PL-GR01.dwg

NO.	ISSUE	BY	DATE

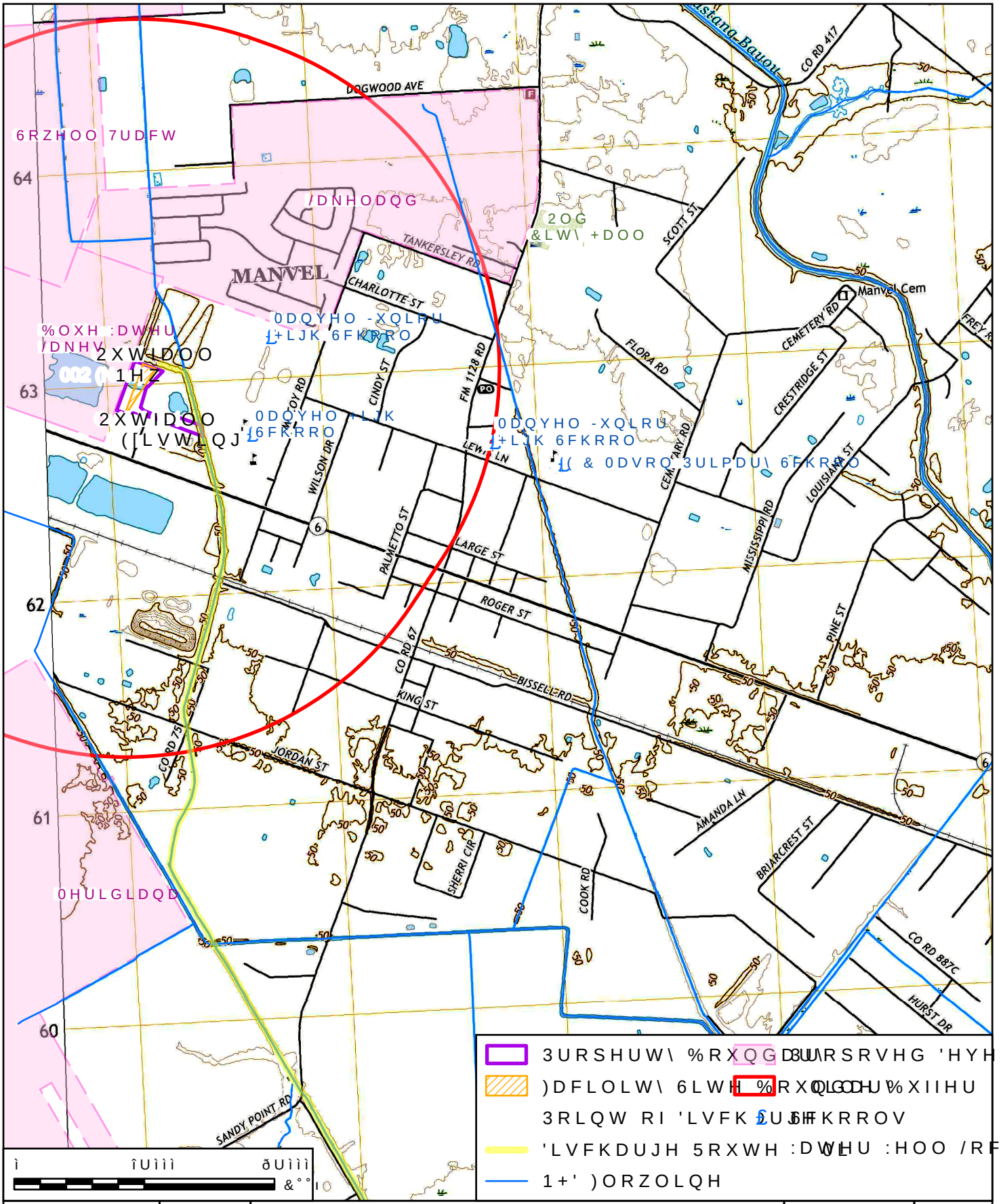
VERIFY SCALE Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.
0 1"

SHEET C-21

SEQ. 38

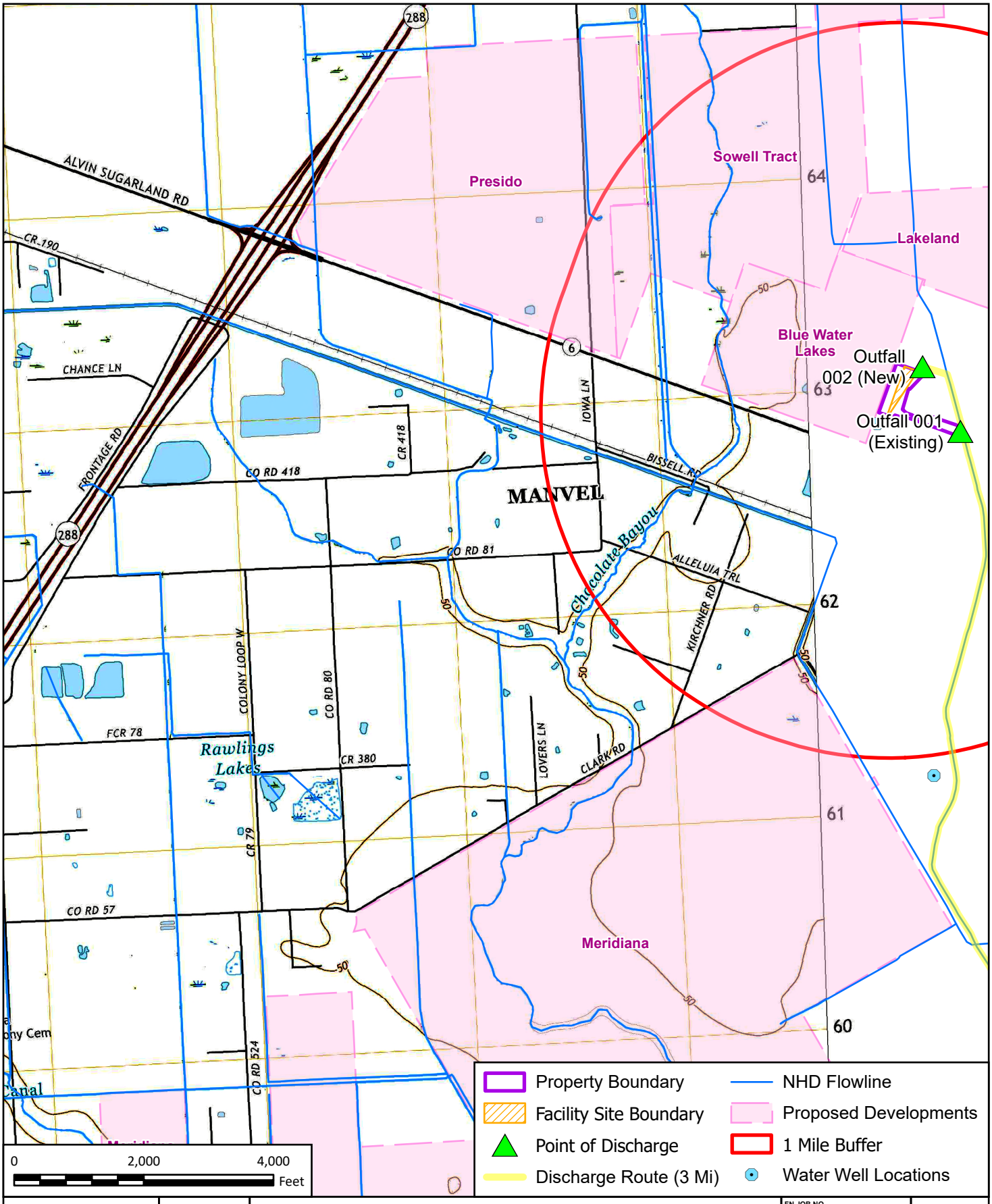
ATTACHMENT AR-4

USGS Topographic Map



FREESE AND NICHOLS

zrs –/flfl‡ Œfl//Œá Š‰Œ/ zrr
,flŒ ^,flŒ–á ´ yxsr‡
–,'/ æ zsy yuw æ yurr



FREESE AND NICHOLS
FREESE AND NICHOLS, INC
801 Cherry Street, Suite 2800
Fort Worth, TX 76102
Phone - (817) 735 - 7300

CITY OF MANVEL

TPDES Permit Major Amendment

USGS Topographic Map

Quad Name: Juliff

FN JOB NO	MNV22106
FILE NAME	Manvel Amendment 2024.mxd
DATE	5/17/2024
DESIGNED	CLV
DRAFTED	CLV

1b

FIGURE

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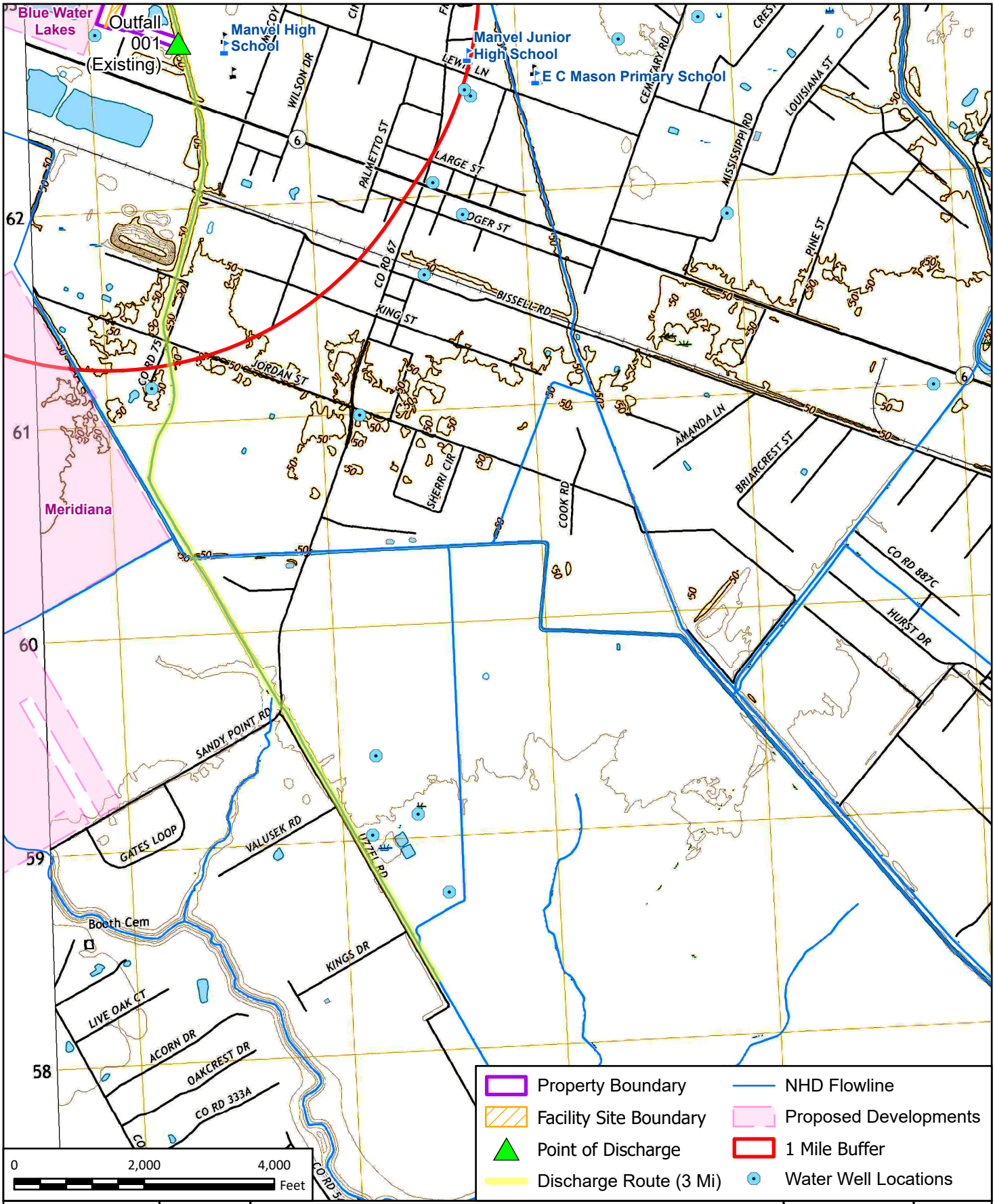
NAD 1983 StatePlane Texas South Central FIPS 4204 Feet



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Fort Worth, TX 76102
Phone - (817) 735 - 7300

CITY OF MANVEL

TPDES Permit Major Amendment

USGS Topographic Map

Quad Name: Manvel

FN JOB NO	MNV22106
FILE NAME	Manvel Amendment 2024.mxd
DATE	5/17/2024
DESIGNED	CLV
DRAFTED	CLV

1c

FIGURE

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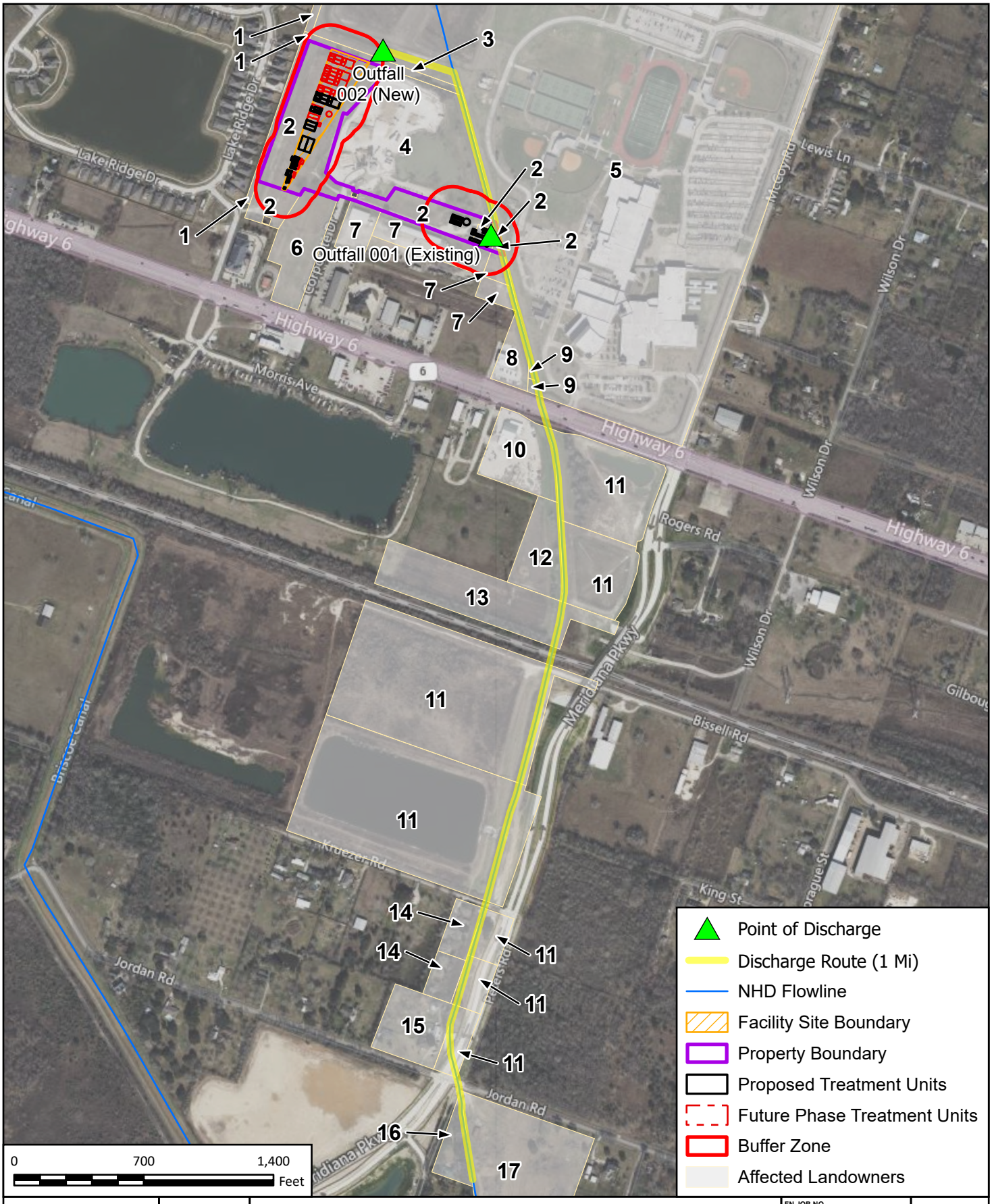
NAD 1983 StatePlane Texas South Central FIPS 4204 Feet

ATTACHMENT AR-5

Affected Landowner Map and Labels



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FREESE AND NICHOLS, INC
801 Cherry Street, Suite 2800
Fort Worth, TX 76102
Phone - (817) 735 - 7300

CITY OF MANVEL

TPDES Permit Major Amendment

Affected Landowner Map

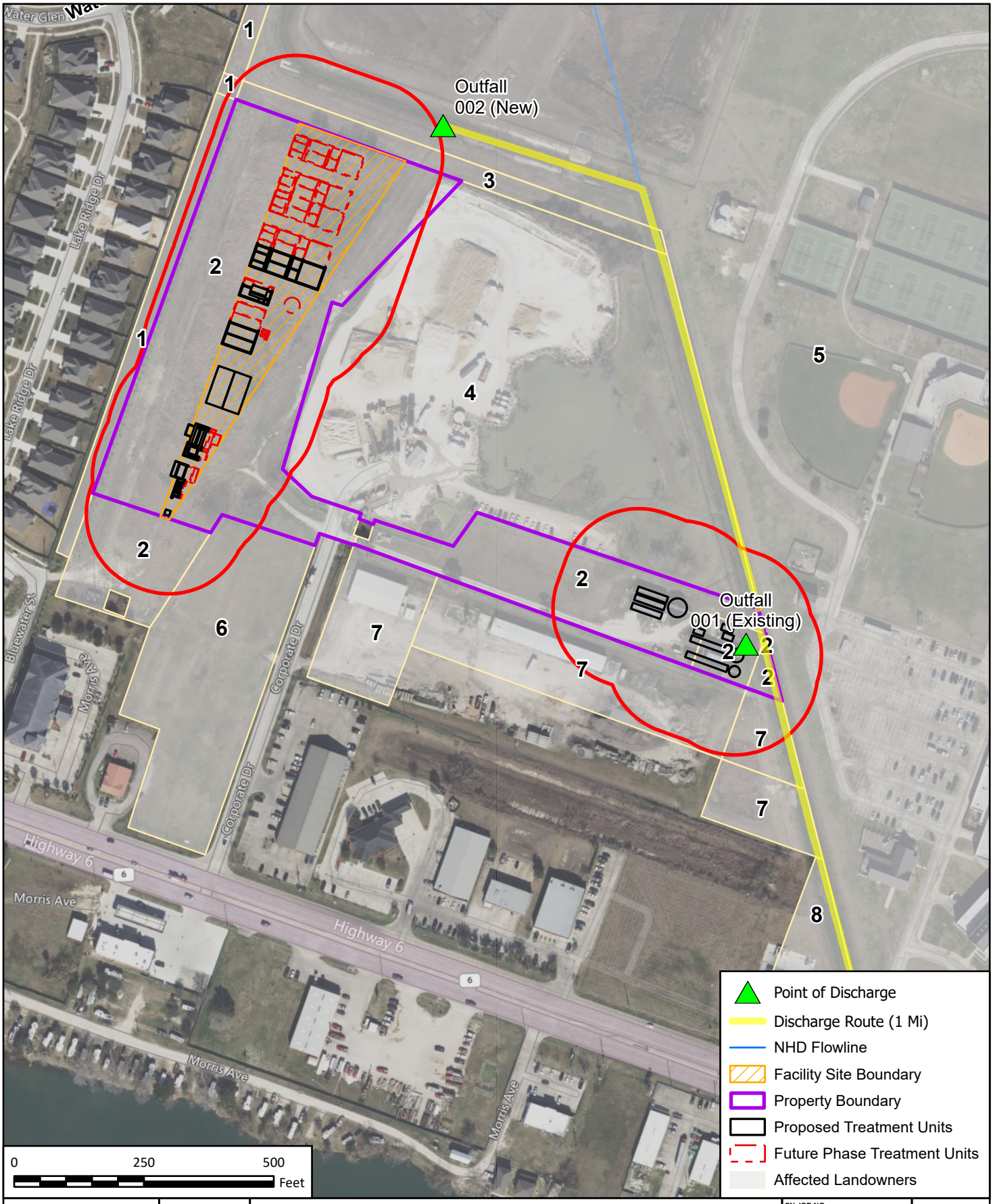
FN JOB NO	MNV22106
FILE NAME	Manvel Amendment 2024.mxd
DATE	5/17/2024
DESIGNED	CLV
DRAFTED	CLV

3a

FIGURE

Path: H:\ENVIRONMENTAL\Working\Manvel Amendment 2024.aprx

NAD 1983 StatePlane Texas South Central FIPS 4204 Feet



FREESE AND NICHOLS
FREESE AND NICHOLS, INC
801 Cherry Street, Suite 2800
Fort Worth, TX 76102
Phone - (817) 735 - 7300

CITY OF MANVEL

TPDES Permit Major Amendment

Affected Landowner Map

FN JOB NO	MNV22106
FILE NAME	Manvel Amendment 2024.mxd
DATE	5/17/2024
DESIGNED	CLV
DRAFTED	CLV

3b

FIGURE

Path: H:\ENVIRONMENTAL\Working\Manvel Amendment 2024.aprx

NAD 1983 StatePlane Texas South Central FIPS 4204 Feet

Cross-Referenced Landowner List

1 BEAZER HOMES TEXAS LP
10235 WEST LITTLE YORK STE 200
HOUSTON, TX 77040-3253

2 CITY OF MANVEL
PO BOX 187
MANVEL, TX 77578-0187

3 UNIMPROVED ROADWAY EASEMENT

4 ALCOMAT INC
7555 FM 762 RD
RICHMOND, TX 77469-9348

5 ALVIN INDEPENDENT SCHOOL DISTRICT
301 E HOUSE ST
ALVIN, TX 77511-3579

6 TTKG LLC
3915 CASE STREET
HOUSTON, TX 77005-3603

7 BRAZORIA COUNTY
COURTHOUSE WEST ANNEX
451 N VELASCO ST STE 230
ANGLETON, TX 77515-4442

8 GAGE MANVEL PROPERTY
19433 MORRIS AVE
MANVEL, TX 77578-3881

9 FRIDKIN ALBERT E & WALTER KASE
CO-TRUSTEES
1914 W GRAY ST APT 407
HOUSTON, TX 77019-4829

10 BSH REALTY
5401 STEVENS ROAD
MANVEL, TX 77578-4548

11 GR-M1 LTD
% RISE DEVELOPMENT PARTNERS
1602 AVE D STE 100
KATY, TX 77493-3891

12 MANVEL DEVELOPMENT CO INC
PO BOX 155
MANVEL, TX 77578-0155

13 CENTERPOINT ENERGY INC
ELECTRIC OPERATIONS
PO BOX 1475
HOUSTON, TX 77251-1475

14 GONZALES RICARDO & MANUEL GONZALES
6820 KRUIZER
MANVEL, TX 77578-4691

15 LOWRY TERRY D
6835 JORDAN
MANVEL, TX 77578-4662

16 AGUILERA ANDRES & ROBERTO C
8435 PETERS RD
MANVEL, TX 77578-4605

17 GUERRA JESUS H
2107 ROME DR
PEARLAND, TX 77581-3748

BEAZER HOMES TEXAS LP
10235 WEST LITTLE YORK STE 200
HOUSTON TX 77040-3253

CITY OF MANVEL
PO BOX 187
MANVEL TX 77578-0187

TTKG LLC
3915 CASE STREET
HOUSTON TX 77005-3603

ALCOMAT INC
7555 FM 762 RD
RICHMOND TX 77469-9348

BRAZORIA COUNTY
451 N VELASCO ST STE 230
ANGLETON TX 77515-4442

ALVIN INDEPENDENT SCHOOL DISTRICT
301 E HOUSE ST
ALVIN TX 77511-3579

GAGE MANVEL PROPERTY
19433 MORRIS AVE
MANVEL TX 77578-3881

FRIDKIN ALBERT E & WALTER KASE
CO TRUSTEES
1914 W GRAY ST APT 407
HOUSTON TX 77019-4829

BSH REALTY
5401 STEVENS ROAD
MANVEL TX 77578-4548

GR-M1 LTD
RISE DEVELOPMENT PARTNERS
1602 AVE D STE 100
KATY TX 77493-3891

CENTERPOINT ENERGY INC
ELECTRIC OPERATIONS
PO BOX 1475
HOUSTON TX 77251-1475

GONZALES RICARDO AND MANUEL
GONZALES
6820 KRUIZER
MANVEL TX 77578-4691

LOWRY TERRY D
6835 JORDAN
MANVEL TX 77578-4662

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8435 PETERS RD
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PEARLAND TX 77581-3748

MANVEL DEVELOPMENT CO INC
PO BOX 155
MANVEL TX 77578-0155

ATTACHMENT AR-6

Original Photographs and

Photo Plot Map

Photo 1. Outfall 001 and Flood Control Ditch, looking downstream.

Photo 2. Outfall 001 and Flood Control Drainage Ditch, looking upstream.

Photo 3. Outfall 002 and Flood Control Drainage Ditch, looking upstream.

Photo 4. Outfall 002 and Flood Control Drainage Ditch, looking downstream.

Photo 3. Outfall Discharge Point and Flood Control Drainage Ditch, looking across outfall.

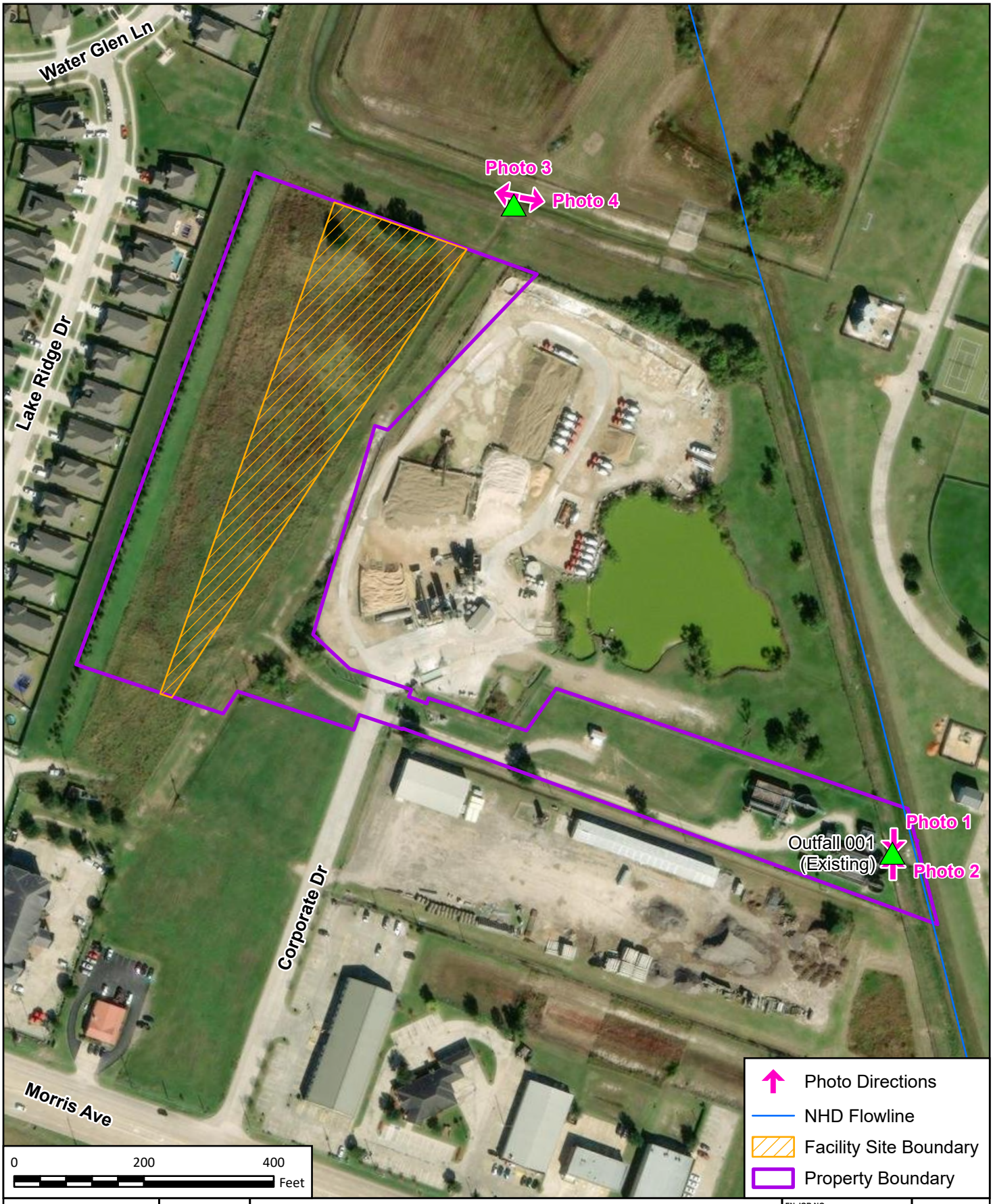

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Photo Plot Map

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FIGURE

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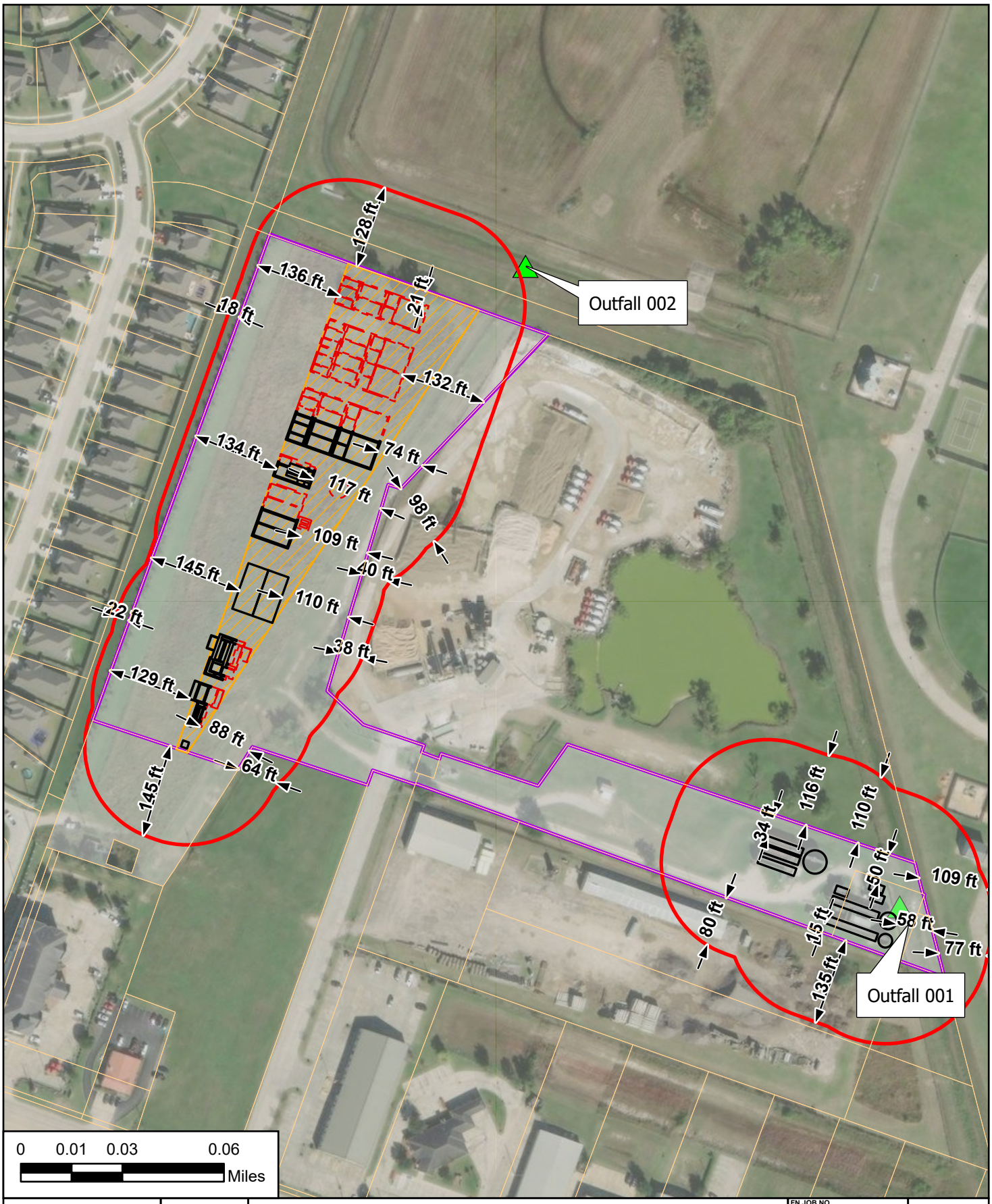
NAD 1983 StatePlane Texas South Central FIPS 4204 Feet

ATTACHMENT AR-7

Buffer Zone Map



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Buffer Zone Map

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FIGURE

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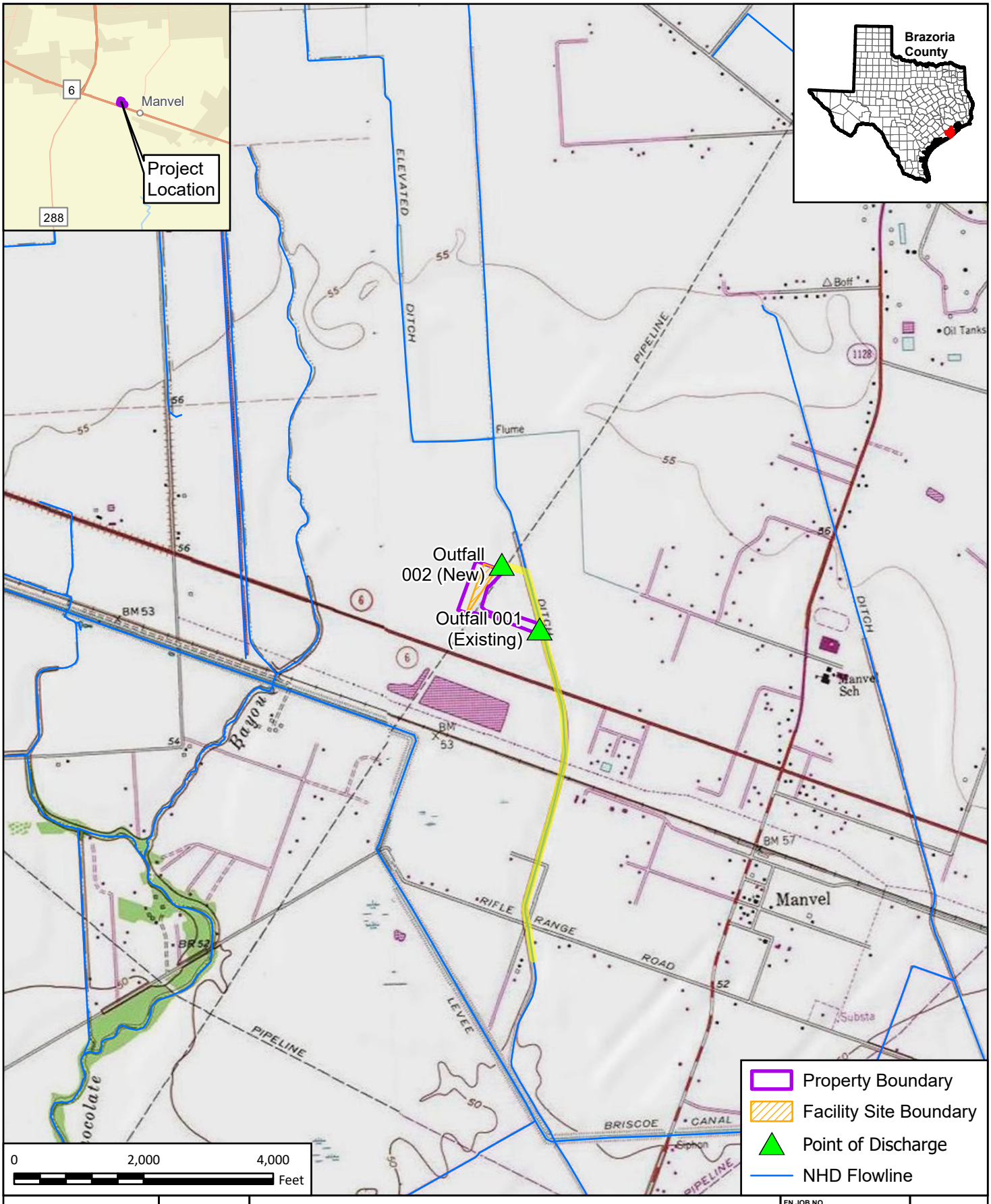
ATTACHMENT SPIF-1

SPIF USGS Topographic Map



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SPIF USGS Topographic Map

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DESIGNED	CLV
DRAFTED	CLV

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FIGURE

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NAD 1983 StatePlane Texas South Central FIPS 4204 Feet

ATTACHMENT TR-1

Permitted and Proposed Flows

Section 1. Permitted or Proposed Flows

Outfall 001

A. Existing/Interim I Phase

Design Flow (MGD): 0.5
2-Hr Peak Flow (MGD): 2.0
Estimated construction start date: N/A
Estimated waste disposal start date: N/A

B. Interim II Phase – Outfall 001 Decommissioned

Design Flow (MGD): 0
2-Hr Peak Flow (MGD): 0
Estimated construction start date: N/A
Estimated waste disposal start date: N/A

C. Interim III Phase

Design Flow (MGD): N/A
2-Hr Peak Flow (MGD): N/A
Estimated construction start date: N/A
Estimated waste disposal start date: N/A

D. Final Phase

Design Flow (MGD): N/A
2-Hr Peak Flow (MGD): N/A
Estimated construction start date: N/A
Estimated waste disposal start date: N/A

Outfall 002

A. Existing/Interim I Phase

Design Flow (MGD): 1.0
2-Hr Peak Flow (MGD): 4.0
Estimated construction start date: June 2024
Estimated waste disposal start date: December 2026

B. Interim II Phase

Design Flow (MGD): 2.0
2-Hr Peak Flow (MGD): 8.0
Estimated construction start date: 2027
Estimated waste disposal start date: 2029

C. Interim III Phase

Design Flow (MGD): 4.0
2-Hr Peak Flow (MGD): 16.0
Estimated construction start date: 2032
Estimated waste disposal start date: 2034

D. Final Phase

Design Flow (MGD): 5.0
2-Hr Peak Flow (MGD): 20.0
Estimated construction start date: 2042
Estimated waste disposal start date: 2044

ATTACHMENT TR-2

Treatment Process

Treatment Process Description

Existing: The existing treatment plant consists of two conventional activated sludge package plants, operating in parallel, each designed for treating 0.25 MGD average daily flow. The existing treatment plant is permitted for an annual average daily flow of 0.5 MGD and a 2-hour peak flow of 2.0 MGD. The influent raw wastewater is split between the two package plants. Package Plant No. 1 consists of a manual bar screen, two aeration basins, two secondary clarifiers, and three aerobic digesters. Package Plant No. 2 consists of a manual bar screen, an anoxic basin, two aeration basins, one secondary clarifier, and one aerobic digester. Secondary clarifier effluent from each train is combined and disinfected in two chlorine contact basins, which utilize gas chlorine. Following disinfection, the final effluent is discharged to the outfall. Blowers provide air to the aeration basins, digesters, and chlorine contact basins. Scum is pumped from the secondary clarifier(s) to the aeration basins. Settled solids are pumped from the secondary clarifier, with return activated sludge (RAS) sent to the aeration basins and waste activated sludge (WAS) sent to the digesters. From the digesters, decant flows to the aeration basins. Digested solids are removed and sent to disposal.

Phase 1: Phase 1 expansion includes a new 1.0 MGD treatment train, which will operate independently of the existing package WWTPs. Influent raw wastewater to the new train will be screened with a mechanical coarse screen (3/8-inch opening) which includes an emergency overflow channel. Solids collected from the screen are processed through a washer/compactor and sent to a landfill. The screened flow enters a new influent pump station. From the pump station, flows will be pumped to the grit removal system which includes an emergency bypass channel. Settled grit is pumped to the grit classifier and sent to a landfill. Grit classifier overflow is routed to the plant drain which returns to the pump station wet well. From the grit chamber, flow enters the mechanical fine screens (2-mm opening). Solids collected from the fine screen are processed through a washer/compactor and sent to a landfill. From the fine screen, wastewater flows to the membrane bioreactor (MBR) treatment train. The train starts with an equalization basin. Flow is pumped from the equalization basin to two anoxic basins, after which it flows by gravity to two pre-aeration basins, and then to two membrane bioreactor (MBR) basins. Wastewater is filtered through the membranes and sent via permeate pumps to UV disinfection. RAS is pumped from the MBR basins to the anoxic basins. WAS is pumped to two aerobic digesters. Blowers provide air to the equalization, pre-aeration, MBR basins, and aerobic digesters. Digester decant is drained to the influent pump station. Digested solids are removed and dewatered via mechanical dewatering equipment. Overflow is routed back to the plant drain, and dewatered solids are sent to a landfill. Disinfected effluent is discharged to the new outfall location (Outfall 002). During Phase 1, the existing package plants will continue to operate as described in the “Existing” section.

Phase 2: Phase 2 expansion includes a new 1.0 MGD MBR treatment train, with the same configuration as Phase 1. Additionally, the influent pumps, grit removal system, fine screens, aerobic digesters, and UV disinfection will be expanded. In Phase 2, the existing package plants (0.5 MGD) will be decommissioned.

Phase 3: Phase 3 expansion includes two new 1.0 MGD MBR treatment trains, with the same configuration as previous phases. Additionally, the coarse screen, influent pump station, grit removal system, fine screens, UV disinfection, and dewatering system will be expanded. Mechanical thickening will be added prior to aerobic digestion.

Phase 4: Phase 4 expansion includes one new 1.0 MGD MBR treatment train, with the same configuration as previous phases. Additionally, influent pumps, grit removal system, and UV disinfection will be expanded.

ATTACHMENT TR-3

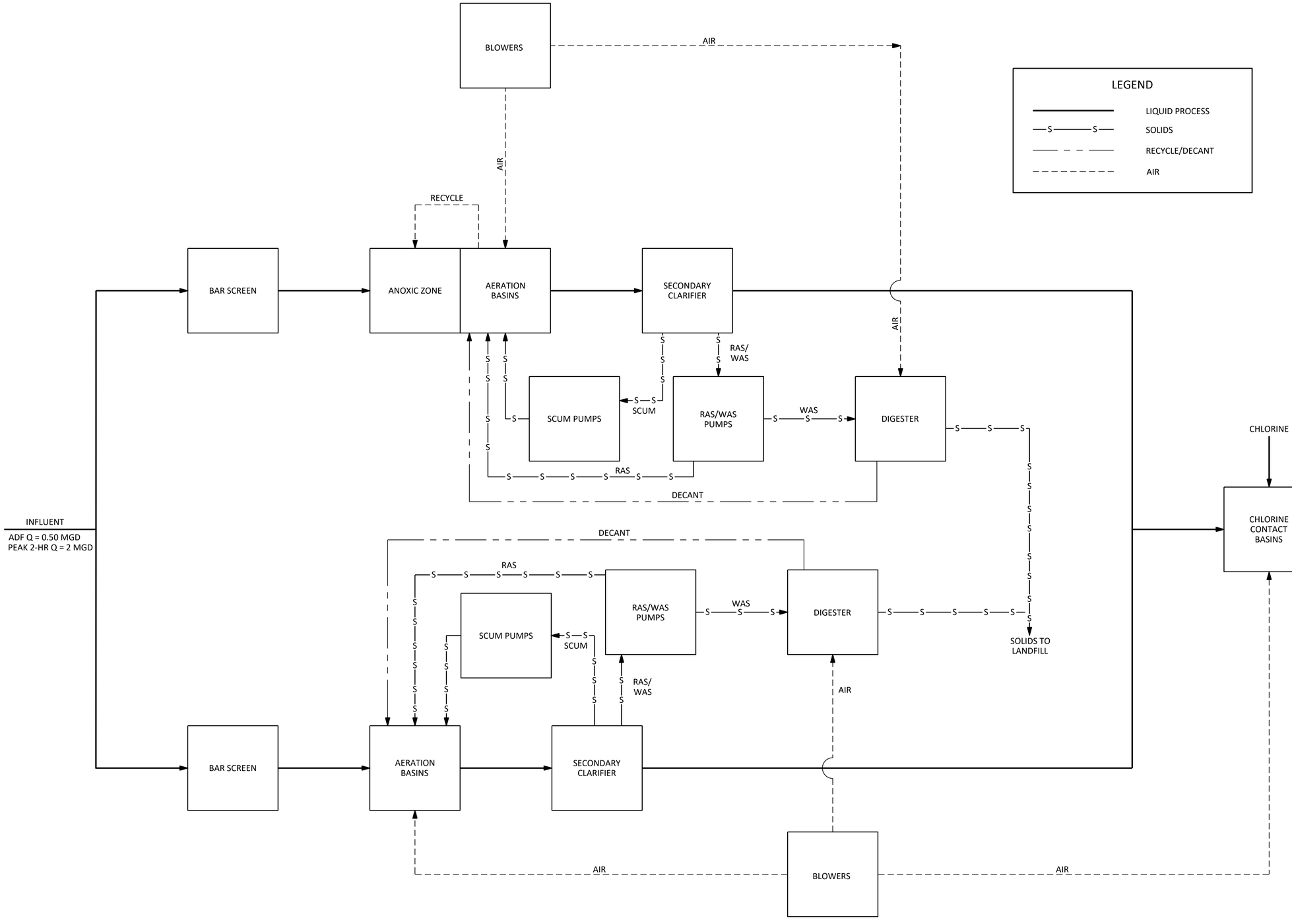
Treatment Units

Table 1.0(1) – Treatment Units

Phase	Treatment Unit Type	Number of Units	Overall Dimensions (L x W x D)
Phase 1	Coarse screen	1	20’ x 9’ x 25’
	Influent pump station	1	26’ x 13’ x 35’
	Grit removal system	1	14’ x 15’ x 19’
	Fine screen	2	32’ x 15’ x 6’
	MBR treatment train	1	115’ x 41’ x 24’
	Aerobic digester basin	2	56’ x 42’ x 21’
	Dewatering equipment	1	62’ x 62’
	UV disinfection channel	1	128’ x 21’ x 13’
Phase 2	Coarse screen	1	20’ x 9’ x 25’
	Influent pump station	1	26’ x 13’ x 35’
	Grit removal system	1	14’ x 15’ x 19’
	Fine screen	3	32’ x 26’ x 6’
	MBR treatment train	2	115’ x 82’ x 24’
	Aerobic digesters	4	56’ x 84’ x 21’
	Dewatering equipment	1	62’ x 62’
	UV disinfection	1	128’ x 21’ x 13’
Phase 3	Coarse screen	2	20’ x 14’ x 25’
	Influent pump station	2	26’ x 28’ x 35’
	Grit removal system	2	14’ x 37’ x 19’
	Fine screen	4	32’ x 34’ x 6’
	MBR treatment train	4	115’ x 123’ x 24’
	Thickening equipment	2	20’ x 18’
	Aerobic digesters	4	56’ x 84’ x 21’
	Dewatering equipment	2	62’ x 62’
	UV disinfection	2	128’ x 26’ x 13’
Phase 4	Coarse screen	2	20’ x 14’ x 25’
	Influent pump station	2	26’ x 28’ x 35’
	Grit removal system	2	14’ x 37’ x 19’
	Fine screen	4	32’ x 34’ x 6’
	MBR treatment train	5	115’ x 164’ x 24’
	Thickening equipment	2	20’ x 18’
	Aerobic digesters	4	56’ x 84’ x 21’
	Dewatering equipment	3	62’ x 62’
	UV disinfection	2	128’ x 26’ x 13’

ATTACHMENT TR-4

Process Flow Diagrams



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Web - www.freese.com

CITY OF MANVEL, BRAZORIA COUNTY, TEXAS

CENTRAL WRF EXPANSION

GENERAL

EXISTING PROCESS FLOW DIAGRAM

F&N JOB NO.	MNV22106
DATE	06/19/23
DESIGNED	RJA
DRAWN	WBH
REVISED	.
CHECKED	GB
FILE NAME	GN-ALL-DG-PROC01.dwg

NO.	ISSUE	BY	DATE

VERIFY SCALE
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0 1

SHEET G-8
SEQ. .

90% SUBMITTAL

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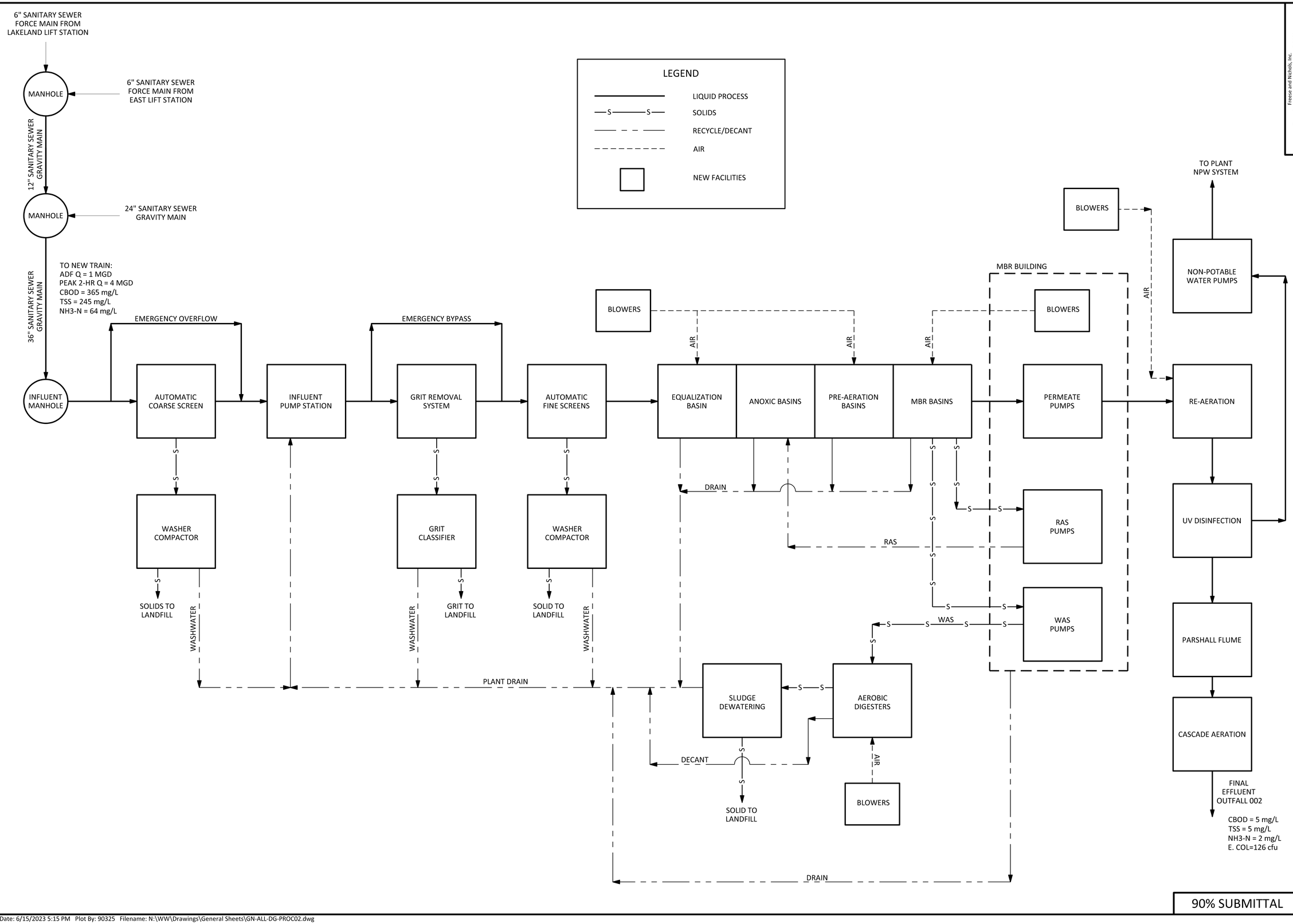
Plot Date: 6/14/2023 2:27 PM Plot By: 02128 Filename: N:\WW\Drawings\General Sheets\GN-ALL-DG-PROC01.dwg



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CITY OF MANVEL, BRAZORIA COUNTY, TEXAS

CENTRAL WRF EXPANSION

GENERAL

PROPOSED PROCESS FLOW DIAGRAM

F&N JOB NO. MNV22106
DATE 06/19/23
DESIGNED RJA
DRAWN WBH
REVISED -
CHECKED GB
FILE NAME GN-ALL-DG-PROC02.dwg

NO. | ISSUE | BY | DATE

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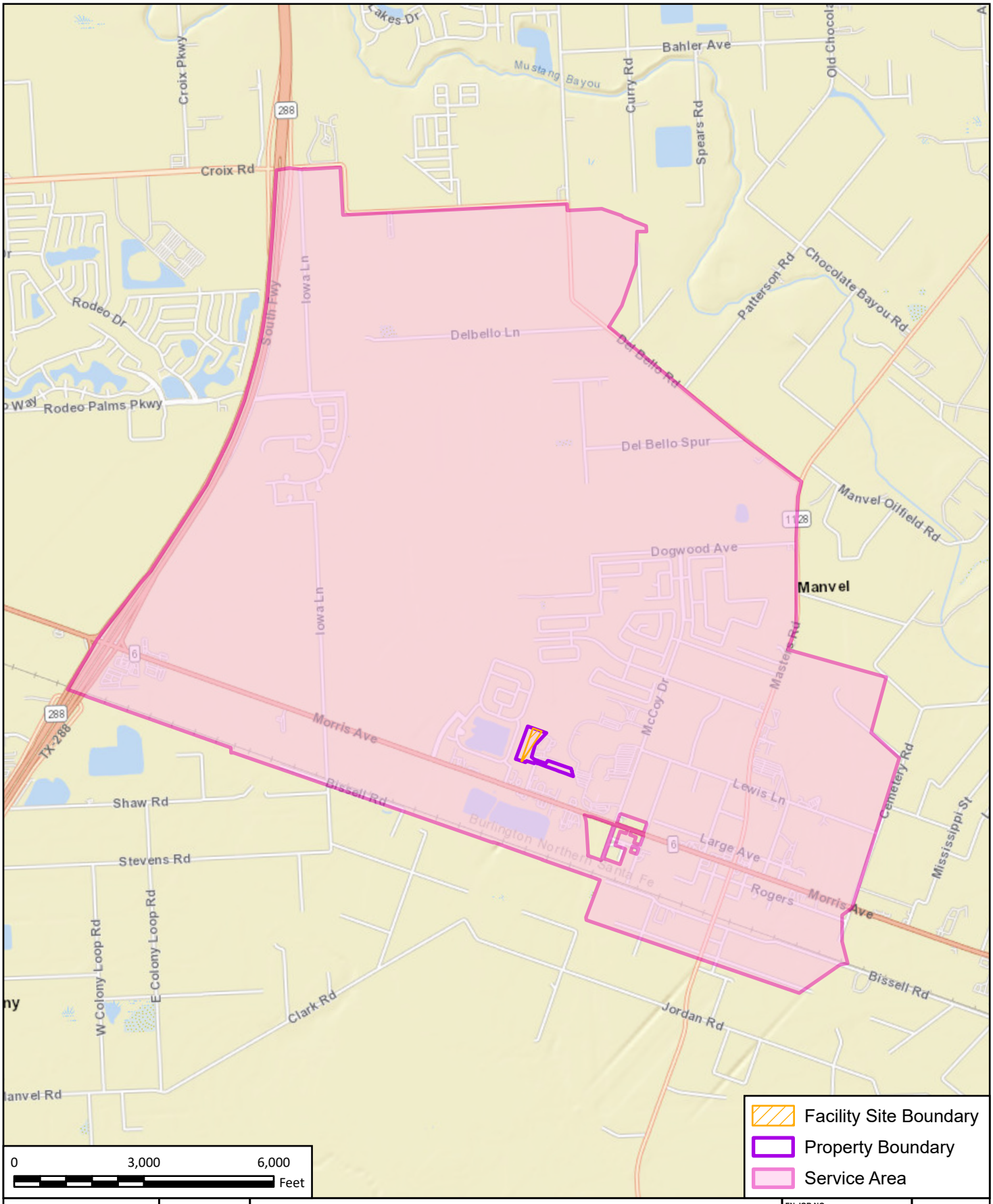
ATTACHMENT TR-5

Site Drawing



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Site Drawing

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FIGURE

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NAD 1983 StatePlane Texas South Central FIPS 4204 Feet

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Sewage Sludge Disposal Site

EverGro Organic Recycling

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FIGURE

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NAD 1983 StatePlane Texas South Central FIPS 4204 Feet

ATTACHMENT TR-6

Nearby WWTPs

This permit major amendment requests the addition of a second outfall (Outfall 002) to the Main WWTP's discharge permit. This application is NOT requesting an expansion of the volume of wastewater from the facility. Hence, the requirement to send certified letters to nearby facilities to inquire if they have capacity to accept or are willing to expand to accept volume of wastewater proposed in this application is NOT APPLICABLE.

ATTACHMENT TR-7

Current Organic Loading

Current Organic Loading

Average Influent Loading (lbs/day = total average flow X average BOD5 conc. X 8.34):

Phase	Facility Design Flow (MGD)	Average Influent Loading (lb/day)
Phase 1	1.5	4,566
Phase 2	2.0	6,088
Phase 3	4.0	12,176
Phase 4	5.0	15,221

ATTACHMENT TR-8

Design Calculations

WASTEWATER TREATMENT PLANT
PROCESS CALCULATIONS

Facility:	Manvel WWTP	**Project:**	MNV22106
Notes:	Calculate the capacity of treatment units based on	**Date:**	6/26/2023
	TCEQ Section 217 design criteria	**By:**	RJA
Scenario:	1.0 MGD Expansion (Existing 0.5 MGD Package Plant)	**QC:**	MUE

1. WASTEWATER AND PLANT CHARACTERIZATION

Flow rates

Phase 1 (package plants + new 1.0 MGD train)						
Annual average			**1.5**	MGD =	1,042	gpm
Peak 2-hour	Factor =	**4**	6.0	MGD =	4,167	gpm
New 1.0 MGD train						
Annual average			**1.0**	MGD =	694	gpm
Peak 2-hour	Factor =	**4**	4.0	MGD =	2,778	gpm
Phase 2 (Future, +1.0 MGD train, remove pkg plants)						
Annual average			**2.0**	MGD =	1,389	gpm
Peak 2-hour	Factor =	**4**	8.0	MGD =	5,556	gpm
Phase 3 (Future, +two 1.0 MGD trains)						
Annual average			**4.0**	MGD =	2,778	gpm
Peak 2-hour	Factor =	**4**	16.0	MGD =	11,111	gpm
Phase 4 (Future, +1.0 MGD train)						
Annual average			**5.0**	MGD =	3,472	gpm
Peak 2-hour	Factor =	**4**	20.0	MGD =	13,889	gpm

Raw Wastewater Concentrations

		Peak Month	
BOD (total)	mg/L	**365**	(Avg. + 1 std. dev.)
TSS	mg/L	**245**	(Avg. + 1 std. dev.)
TKN	mg/L	**78**	Avg NH3/TKN = 0.82
NH3-N	mg/L	**64**	(Avg. + 1 std. dev.)
TP	mg/L	**8**	(Avg. + 1 std. dev.)

Anticipated Effluent Requirements

		Package Plants (Outfall 001)	New Train (Outfall 002)
BOD	mg/L	**10**	**5**
TSS	mg/L	**15**	**5**
NH3-N	mg/L	**3**	**2**
DO	mg/L	**5**	**6**

Select Treatment Processes from the list

Preliminary Treatment	**Coarse Screening + Fine Screening**
Primary Treatment	**None**
Biological Treatment	**Membrane Bioreactor**
Solids Treatment	**Aerobic Digestion + Dewatering**

2. HEADWORKS

Description:
The headworks will consist of coarse screens, followed by grit removal system and fine screen.

A. Coarse Screens

TCEQ Design Criteria (Chapter 217.121. Coarse Screens)
A wastewater treatment facility must use a coarse screen, unless all flow entering a wastewater treatment facility is processed through a grinder pump or grinding device.
For a manually cleaned coarse screen, the clear openings between the bars must be at least 0.5 inch but not more than 1.0 inch .
A manually cleaned coarse screen must use a bar rack sloped at least 30 degrees but not more than 60 degrees from horizontal.

Screen Type: Multi-Rake
Manufacturers: Headworks, Huber, Vulcan

		PHASE 1	PHASE 2	PHASE 3	PHASE 4
Number of Coarse Screens:		1	1	2	2
Capacity (Peak) per Screen:	MGD	10	10	10	10
Total Capacity (Peak):	MGD	10	10	20	20
Opening Size:	inch	0.38	0.38	0.38	0.38
Channel Width:	ft	3	3	3	3
Channel Depth:	ft	25	25	25	25
Channel Length:	ft	20	20	20	20

B. Fine Screens

TCEQ Design Criteria (Chapter 217.122 Fine Screening Devices)
The clear openings in a fine screen must be less than 0.25 inch.
A fine screen must meet the manufacturer's recommendations with respect to velocity and head loss through the fine screen.

TCEQ Design Criteria (Chapter 217.157, Subchapter F)
Type of fine screen required for MBR: Rotary drum or traveling band
Fine screen opening size for flat plate / hollow fiber: 2-3 mm / 0.5-2 mm

Screen Type: Rotary Drum
Manufacturers: Huber, Lakeside

		PHASE 1	PHASE 2	PHASE 3	PHASE 4
Number of Screens:		2	3	4	4
Capacity (Peak) per Screen:	MGD	6.7	6.7	6.7	6.7
Firm Capacity (Peak):	MGD	6.7	13.4	20.1	20.1
Opening Size:	mm	2	2	2	2
Channel Width:	ft	6	6	6	6
Channel Depth:	ft	6	6	6	6
Channel Length:	ft	32	32	32	32

C. Bypass Screen - Not Used

D. Grit Removal

TCEQ Design Criteria (Chapter 217.124 -127.126, Subchapter E)
A grit removal system must include at least two units capable of operating at the peak flow of the wastewater treatment facility when grit removal is required by subsection (a) of this section.
Each grit removal system must include:
an emergency overflow to accept flow when a grit removal unit is off-line; and
a means of diverting flow to the emergency overflow.

1 Hydraulically-induced vortex grit removal system (HeadCell™)

		PHASE 1	PHASE 2	PHASE 3	PHASE 4
Number of Units =		1	1	2	2
Capacity per unit =	MGD	4	8	8	10

Note: Stackable trays will be added to increase capacity of Headcell Unit in Phase 2 and Phase 4

3. PRIMARY CLARIFICATION UNITS - Not Used

4. ACTIVATED SLUDGE BASIN - Not Used
4A. MEMBRANE BIOREACTOR

TCEQ Design Criteria (Chapter 217.157, Subchapter F)

Design SRT	10-25 days
Design MLSS in bioreactor	4,000 - 10,000 mg/L
Design MLSS in membrane tank	4,000 - 14,000 mg/L
Typical Recycle rates	200% - 400% influent flow
Maximum Avg. daily flux	15 gpd per sf membrane area
Peak daily flux	1.25 times avg. daily flux
Peak 2-hr flux (maximum)	1.5 times avg. daily flux
Maximum P2HF/ADF peaking factor	2.5

Type of MBR System	Flat Plate	
Average daily flow	1	MGD
Peak 2-hour flow	4	MGD
P2HF/ADF peaking factor	4	
EQ provided	Yes	
Peak 2-hour flow with EQ	4	MGD
Design SRT	20	days
Design MLSS in bioreactor	10,000	mg/L
Design MLSS in membrane tank	13,000	mg/L

SIZING TO BE PROVIDED BY MANUFACTURERS AND VERIFIED WITH WASTEWATER PROCESS MODEL SOFTWARE

5. SECONDARY CLARIFICATION UNITS - Not Used
6. SLUDGE PUMPING UNITS

Enter data in grey cells

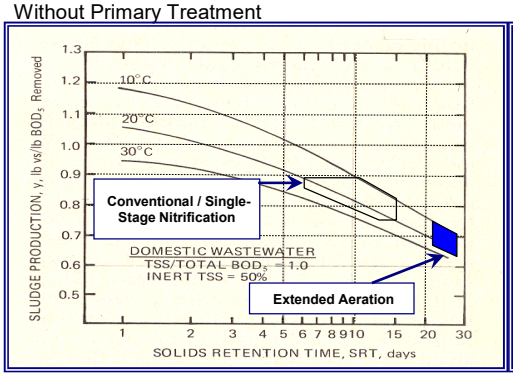
Description:
Membrane Bioreactor

A. WAS Pump Sizing

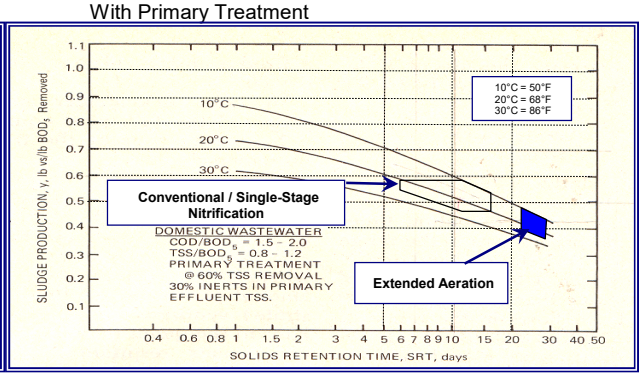
TCEQ Design Criteria (Chapter 217.152, Subchapter F)
(3) A return sludge pumping system must be capable of pumping at least 200 gpd/sf but not more than 400 gpd/sf.

Select Solids Yield from the Chart below:

Without Primary Treatment



With Primary Treatment



		PHASE 1		PHASE 2	PHASE 3	PHASE 4
		Pkg Plant	MBR	MBR	MBR	MBR
Net secondary sludge production =	lb VS/BOD removed	**0.85**	**0.75**	**0.75**	**0.75**	**0.75**

Notes: Typical minimum Solids Retention Time (SRT) maintained in WWTPs is 8 days.
Secondary solids production is typically estimated at SRT of 8 days and at 15C temperature.

		PHASE 1		PHASE 2	PHASE 3	PHASE 4
		Pkg Plant	MBR	MBR	MBR	MBR
		Peak Month	**Peak Month**	**Peak Month**	**Peak Month**	**Peak Month**
Select Mixed Liquor VS/TS Ratio =		**0.75**	**0.75**	**0.75**	**0.75**	**0.75**
Select solids concentration in WAS =	mg/L	**8,000**	**12,000**	**12,000**	**12,000**	**12,000**

		Peak Month	Peak Month	Peak Month	Peak Month	Peak Month
Secondary solids produced =	lb TS/d	1,701	3,002	6,005	12,010	15,012
	lb TS/hr	71	125	250	500	626
Wet secondary sludge produced =	gal/d	25,500	30,000	60,000	120,000	150,000
	GPM	18	21	42	83	104

B. RAS Pump Sizing

Recycle ratio = 6 x Max Month Flow (MMF)
MMF = 1.15 MGD

RAS flow rate = 6.9 MGD

No of pumps = 3 (two duty, one standby)

SIZING TO BE CONFIRMED BY MBR MANUFACTURER

C. Primary Clarifier Sludge - Not Used

7. SOLIDS HANDLING

Enter data in grey cells

TCEQ Regulations 217.248. Sludge Thickening
(1) Capacity: The maximum monthly sludge production rate must be used as the basis for sludge thickening system sizing and design
(2) Flexibility
(A) A sludge thickening system must have a bypass to the digester.
(B) A wastewater treatment facility with a design flow greater than 1.0 million gallons per day must have:
(i) at least two sludge thickening units;
(ii) an alternate means of sludge thickening; or
(iii) an alternate sludge disposal method.
(2) Design Basis
(C) The mechanical gravity thickener surface loading rate must be at least 400 gallons per day per square foot, but not more than 800 gallons per day per square foot.
(D) The minimum side water depth for a mechanical gravity thickener is 10 feet.
(E) A circular mechanical gravity thickener must have a minimum bottom slope of 1.5 inches per foot.
(F) The peripheral velocity of a scraper must be at least 15 feet per minute but no more than 20 feet per minute.

A. Gravity Thickener - Not Used

B. Mechanical Thickener

Max. monthly sludge capacity =

		No thickening			
		PHASE 1	PHASE 2	PHASE 3	PHASE 4
				Peak Month	Peak Month
No. of hrs a week of mechanical thickener operation =	hr			30	30
Mechanical Thickener throughput for solids =	lb/hr			2,802	3,503
sludge hydraulic loading =	gal/min			467	583
Thickened % solids =				5%	5%
gal TS/d thickened =	gal TS/d			28,800	36,000
No. of Units =				2	2
Capacity of each unit =	lb/hr			1,751	1,751
Total Capacity =	lb/hr			3,503	3,503

C. Aerobic Digesters

TCEQ Design Criteria (Chapter 217 Subchapter J)

Minimum Temperature =	deg C	20
Required Minimum Detention Time =	days	40
Min. Volatile Solids Loading Rate =	lb/1000 ft^3/day	100
Max. Volatile Solids Loading Rate =	lb/1000 ft^3/day	200
Aeration Requirement =	SCFM/1000 ft^3	20
If Mechanical Aeration is used =	HP/1000 ft^3	0.5

Volume Required for Aerobic Digestion

(Page 25-163 on MOP 8)

$$V = \frac{Q_i \times (X_i + YS_i)}{X \times \left((K_d \times P_v) + \left(\frac{1}{SRT}\right)\right)}$$

Where:

V = Volume of the aerobic digester [L(cu ft.)]

Q_i =Digester influent (WAS) flowrate [L/d(cu ft./d)]

X_i = Digester influent (WAS) suspended solids (mg/L)

Y = Portion of the influent BOD consisting of raw primary solids (%)

S_i = Influent digester BOD_5 (mg/L)

X = Digester suspended solids (mg/L)

K_d = Reaction rate constant (d&1)

P_v = Volatile fraction of digester suspended solids (%)

SRT = Solids retention time (days)

Calculate the volume required for aerobic digesters for different flows

Note: Package plant WAS is partially digested at existing aerated sludge holding tanks at package plants.

	Phase 1		Phase 2	Phase 3	Phase 4
	Pkg Plant (See Note)	MBR	MBR	MBR	MBR
	Peak Month	**Peak Month**	**Peak Month**	**Peak Month**	**Peak Month**
Qi =	25,500	30,000	60,000	28,800	36,000
	3,392	3,990	7,980	3,830	4,788
Xi =	8,000	12,000	12,000	50,000	50,000
Ysi =	0	0	0	0	0
X =	8,000	12,000	12,000	50,000	50,000
Kd =	0.10	0.10	0.10	0.10	0.10
Pv =	0.75	0.75	0.75	0.75	0.75
SRT =	40	40	40	40	40
V =	**33,915**	**39,900**	**79,800**	**38,304**	**47,880**
Exist. V =	14,785				

Reaction Rate Value Kd for an Aerobic Digester

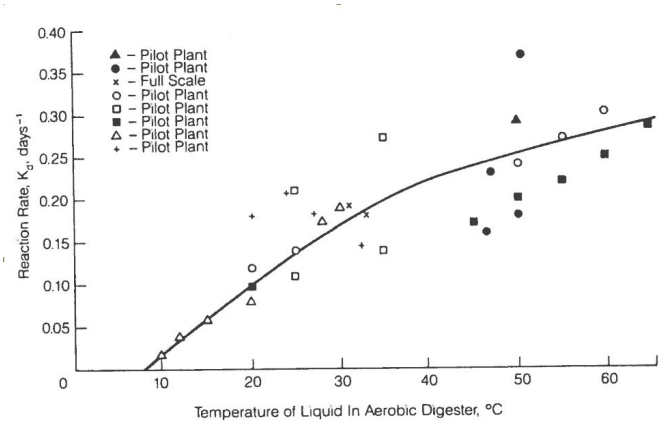


FIGURE 25.62 Experimentally determined reaction rate (K_d) versus aerobic digester liquid temperature. The value of K_d depends on solids characteristics and digester operating conditions (e.g., pH, TSS, and oxygen level) (U.S. EPA, 1978).

		PHASE 1	PHASE 2	PHASE 3	PHASE 4
Number of Aerobic Digesters =		2	4	4	4
Depth of Aerobic Digester =	ft	18	18	18	18
Required surface area of each aerobic digester =	ft^2	1,108	1,108	1,108	1,108
Assume width of each tank =	ft	56	56	56	56
Required length of each tank =	ft	20	20	20	20
Total Volume of Aerobic Digesters =	ft3	40,320	80,640	80,640	80,640
Total Surface Area of Aerobic Digesters =	ft^2	2,240	4,480	4,480	4,480
Design mixing requirement =	scfm/kcf	30	30	30	30
Blower Capacity Required =	SCFM	1,210	2,419	2,419	2,419
Number of Blowers =		3	5	5	5

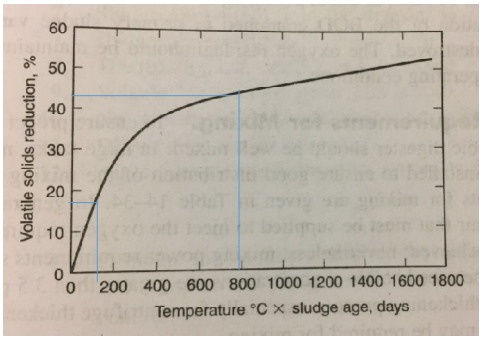
Note: One blower per basin and one standby blower

Each blower =	SCFM	605	605	605	605
Firm blower capacity =		1,210	2,419	2,419	2,419

Blower HP Calculation

Static pressure =	psi	7.4	
Friction =	psi	1.5	(assumed)
Blower discharge pressure =	psi	8.9	
	ft	20.5	
Efficiency =		0.70	
Blower HP =	HP	67	
Each blower =	HP	33	

Metcalf & Eddy, Fig. 14-31, VS reduction in aerobic digester as function of digester liquid temp and digester sludge age



Temp C	20	20	20	20	20
SRT	6.5	40	40	40	40
Temp x SRT	129.6	800	800	800	800
% reduction	17	42	42	42	42

Assume VS Reduction after Digestion =	42%	(Aerobic - 30-50%, Anaerobic - 45-60%)
Assume VS Reduction after Sludge Holding =	17%	

		Pkg Plant	PHASE 1	PHASE 2	PHASE 3	PHASE 4
Before Digestion						
Volatile Solids in Digester Influent =	lb VS/d	1,276	2,252	4,504	9,007	11,259
Total Inert Solids in Digester Influent =	lb/d	425	751	1,501	3,002	3,753

		Pkg Plant	PHASE 1	PHASE 2	PHASE 3	PHASE 4
After Digestion						
Volatile Solids in Digester Effluent =	lb VS/d	1,059	1,306	2,612	5,224	6,530
Total Solids in Digester Effluent =	lb TS/d	1,484	2,057	4,113	8,227	10,283
	Dry Ton/d	0.74	1.03	2.06	4.11	5.14
Digested Solids % =		1.5%	1.5%	1.5%	5%	5%
Digester Effluent Flow Rate =	gal/d	11,866	16,440	32,880	19,728	24,660
	gal/min	8	11	23	14	17

D. **Dewatering of secondary sludge**

		Pkg Plant	PHASE 1	PHASE 2	PHASE 3	PHASE 4
Assume hrs / week of belt press operation =	hrs/week	9	13	25	25	30
Belt press throughput for secondary solids =	lb/hr	1,155	1,107	1,152	2,303	2,399
Secondary sludge hydraulic loading =	gal/min	154	148	153	92	96
Dewatered solids % =		15%	15%	15%	15%	15%
Dewatered solids produced =	gal/d	1,187	1,644	3,288	6,576	8,220
	CY/d	6	8	16	33	41

		PHASE 1	PHASE 2	PHASE 3	PHASE 4
Number of Dewatering Units =	lbs/hr	1	1	2	2
Capacity of each unit =	lbs/hr	1,200	1,200	1,200	1,200
Total Dewatering Capacity =		1,200	1,200	2,400	2,400

Dumpster Sizing

		PHASE 1	PHASE 2	PHASE 3	PHASE 4
Storage Time =	days	3.0	3.0	3.0	3.0
Dumpster size =	yd3	42	49	98	122
		50	50	100	130

8. FILTRATION - NOT USED
9. DISINFECTION

Enter data in grey cells

Description:
Ultraviolet Radiation Disinfection

A. TCEQ Design Criteria (Chapter 217.295, Subchapter N)

Approach channel min length before first ultraviolet UV bank =	4 ft
Down stream channel min length =	4 ft
Post-Disinfection Requirements	
Min Dissolved Oxygen Requirements	6 mg/L

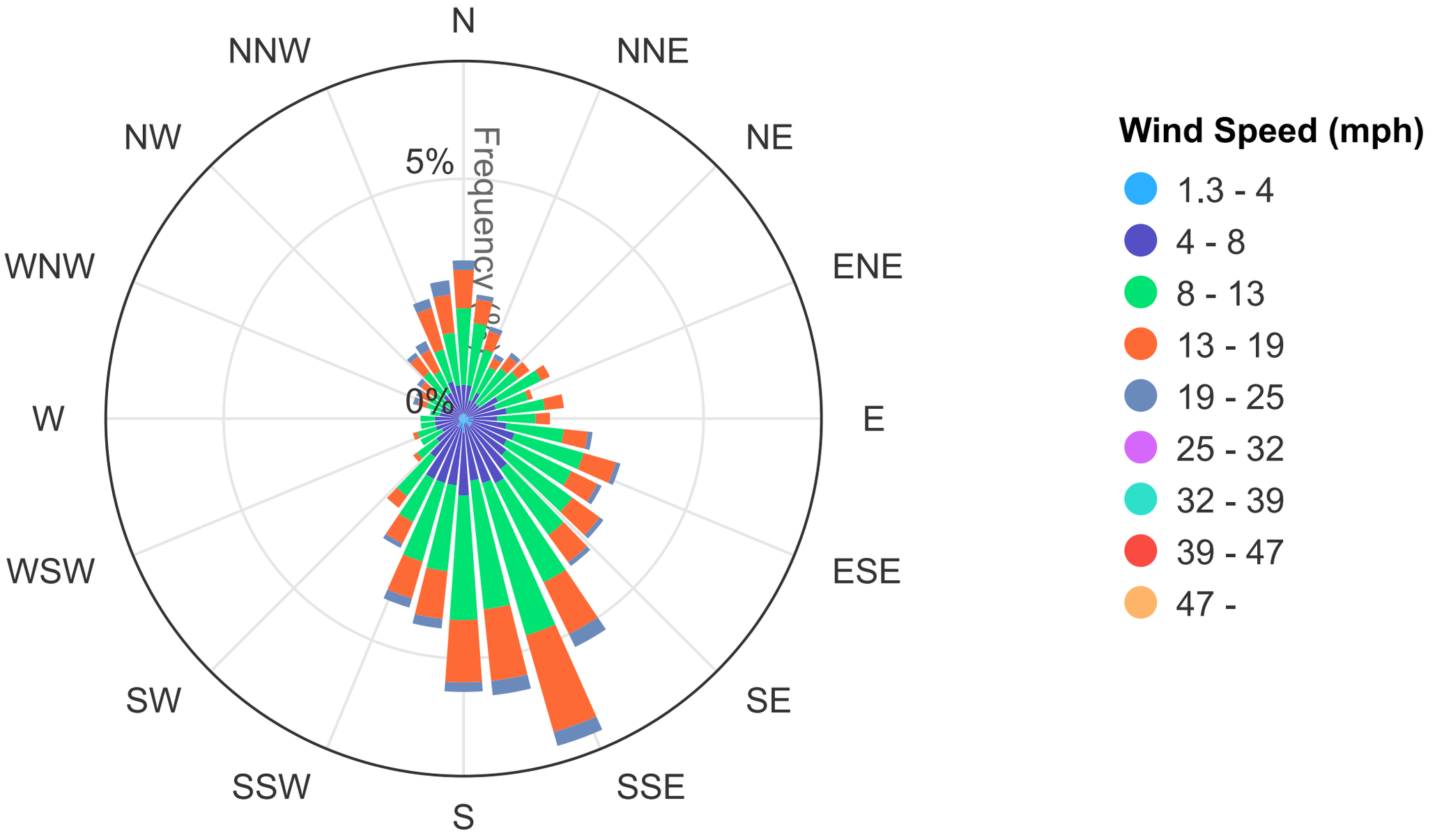
UV SIZING TO BE PROVIDED BY MANUFACTURERS

ATTACHMENT TR-9

Wind Rose

HOUSTON HOBBY AP (TX) Wind Rose

Jan. 1, 2023 - May 22, 2024
Sub-Interval: Jan. 1 - Dec. 31, 0 - 23



Click and drag to zoom

ATTACHMENT TR-10

Sewage Sludge Management Plan

Sludge Production Rates

		Phase I			
		Avg. Daily Flow = 1.5			
		Percent Capacity			
I. Parameters		**100%**	**75%**	**50%**	**25%**
Average Daily Flows (MGD)		1.5	1.125	0.75	0.375
Total Volume of Digesters	Volume =	55,105 cu. ft. or 412,214 gal			
MLSS Operating Range	MLSS (mg/l) =	3,000 - 14,000 (see description)			
$CBOD_5$ Removal	Influent Concentration =	365 mg/L			
	Effluent Concentration =	5 mg/L			
	Net Removal =	360 mg/L			

The new treatment train, which is a membrane bioreactor (MBR), will be operated at 12,000-14,000 mg/L MLSS. Waste activated sludge (WAS) from the new train will be sent to new digesters for stabilization. The existing package plant operates at approximately 3,000 mg/L MLSS in the aeration basins and approximately 8,000 mg/L MLSS in the secondary clarifier underflow. WAS from the clarifiers will be sent to existing digesters. Digesters will be decanted prior to sludge removal for a solids concentration of approximately 1.5%. Supernatant will be returned to the facility headworks for treatment.

II. Daily Sludge Production				
Lbs. BOD_5/day Removal	4,504	3,378	2,252	1,126
Lbs. of Dry Sludge/day (Note 1)	3,541	2,656	1,771	885
Lbs. of Wet Sludge/day (Note 2)	236,067	177,050	118,033	59,017
Gallons Wet Sludge/day	28,305	21,229	14,153	7,076

Notes:
(1) Refer to process calculations for detail sludge production calculations.
(2) assumes 1.5% solids, lbs. dry/0.015

III. Removal Schedule				
Digester Vol. / Vol. Wet Sludge Produced = days between empties	14.6	19.4	29.1	58.3

The digested and dewatered sludge will be transported by the contracted sludge hauler to one of the approved landfill sites. The sludge hauler will supply sludge hauling manifests showing volumes and concentration of sludge removed from the plant.

		Phase II			
		Avg. Daily Flow = 2.0			
		Percent Capacity			
I. Parameters		**100%**	**75%**	**50%**	**25%**
Average Daily Flows (MGD)		2.0	1.5	1.0	0.5
Volume of Digester	Volume =	80,640 cu. ft.	or	603,229 gal	
MLSS Operating Range	MLSS (mg/l) =	12,000-14,000 (see description)			
$CBOD_5$ Removal	Influent Concentration =	365 mg/L			
	Effluent Concentration =	5 mg/L			
	Net Removal =	360 mg/L			

In Phase II, the package plants will be decommissioned, and the MBR train and digester basins will be expanded. The MBR will be operated at 12,000-14,000 mg/L MLSS. WAS will be sent to digesters for stabilization. Digesters will be decanted prior to sludge removal for a solids concentration of approximately 1.5%. Supernatant will be returned to the facility headworks for treatment.

II. Daily Sludge Production

Lbs. BOD_5/day Removal	6,005	4,504	3,002	1,501
Lbs. of Dry Sludge/day (Note 1)	4,113	3,085	2,057	1,028
Lbs. of Wet Sludge/day (Note 2)	274,200	205,650	137,100	68,550
Gallons Wet Sludge/day	32,878	24,658	16,439	8,219

Notes:
(1) Refer to process calculations for detail sludge production calculations.
(2) assumes 1.5% solids, lbs. dry/0.015

III. Removal Schedule

Digester Vol. / Vol. Wet Sludge Produced = days between empties	18.3	24.5	36.7	73.4

The digested and dewatered sludge will be transported by the contracted sludge hauler to one of the approved landfill sites. The sludge hauler will supply sludge hauling manifests showing volumes and concentration of sludge removed from the plant.

		Phase III			
		Avg. Daily Flow = 4.0			
		Percent Capacity			
I. Parameters		**100%**	**75%**	**50%**	**25%**
Average Daily Flows (MGD)		4.0	3.0	2.0	1.0
Volume of Digester	Volume =	80,640 cu. ft.	or	603,229 gal	
MLSS Operating Range	MLSS (mg/l) =	12,000-14,000 (see description)			
$CBOD_5$ Removal	Influent Concentration =	365 mg/L			
	Effluent Concentration =	5 mg/L			
	Net Removal =	360 mg/L			

In Phase III, the MBR train will be expanded and mechanical pre-thickening will be added prior to digesters. The MBR will be operated at 12,000-14,000 mg/L MLSS. Thickened WAS will be sent to digesters for stabilization. Digesters will be decanted prior to sludge removal for a solids concentration of approximately 1.5%. Supernatant will be returned to the facility headworks for treatment.

II. Daily Sludge Production

Lbs. BOD_5/day Removal	12,010	9,007	6,005	3,002
Lbs. of Dry Sludge/day (Note 1)	8,226	6,170	4,113	2,057
Lbs. of Wet Sludge/day (Note 2)	548,400	411,300	274,200	137,100
Gallons Wet Sludge/day	65,755	49,317	32,878	16,439

Notes:
(1) Refer to process calculations for detail sludge production calculations.
(2) assumes 1.5% solids, lbs. dry/0.015

III. Removal Schedule

Digester Vol. / Vol. Wet Sludge Produced = days between empties	9.2	12.2	18.3	36.7

The digested and dewatered sludge will be transported by the contracted sludge hauler to one of the approved landfill sites. The sludge hauler will supply sludge hauling manifests showing volumes and concentration of sludge removed from the plant.

		Phase IV			
		Avg. Daily Flow = 5.0			
		Percent Capacity			
I. Parameters		**100%**	**75%**	**50%**	**25%**
Average Daily Flows (MGD)		5.0	3.75	2.5	1.25
Volume of Digester	Volume =	80,640 cu. ft.	or	603,229 gal	
MLSS Operating Range	MLSS (mg/l) =	12,000-14,000 (see description)			
$CBOD_5$ Removal		Influent Concentration =		365 mg/L	
		Effluent Concentration =		5 mg/L	
		Net Removal =		360 mg/L	

In Phase IV, the MBR train will be expanded. The MBR will be operated at 12,000-14,000 mg/L MLSS. Thickened WAS will be sent to digesters for stabilization. Digesters will be decanted prior to sludge removal for a solids concentration of approximately 1.5%. Supernatant will be returned to the facility headworks for treatment.

II. Daily Sludge Production

Lbs. BOD_5/day Removal	15,012	11,259	7,506	3,753
Lbs. of Dry Sludge/day (Note 1)	10,283	7,712	5,141	2,571
Lbs. of Wet Sludge/day (Note 2)	685,500	514,125	342,750	171,375
Gallons Wet Sludge/day	82,194	61,646	41,097	20,549

Notes:
(1) Refer to process calculations for detail sludge production calculations.
(2) assumes 1.5% solids, lbs. dry/0.015

III. Removal Schedule

Digester Vol. / Vol. Wet Sludge Produced = days between empties	7.3	9.8	14.7	29.4

The digested and dewatered sludge will be transported by the contracted sludge hauler to one of the approved landfill sites. The sludge hauler will supply sludge hauling manifests showing volumes and concentration of sludge removed from the plant.

ATTACHMENT TR-11

Lab Reports

130 S. Trade Center Parkway, Conroe TX 77385
Tel: (936) 321-6060
Email: lab@nwdls.com
www. NWDLS.com

July 19, 2023

Laboratory Report

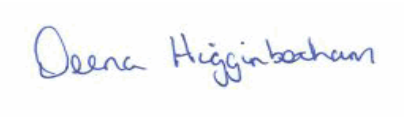
Ray Word
City of Manvel
20025 Morris Avenue
Manvel, TX 77578

Report ID: 20230719112218DLH

The following test results meet all NELAP requirements for analytes for which certification is available. Any deviations from our quality system will be noted in the case narrative. All analyses performed by North Water District Laboratory Services, Inc. unless noted.

For questions regarding this report, contact Monica Martin at 936-321-6060.

Sincerely,



Deena Higginbotham
Director of Client Services

130 S. Trade Center Parkway, Conroe TX 77385
Tel: (936) 321-6060
Email: lab@nwdls.com
www. NWDLS.com
TCEQ T104704238-23-39

City of Manvel
20025 Morris Avenue
Manvel, TX 77578

Reported:
07/19/2023 11:22

Sample Results

Client Sample ID: 18 Mohm DI
Lab Sample ID: 23F2498-01
City of Manvel - Outfall 001 3 Part Grab Comp 1 [none]

Sample Matrix: Waste Water
Date Collected: 06/12/2023 6:55
Collected by: Angel Rodriguez

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Metals, Total											
EPA 1631E	Mercury	A	<0.00500	U	ug/L	1	0.00250	0.00500	BGF2483	06/19/2023 12:08	AKR

* A = Accredited, N = Not Accredited or Accreditation not available

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www. NWDLS.com
TCEQ T104704238-23-39

City of Manvel
20025 Morris Avenue
Manvel, TX 77578

Reported:
07/19/2023 11:22

Sample Results
(Continued)

Client Sample ID: Outfall 001 3 Part Grab
Lab Sample ID: 23F2498-02
City of Manvel - Outfall 001 3 Part Grab Comp 1 [none]

Sample Matrix: Waste Water
Date Collected: 06/12/2023 6:55
Collected by: Angel Rodriguez

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Metals, Total											
EPA 1631E	Mercury	A	<0.00500	U	ug/L	1	0.00250	0.00500	BGF2483	06/19/2023 12:13	AKR

* A = Accredited, N = Not Accredited or Accreditation not available

130 S. Trade Center Parkway, Conroe TX 77385
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www. NWDLS.com
TCEQ T104704238-23-39

City of Manvel
20025 Morris Avenue
Manvel, TX 77578

Reported:
07/19/2023 11:22

Sample Results
(Continued)

Client Sample ID: 18 Mohm DI
Lab Sample ID: 23F2499-01
City of Manvel - Outfall 001 3 Part Grab Comp 2 [none]

Sample Matrix: Waste Water
Date Collected: 06/12/2023 11:55
Collected by: Angel Rodriguez

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Metals, Total											
EPA 1631E	Mercury	A	<0.00500	U	ug/L	1	0.00250	0.00500	BGF2483	06/19/2023 12:37	AKR

* A = Accredited, N = Not Accredited or Accreditation not available

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TCEQ T104704238-23-39

City of Manvel
20025 Morris Avenue
Manvel, TX 77578

Reported:
07/19/2023 11:22

Sample Results
(Continued)

Client Sample ID: Outfall 001 3 Part Grab
Lab Sample ID: 23F2499-02
City of Manvel - Outfall 001 3 Part Grab Comp 2 [none]

Sample Matrix: Waste Water
Date Collected: 06/12/2023 11:55
Collected by: Angel Rodriguez

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Metals, Total											
EPA 1631E	Mercury	A	<0.00500	U	ug/L	1	0.00250	0.00500	BGF2483	06/19/2023 12:42	AKR

* A = Accredited, N = Not Accredited or Accreditation not available

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TCEQ T104704238-23-39

City of Manvel
20025 Morris Avenue
Manvel, TX 77578

Reported:
07/19/2023 11:22

Sample Results
(Continued)

Client Sample ID: Outfall 001
Lab Sample ID: 23F2847-01
City of Manvel - Permit Renewal [none]

Sample Matrix: Waste Water
Date Collected: 06/13/2023 8:50
Collected by: Jose Gutierrez

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
General Chemistry											
SM 4500-CN⁻ G	Amenable Cyanide	A	<10.0	U	ug/L	1	5.00	10.0	BGF3558	06/23/2023 17:43	DAV
SM 4500-CN⁻ C	Total Cyanide	A	<10.0	U	ug/L	1	5.00	10.0	BGF3558	06/23/2023 17:43	DAV
EPA 1664A	n-Hexane Extractable Material (O&G)	A	<5.00	U	mg/L	1	5.00	5.00	BGG1124	07/10/2023 08:23	EM
Microbiology											
Enterolert/ASTM D6503-99	Enterococci	A	3.00		MPN/100 mL	1	1.00	1.00	BGF2040	06/14/2023 16:44	JKB
SM 9223 B (Colilert Quanti-Tray)	Escherichia coli (E. coli)	A	5.20		MPN/100 mL	1	1.00	1.00	BGF2039	06/14/2023 16:28	JKB
Field											
Calc	Flow Field	N	0.251		MGD	1	0.00	0.00	BGG0869	07/07/2023 10:02	AEN
Hach 10360	DO Field	N	7.89		mg/L	1	1.00	1.00	BGF2120	06/13/2023 08:50	JG
Calc	Flow Field	N	0.960		MGD	1	0.00	0.00	BGF2120	06/13/2023 08:50	JG
SM 4500-H+ B	pH	A	7.98		pH Units @ 25 °C	1	1.00	1.00	BGF2120	06/13/2023 08:50	JG
SM 4500-Cl G	Total Residual Chlorine	A	5.10		mg/L	1	0.25	0.25	BGF2120	06/13/2023 08:50	JG

* A = Accredited, N = Not Accredited or Accreditation not available

130 S. Trade Center Parkway, Conroe TX 77385
Tel: (936) 321-6060
Email: lab@nwdls.com
www. NWDLS.com
TCEQ T104704238-23-39

City of Manvel
20025 Morris Avenue
Manvel, TX 77578

Reported:
07/19/2023 11:22

Sample Results
(Continued)

Client Sample ID: Outfall 001 Sampler
Lab Sample ID: 23F2847-02
City of Manvel - Permit Renewal [none]

Sample Matrix: Waste Water
Date Collected: 06/13/2023 5:00
Collected by: Jose Gutierrez

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS											
ASTM D7065	Nonylphenol	N	<333	U	ug/L	2	6.00	333	BGF2506	06/26/2023 23:07	cdg
ASTM D7065	*Surrogate: n-NP-surr*		*65.7%*		*60-140*					*06/26/2023 23:07*	
EPA 625.1	3,3'-Dichlorobenzidine	A	<5.00	U	ug/L	1	3.87	5.00	BGF1945	06/15/2023 06:31	KRB
EPA 625.1	Benzidine	A	<50.0	U	ug/L	1	11.8	50.0	BGF1945	06/15/2023 06:31	KRB
EPA 625.1	*Surrogate: 2,4,6-Tribromophenol-surr*		*55.3%*		*33.6-139*					*06/15/2023 06:31*	
EPA 625.1	*Surrogate: 2-Fluorobiphenyl-surr*		*76.4%*		*32.2-138*					*06/15/2023 06:31*	
EPA 625.1	*Surrogate: 2-Fluorophenol-surr*		*82.4%*		*32.7-137*					*06/15/2023 06:31*	
EPA 625.1	*Surrogate: Nitrobenzene-d5-surr*		*124%*		*31.2-136*					*06/15/2023 06:31*	
EPA 625.1	*Surrogate: Phenol-d5-surr*		*82.5%*		*28.9-155*					*06/15/2023 06:31*	
EPA 625.1	*Surrogate: p-Terphenyl-d14-surr*		*68.2%*		*37.6-117*					*06/15/2023 06:31*	
Organics by GC											
SM 6640 B	2,4-D	A	<0.700	C+, U	ug/L	2	0.236	0.700	BGF2849	07/09/2023 01:05	KRB
SM 6640 B	Silvex (2,4,5-TP)	A	<0.300	C+, U	ug/L	2	0.238	0.300	BGF2849	07/09/2023 01:05	KRB
SM 6640 B	*Surrogate: DCAA-surr*		*150%*	*S*	*70-130*					*07/09/2023 01:05*	
EPA 608.3	4,4'-DDD	A	<0.100	U	ug/L	1	0.000800	0.100	BGF2204	07/15/2023 09:26	KRB
EPA 608.3	4,4'-DDE	A	<0.100	U	ug/L	1	0.000400	0.100	BGF2204	07/15/2023 09:26	KRB
EPA 608.3	4,4'-DDT	A	<0.0200	U	ug/L	1	0.00360	0.0200	BGF2204	07/15/2023 09:26	KRB
EPA 608.3	Aldrin	A	<0.0100	U	ug/L	1	0.000400	0.0100	BGF2204	07/15/2023 09:26	KRB
EPA 608.3	alpha-BHC (alpha-Hexachlorocyclohexane)	A	<0.0500	U	ug/L	1	0.00120	0.0500	BGF2204	07/15/2023 09:26	KRB
EPA 608.3	beta-BHC (beta-Hexachlorocyclohexane)	A	<0.0500	U	ug/L	1	0.00240	0.0500	BGF2204	07/15/2023 09:26	KRB
EPA 608.3	Chlordane (Total)	A	<0.100	U	ug/L	1	0.00200	0.100	BGF2204	07/15/2023 09:26	KRB
EPA 608.3	cis-Chlordane (alpha-Chlordane)	A	<0.100	U	ug/L	1	0.00200	0.100	BGF2204	07/15/2023 09:26	KRB
EPA 608.3	delta-BHC	A	<0.0500	U	ug/L	1	0.00120	0.0500	BGF2204	07/15/2023 09:26	KRB
EPA 608.3	Dicofol	A	<1.00	U	ug/L	1	0.0480	1.00	BGF2204	07/15/2023 09:26	KRB
EPA 608.3	Dieldrin	A	<0.0200	U	ug/L	1	0.000400	0.0200	BGF2204	07/15/2023 09:26	KRB
EPA 608.3	Endosulfan I	A	<0.0100	U	ug/L	1	0.00160	0.0100	BGF2204	07/15/2023 09:26	KRB
EPA 608.3	Endosulfan II	A	<0.0200	U	ug/L	1	0.000400	0.0200	BGF2204	07/15/2023 09:26	KRB
EPA 608.3	Endosulfan sulfate	A	<0.100	U	ug/L	1	0.00400	0.100	BGF2204	07/15/2023 09:26	KRB
EPA 608.3	Endrin	A	<0.0200	U	ug/L	1	0.000800	0.0200	BGF2204	07/15/2023 09:26	KRB
EPA 608.3	Endrin aldehyde	A	<0.100	U	ug/L	1	0.00280	0.100	BGF2204	07/15/2023 09:26	KRB
EPA 608.3	gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	A	<0.0500	U	ug/L	1	0.000400	0.0500	BGF2204	07/15/2023 09:26	KRB
EPA 608.3	gamma-Chlordane	A	<0.100	U	ug/L	1	0.00200	0.100	BGF2204	07/15/2023 09:26	KRB
EPA 608.3	Heptachlor	A	<0.0100	U	ug/L	1	0.000800	0.0100	BGF2204	07/15/2023 09:26	KRB

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City of Manvel
20025 Morris Avenue
Manvel, TX 77578

Reported:
07/19/2023 11:22

Sample Results
(Continued)

Client Sample ID: Outfall 001 Sampler (Continued)
Lab Sample ID: 23F2847-02
City of Manvel - Permit Renewal [none]

Sample Matrix: Waste Water
Date Collected: 06/13/2023 5:00
Collected by: Jose Gutierrez

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Organics by GC (Continued)											
EPA 608.3	Heptachlor epoxide	A	<0.0100	U	ug/L	1	0.00160	0.0100	BGF2204	07/15/2023 09:26	KRB
EPA 608.3	Methoxychlor	A	<2.00	U	ug/L	1	0.00400	2.00	BGF2204	07/15/2023 09:26	KRB
EPA 608.3	Mirex	A	<0.0200	U	ug/L	1	0.00400	0.0200	BGF2204	07/15/2023 09:26	KRB
EPA 608.3	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*23.1%*	*S*	*25.2-154*					*07/15/2023 09:26*	
EPA 608.3	*Surrogate: Decachlorobiphenyl-surr*		*9.61%*	*S*	*41.2-118*					*07/15/2023 09:26*	
EPA 1657	Azinphos-methyl (Guthion)	A	<0.100	U	ug/L	1	0.0333	0.100	BGF2431	06/22/2023 05:07	KRB
EPA 1657	Chlorpyrifos	A	<0.0500	U	ug/L	1	0.0257	0.0500	BGF2431	06/22/2023 05:07	KRB
EPA 1657	Demeton	A	<0.200	U	ug/L	1	0.0129	0.200	BGF2431	06/22/2023 05:07	KRB
EPA 1657	Diazinon	A	<0.500	U	ug/L	1	0.0322	0.500	BGF2431	06/22/2023 05:07	KRB
EPA 1657	Parathion, ethyl	A	<0.100	U	ug/L	1	0.0207	0.100	BGF2431	06/22/2023 05:07	KRB
EPA 1657	*Surrogate: Tributyl Phosphate-surr*		*37.8%*	*S*	*40-120*					*06/22/2023 05:07*	
EPA 1657	*Surrogate: Triphenyl Phosphate-surr*		*25.5%*	*S*	*40-120*					*06/22/2023 05:07*	
Metals, Total											
EPA 200.8	Aluminum	A	168		ug/L	1	0.167	5.00	BGF2268	06/20/2023 09:27	JKC
EPA 200.8	Antimony	A	<5.00	U	ug/L	1	0.0589	5.00	BGF2268	06/20/2023 09:27	JKC
EPA 200.8	Arsenic	A	3.08		ug/L	1	0.0468	0.500	BGF2268	06/22/2023 11:25	JKC
EPA 200.8	Barium	A	47.7		ug/L	1	0.0200	3.00	BGF2268	06/20/2023 09:27	JKC
EPA 200.8	Beryllium	A	<0.500	U	ug/L	1	0.0137	0.500	BGF2268	06/20/2023 09:27	JKC
EPA 200.8	Cadmium	A	<1.00	U	ug/L	1	0.00798	1.00	BGF2268	06/20/2023 09:27	JKC
EPA 200.8	Chromium	A	<3.00	U	ug/L	1	0.0839	3.00	BGF2268	06/20/2023 09:27	JKC
EPA 200.8	Copper	A	12.0		ug/L	1	0.182	2.00	BGF2268	06/20/2023 09:27	JKC
Calc	Chromium (III)		<0.00300		mg/L	1	8.39E-5	0.00300	[CALC]	06/20/2023 09:27	JKC
EPA 200.8	Lead	A	<0.500	U	ug/L	1	0.0120	0.500	BGF2268	06/20/2023 09:27	JKC
EPA 200.8	Nickel	A	2.62		ug/L	1	0.0398	2.00	BGF2268	06/20/2023 09:27	JKC
EPA 200.8	Selenium	A	<5.00	U	ug/L	1	0.354	5.00	BGF2268	06/20/2023 09:27	JKC
EPA 200.8	Silver	A	<0.500	U	ug/L	1	0.00467	0.500	BGF2268	06/20/2023 09:27	JKC
EPA 200.8	Thallium	A	<0.500	U	ug/L	1	0.0617	0.500	BGF2268	06/20/2023 09:27	JKC
EPA 200.8	Zinc	A	55.4		ug/L	1	0.207	5.00	BGF2268	06/20/2023 09:27	JKC
General Chemistry											
SM 2320 B	Alkalinity as CaCO3	A	225		mg/L	1	10.0	10.0	BGF2087	06/14/2023 11:18	AKA
SM 5210 B	Carbonaceous BOD (CBOD)	A	2.57		mg/L	13514	2.03	2.03	BGF2072	06/19/2023 12:04	AMM
SM 2510 B	Conductivity	A	1240		umhos/cm @ 25 °C	1	2.00	2.00	BGF2087	06/14/2023 11:18	AKA
EPA 350.1	Ammonia as N	A	0.280		mg/L	1	0.0200	0.0500	BGF2169	06/14/2023 16:02	GJG
EPA 300.0	Nitrite as N	A	1840		ug/L	1	5.10	50.0	BGF2030	06/14/2023 04:51	ORP
EPA 300.0	Sulfate	A	34.6		mg/L	1	0.0341	1.00	BGF2030	06/14/2023 04:51	ORP

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Manvel, TX 77578

Reported:
07/19/2023 11:22

Sample Results
(Continued)

Client Sample ID: Outfall 001 Sampler (Continued)
Lab Sample ID: 23F2847-02
City of Manvel - Permit Renewal [none]

Sample Matrix: Waste Water
Date Collected: 06/13/2023 5:00
Collected by: Jose Gutierrez

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
General Chemistry (Continued)											
SM 2540 C	Residue-filterable (TDS)	A	648		mg/L	1	10.0	10.0	BGF2111	06/16/2023 11:37	BP
SM 4500-NH3 C	Total Kjeldahl Nitrogen - (TKN)	A	<1.00	U	mg/L	1	0.100	1.00	BGF2465	06/16/2023 10:05	GIW
SM 4500-P E	Total Phosphorus	A	4.36		mg/L	1	0.140	0.200	BGF2663	06/16/2023 14:50	MLB
SM 2540 D	Residue-nonfilterable (TSS)	A	7.40		mg/L	1	1.00	1.00	BGF2105	06/15/2023 13:08	KIO

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Manvel, TX 77578

Reported:
07/19/2023 11:22

Sample Results
(Continued)

Client Sample ID: Outfall 001 Sampler
Lab Sample ID: 23F2847-02RE1
City of Manvel - Permit Renewal [none]

Sample Matrix: Waste Water
Date Collected: 06/13/2023 5:00
Collected by: Jose Gutierrez

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS										
EPA 625.1	1,2,4,5-Tetrachlorobenzene (Rerun)	A	<10.0U	ug/L	1	0.0760	10.0	BGF1945	06/21/2023 18:52	KRB
EPA 625.1	1,2,4-Trichlorobenzene (Rerun)	A	<10.0U	ug/L	1	0.0943	10.0	BGF1945	06/21/2023 18:52	KRB
EPA 625.1	1,2-Diphenylhydrazine (Rerun)	A	<20.0U	ug/L	1	0.250	20.0	BGF1945	06/21/2023 18:52	KRB
EPA 625.1	2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy (Rerun)	A	<10.0U	ug/L	1	0.129	10.0	BGF1945	06/21/2023 18:52	KRB
EPA 625.1	2,4,5-Trichlorophenol (Rerun)	A	<10.0U	ug/L	1	0.210	10.0	BGF1945	06/21/2023 18:52	KRB
EPA 625.1	2,4,6-Trichlorophenol (Rerun)	A	<10.0U	ug/L	1	0.385	10.0	BGF1945	06/21/2023 18:52	KRB
EPA 625.1	2,4-Dichlorophenol (Rerun)	A	<10.0U	ug/L	1	0.256	10.0	BGF1945	06/21/2023 18:52	KRB
EPA 625.1	2,4-Dimethylphenol (Rerun)	A	<10.0U	ug/L	1	0.294	10.0	BGF1945	06/21/2023 18:52	KRB
EPA 625.1	2,4-Dinitrophenol (Rerun)	A	<50.0U	ug/L	1	2.85	50.0	BGF1945	06/21/2023 18:52	KRB
EPA 625.1	2,4-Dinitrotoluene (2,4-DNT) (Rerun)	A	<10.0U	ug/L	1	0.0530	10.0	BGF1945	06/21/2023 18:52	KRB
EPA 625.1	2,6-Dinitrotoluene (2,6-DNT) (Rerun)	A	<10.0U	ug/L	1	0.584	10.0	BGF1945	06/21/2023 18:52	KRB
EPA 625.1	2-Chloronaphthalene (Rerun)	A	<10.0U	ug/L	1	0.123	10.0	BGF1945	06/21/2023 18:52	KRB
EPA 625.1	2-Chlorophenol (Rerun)	A	<10.0U	ug/L	1	0.147	10.0	BGF1945	06/21/2023 18:52	KRB
EPA 625.1	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph (Rerun)	A	<50.0U	ug/L	1	0.511	50.0	BGF1945	06/21/2023 18:52	KRB
EPA 625.1	2-Nitrophenol (Rerun)	A	<20.0U	ug/L	1	0.218	20.0	BGF1945	06/21/2023 18:52	KRB
EPA 625.1	3,4-Methylphenol (Rerun)	A	<10.0U	ug/L	1	0.462	10.0	BGF1945	06/21/2023 18:52	KRB
EPA 625.1	4-Bromophenyl phenyl ether (BDE-3) (Rerun)	A	<10.0U	ug/L	1	0.0682	10.0	BGF1945	06/21/2023 18:52	KRB
EPA 625.1	4-Chloro-3-methylphenol (Rerun)	A	<10.0U	ug/L	1	0.218	10.0	BGF1945	06/21/2023 18:52	KRB
EPA 625.1	4-Chlorophenyl phenylether (Rerun)	A	<10.0U	ug/L	1	0.207	10.0	BGF1945	06/21/2023 18:52	KRB
EPA 625.1	4-Nitrophenol (Rerun)	A	<50.0U	ug/L	1	2.40	50.0	BGF1945	06/21/2023 18:52	KRB
EPA 625.1	Acenaphthene (Rerun)	A	<10.0U	ug/L	1	0.0776	10.0	BGF1945	06/21/2023 18:52	KRB
EPA 625.1	Acenaphthylene (Rerun)	A	<10.0U	ug/L	1	0.0594	10.0	BGF1945	06/21/2023 18:52	KRB
EPA 625.1	Anthracene (Rerun)	A	<10.0U	ug/L	1	0.0532	10.0	BGF1945	06/21/2023 18:52	KRB
EPA 625.1	Benzo(a)anthracene (Rerun)	A	<5.00U	ug/L	1	0.0738	5.00	BGF1945	06/21/2023 18:52	KRB
EPA 625.1	Benzo(a)pyrene (Rerun)	A	<5.00U	ug/L	1	0.143	5.00	BGF1945	06/21/2023 18:52	KRB
EPA 625.1	benzo(b&k)fluoranthene (Rerun)	A	<5.00U	ug/L	1	0.118	5.00	BGF1945	06/21/2023 18:52	KRB
EPA 625.1	Benzo(g,h,i)perylene (Rerun)	A	<20.0U	ug/L	1	0.112	20.0	BGF1945	06/21/2023 18:52	KRB
EPA 625.1	bis(2-Chloroethoxy)methane (Rerun)	A	<10.0U	ug/L	1	0.112	10.0	BGF1945	06/21/2023 18:52	KRB
EPA 625.1	bis(2-Chloroethyl) ether (Rerun)	A	<10.0U	ug/L	1	0.184	10.0	BGF1945	06/21/2023 18:52	KRB
EPA 625.1	Bis(2-ethylhexyl)phthalate (Rerun)	A	<10.0U	ug/L	1	0.500	10.0	BGF1945	06/21/2023 18:52	KRB
EPA 625.1	Butyl benzyl phthalate (Rerun)	A	<10.0U	ug/L	1	0.123	10.0	BGF1945	06/21/2023 18:52	KRB
EPA 625.1	Chrysene (Rerun)	A	<5.00U	ug/L	1	0.0573	5.00	BGF1945	06/21/2023 18:52	KRB
EPA 625.1	Dibenzo(a,h)anthracene (Rerun)	A	<5.00U	ug/L	1	0.152	5.00	BGF1945	06/21/2023 18:52	KRB
EPA 625.1	Diethyl phthalate (Rerun)	A	<10.0B, U	ug/L	1	0.150	10.0	BGF1945	06/21/2023 18:52	KRB

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Sample Results
(Continued)

Client Sample ID: Outfall 001 Sampler (Continued)
Lab Sample ID: 23F2847-02RE1
City of Manvel - Permit Renewal [none]

Sample Matrix: Waste Water
Date Collected: 06/13/2023 5:00
Collected by: Jose Gutierrez

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Semivolatile Organic Compounds by GCMS (Continued)											
EPA 625.1	Dimethyl phthalate (Rerun)	A	<10.0	B, U	ug/L	1	0.0869	10.0	BGF1945	06/21/2023 18:52	KRB
EPA 625.1	Di-n-butyl phthalate (Rerun)	A	<10.0	B, U	ug/L	1	0.505	10.0	BGF1945	06/21/2023 18:52	KRB
EPA 625.1	Di-n-octyl phthalate (Rerun)	A	<10.0	U	ug/L	1	0.163	10.0	BGF1945	06/21/2023 18:52	KRB
EPA 625.1	Fluoranthene (Rerun)	A	<10.0	U	ug/L	1	0.0676	10.0	BGF1945	06/21/2023 18:52	KRB
EPA 625.1	Fluorene (Rerun)	A	<10.0	U	ug/L	1	0.0589	10.0	BGF1945	06/21/2023 18:52	KRB
EPA 625.1	Hexachlorobenzene (Rerun)	A	<5.00	U	ug/L	1	0.0629	5.00	BGF1945	06/21/2023 18:52	KRB
EPA 625.1	Hexachlorobutadiene (Rerun)	A	<10.0	U	ug/L	1	0.0697	10.0	BGF1945	06/21/2023 18:52	KRB
EPA 625.1	Hexachlorocyclopentadiene (Rerun)	A	<10.0	U	ug/L	1	0.250	10.0	BGF1945	06/21/2023 18:52	KRB
EPA 625.1	Hexachloroethane (Rerun)	A	<20.0	U	ug/L	1	0.0644	20.0	BGF1945	06/21/2023 18:52	KRB
EPA 625.1	Hexachlorophene (Rerun)	A	<10.0	U	ug/L	1	0.343	10.0	BGF1945	06/21/2023 18:52	KRB
EPA 625.1	Indeno(1,2,3-cd) pyrene (Rerun)	A	<5.00	U	ug/L	1	0.126	5.00	BGF1945	06/21/2023 18:52	KRB
EPA 625.1	Isophorone (Rerun)	A	<10.0	U	ug/L	1	0.0853	10.0	BGF1945	06/21/2023 18:52	KRB
EPA 625.1	Naphthalene (Rerun)	A	<10.0	U	ug/L	1	0.0742	10.0	BGF1945	06/21/2023 18:52	KRB
EPA 625.1	Nitrobenzene (Rerun)	A	<10.0	U	ug/L	1	0.118	10.0	BGF1945	06/21/2023 18:52	KRB
EPA 625.1	n-Nitrosodiethylamine (Rerun)	A	<20.0	U	ug/L	1	0.162	20.0	BGF1945	06/21/2023 18:52	KRB
EPA 625.1	n-Nitrosodimethylamine (Rerun)	A	<50.0	U	ug/L	1	1.24	50.0	BGF1945	06/21/2023 18:52	KRB
EPA 625.1	n-Nitroso-di-n-butylamine (Rerun)	A	<20.0	U	ug/L	1	1.87	20.0	BGF1945	06/21/2023 18:52	KRB
EPA 625.1	n-Nitrosodi-n-propylamine (Rerun)	A	<20.0	U	ug/L	1	0.445	20.0	BGF1945	06/21/2023 18:52	KRB
EPA 625.1	n-Nitrosodiphenylamine (Rerun)	A	<20.0	U	ug/L	1	0.0609	20.0	BGF1945	06/21/2023 18:52	KRB
EPA 625.1	Pentachlorobenzene (Rerun)	A	<20.0	U	ug/L	1	0.0514	20.0	BGF1945	06/21/2023 18:52	KRB
EPA 625.1	Pentachlorophenol (Rerun)	A	<5.00	U	ug/L	1	0.437	5.00	BGF1945	06/21/2023 18:52	KRB
EPA 625.1	Phenanthrene (Rerun)	A	<10.0	U	ug/L	1	0.0816	10.0	BGF1945	06/21/2023 18:52	KRB
EPA 625.1	Phenol, Total (Rerun)	A	<10.0	U	ug/L	1	0.470	10.0	BGF1945	06/21/2023 18:52	KRB
EPA 625.1	Pyrene (Rerun)	A	<10.0	U	ug/L	1	0.0848	10.0	BGF1945	06/21/2023 18:52	KRB
EPA 625.1	Pyridine (Rerun)	A	<20.0	U	ug/L	1	4.40	20.0	BGF1945	06/21/2023 18:52	KRB
Organics by GC											
EPA 608.3	Toxaphene (Chlorinated Camphene) (Rerun)	A	<0.300	U	ug/L	1	0.0400	0.300	BGF2204	07/16/2023 06:17	KRB
EPA 608.3	*Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr*		*36.6%*		*25.2-154*					*07/16/2023 06:17*	
EPA 608.3	*Surrogate: Decachlorobiphenyl-surr (Rerun)*		*11.8%*	*S*	*41.2-118*					*07/16/2023 06:17*	
EPA 1657	Malathion (Rerun)	A	<0.100	U	ug/L	1	0.0133	0.100	BGF2431	07/08/2023 07:26	KRB
General Chemistry											
EPA 300.0	Chloride (Rerun)	A	159		mg/L	5	0.172	5.00	BGF2225	06/14/2023 17:15	ORP
EPA 300.0	Fluoride (Rerun)	A	1.37		mg/L	1	0.0105	0.250	BGF2225	06/14/2023 16:55	ORP
EPA 300.0	Nitrate as N (Rerun)	A	19800		ug/L	5	71.0	500	BGF2225	06/14/2023 17:15	ORP
EPA 300.0	Nitrite as N (Rerun)	A	1810		ug/L	1	5.10	50.0	BGF2225	06/14/2023 16:55	ORP

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City of Manvel
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07/19/2023 11:22

Sample Results
(Continued)

Client Sample ID: Outfall 001 Sampler (Continued)
Lab Sample ID: 23F2847-02RE1
City of Manvel - Permit Renewal [none]

Sample Matrix: Waste Water
Date Collected: 06/13/2023 5:00
Collected by: Jose Gutierrez

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
General Chemistry (Continued)											
EPA 300.0	Sulfate (Rerun)	A	34.6		mg/L	1	0.0341	1.00	BGF2225	06/14/2023 16:55	ORP

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Sample Results
(Continued)

Client Sample ID: Outfall 001 3 Part Grab
Lab Sample ID: 23F2847-03
City of Manvel - Permit Renewal [none]

Sample Matrix: Waste Water
Date Collected: 06/13/2023 9:00
Collected by: Jose Gutierrez

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Metals, Total											
EPA 1631E	Mercury	A	<0.00500	U	ug/L	1	0.00250	0.00500	BGF2483	06/19/2023 12:23	AKR

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Sample Results
(Continued)

Client Sample ID: 18 Mohm DI
Lab Sample ID: 23F2847-05
City of Manvel - Permit Renewal [none]

Sample Matrix: Waste Water
Date Collected: 06/13/2023 9:00
Collected by: Jose Gutierrez

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Metals, Total											
EPA 1631E	Mercury	A	<0.00500	U	ug/L	1	0.00250	0.00500	BGF2483	06/19/2023 12:18	AKR

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Sample Results
(Continued)

Client Sample ID: Outfall 001 Sampler
Lab Sample ID: 23F4919-01RE2
City of Manvel WWTP - Permit Renwal - Recollect 2 [none]

Sample Matrix: Waste Water
Date Collected: 06/27/2023 5:00
Collected by: Jose Gutierrez

Method	Analyte	*	Result	Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
Metals, Dissolved											
SM 3500-Cr B	Chromium (VI) (Rerun)	A	3.21		ug/L	1	1.50	3.00	BGG0172	07/03/2023 17:37	NAZ

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Quality Control

Semivolatile Organic Compounds by GCMS

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGF1945 - EPA 625 LLE										
Blank (BGF1945-BLK1)					Prepared: 06/13/2023 Analyzed: 06/15/2023					
3,3'-Dichlorobenzidine	<11.7	U	11.7	ug/L						
Benzidine	<50.0	U	50.0	ug/L						
Blank (BGF1945-BLK2)					Prepared: 06/13/2023 Analyzed: 06/21/2023					
1,2,4,5-Tetrachlorobenzene	<10.0	U	10.0	ug/L						
1,2,4-Trichlorobenzene	<10.0	U	10.0	ug/L						
1,2-Diphenylhydrazine	<20.0	U	20.0	ug/L						
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	<10.0	U	10.0	ug/L						
2,4,5-Trichlorophenol	<10.0	U	10.0	ug/L						
2,4,6-Trichlorophenol	<10.0	U	10.0	ug/L						
2,4-Dichlorophenol	<10.0	U	10.0	ug/L						
2,4-Dimethylphenol	<10.0	U	10.0	ug/L						
2,4-Dinitrophenol	<50.0	U	50.0	ug/L						
2,4-Dinitrotoluene (2,4-DNT)	<10.0	U	10.0	ug/L						
2,6-Dinitrotoluene (2,6-DNT)	<10.0	U	10.0	ug/L						
2-Chloronaphthalene	<10.0	U	10.0	ug/L						
2-Chlorophenol	<10.0	U	10.0	ug/L						
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	<50.0	U	50.0	ug/L						
2-Nitrophenol	<20.0	U	20.0	ug/L						
3,4-Methylphenol	<10.0	U	10.0	ug/L						
4-Bromophenyl phenyl ether (BDE-3)	<10.0	U	10.0	ug/L						
4-Chloro-3-methylphenol	<10.0	U	10.0	ug/L						
4-Chlorophenyl phenylether	<10.0	U	10.0	ug/L						
4-Nitrophenol	<50.0	U	50.0	ug/L						
Acenaphthene	<10.0	U	10.0	ug/L						
Acenaphthylene	<10.0	U	10.0	ug/L						
Anthracene	<10.0	U	10.0	ug/L						
Benzo(a)anthracene	<5.00	U	5.00	ug/L						
Benzo(a)pyrene	<5.00	U	5.00	ug/L						
benzo(b&k)fluoranthene	<5.00	U	5.00	ug/L						
Benzo(g,h,i)perylene	<20.0	U	20.0	ug/L						
bis(2-Chloroethoxy)methane	<10.0	U	10.0	ug/L						
bis(2-Chloroethyl) ether	<10.0	U	10.0	ug/L						
Bis(2-ethylhexyl)phthalate	<10.0	U	10.0	ug/L						
Butyl benzyl phthalate	<10.0	U	10.0	ug/L						
Chrysene	<5.00	U	5.00	ug/L						
Dibenzo(a,h)anthracene	<5.00	U	5.00	ug/L						
Diethyl phthalate	<10.0	U	10.0	ug/L						
Dimethyl phthalate	<10.0	U	10.0	ug/L						
Di-n-butyl phthalate	<10.0	U	10.0	ug/L						
Di-n-octyl phthalate	<10.0	U	10.0	ug/L						
Fluoranthene	<10.0	U	10.0	ug/L						
Fluorene	<10.0	U	10.0	ug/L						
Hexachlorobenzene	<5.00	U	5.00	ug/L						
Hexachlorobutadiene	<10.0	U	10.0	ug/L						
Hexachlorocyclopentadiene	<10.0	U	10.0	ug/L						

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Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGF1945 - EPA 625 LLE (Continued)										
Blank (BGF1945-BLK2)					Prepared: 06/13/2023 Analyzed: 06/21/2023					
Hexachloroethane	<20.0	U	20.0	ug/L						
Hexachlorophene	<10.0	U	10.0	ug/L						
Indeno(1,2,3-cd) pyrene	<5.00	U	5.00	ug/L						
Isophorone	<10.0	U	10.0	ug/L						
Naphthalene	<10.0	U	10.0	ug/L						
Nitrobenzene	<10.0	U	10.0	ug/L						
n-Nitrosodiethylamine	<20.0	U	20.0	ug/L						
n-Nitrosodimethylamine	<50.0	U	50.0	ug/L						
n-Nitroso-di-n-butylamine	<20.0	U	20.0	ug/L						
n-Nitrosodi-n-propylamine	<20.0	U	20.0	ug/L						
n-Nitrosodiphenylamine	<20.0	U	20.0	ug/L						
Pentachlorobenzene	<20.0	U	20.0	ug/L						
Pentachlorophenol	<5.00	U	5.00	ug/L						
Phenanthrene	<10.0	U	10.0	ug/L						
Phenol, Total	<10.0	U	10.0	ug/L						
Pyrene	<10.0	U	10.0	ug/L						
Pyridine	<20.0	U	20.0	ug/L						
BENZ LCS (BGF1945-BS1)					Prepared: 06/13/2023 Analyzed: 06/15/2023					
3,3'-Dichlorobenzidine	4.24	U	11.7	ug/L	50.0		8.48	0-262		
Benzidine	<50.0	J1, U	50.0	ug/L	50.2			0-131		
Surrogate: 2,4,6-Tribromophenol-surr			*3.66*	*ug/L*	*4.00*		*91.6*	*33.6-139*		
Surrogate: 2-Fluorobiphenyl-surr			*1.36*	*ug/L*	*2.00*		*68.1*	*32.2-138*		
Surrogate: 2-Fluorophenol-surr			*1.38*	*ug/L*	*4.00*		*34.5*	*32.7-137*		
Surrogate: Nitrobenzene-d5-surr			*2.43*	*ug/L*	*2.00*		*122*	*31.2-136*		
Surrogate: Phenol-d5-surr			*3.08*	*ug/L*	*4.00*		*76.9*	*28.9-155*		
Surrogate: p-Terphenyl-d14-surr			*1.46*	*ug/L*	*2.00*		*73.0*	*37.6-117*		

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Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGF1945 - EPA 625 LLE (Continued)										
LCS (BGF1945-BS2)					Prepared: 06/13/2023 Analyzed: 06/21/2023					
1,2,4,5-Tetrachlorobenzene	1.57	U	10.0	ug/L	2.00		78.4	60-140		
1,2,4-Trichlorobenzene	1.75	U	10.0	ug/L	2.00		87.6	44-142		
1,2-Diphenylhydrazine	1.57	U	20.0	ug/L	2.00		78.5	60-140		
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	1.55	U	10.0	ug/L	2.00		77.6	60-140		
2,4,5-Trichlorophenol	3.23	U	10.0	ug/L	4.00		80.8	60-140		
2,4,6-Trichlorophenol	3.71	U	10.0	ug/L	4.00		92.7	37-144		
2,4-Dichlorophenol	4.56	U	10.0	ug/L	4.00		114	39-135		
2,4-Dimethylphenol	4.02	U	10.0	ug/L	4.00		101	32-120		
2,4-Dinitrophenol	8.88	U	50.0	ug/L	10.0		88.8	0-191		
2,4-Dinitrotoluene (2,4-DNT)	1.69	U	10.0	ug/L	2.00		84.6	39-139		
2,6-Dinitrotoluene (2,6-DNT)	1.79	U	10.0	ug/L	2.00		89.6	50-158		
2-Chloronaphthalene	1.82	U	10.0	ug/L	2.00		91.1	60-120		
2-Chlorophenol	3.39	U	10.0	ug/L	4.00		84.8	23-134		
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	3.52	U	50.0	ug/L	4.00		87.9	0-181		
2-Nitrophenol	3.94	U	20.0	ug/L	4.00		98.4	29-182		
3,4-Methylphenol	6.51	U	10.0	ug/L	8.00		81.4	60-140		
4-Bromophenyl phenyl ether (BDE-3)	1.44	U	10.0	ug/L	2.00		72.1	53-127		
4-Chloro-3-methylphenol	3.08	U	10.0	ug/L	4.00		77.1	22-147		
4-Chlorophenyl phenylether	1.56	U	10.0	ug/L	2.00		77.8	25-158		
4-Nitrophenol	8.19	U	50.0	ug/L	10.0		81.9	0-132		
Acenaphthene	1.46	U	10.0	ug/L	2.00		72.9	47-145		
Acenaphthylene	1.45	U	10.0	ug/L	2.00		72.7	33-145		
Anthracene	1.43	U	10.0	ug/L	2.00		71.4	27-133		
Benzo(a)anthracene	1.56	U	5.00	ug/L	2.00		78.2	33-143		
Benzo(a)pyrene	1.44	U	5.00	ug/L	2.00		72.0	17-163		
benzo(b&k)fluoranthene	3.18	U	5.00	ug/L	4.00		79.4	60-140		
Benzo(g,h,i)perylene	1.53	U	20.0	ug/L	2.00		76.7	0-219		
bis(2-Chloroethoxy)methane	1.66	U	10.0	ug/L	2.00		83.0	33-184		
bis(2-Chloroethyl) ether	1.66	U	10.0	ug/L	2.00		83.2	12-158		
Bis(2-ethylhexyl)phthalate	2.27	U	10.0	ug/L	2.00		114	8-158		
Butyl benzyl phthalate	1.50	U	10.0	ug/L	2.00		74.9	0-152		
Chrysene	1.51	U	5.00	ug/L	2.00		75.4	17-168		
Dibenzo(a,h)anthracene	1.52	U	5.00	ug/L	2.00		75.9	0-227		
Diethyl phthalate	2.22	U	10.0	ug/L	2.00		111	0-120		
Dimethyl phthalate	1.86	U	10.0	ug/L	2.00		92.9	0-120		
Di-n-butyl phthalate	2.87	J1, U	10.0	ug/L	2.00		143	1-120		
Di-n-octyl phthalate	1.58	U	10.0	ug/L	2.00		78.9	4-146		
Fluoranthene	1.52	U	10.0	ug/L	2.00		76.1	26-137		
Fluorene	1.60	U	10.0	ug/L	2.00		79.9	59-121		
Hexachlorobenzene	1.26	U	5.00	ug/L	2.00		62.8	0-152		
Hexachlorobutadiene	1.20	U	10.0	ug/L	2.00		59.8	24-120		
Hexachlorocyclopentadiene	1.72	U	10.0	ug/L	2.00		86.0	60-140		
Hexachloroethane	1.09	U	20.0	ug/L	2.00		54.6	40-120		
Hexachlorophene	3.47	U	10.0	ug/L	4.00		86.7	60-140		
Indeno(1,2,3-cd) pyrene	1.45	U	5.00	ug/L	2.00		72.4	0-171		
Isophorone	1.91	U	10.0	ug/L	2.00		95.4	21-196		

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Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGF1945 - EPA 625 LLE (Continued)										
LCS (BGF1945-BS2)					Prepared: 06/13/2023 Analyzed: 06/21/2023					
Naphthalene	1.42	U	10.0	ug/L	2.00		71.2	21-133		
Nitrobenzene	1.50	U	10.0	ug/L	2.00		74.8	35-180		
n-Nitrosodiethylamine	1.03	J1, U	20.0	ug/L	2.00		51.4	60-140		
n-Nitrosodimethylamine	<50.0	J1, U	50.0	ug/L	10.0			4.18-37.2		
n-Nitroso-di-n-butylamine	2.02	U	20.0	ug/L	2.00		101	60-140		
n-Nitrosodi-n-propylamine	1.85	U	20.0	ug/L	2.00		92.4	0-230		
n-Nitrosodiphenylamine	0.673	J1, U	20.0	ug/L	2.00		33.6	60-140		
Pentachlorobenzene	1.13	J1, U	20.0	ug/L	2.00		56.7	60-140		
Pentachlorophenol	4.11	U	5.00	ug/L	4.00		103	14-176		
Phenanthrene	1.53	U	10.0	ug/L	2.00		76.5	54-120		
Phenol, Total	4.20	U	10.0	ug/L	4.00		105	5-120		
Pyrene	1.45	U	10.0	ug/L	2.00		72.3	52-120		
Pyridine	<20.0	U	20.0	ug/L	10.0			0-137		
Surrogate: 2,4,6-Tribromophenol-surr			*2.82*	*ug/L*	*4.00*		*70.5*	*33.6-139*		
Surrogate: 2-Fluorobiphenyl-surr			*1.79*	*ug/L*	*2.00*		*89.5*	*32.2-138*		
Surrogate: 2-Fluorophenol-surr			*2.79*	*ug/L*	*4.00*		*69.8*	*32.7-137*		
Surrogate: Nitrobenzene-d5-surr			*1.97*	*ug/L*	*2.00*		*98.7*	*31.2-136*		
Surrogate: Phenol-d5-surr			*3.57*	*ug/L*	*4.00*		*89.3*	*28.9-155*		
Surrogate: p-Terphenyl-d14-surr			*1.48*	*ug/L*	*2.00*		*74.2*	*37.6-117*		
BENZ LCSD (BGF1945-BSD1)					Prepared: 06/13/2023 Analyzed: 06/15/2023					
3,3'-Dichlorobenzidine	9.35	U	11.7	ug/L	50.0		18.7	0-262	75.2	108
Benzidine	<50.0	J1, U	50.0	ug/L	50.2			0-131		40
Surrogate: 2,4,6-Tribromophenol-surr			*2.94*	*ug/L*	*4.00*		*73.5*	*33.6-139*		
Surrogate: 2-Fluorobiphenyl-surr			*1.50*	*ug/L*	*2.00*		*75.1*	*32.2-138*		
Surrogate: 2-Fluorophenol-surr			*1.82*	*ug/L*	*4.00*		*45.5*	*32.7-137*		
Surrogate: Nitrobenzene-d5-surr			*1.93*	*ug/L*	*2.00*		*96.5*	*31.2-136*		
Surrogate: Phenol-d5-surr			*3.23*	*ug/L*	*4.00*		*80.7*	*28.9-155*		
Surrogate: p-Terphenyl-d14-surr			*1.35*	*ug/L*	*2.00*		*67.7*	*37.6-117*		

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Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGF1945 - EPA 625 LLE (Continued)										
LCS Dup (BGF1945-BSD2)					Prepared: 06/13/2023 Analyzed: 06/21/2023					
1,2,4,5-Tetrachlorobenzene	1.48	U	10.0	ug/L	2.00		73.9	60-140	5.91	40
1,2,4-Trichlorobenzene	1.62	U	10.0	ug/L	2.00		80.9	44-142	7.98	50
1,2-Diphenylhydrazine	1.70	U	20.0	ug/L	2.00		85.2	60-140	8.17	40
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	1.55	U	10.0	ug/L	2.00		77.5	60-140	0.249	40
2,4,5-Trichlorophenol	3.56	U	10.0	ug/L	4.00		88.9	60-140	9.63	40
2,4,6-Trichlorophenol	3.89	U	10.0	ug/L	4.00		97.3	37-144	4.87	58
2,4-Dichlorophenol	4.52	U	10.0	ug/L	4.00		113	39-135	0.752	50
2,4-Dimethylphenol	3.99	U	10.0	ug/L	4.00		99.8	32-120	0.777	58
2,4-Dinitrophenol	9.56	U	50.0	ug/L	10.0		95.6	0-191	7.30	132
2,4-Dinitrotoluene (2,4-DNT)	1.83	U	10.0	ug/L	2.00		91.7	39-139	8.04	42
2,6-Dinitrotoluene (2,6-DNT)	1.94	U	10.0	ug/L	2.00		97.2	50-158	8.08	48
2-Chloronaphthalene	1.89	U	10.0	ug/L	2.00		94.7	60-120	3.91	24
2-Chlorophenol	2.99	U	10.0	ug/L	4.00		74.8	23-134	12.6	61
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	3.64	U	50.0	ug/L	4.00		91.0	0-181	3.42	203
2-Nitrophenol	4.03	U	20.0	ug/L	4.00		101	29-182	2.41	55
3,4-Methylphenol	6.60	U	10.0	ug/L	8.00		82.5	60-140	1.38	40
4-Bromophenyl phenyl ether (BDE-3)	1.51	U	10.0	ug/L	2.00		75.5	53-127	4.65	43
4-Chloro-3-methylphenol	3.28	U	10.0	ug/L	4.00		82.1	22-147	6.30	73
4-Chlorophenyl phenylether	1.70	U	10.0	ug/L	2.00		85.2	25-158	9.06	61
4-Nitrophenol	8.83	U	50.0	ug/L	10.0		88.3	0-132	7.52	131
Acenaphthene	1.53	U	10.0	ug/L	2.00		76.6	47-145	5.02	48
Acenaphthylene	1.52	U	10.0	ug/L	2.00		76.1	33-145	4.58	74
Anthracene	1.49	U	10.0	ug/L	2.00		74.5	27-133	4.30	66
Benzo(a)anthracene	1.72	U	5.00	ug/L	2.00		85.8	33-143	9.27	53
Benzo(a)pyrene	1.59	U	5.00	ug/L	2.00		79.5	17-163	9.89	72
benzo(b&k)fluoranthene	3.24	U	5.00	ug/L	4.00		81.0	60-140	2.05	40
Benzo(g,h,i)perylene	1.52	U	20.0	ug/L	2.00		76.0	0-219	0.955	97
bis(2-Chloroethoxy)methane	1.79	U	10.0	ug/L	2.00		89.3	33-184	7.31	54
bis(2-Chloroethyl) ether	1.65	U	10.0	ug/L	2.00		82.6	12-158	0.713	108
Bis(2-ethylhexyl)phthalate	2.56	U	10.0	ug/L	2.00		128	8-158	11.9	82
Butyl benzyl phthalate	1.61	U	10.0	ug/L	2.00		80.6	0-152	7.28	60
Chrysene	1.58	U	5.00	ug/L	2.00		79.1	17-168	4.79	87
Dibenzo(a,h)anthracene	1.43	U	5.00	ug/L	2.00		71.7	0-227	5.57	126
Diethyl phthalate	2.23	U	10.0	ug/L	2.00		112	0-120	0.792	100
Dimethyl phthalate	1.99	U	10.0	ug/L	2.00		99.7	0-120	7.07	183
Di-n-butyl phthalate	2.85	J1, U	10.0	ug/L	2.00		142	1-120	0.685	47
Di-n-octyl phthalate	1.66	U	10.0	ug/L	2.00		83.0	4-146	5.04	69
Fluoranthene	1.61	U	10.0	ug/L	2.00		80.7	26-137	5.86	66
Fluorene	1.74	U	10.0	ug/L	2.00		87.1	59-121	8.61	38
Hexachlorobenzene	1.35	U	5.00	ug/L	2.00		67.7	0-152	7.56	55
Hexachlorobutadiene	1.29	U	10.0	ug/L	2.00		64.3	24-120	7.16	62
Hexachlorocyclopentadiene	2.02	U	10.0	ug/L	2.00		101	60-140	16.0	40
Hexachloroethane	1.13	U	20.0	ug/L	2.00		56.4	40-120	3.31	52
Hexachlorophene	3.44	U	10.0	ug/L	4.00		86.1	60-140	0.745	40
Indeno(1,2,3-cd) pyrene	1.39	U	5.00	ug/L	2.00		69.7	0-171	3.74	99
Isophorone	1.77	U	10.0	ug/L	2.00		88.7	21-196	7.28	93

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North Water District Laboratory Services, Inc.

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TCEQ T104704238-23-39

City of Manvel
20025 Morris Avenue
Manvel, TX 77578

Reported:
07/19/2023 11:22

Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGF1945 - EPA 625 LLE (Continued)										
LCS Dup (BGF1945-BSD2)					Prepared: 06/13/2023 Analyzed: 06/21/2023					
Naphthalene	1.52	U	10.0	ug/L	2.00		75.8	21-133	6.29	65
Nitrobenzene	1.72	U	10.0	ug/L	2.00		85.8	35-180	13.6	62
n-Nitrosodiethylamine	1.05	J1, U	20.0	ug/L	2.00		52.5	60-140	2.11	40
n-Nitrosodimethylamine	1.55	J1, U	50.0	ug/L	10.0		15.5	4.18-37.2	200	40
n-Nitroso-di-n-butylamine	1.89	U	20.0	ug/L	2.00		94.4	60-140	6.92	40
n-Nitrosodi-n-propylamine	1.87	U	20.0	ug/L	2.00		93.5	0-230	1.17	87
n-Nitrosodiphenylamine	0.616	J1, U	20.0	ug/L	2.00		30.8	60-140	8.85	40
Pentachlorobenzene	1.15	J1, U	20.0	ug/L	2.00		57.6	60-140	1.41	40
Pentachlorophenol	4.34	U	5.00	ug/L	4.00		108	14-176	5.43	86
Phenanthrene	1.59	U	10.0	ug/L	2.00		79.6	54-120	3.98	39
Phenol, Total	4.12	U	10.0	ug/L	4.00		103	5-120	2.09	64
Pyrene	1.54	U	10.0	ug/L	2.00		77.2	52-120	6.58	49
Pyridine	<20.0	J1, U	20.0	ug/L	10.0			0-137	200	40
Surrogate: 2,4,6-Tribromophenol-surr			*2.69*	*ug/L*	*4.00*		*67.3*	*33.6-139*		
Surrogate: 2-Fluorobiphenyl-surr			*1.84*	*ug/L*	*2.00*		*91.8*	*32.2-138*		
Surrogate: 2-Fluorophenol-surr			*2.95*	*ug/L*	*4.00*		*73.8*	*32.7-137*		
Surrogate: Nitrobenzene-d5-surr			*1.90*	*ug/L*	*2.00*		*95.1*	*31.2-136*		
Surrogate: Phenol-d5-surr			*3.62*	*ug/L*	*4.00*		*90.6*	*28.9-155*		
Surrogate: p-Terphenyl-d14-surr			*1.49*	*ug/L*	*2.00*		*74.7*	*37.6-117*		
Matrix Spike (BGF1945-MS1)			**Source: 23F1589-02RE1**		Prepared: 06/13/2023 Analyzed: 06/21/2023					
1,2,4,5-Tetrachlorobenzene	1.45	U	10.0	ug/L	2.00	<10.0	72.3	60-140		
1,2,4-Trichlorobenzene	1.56	U	10.0	ug/L	2.00	<10.0	78.0	44-142		
1,2-Diphenylhydrazine	2.20	U	20.0	ug/L	2.00	0.431	88.6	60-140		
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	2.48	U	10.0	ug/L	2.00	<10.0	124	60-140		
2,4,5-Trichlorophenol	3.11	U	10.0	ug/L	4.00	<10.0	77.7	60-140		
2,4,6-Trichlorophenol	4.01	U	10.0	ug/L	4.00	<10.0	100	37-144		
2,4-Dichlorophenol	4.14	U	10.0	ug/L	4.00	<10.0	103	39-135		
2,4-Dimethylphenol	3.68	U	10.0	ug/L	4.00	<10.0	91.9	32-120		
2,4-Dinitrophenol	10.5	U	50.0	ug/L	10.0	<50.0	105	0-191		
2,4-Dinitrotoluene (2,4-DNT)	1.88	U	10.0	ug/L	2.00	<10.0	93.8	39-139		
2,6-Dinitrotoluene (2,6-DNT)	2.30	U	10.0	ug/L	2.00	<10.0	115	50-158		
2-Chloronaphthalene	1.74	U	10.0	ug/L	2.00	<10.0	86.8	60-120		
2-Chlorophenol	2.43	U	10.0	ug/L	4.00	<10.0	60.9	23-134		
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	4.16	U	50.0	ug/L	4.00	<50.0	104	0-181		
2-Nitrophenol	4.15	U	20.0	ug/L	4.00	<20.0	104	29-182		
3,4-Methylphenol	6.50	U	10.0	ug/L	8.00	<10.0	81.3	60-140		
4-Bromophenyl phenyl ether (BDE-3)	1.38	U	10.0	ug/L	2.00	<10.0	68.8	53-127		
4-Chloro-3-methylphenol	3.35	U	10.0	ug/L	4.00	<10.0	83.8	22-147		
4-Chlorophenyl phenylether	1.56	U	10.0	ug/L	2.00	<10.0	77.8	25-158		
4-Nitrophenol	11.7	U	50.0	ug/L	10.0	<50.0	117	0-132		
Acenaphthene	1.52	U	10.0	ug/L	2.00	<10.0	76.2	47-145		
Acenaphthylene	1.55	U	10.0	ug/L	2.00	<10.0	77.7	33-145		
Anthracene	1.38	U	10.0	ug/L	2.00	<10.0	68.9	27-133		
Benzo(a)anthracene	1.88	U	5.00	ug/L	2.00	<5.00	94.2	33-143		

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Reported:
07/19/2023 11:22

Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGF1945 - EPA 625 LLE (Continued)										
Matrix Spike (BGF1945-MS1)	**Source: 23F1589-02RE1**		Prepared: 06/13/2023 Analyzed: 06/21/2023							
Benzo(a)pyrene	1.48	U	5.00	ug/L	2.00	<5.00	74.0	17-163		
benzo(b&k)fluoranthene	3.14	U	5.00	ug/L	4.00	<5.00	78.5	60-140		
Benzo(g,h,i)perylene	1.57	U	20.0	ug/L	2.00	<20.0	78.6	0-219		
bis(2-Chloroethoxy)methane	1.72	U	10.0	ug/L	2.00	<10.0	85.9	33-184		
bis(2-Chloroethyl) ether	1.71	U	10.0	ug/L	2.00	<10.0	85.7	12-158		
Bis(2-ethylhexyl)phthalate	2.30	U	10.0	ug/L	2.00	0.893	70.1	8-158		
Butyl benzyl phthalate	1.42	U	10.0	ug/L	2.00	<10.0	70.9	0-152		
Chrysene	1.44	U	5.00	ug/L	2.00	<5.00	72.2	17-168		
Dibenzo(a,h)anthracene	1.71	U	5.00	ug/L	2.00	<5.00	85.5	0-227		
Diethyl phthalate	2.08	U	10.0	ug/L	2.00	0.732	67.3	0-120		
Dimethyl phthalate	1.68	U	10.0	ug/L	2.00	<10.0	83.8	0-120		
Di-n-butyl phthalate	1.34	U	10.0	ug/L	2.00	<10.0	67.0	1-120		
Di-n-octyl phthalate	1.52	U	10.0	ug/L	2.00	<10.0	76.0	4-146		
Fluoranthene	1.57	U	10.0	ug/L	2.00	<10.0	78.6	26-137		
Fluorene	1.72	U	10.0	ug/L	2.00	<10.0	85.9	59-121		
Hexachlorobenzene	1.29	U	5.00	ug/L	2.00	<5.00	64.7	0-152		
Hexachlorobutadiene	1.22	U	10.0	ug/L	2.00	<10.0	60.9	24-120		
Hexachlorocyclopentadiene	3.39	J1, U	10.0	ug/L	2.00	0.388	150	60-140		
Hexachloroethane	1.41	U	20.0	ug/L	2.00	<20.0	70.6	40-120		
Hexachlorophene	3.73	U	10.0	ug/L	4.00	<10.0	93.1	60-140		
Indeno(1,2,3-cd) pyrene	1.62	U	5.00	ug/L	2.00	<5.00	81.0	0-171		
Isophorone	2.13	U	10.0	ug/L	2.00	0.182	97.3	21-196		
Naphthalene	1.49	U	10.0	ug/L	2.00	<10.0	74.3	21-133		
Nitrobenzene	2.02	U	10.0	ug/L	2.00	<10.0	101	35-180		
n-Nitrosodiethylamine	1.55	U	20.0	ug/L	2.00	<20.0	77.7	60-140		
n-Nitrosodimethylamine	2.93	U	50.0	ug/L	10.0	<50.0	29.3	4.18-91		
n-Nitroso-di-n-butylamine	2.28	U	20.0	ug/L	2.00	<20.0	114	60-140		
n-Nitrosodi-n-propylamine	2.23	U	20.0	ug/L	2.00	<20.0	112	0-230		
n-Nitrosodiphenylamine	0.262	J1, U	20.0	ug/L	2.00	<20.0	13.1	60-140		
Pentachlorobenzene	1.22	U	20.0	ug/L	2.00	<20.0	60.9	60-140		
Pentachlorophenol	3.32	U	5.00	ug/L	4.00	<5.00	83.0	14-176		
Phenanthrene	1.58	U	10.0	ug/L	2.00	<10.0	78.8	54-120		
Phenol, Total	4.40	U	10.0	ug/L	4.00	1.12	82.0	5-120		
Pyrene	1.42	U	10.0	ug/L	2.00	<10.0	71.2	52-120		
Pyridine	<20.0	J1, U	20.0	ug/L	10.0	<20.0		60-140		
Surrogate: 2,4,6-Tribromophenol-surr			*2.51*	*ug/L*	*4.00*		*62.7*	*33.6-139*		
Surrogate: 2-Fluorobiphenyl-surr			*1.65*	*ug/L*	*2.00*		*82.3*	*32.2-138*		
Surrogate: 2-Fluorophenol-surr			*3.25*	*ug/L*	*4.00*		*81.1*	*32.7-137*		
Surrogate: Nitrobenzene-d5-surr			*1.68*	*ug/L*	*2.00*		*83.8*	*31.2-136*		
Surrogate: Phenol-d5-surr			*3.48*	*ug/L*	*4.00*		*87.1*	*28.9-155*		
Surrogate: p-Terphenyl-d14-surr			*1.41*	*ug/L*	*2.00*		*70.6*	*37.6-117*		

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Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGF1945 - EPA 625 LLE (Continued)										
Matrix Spike Dup (BGF1945-MSD1)			**Source: 23F1589-02RE1**		Prepared: 06/13/2023 Analyzed: 06/21/2023					
1,2,4,5-Tetrachlorobenzene	1.37	U	10.0	ug/L	2.00	<10.0	68.3	60-140	5.76	40
1,2,4-Trichlorobenzene	1.66	U	10.0	ug/L	2.00	<10.0	83.1	44-142	6.35	50
1,2-Diphenylhydrazine	1.97	U	20.0	ug/L	2.00	0.431	77.0	60-140	11.1	40
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methy	2.50	U	10.0	ug/L	2.00	<10.0	125	60-140	1.01	40
2,4,5-Trichlorophenol	3.10	U	10.0	ug/L	4.00	<10.0	77.5	60-140	0.157	40
2,4,6-Trichlorophenol	3.86	U	10.0	ug/L	4.00	<10.0	96.5	37-144	3.94	58
2,4-Dichlorophenol	4.46	U	10.0	ug/L	4.00	<10.0	111	39-135	7.47	50
2,4-Dimethylphenol	4.03	U	10.0	ug/L	4.00	<10.0	101	32-120	9.18	58
2,4-Dinitrophenol	10.5	U	50.0	ug/L	10.0	<50.0	105	0-191	0.234	132
2,4-Dinitrotoluene (2,4-DNT)	1.87	U	10.0	ug/L	2.00	<10.0	93.5	39-139	0.328	42
2,6-Dinitrotoluene (2,6-DNT)	2.11	U	10.0	ug/L	2.00	<10.0	106	50-158	8.53	48
2-Chloronaphthalene	1.71	U	10.0	ug/L	2.00	<10.0	85.7	60-120	1.21	24
2-Chlorophenol	2.30	U	10.0	ug/L	4.00	<10.0	57.4	23-134	5.85	61
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylph	4.04	U	50.0	ug/L	4.00	<50.0	101	0-181	2.88	203
2-Nitrophenol	4.79	U	20.0	ug/L	4.00	<20.0	120	29-182	14.2	55
3,4-Methylphenol	6.81	U	10.0	ug/L	8.00	<10.0	85.1	60-140	4.64	40
4-Bromophenyl phenyl ether (BDE-3)	1.29	U	10.0	ug/L	2.00	<10.0	64.4	53-127	6.54	43
4-Chloro-3-methylphenol	3.31	U	10.0	ug/L	4.00	<10.0	82.8	22-147	1.16	73
4-Chlorophenyl phenylether	1.50	U	10.0	ug/L	2.00	<10.0	74.9	25-158	3.74	61
4-Nitrophenol	11.1	U	50.0	ug/L	10.0	<50.0	111	0-132	5.01	131
Acenaphthene	1.39	U	10.0	ug/L	2.00	<10.0	69.6	47-145	9.07	48
Acenaphthylene	1.41	U	10.0	ug/L	2.00	<10.0	70.5	33-145	9.68	74
Anthracene	1.29	U	10.0	ug/L	2.00	<10.0	64.5	27-133	6.61	66
Benzo(a)anthracene	1.72	U	5.00	ug/L	2.00	<5.00	86.0	33-143	9.14	53
Benzo(a)pyrene	1.38	U	5.00	ug/L	2.00	<5.00	69.0	17-163	6.90	72
benzo(b&k)fluoranthene	3.15	U	5.00	ug/L	4.00	<5.00	78.6	60-140	0.145	40
Benzo(g,h,i)perylene	1.50	U	20.0	ug/L	2.00	<20.0	75.2	0-219	4.49	97
bis(2-Chloroethoxy)methane	1.81	U	10.0	ug/L	2.00	<10.0	90.6	33-184	5.39	54
bis(2-Chloroethyl) ether	1.58	U	10.0	ug/L	2.00	<10.0	78.9	12-158	8.29	108
Bis(2-ethylhexyl)phthalate	2.36	U	10.0	ug/L	2.00	0.893	73.3	8-158	2.75	82
Butyl benzyl phthalate	1.44	U	10.0	ug/L	2.00	<10.0	72.2	0-152	1.81	60
Chrysene	1.43	U	5.00	ug/L	2.00	<5.00	71.7	17-168	0.771	87
Dibenzo(a,h)anthracene	1.65	U	5.00	ug/L	2.00	<5.00	82.5	0-227	3.55	126
Diethyl phthalate	2.10	U	10.0	ug/L	2.00	0.732	68.6	0-120	1.19	100
Dimethyl phthalate	1.57	U	10.0	ug/L	2.00	<10.0	78.7	0-120	6.28	183
Di-n-butyl phthalate	1.23	U	10.0	ug/L	2.00	<10.0	61.4	1-120	8.74	47
Di-n-octyl phthalate	1.58	U	10.0	ug/L	2.00	<10.0	78.9	4-146	3.75	69
Fluoranthene	1.43	U	10.0	ug/L	2.00	<10.0	71.6	26-137	9.24	66
Fluorene	1.64	U	10.0	ug/L	2.00	<10.0	81.9	59-121	4.74	38
Hexachlorobenzene	1.10	U	5.00	ug/L	2.00	<5.00	55.0	0-152	16.2	55
Hexachlorobutadiene	1.28	U	10.0	ug/L	2.00	<10.0	64.1	24-120	5.11	62
Hexachlorocyclopentadiene	3.14	U	10.0	ug/L	2.00	0.388	137	60-140	7.87	40
Hexachloroethane	1.43	U	20.0	ug/L	2.00	<20.0	71.3	40-120	0.977	52
Hexachlorophene	3.61	U	10.0	ug/L	4.00	<10.0	90.2	60-140	3.19	40
Indeno(1,2,3-cd) pyrene	1.58	U	5.00	ug/L	2.00	<5.00	78.9	0-171	2.64	99
Isophorone	2.33	U	10.0	ug/L	2.00	0.182	107	21-196	9.06	93

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Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGF1945 - EPA 625 LLE (Continued)										
Matrix Spike Dup (BGF1945-MSD1)	**Source: 23F1589-02RE1**				Prepared: 06/13/2023 Analyzed: 06/21/2023					
Naphthalene	1.36	U	10.0	ug/L	2.00	<10.0	68.0	21-133	8.81	65
Nitrobenzene	1.78	U	10.0	ug/L	2.00	<10.0	89.1	35-180	12.8	62
n-Nitrosodiethylamine	1.09	J1, U	20.0	ug/L	2.00	<20.0	54.5	60-140	35.1	40
n-Nitrosodimethylamine	<50.0	J1, U	50.0	ug/L	10.0	<50.0		4.18-91	200	40
n-Nitroso-di-n-butylamine	2.31	U	20.0	ug/L	2.00	<20.0	116	60-140	1.31	40
n-Nitrosodi-n-propylamine	2.60	U	20.0	ug/L	2.00	<20.0	130	0-230	15.4	87
n-Nitrosodiphenylamine	0.349	J1, U	20.0	ug/L	2.00	<20.0	17.4	60-140	28.2	40
Pentachlorobenzene	1.09	J1, U	20.0	ug/L	2.00	<20.0	54.5	60-140	11.1	40
Pentachlorophenol	3.61	U	5.00	ug/L	4.00	<5.00	90.2	14-176	8.31	86
Phenanthrene	1.46	U	10.0	ug/L	2.00	<10.0	72.9	54-120	7.76	39
Phenol, Total	4.04	U	10.0	ug/L	4.00	1.12	73.1	5-120	8.48	64
Pyrene	1.30	U	10.0	ug/L	2.00	<10.0	64.9	52-120	9.22	49
Pyridine	<20.0	J1, U	20.0	ug/L	10.0	<20.0		60-140		40
Surrogate: 2,4,6-Tribromophenol-surr			*2.41*	*ug/L*	*4.00*		*60.2*	*33.6-139*		
Surrogate: 2-Fluorobiphenyl-surr			*1.62*	*ug/L*	*2.00*		*80.9*	*32.2-138*		
Surrogate: 2-Fluorophenol-surr			*2.58*	*ug/L*	*4.00*		*64.4*	*32.7-137*		
Surrogate: Nitrobenzene-d5-surr			*1.82*	*ug/L*	*2.00*		*91.0*	*31.2-136*		
Surrogate: Phenol-d5-surr			*3.24*	*ug/L*	*4.00*		*80.9*	*28.9-155*		
Surrogate: p-Terphenyl-d14-surr			*1.40*	*ug/L*	*2.00*		*70.1*	*37.6-117*		
Batch: BGF2506 - SW-3511										
Blank (BGF2506-BLK1)					Prepared: 06/15/2023 Analyzed: 06/26/2023					
Nonylphenol	<333	U	333	ug/L						
LCS (BGF2506-BS1)					Prepared: 06/15/2023 Analyzed: 06/26/2023					
Nonylphenol	39.1	U	333	ug/L	40.0		97.8	56-112		
Surrogate: n-NP-surr			*5.35*	*ug/L*	*8.00*		*66.8*	*60-140*		

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Quality Control
(Continued)

Semivolatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGF2506 - SW-3511 (Continued)										
LCS Dup (BGF2506-BSD1)					Prepared: 06/15/2023 Analyzed: 06/26/2023					
Nonylphenol	37.0	U	333	ug/L	40.0		92.4	56-112	5.71	22
Surrogate: n-NP-surr			*4.96*	*ug/L*	*8.00*		*62.0*	*60-140*		
Matrix Spike (BGF2506-MS1)		**Source: 23F2847-02**			Prepared: 06/15/2023 Analyzed: 06/26/2023					
Nonylphenol	27.4	U	333	ug/L	40.0	<333	68.5	56-112		
Surrogate: n-NP-surr		*S*	*3.75*	*ug/L*	*8.00*		*46.9*	*60-140*		
Matrix Spike Dup (BGF2506-MSD1)		**Source: 23F2847-02**			Prepared: 06/15/2023 Analyzed: 06/26/2023					
Nonylphenol	30.5	U	333	ug/L	40.0	<333	76.4	56-112	10.9	22
Surrogate: n-NP-surr		*S*	*4.77*	*ug/L*	*8.00*		*59.6*	*60-140*		

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Quality Control
(Continued)

Organics by GC

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGF2204 - EPA 608 SPE										
Blank (BGF2204-BLK1)					Prepared: 06/14/2023 Analyzed: 07/15/2023					
4,4'-DDD	<0.00240	U	0.00240	ug/L						
4,4'-DDE	<0.00120	U	0.00120	ug/L						
4,4'-DDT	<0.00800	U	0.00800	ug/L						
Aldrin	<0.00160	U	0.00160	ug/L						
alpha-BHC (alpha-Hexachlorocyclohexane)	<0.00360	U	0.00360	ug/L						
beta-BHC (beta-Hexachlorocyclohexane)	<0.00800	U	0.00800	ug/L						
Chlordane (Total)	<0.00800	U	0.00800	ug/L						
cis-Chlordane (alpha-Chlordane)	<0.00800	U	0.00800	ug/L						
delta-BHC	<0.00360	U	0.00360	ug/L						
Dicofol	<0.0480	U	0.0480	ug/L						
Dieldrin	<0.00120	U	0.00120	ug/L						
Endosulfan I	<0.00400	U	0.00400	ug/L						
Endosulfan II	<0.00120	U	0.00120	ug/L						
Endosulfan sulfate	<0.0160	U	0.0160	ug/L						
Endrin	<0.00240	U	0.00240	ug/L						
Endrin aldehyde	<0.00800	U	0.00800	ug/L						
gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	<0.00120	U	0.00120	ug/L						
gamma-Chlordane	<0.00800	U	0.00800	ug/L						
Heptachlor	<0.00240	U	0.00240	ug/L						
Heptachlor epoxide	<0.00400	U	0.00400	ug/L						
Methoxychlor	<0.0160	U	0.0160	ug/L						
Mirex	<0.00400	U	0.00400	ug/L						
Blank (BGF2204-BLK2)					Prepared: 06/14/2023 Analyzed: 07/16/2023					
Toxaphene (Chlorinated Camphene)	<0.300	U	0.300	ug/L						
TOX LCS (BGF2204-BS1)					Prepared: 06/14/2023 Analyzed: 07/16/2023					
Toxaphene (Chlorinated Camphene)	0.468	J1	0.300	ug/L	1.20		39.0	41-140		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr		*S*	*0.0282*	*ug/L*	*0.120*		*23.5*	*25.2-154*		
Surrogate: Decachlorobiphenyl-surr		*S*	*0.0277*	*ug/L*	*0.120*		*23.1*	*41.2-118*		

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Quality Control
(Continued)

Organics by GC (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGF2204 - EPA 608 SPE (Continued)										
M/D LCS (BGF2204-BS2)				Prepared: 06/14/2023 Analyzed: 07/15/2023						
Dicofol	0.116		0.0480	ug/L	0.480		24.1	21.1-147		
Mirex	0.0117		0.00400	ug/L	0.0480		24.4	14-163		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr		*S*	*0.0188*	*ug/L*	*0.120*		*15.7*	*25.2-154*		
Surrogate: Decachlorobiphenyl-surr		*S*	*0.0168*	*ug/L*	*0.120*		*14.0*	*41.2-118*		
LCS (BGF2204-BS3)				Prepared: 06/14/2023 Analyzed: 07/15/2023						
4,4'-DDD	0.0230	J1	0.00240	ug/L	0.120		19.2	31-141		
4,4'-DDE	0.0238	J1	0.00120	ug/L	0.120		19.9	30-145		
4,4'-DDT	0.0257	J1	0.00800	ug/L	0.120		21.4	25-160		
Aldrin	0.0219	J1	0.00160	ug/L	0.120		18.3	42-140		
alpha-BHC (alpha-Hexachlorocyclohexane)	0.00468	J1	0.00360	ug/L	0.120		3.90	37-140		
beta-BHC (beta-Hexachlorocyclohexane)	0.00416	J1, U	0.00800	ug/L	0.120		3.47	17-147		
Chlordane (Total)	0.0706	J1	0.00800	ug/L	0.480		14.7	60-140		
cis-Chlordane (alpha-Chlordane)	0.0171	J1	0.00800	ug/L	0.120		14.2	45-140		
delta-BHC	0.00525	J1	0.00360	ug/L	0.120		4.37	19-140		
Dieldrin	0.0170	J1	0.00120	ug/L	0.120		14.2	36-146		
Endosulfan I	0.0152	J1	0.00400	ug/L	0.120		12.7	45-153		
Endosulfan II	0.0166		0.00120	ug/L	0.120		13.9	1-202		
Endosulfan sulfate	0.0116	J1, U	0.0160	ug/L	0.120		9.67	26-144		
Endrin	0.0210	J1	0.00240	ug/L	0.120		17.5	30-147		
Endrin aldehyde	<0.00800	J1, U	0.00800	ug/L	0.120			15.1-142		
gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	0.00547	J1	0.00120	ug/L	0.120		4.56	32-140		
gamma-Chlordane	0.0232	J1	0.00800	ug/L	0.120		19.3	45-140		
Heptachlor	0.0171	J1	0.00240	ug/L	0.120		14.2	34-140		
Heptachlor epoxide	0.0133	J1	0.00400	ug/L	0.120		11.1	37-142		
Methoxychlor	0.0182	J1	0.0160	ug/L	0.120		15.2	23.2-144		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr		*S*	*0.0235*	*ug/L*	*0.120*		*19.6*	*25.2-154*		
Surrogate: Decachlorobiphenyl-surr		*S*	*0.0256*	*ug/L*	*0.120*		*21.3*	*41.2-118*		

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Quality Control
(Continued)

Organics by GC (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGF2204 - EPA 608 SPE (Continued)										
TOX LCSD (BGF2204-BSD1)				Prepared: 06/14/2023 Analyzed: 07/16/2023						
Toxaphene (Chlorinated Camphene)	0.637		0.300	ug/L	1.20		53.1	41-140	30.5	41
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr	*S*		*0.0262*	*ug/L*	*0.120*		*21.8*	*25.2-154*		
Surrogate: Decachlorobiphenyl-surr	*S*		*0.0266*	*ug/L*	*0.120*		*22.1*	*41.2-118*		
M/D LCSD (BGF2204-BSD2)				Prepared: 06/14/2023 Analyzed: 07/15/2023						
Dicofol	0.156		0.0480	ug/L	0.480		32.5	21.1-147	29.5	40
Mirex	0.0172		0.00400	ug/L	0.0480		35.8	14-163	37.9	40
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr	*S*		*0.0243*	*ug/L*	*0.120*		*20.3*	*25.2-154*		
Surrogate: Decachlorobiphenyl-surr	*S*		*0.0264*	*ug/L*	*0.120*		*22.0*	*41.2-118*		
LCS Dup (BGF2204-BSD3)				Prepared: 06/14/2023 Analyzed: 07/15/2023						
4,4'-DDD	0.0313	J1	0.00240	ug/L	0.120		26.1	31-141	30.6	39
4,4'-DDE	0.0297	J1	0.00120	ug/L	0.120		24.8	30-145	22.1	35
4,4'-DDT	0.0342		0.00800	ug/L	0.120		28.5	25-160	28.4	42
Aldrin	0.0269	J1	0.00160	ug/L	0.120		22.4	42-140	20.3	35
alpha-BHC (alpha-Hexachlorocyclohexane)	0.00603	J1	0.00360	ug/L	0.120		5.02	37-140	25.1	36
beta-BHC (beta-Hexachlorocyclohexane)	0.00477	J1, U	0.00800	ug/L	0.120		3.98	17-147	13.7	44
Chlordane (Total)	0.0936	J1	0.00800	ug/L	0.480		19.5	60-140	27.9	40
cis-Chlordane (alpha-Chlordane)	0.0243	J1	0.00800	ug/L	0.120		20.2	45-140	34.9	35
delta-BHC	0.00632	J1	0.00360	ug/L	0.120		5.26	19-140	18.5	52
Dieldrin	0.0229	J1	0.00120	ug/L	0.120		19.1	36-146	29.5	49
Endosulfan I	0.0201	J1	0.00400	ug/L	0.120		16.8	45-153	27.7	28
Endosulfan II	0.0195		0.00120	ug/L	0.120		16.3	1-202	15.9	53
Endosulfan sulfate	0.0148	J1, U	0.0160	ug/L	0.120		12.4	26-144	24.5	38
Endrin	0.0239	J1	0.00240	ug/L	0.120		19.9	30-147	12.9	48
Endrin aldehyde	<0.00800	J1, U	0.00800	ug/L	0.120			15.1-142	200	50.1
gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	0.00660	J1	0.00120	ug/L	0.120		5.50	32-140	18.7	39
gamma-Chlordane	0.0286	J1	0.00800	ug/L	0.120		23.8	45-140	21.0	35
Heptachlor	0.0213	J1	0.00240	ug/L	0.120		17.7	34-140	21.8	43
Heptachlor epoxide	0.0194	J1	0.00400	ug/L	0.120		16.2	37-142	37.2	26
Methoxychlor	0.0246	J1	0.0160	ug/L	0.120		20.5	23.2-144	29.8	40
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr	*S*		*0.0207*	*ug/L*	*0.120*		*17.3*	*25.2-154*		
Surrogate: Decachlorobiphenyl-surr	*S*		*0.0317*	*ug/L*	*0.120*		*26.5*	*41.2-118*		

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Quality Control
(Continued)

Organics by GC (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGF2204 - EPA 608 SPE (Continued)										
Matrix Spike (BGF2204-MS1)	**Source: 23F2847-02**				Prepared: 06/14/2023 Analyzed: 07/15/2023					
4,4'-DDD	0.0407		0.00240	ug/L	0.120	<0.00240	33.9	31-141		
4,4'-DDE	0.0341	J1	0.00120	ug/L	0.120	<0.00120	28.4	30-145		
4,4'-DDT	0.0401		0.00800	ug/L	0.120	<0.00800	33.4	25-160		
Aldrin	0.0424	J1	0.00160	ug/L	0.120	<0.00160	35.3	42-140		
alpha-BHC (alpha-Hexachlorocyclohexane)	0.0339	J1	0.00360	ug/L	0.120	<0.00360	28.2	37-140		
beta-BHC (beta-Hexachlorocyclohexane)	0.0218		0.00800	ug/L	0.120	<0.00800	18.2	17-147		
Chlordane (Total)	0.158	J1	0.00800	ug/L	0.480	<0.00800	33.0	60-140		
cis-Chlordane (alpha-Chlordane)	0.0364	J1	0.00800	ug/L	0.120	<0.00800	30.4	45-140		
delta-BHC	0.0260		0.00360	ug/L	0.120	<0.00360	21.7	19-140		
Dieldrin	0.0347	J1	0.00120	ug/L	0.120	<0.00120	28.9	36-146		
Endosulfan I	0.0390	J1	0.00400	ug/L	0.120	<0.00400	32.5	45-153		
Endosulfan II	0.0385		0.00120	ug/L	0.120	<0.00120	32.1	1-202		
Endosulfan sulfate	0.0365		0.0160	ug/L	0.120	<0.0160	30.5	26-144		
Endrin	0.0431		0.00240	ug/L	0.120	<0.00240	35.9	30-147		
Endrin aldehyde	0.0197	J1	0.00800	ug/L	0.120	<0.00800	16.4	60-140		
gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	0.0264	J1	0.00120	ug/L	0.120	<0.00120	22.0	32-140		
gamma-Chlordane	0.0438	J1	0.00800	ug/L	0.120	<0.00800	36.5	45-140		
Heptachlor	0.0378	J1	0.00240	ug/L	0.120	<0.00240	31.5	34-140		
Heptachlor epoxide	0.0402	J1	0.00400	ug/L	0.120	<0.00400	33.5	37-142		
Methoxychlor	0.0366	J1	0.0160	ug/L	0.120	<0.0160	30.5	60-140		
Surrogate: 2,4,5,6 Tetrachloro-m-xylene-surr	*S*		*0.0280*	*ug/L*	*0.120*		*23.3*	*25.2-154*		
Surrogate: Decachlorobiphenyl-surr	*S*		*0.0248*	*ug/L*	*0.120*		*20.7*	*41.2-118*		
Batch: BGF2431 - EPA 1657 SPE										
Blank (BGF2431-BLK1)					Prepared: 06/15/2023 Analyzed: 06/22/2023					
Azinphos-methyl (Guthion)	<0.0999	U	0.0999	ug/L						
Chlorpyrifos	<0.0500	U	0.0500	ug/L						
Demeton	<0.200	U	0.200	ug/L						
Diazinon	<0.500	U	0.500	ug/L						
Malathion	<0.0999	U	0.0999	ug/L						
Parathion, ethyl	<0.0999	U	0.0999	ug/L						

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Quality Control
(Continued)

Organics by GC (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGF2431 - EPA 1657 SPE (Continued)										
LCS (BGF2431-BS1)				Prepared: 06/15/2023 Analyzed: 06/22/2023						
Azinphos-methyl (Guthion)	<0.0998	J1, U	0.0998	ug/L	0.249			37-150		
Chlorpyrifos	0.0567	J1	0.0499	ug/L	0.249		22.7	48-150		
Demeton	<0.200	J1, U	0.200	ug/L	0.249			16-150		
Diazinon	<0.499	J1, U	0.499	ug/L	0.249			50-150		
Malathion	<0.0998	J1, U	0.0998	ug/L	0.249			50-150		
Parathion, ethyl	0.0237	J1, U	0.0998	ug/L	0.249		9.52	50-150		
Surrogate: Tributyl Phosphate-surr			*0.0851*	*ug/L*	*0.200*		*42.6*	*40-120*		
Surrogate: Triphenyl Phosphate-surr		*S*	*0.0266*	*ug/L*	*0.200*		*13.3*	*40-120*		
LCS Dup (BGF2431-BSD1)				Prepared: 06/15/2023 Analyzed: 06/22/2023						
Azinphos-methyl (Guthion)	<0.100	J1, U	0.100	ug/L	0.251			37-150	200	40
Chlorpyrifos	0.106	J1	0.0502	ug/L	0.251		42.4	48-150	60.8	40
Demeton	0.0163	J1, U	0.201	ug/L	0.251		6.50	16-150	89.1	40
Diazinon	0.0645	J1, U	0.502	ug/L	0.251		25.7	50-150	74.6	40
Malathion	<0.100	J1, U	0.100	ug/L	0.251			50-150	200	40
Parathion, ethyl	0.0468	J1, U	0.100	ug/L	0.251		18.7	50-150	65.5	40
Surrogate: Tributyl Phosphate-surr			*0.127*	*ug/L*	*0.201*		*63.5*	*40-120*		
Surrogate: Triphenyl Phosphate-surr		*S*	*0.0430*	*ug/L*	*0.201*		*21.4*	*40-120*		
Matrix Spike (BGF2431-MS1)		**Source: 23F2858-01**		Prepared: 06/15/2023 Analyzed: 06/22/2023						
Azinphos-methyl (Guthion)	<0.101	J1, U	0.101	ug/L	0.252	<0.101		25-150		
Chlorpyrifos	0.0662		0.0504	ug/L	0.252	<0.0504	26.3	25-150		
Demeton	<0.201	J1, U	0.201	ug/L	0.252	<0.201		25-150		
Diazinon	<0.504	J1, U	0.504	ug/L	0.252	<0.504		25-150		
Malathion	<0.101	J1, U	0.101	ug/L	0.252	<0.101		25-150		
Parathion, ethyl	0.0221	J1, U	0.101	ug/L	0.252	<0.101	8.77	25-150		
Surrogate: Tributyl Phosphate-surr			*0.100*	*ug/L*	*0.201*		*49.7*	*40-120*		
Surrogate: Triphenyl Phosphate-surr		*S*	*0.0284*	*ug/L*	*0.201*		*14.1*	*40-120*		

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Quality Control
(Continued)

Organics by GC (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGF2431 - EPA 1657 SPE (Continued)										
Matrix Spike Dup (BGF2431-MSD1)	**Source: 23F2858-01**				Prepared: 06/15/2023 Analyzed: 06/22/2023					
Azinphos-methyl (Guthion)	<0.101	J1, U	0.101	ug/L	0.253	<0.101		25-150		40
Chlorpyrifos	0.0391	J1, U	0.0505	ug/L	0.253	<0.0505	15.5	25-150	51.4	40
Demeton	<0.202	J1, U	0.202	ug/L	0.253	<0.202		25-150		40
Diazinon	<0.505	J1, U	0.505	ug/L	0.253	<0.505		25-150		40
Malathion	<0.101	J1, U	0.101	ug/L	0.253	<0.101		25-150		40
Parathion, ethyl	<0.101	J1, U	0.101	ug/L	0.253	<0.101		25-150	200	40
Surrogate: Tributyl Phosphate-surr			*0.117*	*ug/L*	*0.202*		*57.8*	*40-120*		
Surrogate: Triphenyl Phosphate-surr		*S*	*0.0198*	*ug/L*	*0.202*		*9.80*	*40-120*		
Batch: BGF2849 - SW-3511										
Blank (BGF2849-BLK1)					Prepared: 06/19/2023 Analyzed: 07/08/2023					
2,4-D	<0.236	U	0.236	ug/L						
Silvex (2,4,5-TP)	<0.238	U	0.238	ug/L						
LCS (BGF2849-BS1)					Prepared: 06/19/2023 Analyzed: 07/08/2023					
2,4-D	5.65		0.236	ug/L	5.15		110	70-130		
Silvex (2,4,5-TP)	5.03		0.238	ug/L	5.00		101	70-130		
Surrogate: DCAA-surr			*29.2*	*ug/L*	*25.0*		*117*	*70-130*		
LCS Dup (BGF2849-BSD1)					Prepared: 06/19/2023 Analyzed: 07/08/2023					
2,4-D	5.94		0.236	ug/L	5.15		115	70-130	5.09	30
Silvex (2,4,5-TP)	5.24		0.238	ug/L	5.00		105	70-130	4.19	30
Surrogate: DCAA-surr		*S*	*33.1*	*ug/L*	*25.0*		*132*	*70-130*		
BGF1811-BLK1 (BGF2849-LBK1)					Prepared: 06/19/2023 Analyzed: 07/09/2023					
2,4-D	<0.944	U	0.944	ug/L						
Silvex (2,4,5-TP)	<0.952	U	0.952	ug/L						
Surrogate: DCAA-surr		*S*	*139*	*ug/L*	*100*		*139*	*70-130*		

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Quality Control
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Organics by GC (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGF2849 - SW-3511 (Continued)										
BGF2702-BLK1 (BGF2849-LBK2)					Prepared: 06/19/2023 Analyzed: 07/09/2023					
2,4-D	<0.944	U	0.944	ug/L						
Silvex (2,4,5-TP)	<0.952	U	0.952	ug/L						
Surrogate: DCAA-surr			*115*	*ug/L*	*100*		*115*	*70-130*		
Matrix Spike (BGF2849-MS1)		**Source: 23F2847-02**			Prepared: 06/19/2023 Analyzed: 07/09/2023					
2,4-D	5.82		0.236	ug/L	5.15	<0.236	113	70-130		
Silvex (2,4,5-TP)	4.98		0.238	ug/L	5.00	<0.238	99.7	70-130		
Surrogate: DCAA-surr		*S*	*35.5*	*ug/L*	*25.0*		*142*	*70-130*		
Matrix Spike Dup (BGF2849-MSD1)		**Source: 23F2847-02**			Prepared: 06/19/2023 Analyzed: 07/09/2023					
2,4-D	7.31	J1	0.236	ug/L	5.15	<0.236	142	70-130	22.6	30
Silvex (2,4,5-TP)	6.28		0.238	ug/L	5.00	<0.238	126	70-130	22.9	30
Surrogate: DCAA-surr		*S*	*40.8*	*ug/L*	*25.0*		*163*	*70-130*		

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Quality Control
(Continued)

Metals, Total

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGF2268 - EPA 200.8										
Blank (BGF2268-BLK1)				Prepared: 06/14/2023 Analyzed: 06/20/2023						
Aluminum	<5.00	U	5.00	ug/L						
Antimony	<5.00	U	5.00	ug/L						
Barium	<3.00	U	3.00	ug/L						
Beryllium	<0.500	U	0.500	ug/L						
Cadmium	<1.00	U	1.00	ug/L						
Chromium	<3.00	U	3.00	ug/L						
Copper	<2.00	U	2.00	ug/L						
Lead	<0.500	U	0.500	ug/L						
Nickel	<2.00	U	2.00	ug/L						
Selenium	<5.00	U	5.00	ug/L						
Silver	<0.500	U	0.500	ug/L						
Thallium	<0.500	U	0.500	ug/L						
Zinc	<5.00	U	5.00	ug/L						
Blank (BGF2268-BLK2)				Prepared: 06/14/2023 Analyzed: 06/22/2023						
Arsenic	<0.500	U	0.500	ug/L						
LCS (BGF2268-BS1)				Prepared: 06/14/2023 Analyzed: 06/20/2023						
Aluminum	255		5.00	ug/L	250		102	85-115		
Antimony	104		1.00	ug/L	100		104	85-115		
Barium	318		3.00	ug/L	300		106	85-115		
Beryllium	20.0		0.200	ug/L	20.0		99.8	85-115		
Cadmium	103		1.00	ug/L	100		103	85-115		
Chromium	317		3.00	ug/L	300		106	85-115		
Copper	108		2.00	ug/L	100		108	85-115		
Lead	53.3		0.500	ug/L	50.0		107	85-115		
Nickel	106		2.00	ug/L	100		106	85-115		
Selenium	207		5.00	ug/L	200		104	85-115		
Silver	53.5		0.500	ug/L	50.0		107	85-115		
Thallium	53.1		0.500	ug/L	50.0		106	85-115		
Zinc	207		4.00	ug/L	200		103	85-115		

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Quality Control
(Continued)

Metals, Total (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGF2268 - EPA 200.8 (Continued)										
LCS (BGF2268-BS2)					Prepared: 06/14/2023 Analyzed: 06/22/2023					
Arsenic	54.9		0.500	ug/L	50.0		110	85-115		
Duplicate (BGF2268-DUP1)		**Source: 23F2780-02**			Prepared: 06/14/2023 Analyzed: 06/20/2023					
Aluminum	8.96		5.00	ug/L		8.93			0.324	20
Antimony	0.471	U	1.00	ug/L		0.499			5.77	20
Barium	79.7		3.00	ug/L		79.6			0.0929	20
Beryllium	<0.200	U	0.200	ug/L		<0.200				20
Cadmium	<1.00	U	1.00	ug/L		<1.00				20
Chromium	0.182	U	3.00	ug/L		<3.00			200	20
Copper	2.40		2.00	ug/L		2.63			9.11	20
Lead	0.125	U	0.500	ug/L		0.130			3.92	20
Nickel	1.28	U	2.00	ug/L		1.37			7.09	20
Selenium	0.356	U	5.00	ug/L		<5.00			200	20
Silver	0.00500	U	0.500	ug/L		0.00600			18.2	20
Thallium	<0.500	U	0.500	ug/L		<0.500				20
Zinc	25.2		4.00	ug/L		26.5			4.77	20
Duplicate (BGF2268-DUP2)		**Source: 23F2780-02**			Prepared: 06/14/2023 Analyzed: 06/22/2023					
Arsenic	2.66		0.500	ug/L		2.81			5.67	20
Matrix Spike (BGF2268-MS1)		**Source: 23F2780-02**			Prepared: 06/14/2023 Analyzed: 06/20/2023					
Aluminum	261		5.00	ug/L	250	8.93	101	75-125		
Antimony	110		1.00	ug/L	100	0.499	110	75-125		
Barium	402		3.00	ug/L	300	79.6	108	75-125		
Beryllium	19.4		0.200	ug/L	20.0	<0.200	96.9	75-125		
Cadmium	106		1.00	ug/L	100	<1.00	106	75-125		
Chromium	309		3.00	ug/L	300	<3.00	103	75-125		
Copper	106		2.00	ug/L	100	2.63	103	75-125		
Lead	55.3		0.500	ug/L	50.0	0.130	110	75-125		
Nickel	102		2.00	ug/L	100	1.37	101	75-125		
Selenium	213		5.00	ug/L	200	<5.00	107	75-125		
Silver	54.8		0.500	ug/L	50.0	0.00600	110	75-125		
Thallium	54.0		0.500	ug/L	50.0	<0.500	108	75-125		
Zinc	238		4.00	ug/L	200	26.5	106	75-125		

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Metals, Total (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGF2268 - EPA 200.8 (Continued)										
Matrix Spike (BGF2268-MS2)			**Source: 23F2780-02**		Prepared: 06/14/2023 Analyzed: 06/22/2023					
Arsenic	58.7		0.500	ug/L	50.0	2.81	112	75-125		
Batch: BGF2483 - EPA 1631										
Blank (BGF2483-BLK1)					Prepared: 06/15/2023 Analyzed: 06/19/2023					
Mercury	<0.00500	U	0.00500	ug/L						
Blank (BGF2483-BLK2)					Prepared: 06/15/2023 Analyzed: 06/19/2023					
Mercury	<0.00500	U	0.00500	ug/L						
Blank (BGF2483-BLK3)					Prepared: 06/15/2023 Analyzed: 06/19/2023					
Mercury	<0.00500	U	0.00500	ug/L						
Matrix Spike (BGF2483-MS1)			**Source: 23F3160-02**		Prepared: 06/15/2023 Analyzed: 06/19/2023					
Mercury	0.0374	J1	0.00531	ug/L	0.0625	<0.00531	59.9	71-125		
Matrix Spike (BGF2483-MS2)			**Source: 23F2847-03**		Prepared: 06/15/2023 Analyzed: 06/19/2023					
Mercury	0.0431		0.00526	ug/L	0.0526	<0.00526	81.9	71-125		
Matrix Spike Dup (BGF2483-MSD1)			**Source: 23F3160-02**		Prepared: 06/15/2023 Analyzed: 06/19/2023					
Mercury	0.0358	J1	0.00531	ug/L	0.0625	<0.00531	57.4	71-125	4.33	24
Matrix Spike Dup (BGF2483-MSD2)			**Source: 23F2847-03**		Prepared: 06/15/2023 Analyzed: 06/19/2023					
Mercury	0.0393		0.00526	ug/L	0.0526	<0.00526	74.7	71-125	9.17	24

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Quality Control
(Continued)

Metals, Dissolved

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGF4892 - Cr VI										
BGE3549-LBK1 (BGF4892-LBK1)					Prepared & Analyzed: 06/30/2023					
Chromium (VI)	20.7		3.00	ug/L						
BGF2624-LBK2 (BGF4892-LBK2)					Prepared & Analyzed: 06/30/2023					
Chromium (VI)	24.0		3.00	ug/L						
BGF3639-LBK3 (BGF4892-LBK3)					Prepared & Analyzed: 06/30/2023					
Chromium (VI)	22.4		3.00	ug/L						
Matrix Spike (BGF4892-MS1)		**Source: 23F0625-02**			Prepared & Analyzed: 06/30/2023					
Chromium (VI)	265		3.00	ug/L	250	27.0	95.0	70-130		
Matrix Spike Dup (BGF4892-MSD1)		**Source: 23F0625-02**			Prepared & Analyzed: 06/30/2023					
Chromium (VI)	255		3.00	ug/L	250	27.0	91.3	70-130	3.57	20
Batch: BGG0172 - Cr VI										
BGE3549-LBK1 (BGG0172-LBK1)					Prepared & Analyzed: 07/03/2023					
Chromium (VI)	34.9		3.00	ug/L						
BGF2624-LBK2 (BGG0172-LBK2)					Prepared & Analyzed: 07/03/2023					
Chromium (VI)	18.8		3.00	ug/L						
BGF3639-LBK3 (BGG0172-LBK3)					Prepared & Analyzed: 07/03/2023					
Chromium (VI)	21.3		3.00	ug/L						
Matrix Spike (BGG0172-MS1)		**Source: 23F0681-02**			Prepared & Analyzed: 07/03/2023					
Chromium (VI)	243		3.02	ug/L	251	12.6	91.6	70-130		

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Quality Control
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Metals, Dissolved (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGG0172 - Cr VI (Continued)										
Matrix Spike Dup (BGG0172-MSD1)	**Source: 23F0681-02**				Prepared & Analyzed: 07/03/2023					
Chromium (VI)	243		3.02	ug/L	251	12.6	91.7	70-130	0.112	20

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Quality Control
(Continued)

General Chemistry

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGF2030 - EPA 300.0										
Duplicate (BGF2030-DUP1)		**Source: 23D0660-02RE1**			Prepared & Analyzed: 06/14/2023					
Nitrate as N	<100	U	100	ug/L		<100				15
Nitrite as N	<50.0	U	50.0	ug/L		<50.0				15
Sulfate	4.94		1.00	mg/L		4.92			0.203	15
Fluoride	1.19		0.250	mg/L		1.20			1.09	15
Chloride	34.2		1.00	mg/L		35.8			4.58	15
Duplicate (BGF2030-DUP2)		**Source: 23F3100-04**			Prepared & Analyzed: 06/14/2023					
Nitrite as N	<50.0	U	50.0	ug/L		<50.0				15
Chloride	14.1		1.00	mg/L		14.1			0.134	15
Sulfate	5.89		1.00	mg/L		5.90			0.187	15
Fluoride	0.336		0.250	mg/L		0.349			3.80	15
Nitrate as N	<100	U	100	ug/L		<100				15
MRL Check (BGF2030-MRL1)					Prepared & Analyzed: 06/14/2023					
Chloride	1.08		1.00	mg/L	1.00		108	50-150		
Fluoride	0.272		0.250	mg/L	0.250		109	50-150		
Nitrite as N	63.0		50.0	ug/L	50.0		126	50-150		
Sulfate	1.13		1.00	mg/L	1.00		113	50-150		
Nitrate as N	109		100	ug/L	100		109	50-150		
Matrix Spike (BGF2030-MS1)		**Source: 23D0660-02RE1**			Prepared & Analyzed: 06/14/2023					
Fluoride	6.46		0.278	mg/L	5.56	1.20	94.6	80-120		
Nitrite as N	1510	J1	55.6	ug/L	1110	<55.6	136	80-120		
Sulfate	26.6		1.11	mg/L	22.2	4.92	97.7	80-120		
Nitrate as N	2170		111	ug/L	2220	<111	97.8	80-120		
Chloride	46.5		1.11	mg/L	11.1	35.8	95.8	80-120		
Matrix Spike (BGF2030-MS2)		**Source: 23F3100-04**			Prepared & Analyzed: 06/14/2023					
Sulfate	27.6		1.11	mg/L	22.2	5.90	97.8	80-120		
Nitrate as N	2240		111	ug/L	2220	<111	101	80-120		
Nitrite as N	1300		55.6	ug/L	1110	<55.6	117	80-120		
Fluoride	5.59		0.278	mg/L	5.56	0.349	94.4	80-120		
Chloride	26.8		1.11	mg/L	11.1	14.1	114	80-120		

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Reported:
07/19/2023 11:22

Quality Control
(Continued)

General Chemistry (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGF2072 - CBOD-5210										
LCS (BGF2072-BS1)					Prepared: 06/14/2023 Analyzed: 06/19/2023					
Carbonaceous BOD (CBOD)	202			mg/L	198		102	85-115		
Duplicate (BGF2072-DUP1)		**Source: 23F2824-09**			Prepared: 06/14/2023 Analyzed: 06/19/2023					
Carbonaceous BOD (CBOD)	<2.40	J4, U	2.40	mg/L		<2.40				40
Duplicate (BGF2072-DUP2)		**Source: 23F2747-02**			Prepared: 06/14/2023 Analyzed: 06/19/2023					
Carbonaceous BOD (CBOD)	<2.40	U	2.40	mg/L		<2.40				40
Duplicate (BGF2072-DUP3)		**Source: 23F0187-01**			Prepared: 06/14/2023 Analyzed: 06/19/2023					
Carbonaceous BOD (CBOD)	<2.40	J4, U	2.40	mg/L		<2.40				40
Duplicate (BGF2072-DUP4)		**Source: 23F2889-01**			Prepared: 06/14/2023 Analyzed: 06/19/2023					
Carbonaceous BOD (CBOD)	<2.40	U	2.40	mg/L		3.38			200	40
Duplicate (BGF2072-DUP5)		**Source: 23F2783-02**			Prepared: 06/14/2023 Analyzed: 06/19/2023					
Carbonaceous BOD (CBOD)	<2.40	J4, U	2.40	mg/L		<2.40				40
Duplicate (BGF2072-DUP6)		**Source: 23F2750-02**			Prepared: 06/14/2023 Analyzed: 06/19/2023					
Carbonaceous BOD (CBOD)	<2.40	U	2.40	mg/L		<2.40				40
Duplicate (BGF2072-DUP7)		**Source: 23F2901-02**			Prepared: 06/14/2023 Analyzed: 06/19/2023					
Carbonaceous BOD (CBOD)	<2.40	J4, U	2.40	mg/L		<2.40				40
Duplicate (BGF2072-DUP8)		**Source: 23F0237-01**			Prepared: 06/14/2023 Analyzed: 06/19/2023					
Carbonaceous BOD (CBOD)	<2.40	J4, U	2.40	mg/L		4.40			200	40
Duplicate (BGF2072-DUP9)		**Source: 23F2827-02**			Prepared: 06/14/2023 Analyzed: 06/19/2023					
Carbonaceous BOD (CBOD)	<2.40	J4, U	2.40	mg/L		<2.40				40

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Quality Control
(Continued)

General Chemistry (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGF2072 - CBOD-5210 (Continued)										
Duplicate (BGF2072-DUPA)		**Source: 23F2838-02**			Prepared: 06/14/2023 Analyzed: 06/19/2023					
Carbonaceous BOD (CBOD)	6.10		2.40	mg/L		4.93			21.1	40
Duplicate (BGF2072-DUPB)		**Source: 23F0573-05**			Prepared: 06/14/2023 Analyzed: 06/19/2023					
Carbonaceous BOD (CBOD)	165		50.0	mg/L		189			13.3	20
Batch: BGF2087 - Alkalinity										
Blank (BGF2087-BLK1)					Prepared & Analyzed: 06/14/2023					
Conductivity	<2.00	U	2.00	umhos/cm @ 25 °C						
LCS (BGF2087-BS1)					Prepared & Analyzed: 06/14/2023					
Conductivity	1400			umhos/cm @ 25 °C	1410		99.0	90-110		
QSC (BGF2087-BS2)					Prepared & Analyzed: 06/14/2023					
Conductivity	508			umhos/cm @ 25 °C	500		102	90-110		
LCS (BGF2087-BS4)					Prepared & Analyzed: 06/14/2023					
Alkalinity as CaCO3	94.7			mg/L	100		94.7	90-110		
Duplicate (BGF2087-DUP1)		**Source: 23F0722-01**			Prepared & Analyzed: 06/14/2023					
Conductivity	1780		2.00	umhos/cm @ 25 °C		1780			0.112	15
Alkalinity as CaCO3	43.3		10.0	mg/L		45.0			3.99	15
Duplicate (BGF2087-DUP2)		**Source: 23F2872-02**			Prepared & Analyzed: 06/14/2023					
Alkalinity as CaCO3	10.8		10.0	mg/L		11.2			3.28	15
Conductivity	773		2.00	umhos/cm @ 25 °C		778			0.645	15

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Quality Control
(Continued)

General Chemistry (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGF2105 - TSS										
Blank (BGF2105-BLK1)				Prepared: 06/14/2023 Analyzed: 06/15/2023						
Residue-nonfilterable (TSS)	<1.00	U	1.00	mg/L						
LCS (BGF2105-BS1)				Prepared: 06/14/2023 Analyzed: 06/15/2023						
Residue-nonfilterable (TSS)	99.5		1.00	mg/L				85-115		
Duplicate (BGF2105-DUP1)		**Source: 23F2766-02**		Prepared: 06/14/2023 Analyzed: 06/15/2023						
Residue-nonfilterable (TSS)	3.79		1.00	mg/L		3.79			0.00	10
Duplicate (BGF2105-DUP2)		**Source: 23F2884-02**		Prepared: 06/14/2023 Analyzed: 06/15/2023						
Residue-nonfilterable (TSS)	2.95	J1	1.00	mg/L		2.53			15.4	10
Batch: BGF2111 - TDS										
Blank (BGF2111-BLK1)				Prepared: 06/14/2023 Analyzed: 06/16/2023						
Residue-filterable (TDS)	<10.0	U	10.0	mg/L						
LCS (BGF2111-BS1)				Prepared: 06/14/2023 Analyzed: 06/16/2023						
Residue-filterable (TDS)	145		10.0	mg/L	150		96.7	90-110		
Duplicate (BGF2111-DUP1)		**Source: 23F2841-02**		Prepared: 06/14/2023 Analyzed: 06/16/2023						
Residue-filterable (TDS)	478		10.0	mg/L		456			4.71	10
Batch: BGF2169 - NH3-N SEAL-350.1										
Matrix Spike (BGF2169-MS1)		**Source: 23F2774-02**		Prepared & Analyzed: 06/14/2023						
Ammonia as N	0.558		0.0500	mg/L	0.400	0.128	107	90-110		

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Quality Control
(Continued)

General Chemistry (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGF2169 - NH3-N SEAL-350.1 (Continued)										
Matrix Spike (BGF2169-MS2)		**Source: 23F2851-01**			Prepared & Analyzed: 06/14/2023					
Ammonia as N	0.496		0.0500	mg/L	0.400	0.0740	105	90-110		
Matrix Spike Dup (BGF2169-MSD1)		**Source: 23F2774-02**			Prepared & Analyzed: 06/14/2023					
Ammonia as N	0.551		0.0500	mg/L	0.400	0.128	106	90-110	1.32	20
Matrix Spike Dup (BGF2169-MSD2)		**Source: 23F2851-01**			Prepared & Analyzed: 06/14/2023					
Ammonia as N	0.463		0.0500	mg/L	0.400	0.0740	97.2	90-110	6.84	20
Batch: BGF2225 - EPA 300.0										
Duplicate (BGF2225-DUP1)		**Source: 23F2847-02RE1**			Prepared & Analyzed: 06/14/2023					
Nitrite as N	1830		50.0	ug/L		1810			1.04	15
Fluoride	1.38		0.250	mg/L		1.37			0.291	15
Nitrate as N	19900		500	ug/L		19800			0.353	15
Chloride	164		5.00	mg/L		159			3.29	15
Sulfate	34.6		1.00	mg/L		34.6			0.0116	15
Duplicate (BGF2225-DUP2)		**Source: 23F2919-02RE1**			Prepared & Analyzed: 06/14/2023					
Nitrite as N	<50.0	U	50.0	ug/L		<50.0				15
Nitrate as N	19600		500	ug/L		19600			0.204	15
Chloride	179		5.00	mg/L		180			0.117	15
Sulfate	39.6		1.00	mg/L		39.6			0.0253	15
Fluoride	0.169	U	0.250	mg/L		0.177			4.62	15
MRL Check (BGF2225-MRL1)					Prepared & Analyzed: 06/14/2023					
Nitrite as N	68.0		50.0	ug/L	50.0		136	50-150		
Nitrate as N	124		100	ug/L	100		124	50-150		
Fluoride	0.277		0.250	mg/L	0.250		111	50-150		
Sulfate	1.13		1.00	mg/L	1.00		113	50-150		
Chloride	1.11		1.00	mg/L	1.00		111	50-150		

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Quality Control
(Continued)

General Chemistry (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGF2225 - EPA 300.0 (Continued)										
Matrix Spike (BGF2225-MS1)		**Source: 23F2847-02RE1**			Prepared & Analyzed: 06/14/2023					
Nitrite as N	2920		55.6	ug/L	1110	1810	99.6	80-120		
Nitrate as N	21700		556	ug/L	2220	19800	87.0	80-120		
Sulfate	58.4		1.11	mg/L	22.2	34.6	107	80-120		
Fluoride	6.50		0.278	mg/L	5.56	1.37	92.3	80-120		
Chloride	174	J1	5.56	mg/L	11.1	159	139	80-120		
Matrix Spike (BGF2225-MS2)		**Source: 23F2919-02RE1**			Prepared & Analyzed: 06/15/2023					
Nitrate as N	21400	J1	556	ug/L	2220	19600	79.8	80-120		
Fluoride	5.45		0.278	mg/L	5.56	0.177	94.9	80-120		
Chloride	195	J1	5.56	mg/L	11.1	180	135	80-120		
Sulfate	64.1		1.11	mg/L	22.2	39.6	110	80-120		
Nitrite as N	2580	J1	55.6	ug/L	1110	<55.6	232	80-120		
Batch: BGF2465 - TKN T										
Blank (BGF2465-BLK1)					Prepared: 06/15/2023 Analyzed: 06/16/2023					
Total Kjeldahl Nitrogen - (TKN)	<1.00	U	1.00	mg/L						
LCS (BGF2465-BS1)					Prepared: 06/15/2023 Analyzed: 06/16/2023					
Total Kjeldahl Nitrogen - (TKN)	1.90		1.00	mg/L	2.02		94.3	85-115		
Duplicate (BGF2465-DUP1)		**Source: 23F0503-01**			Prepared: 06/15/2023 Analyzed: 06/16/2023					
Total Kjeldahl Nitrogen - (TKN)	6.38	J1	1.00	mg/L		4.93			25.7	20
Matrix Spike (BGF2465-MS1)		**Source: 23F0503-01**			Prepared: 06/15/2023 Analyzed: 06/16/2023					
Total Kjeldahl Nitrogen - (TKN)	12.1	J1	1.00	mg/L	4.00	4.93	179	85-115		

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Quality Control
(Continued)

General Chemistry (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGF2663 - Phosphorus SM 4500-P E/EPA 365.2										
Blank (BGF2663-BLK1)					Prepared & Analyzed: 06/16/2023					
Total Phosphorus	<0.0100	U	0.0100	mg/L						
LCS (BGF2663-BS1)					Prepared & Analyzed: 06/16/2023					
Total Phosphorus	0.251		0.0100	mg/L	0.250		100	90-110		
QCS (BGF2663-BS2)					Prepared & Analyzed: 06/16/2023					
Total Phosphorus	0.251		0.0100	mg/L	0.250		100	90-110		
MRL Check (BGF2663-MRL1)					Prepared & Analyzed: 06/16/2023					
Total Phosphorus	0.0110		0.0100	mg/L	0.00998		110	50-150		
Matrix Spike (BGF2663-MS1)		**Source: 23F0593-01**			Prepared & Analyzed: 06/16/2023					
Total Phosphorus	5.15		0.200	mg/L	5.00	0.282	97.4	80-120		
Matrix Spike Dup (BGF2663-MSD1)		**Source: 23F0593-01**			Prepared & Analyzed: 06/16/2023					
Total Phosphorus	5.23		0.200	mg/L	5.00	0.282	98.9	80-120	1.46	20
Batch: BGF3558 - CN-4500										
Blank (BGF3558-BLK1)					Prepared: 06/22/2023 Analyzed: 06/23/2023					
Total Cyanide	<10.0	U	10.0	ug/L						
LCS (BGF3558-BS1)					Prepared: 06/22/2023 Analyzed: 06/23/2023					
Total Cyanide	209		10.0	ug/L	200		104	90-110		
QCS (BGF3558-BS2)					Prepared: 06/22/2023 Analyzed: 06/23/2023					
Total Cyanide	208		10.0	ug/L	200		104	90-110		

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Quality Control
(Continued)

General Chemistry (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGF3558 - CN-4500 (Continued)										
MRL Check (BGF3558-MRL1)					Prepared: 06/22/2023 Analyzed: 06/23/2023					
Total Cyanide	9.72	U	10.0	ug/L	10.0		97.2	50-150		
Matrix Spike (BGF3558-MS1)		**Source: 23F0616-01**			Prepared: 06/22/2023 Analyzed: 06/23/2023					
Total Cyanide	212		10.0	ug/L	200	<10.0	106	80-120		
Matrix Spike Dup (BGF3558-MSD1)		**Source: 23F0616-01**			Prepared: 06/22/2023 Analyzed: 06/23/2023					
Total Cyanide	218		10.0	ug/L	200	<10.0	109	80-120	2.72	20
Batch: BGG1124 - EPA 1664										
Blank (BGG1124-BLK1)					Prepared & Analyzed: 07/10/2023					
n-Hexane Extractable Material (O&G)	<5.00	U	5.00	mg/L						
LCS (BGG1124-BS1)					Prepared & Analyzed: 07/10/2023					
n-Hexane Extractable Material (O&G)	44.4		5.00	mg/L	40.0		111	77.5-114.5		
LCS Dup (BGG1124-BSD1)					Prepared & Analyzed: 07/10/2023					
n-Hexane Extractable Material (O&G)	21.8	J1	5.00	mg/L	40.0		54.6	77.5-114.5	68.2	20
Matrix Spike (BGG1124-MS1)		**Source: 23F5277-01**			Prepared & Analyzed: 07/10/2023					
n-Hexane Extractable Material (O&G)	143	J1	5.00	mg/L	160	42.5	62.5	77.5-114.5		

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Quality Control
(Continued)

Microbiology

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BGF2039 - TC EC Quantitray										
Blank (BGF2039-BLK1)					Prepared: 06/13/2023 Analyzed: 06/14/2023					
Escherichia coli (E. coli)	<1.00	U	1.00	MPN/100 mL						
Duplicate (BGF2039-DUP1)			**Source: 23F2885-01**		Prepared: 06/13/2023 Analyzed: 06/14/2023					
Escherichia coli (E. coli)	<1.00	U	1.00	MPN/100 mL		<1.00				200
Batch: BGF2040 - ENT Quantitray										
Blank (BGF2040-BLK1)					Prepared: 06/13/2023 Analyzed: 06/14/2023					
Enterococci	<1.00	U	1.00	MPN/100 mL						
Duplicate (BGF2040-DUP1)			**Source: 23F2847-01**		Prepared: 06/13/2023 Analyzed: 06/14/2023					
Enterococci	<1.00	U	1.00	MPN/100 mL		3.00			200	200

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Sample Condition Checklist

Work Order: 23F2498

Check Points	
No	Custody Seals
Yes	Containers Intact
Yes	COC/Labels Agree
Yes	Received On Ice
Yes	Appropriate Containers
Yes	Appropriate Sample Volume
Yes	Coolers Intact
Yes	Samples Accepted

Work Order: 23F2499

Check Points	
No	Custody Seals
Yes	Containers Intact
Yes	COC/Labels Agree
Yes	Received On Ice
Yes	Appropriate Containers
Yes	Appropriate Sample Volume
Yes	Coolers Intact
Yes	Samples Accepted

Work Order: 23F2847

Check Points	
No	Custody Seals
Yes	Containers Intact
Yes	COC/Labels Agree
Yes	Received On Ice
Yes	Appropriate Containers
Yes	Appropriate Sample Volume
Yes	Coolers Intact
Yes	Samples Accepted

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Work Order: 23F4919

Check Points

No	Custody Seals
Yes	Containers Intact
Yes	COC/Labels Agree
Yes	Received On Ice
Yes	Appropriate Containers
Yes	Appropriate Sample Volume
Yes	Coolers Intact
Yes	Samples Accepted

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Term and Qualifier Definitions

Item	Definition
B	Analyte was found in the associated method blank.
C+	The associated calibration QC is higher than the established quality control criteria for accuracy - no hit in sample; data not affected and acceptable to report.
J1	Estimated value - The reported value is outside the established quality control criteria for accuracy and/or precision.
J4	Estimated value and sample is less than value - No dilution produced a depletion of 2 mg/L of DO or greater, oxygen demand of sample was less than anticipated.
S	The surrogate recovery was outside the established laboratory recovery limit.
U	Non-detected compound.
RPD	Relative Percent Difference
%REC	Percent Recovery
Source	Sample that was matrix spiked or duplicated
*	A = Accredited, N = Not Accredited or Accreditation not available
DF	Dilution Factor - the factor applied to the reported data due to sample preparation, dilution, or moisture content
MDL	Method Detection Limit - The minimum concentration of a substance (or analyte) that can be measured and reported with 99% confidence that the analyte concentration is greater than zero. Based on standard deviation of replicate spiked samples take through all steps of the analytical procedure following 40 CFR Part 136 Appendix B.
SDL	Sample Detection Limit - The minimum concentration of a substance (analyte) that can be measured and reported with 99% confidence that the analyte concentration is greater than zero. The SDL is an adjusted limit thus sample specific and accounts for preparation weights and volumes, dilutions, and moisture content of soil/sediments. If there are no sample specific parameters, the MDL = SDL.
MRL	Method Reporting Limit - Analyte concentration that corresponds to the lowest level lab reports with confidence in accuracy of quantitation and without qualification (i.e. J-flagged). The MRL is at or above the lowest calibration standard.
LRL	Laboratory Reporting Limit - Analyte concentration that corresponds to the lowest level lab reports with confidence in accuracy of quantitation and without qualification (i.e. J-flagged). The LRL is an adjusted limit thus sample specific and accounts for preparation weights and volumes, dilutions, and moisture content of soil/sediments. If there are no sample specific parameters, the MRL = LRL.

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CHAIN OF CUSTODY RECORD

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23F2498

Lab PM : Deena Higginbotham	**Project Name** : City of Manvel - Outfall 001 3 Part Grab Comp 1	**Schedule Comments:**
City of Manvel Ray Word 20025 Morris Avenue Manvel, TX 77578 Phone: (832) 343-8896	**Project Comments**: DAY OF GRAB 1 - TAKE GLASS RECEPTACLE & PLACE IN SAMPLER COORDINATE GRAB 1 & GRAB 2 COLLECTION TIMES WITH OTHER FIELD TECH IF NEEDED	

Sample ID	Collection Point	Date/Time Begin	Date/Time Sampled	Sample Type	Container	Analysis/Preservation	Field Results
23F2498-01	18 Mohm DI		6/12/2023 06:55	AQ Grab	A Glass 4oz Boston Round	LL Hg-1631 BrCl	
23F2498-02	Outfall 001 3 Part Grab		6/12/2023 ↓	AQ Grab	A Glass VOA 40mL HCl pH<2 B Glass VOA 40mL HCl pH<2 C Glass VOA 40mL HCl pH<2 D Glass VOA 40mL E Glass VOA 40mL F Glass VOA 40mL G Glass 4oz Boston Round	LL Hg-1631 BrCl Composite VOA 4°C	

Field Remarks:

Lab Preservation: (Circle and Write ID Below) H2SO4 HNO3 NaOH Other: _____

Sampler (Signature)	Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Date/Time
Print Name	Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Date/Time
Affiliation	Relinquished To Lab By: (Signature)	Date/Time 6/12/23 14:45	Received for Laboratory By: (Signature) ROR	Date/Time 6/12/23 1405

Custody Seal : Yes / No
Container Intact : Yes / No
COC Labels Agree: Yes / No
Appropriate Containers: Yes / No
Appropriate Volume: Yes / No
Coolers Intact: Yes / No
Received on Ice: Yes / No
Samples Accepted: Yes / No
Temperature: _____ °C
Thermometer ID: _____

Alvin

CHAIN OF CUSTODY RECORD

North Water District Laboratory Services
130 S. Trade Center Pkwy, Conroe Tx 77385
(936) 321-6060 - lab@nwdls.com
TCEQ T104704238-23-39

23F2499

Lab PM : Deena Higginbotham	**Project Name** : City of Manvel - Outfall 001 3 Part Grab Comp 2	**Schedule Comments:**
City of Manvel Ray Word 20025 Morris Avenue Manvel, TX 77578 Phone: (832) 343-8896	**Project Comments**: COORDINATE GRAB 1 & GRAB 2 COLLECTION TIMES WITH OTHER FIELD TECH IF NEEDED Operator Ray Word - 281-734-4401 Combo - 1121 - push the lock together and pull apart	

Sample ID	Collection Point	Date/Time Begin	Date/Time Sampled	Sample Type	Container	Analysis/Preservation	Field Results
23F2499-01	18 Mohm DI		6/12/2023 11:55	AQ Grab	A Glass 4oz Boston Round	LL Hg-1631 BrCl	
23F2499-02	Outfall 001 3 Part Grab		6/12/2023	AQ Grab	A Glass VOA 40mL HCl pH<2 B Glass VOA 40mL HCl pH<2 C Glass VOA 40mL HCl pH<2 D Glass VOA 40mL E Glass VOA 40mL F Glass VOA 40mL G Glass 4oz Boston Round	LL Hg-1631 BrCl Composite VOA 4°C	

Field Remarks:

Lab Preservation: (Circle and Write ID Below) H2SO4 HNO3 NaOH Other:

Sampler (Signature)	Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Date/Time
Print Name	Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Date/Time
Affiliation	Relinquished To Lab By: (Signature)	Date/Time 6/12/23 14:05	Received for Laboratory By: (Signature) ROIZ	Date/Time 6/12/23 1405

Custody Seal : Yes / No COC Labels Agree: Yes / No Appropriate Volume: Yes / No Received on Ice: Yes / No Temperature: °C

Container Intact : Yes / No Appropriate Containers: Yes / No Coolers Intact: Yes / No Samples Accepted: Yes / No Thermometer ID:

Alvin

CHAIN OF CUSTODY RECORD

NWDLS North Water District Laboratory Services, Inc.
North Water District Laboratory Services
130 S. Trade Center Pkwy, Conroe Tx 77385
(936) 321-6060 - lab@nwdls.com

TCEQ T104704238-23-39

23F2847

Lab PM : Deena Higginbotham	**Project Name** : City of Manvel - Permit Renewal	**Schedule Comments:**
City of Manvel Ray Word 20025 Morris Avenue Manvel, TX 77578 Phone: (832) 343-8896	**Project Comments**: DO reading must be recorded before 9am Mark out Duplicated Outfall samples on the regular chain	

Sample ID	Collection Point	Date/Time Begin	Date/Time Sampled	Sample Type	Container	Analysis/Preservation		Field Results	
23F2847-01	Outfall 001		6/13/2023 8:50	AQ Grab	A HDPE 250mL NaOH B HDPE S250mL Na2S2O3 C Glass Wide 1L w/ Teflon-lined Lid D HDPE S250mL Na2S2O3	ENT-ASTMD6503 TC EC-9223 O&G-1664 CN AMEN-4500 CN T-4500	Na2S2O3 <10°C Na2S2O3 <10°C HCl 4°C NaOH 4°C NaOH 4°C	DO Field Flow MGD Field pH Field Total Chlorine Residual WW Field	7.89 0.960 7.98 5.1

CHAIN OF CUSTODY RECORD

NWDLS North Water District Laboratory Services, Inc.

North Water District Laboratory Services
130 S. Trade Center Pkwy, Conroe Tx 77385
(936) 321-6060 - lab@nwdls.com

TCEQ T104704238-23-39

23F2847

(Continued)

Lab PM : Deena Higginbotham	**Project Name** : City of Manvel - Permit Renewal	**Schedule Comments:**
City of Manvel Ray Word 20025 Morris Avenue Manvel, TX 77578 Phone: (832) 343-8896	**Project Comments**: DO reading must be recorded before 9am Mark out Duplicated Outfall samples on the regular chain	

23F2847-02	Outfall 001 Sampler	6·12·23/5:00	6/13/2023/5:00	AQ 24HR Comp	A HDPE 250mL AAHDPE 1L B Amber Glass 1L w/ Teflon-lined Lid C Amber Glass 1L w/ Teflon-lined Lid D HDPE 1L E PreCleaned HDPE 250mL HNO3 F HDPE 250mL G Glass VOA 60mL H Glass VOA 60mL I Glass VOA 60mL J HDPE 250mL K HDPE 250mL H2SO4 L Amber Glass 250mL w/ Teflon-lined Lid M Amber Glass 250mL w/ Teflon-lined Lid N Amber Glass 250mL w/ Teflon-lined Lid O Amber Glass 250mL w/ Teflon-lined Lid P Amber Glass 1L w/ Teflon-lined Lid Q Amber Glass 1L w/ Teflon-lined Lid R Amber Glass 1L w/ Teflon-lined Lid S Amber Glass 1L w/ Teflon-lined Lid T Amber Glass 250mL w/ Teflon-lined Lid U Amber Glass 250mL w/ Teflon-lined Lid V Amber Glass 250mL w/ Teflon-lined Lid W Amber Glass 250mL w/ Teflon-lined Lid X HDPE 250mL Y HDPE 250mL H2SO4 Z HDPE 250mL H2SO4	Aluminum ICPMS 200.8 HNO3 Antimony ICPMS 200.8 HNO3 Arsenic ICPMS 200.8 HNO3 Barium ICPMS 200.8 HNO3 Beryllium ICPMS 200.8 HNO3 Cadmium ICPMS 200.8 HNO3 Chromium ICPMS 200.8 HNO3 Copper ICPMS 200.8 HNO3 Lead ICPMS 200.8 HNO3 LPR Metals [Group Analysis] Nickel ICPMS 200.8 HNO3 Selenium ICPMS 200.8 HNO3 Silver ICPMS 200.8 HNO3 Thallium ICPMS 200.8 HNO3 Zinc ICPMS 200.8 HNO3 HERB-6640 4°C Nonylphenol-D7065 4°C OCP-608 4°C OPP-1657 4°C PCB-608 4°C SVOA-625 4°C Sub_CBURP-632 4°C Alkalinity-2320 4°C CBOD-5210 4°C Chloride IC 300.0 4°C Conductivity-2510 4°C Cr III ICPMS [Group Analysis] Cr VI-D 3500 Cr6+Buf 4°C Fluoride IC 300.0 4°C LPR Anions [Group Analysis] NH3-N SEAL-350.1 H2SO4 4°C Nitrate as N IC 300.0 4°C Nitrite as N IC 300.0 4°C Sulfate IC 300.0 4°C TDS-2540 4°C TKN T-4500 C H2SO4 4°C Total Phosphorus-365.1- H2SO4 4°C TSS-2540 4°C	

CHAIN OF CUSTODY RECORD

NWDLS North Water District Laboratory Services, Inc.

North Water District Laboratory Services
130 S. Trade Center Pkwy, Conroe Tx 77385
(936) 321-6060 - lab@nwdls.com

TCEQ T104704238-23-39

23F2847

(Continued)

Lab PM : Deena Higginbotham	**Project Name** : City of Manvel - Permit Renewal	**Schedule Comments:**
City of Manvel Ray Word 20025 Morris Avenue Manvel, TX 77578 Phone: (832) 343-8896	**Project Comments**: DO reading must be recorded before 9am Mark out Duplicated Outfall samples on the regular chain	

23F2847-03	Outfall 001 3 Part Grab		6/13/2023 / 9:00	AQ Grab	A Glass VOA 40mL HCl pH<2	LL Hg-1631 Composite VOA	BrCl 4°C	
					B Glass VOA 40mL HCl pH<2 C Glass VOA 40mL HCl pH<2 D Glass VOA 40mL E Glass VOA 40mL F Glass VOA 40mL G Glass 4oz Boston Round			
23F2847-04	Outfall 001 3 Part Grab (		6/13/2023	AQ Grab 3-Part Cor		VOA-624	4°C	
23F2847-05	18 Mohm DI		6/13/2023	AQ Grab	A Glass 4oz Boston Round	LL Hg-1631	BrCl	

Field Remarks:

Lab Preservation: H2SO4 HNO3 NaOH Other: _____
(Circle and Write ID Below)

Sampler (Signature)	Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Date/Time
Print Name: Jose Gutierrez	Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Date/Time
Affiliation: NWDLS	Relinquished To Lab By: (Signature)	Date/Time: 6/13/23/15:20	Received for Laboratory By: (Signature)	Date/Time: 6.13.23 15:20

Custody Seal : Yes / No | COC Labels Agree: Yes / No | Appropriate Volume: Yes / No | Received on Ice: Yes / No | Temperature: _____ °C

Container Intact : Yes / No | Appropriate Containers: Yes / No | Coolers Intact: Yes / No | Samples Accepted: Yes / No | Thermometer ID: _____

Alvin

CHAIN OF CUSTODY RECORD

North Water District Laboratory Services
130 S. Trade Center Pkwy, Conroe Tx 77385
(936) 321-6060 - lab@nwdls.com
TCEQ T104704238-23-39

23F4919

Lab PM : Deena Higginbotham	**Project Name** : City of Manvel WWTP - Permit Renwal - Recollect 2 **Schedule Comments:**
City of Manvel Ray Word 20025 Morris Avenue Manvel, TX 77578 Phone: (832) 343-8896	**Project Comments**:

Sample ID	Collection Point	Date/Time Begin	Date/Time Sampled	Sample Type	Container	Analysis/Preservation	Field Results
23F4919-01	Outfall 001 Sampler	6·26·23/5:00	6/27/2023/5:00	AQ 24HR Comp	A HDPE 250 Cr6+Buf after filtration	Cr VI-D 3500 Cr6+Buf 4°C	

Field Remarks:

Lab Preservation: H2SO4 HNO3 NaOH Other: (Circle and Write ID Below)

Sampler (Signature)	Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Date/Time
Print Name: Jose Gutierrez	Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Date/Time
Affiliation: NWDLS	Relinquished To Lab By: (Signature)	Date/Time: 6·27·23/15:50	Received for Laboratory By: (Signature): ROR	Date/Time: 6·27·23 1550

Custody Seal : Yes / No — COC Labels Agree: Yes / No — Appropriate Volume: Yes / No — Received on Ice: Yes / No — Temperature: °C

Container Intact : Yes / No — Appropriate Containers: Yes / No — Coolers Intact: Yes / No — Samples Accepted: Yes / No — Thermometer ID:

Alvin

Laboratory Analysis Report

Total Number of Pages: 8

Job ID : 23061503

10100 East Freeway, Suite 100, Houston, TX 77029 tel: 713-453-6060, fax: 713-453-6091, http://www.ablabs.com

Client Project Name :
23F2847

Report To :	Client Name:	NWDLS	P.O.#.: 23F2847
	Attn:	Deena Higginbotham	Sample Collected By:
	Client Address:	130 S Trade Center Pkwy	Date Collected: 06/13/23
	City, State, Zip:	Conroe, Texas, 77385	

A&B Labs has analyzed the following samples...

Client Sample ID	Matrix	A&B Sample ID
23F2847-04	Waste Water	23061503.01

Released By: Amanda Shute
Title: Project Manager
Date: 6/22/2023

This Laboratory is NELAP (T104704213-23-31) accredited. Effective: 04/13/2023; Expires: 3/31/2024
Scope: Non-Potable Water, Drinking Water, Air, Solid, Biological Tissue, Hazardous Waste

I am the laboratory manager, or his/her designee, and I am responsible for the release of this data package. This laboratory data package has been reviewed and is complete and technically compliant with the requirements of the methods used, except where noted in the attached exception reports. I affirm, to the best of my knowledge that all problems/anomalies observed by this laboratory (and if applicable, any and all laboratories subcontracted through this laboratory) that might affect the quality of the data, have been identified in the Laboratory Review Checklist, and that no information or data have been knowingly withheld that would affect the quality of the data.

ab-q210-0321

Date Received : 06/15/2023 08:40

LABORATORY TERM AND QUALIFIER DEFINITION REPORT

Job ID : 23061503

Date: 6/22/2023

General Term Definition

Back-Wt	Back Weight	Post-Wt	Post Weight
BRL	Below Reporting Limit	ppm	parts per million
cfu	colony-forming units	Pre-Wt	Previous Weight
Conc.	Concentration	Q	Qualifier
D.F.	Dilution Factor	RegLimit	Regulatory Limit
Front-Wt	Front Weight	RPD	Relative Percent Difference
LCS	Laboratory Check Standard	RptLimit	Reporting Limit
LCSD	Laboratory Check Standard Duplicate	SDL	Sample Detection Limit
MS	Matrix Spike	surr	Surrogate
MSD	Matrix Spike Duplicate	T	Time
MW	Molecular Weight	TNTC	Too numerous to count
J	Estimation. Below calibration range but above MDL	MQL	Minimum Quantitation Limit

Qualifier Definition

U	Undetected at SDL (Sample Detection Limit).

LABORATORY TEST RESULTS

Job ID : 23061503

Date 6/22/2023

Client Name: NWDLS

Attn: Deena Higginbotham

Project Name: 23F2847

Client Sample ID: 23F2847-04
Date Collected: 06/13/23
Time Collected: 09:00
Other Information:

Job Sample ID: 23061503.01
Sample Matrix Waste Water
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	SQL	Reg Limit	Q	Date Time	Analyst
EPA 624.1	Volatile Organic Compounds									
	1,1,1-Trichloroethane	<0.00100	mg/L	1.00	0.00100	0.00500		U	06/15/23 13:05	RT
	1,1,2,2-Tetrachloroethane	<0.00100	mg/L	1.00	0.00100	0.00500		U	06/15/23 13:05	RT
	1,1,2-Trichloroethane	<0.00100	mg/L	1.00	0.00100	0.00500		U	06/15/23 13:05	RT
	1,1-Dichloroethane	<0.00100	mg/L	1.00	0.00100	0.00500		U	06/15/23 13:05	RT
	1,1-Dichloroethylene	<0.00100	mg/L	1.00	0.00100	0.00500		U	06/15/23 13:05	RT
	1,2-Dibromoethane	<0.00100	mg/L	1.00	0.00100	0.00500		U	06/15/23 13:05	RT
	1,2-Dichlorobenzene	<0.00100	mg/L	1.00	0.00100	0.00500		U	06/15/23 13:05	RT
	1,2-Dichloroethane	<0.00100	mg/L	1.00	0.00100	0.00500		U	06/15/23 13:05	RT
	1,2-Dichloropropane	<0.00100	mg/L	1.00	0.00100	0.00500		U	06/15/23 13:05	RT
	1,3-Dichlorobenzene	<0.00100	mg/L	1.00	0.00100	0.00500		U	06/15/23 13:05	RT
	1,4-Dichlorobenzene	<0.00100	mg/L	1.00	0.00100	0.00500		U	06/15/23 13:05	RT
	2-Butanone	<0.00500	mg/L	1.00	0.00500	0.00500		U	06/15/23 13:05	RT
	2-chloroethylvinyl Ether	<0.00600	mg/L	1.00	0.00600	0.01000		U	06/15/23 13:05	RT
	Acrolein	<0.00600	mg/L	1.00	0.00600	0.0100		U	06/15/23 13:05	RT
	Acrylonitrile	<0.00300	mg/L	1.00	0.00300	0.00500		U	06/15/23 13:05	RT
	Benzene	<0.00100	mg/L	1.00	0.00100	0.00500		U	06/15/23 13:05	RT
	Bromodichloromethane	0.0177	mg/L	1.00	0.00100	0.00500			06/15/23 13:05	RT
	Bromoform	<0.00100	mg/L	1.00	0.00100	0.00500		U	06/15/23 13:05	RT
	Bromomethane	<0.00200	mg/L	1.00	0.00200	0.00500		U	06/15/23 13:05	RT
	Carbon tetrachloride	<0.00100	mg/L	1.00	0.00100	0.00500		U	06/15/23 13:05	RT
	Chlorobenzene	<0.00100	mg/L	1.00	0.00100	0.00500		U	06/15/23 13:05	RT
	Chloroethane	<0.00100	mg/L	1.00	0.00100	0.00500		U	06/15/23 13:05	RT
	Chloroform	0.0404	mg/L	1.00	0.00100	0.00500			06/15/23 13:05	RT
	Chloromethane	<0.00100	mg/L	1.00	0.00100	0.00500		U	06/15/23 13:05	RT
	cis-1,3-Dichloropropene	<0.00100	mg/L	1.00	0.00100	0.00500		U	06/15/23 13:05	RT
	Dibromochloromethane	0.00586	mg/L	1.00	0.00100	0.00500			06/15/23 13:05	RT
	Ethylbenzene	<0.00100	mg/L	1.00	0.00100	0.00500		U	06/15/23 13:05	RT
	Methylene chloride	<0.00100	mg/L	1.00	0.00100	0.00500		U	06/15/23 13:05	RT
	Tetrachloroethylene	<0.00100	mg/L	1.00	0.00100	0.00500		U	06/15/23 13:05	RT
	Toluene	<0.00100	mg/L	1.00	0.00100	0.00500		U	06/15/23 13:05	RT
	trans-1,2-Dichloroethylene	<0.00100	mg/L	1.00	0.00100	0.00500		U	06/15/23 13:05	RT
	trans-1,3-Dichloropropene	<0.00100	mg/L	1.00	0.00100	0.00500		U	06/15/23 13:05	RT
	Trichloroethylene	<0.00100	mg/L	1.00	0.00100	0.00500		U	06/15/23 13:05	RT
	TTHMs	0.06396	mg/L	1.00	0.00200	0.0200			06/15/23 13:05	RT
	Vinyl Chloride	<0.00100	mg/L	1.00	0.00100	0.00500		U	06/15/23 13:05	RT

LABORATORY TEST RESULTS

Job ID : 23061503

Date 6/22/2023

Client Name: NWDLS

Attn: Deena Higginbotham

Project Name: 23F2847

Client Sample ID: 23F2847-04
Date Collected: 06/13/23
Time Collected: 09:00
Other Information:

Job Sample ID: 23061503.01
Sample Matrix Waste Water
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	SQL	Reg Limit	Q	Date Time	Analyst
EPA 624.1	Volatile Organic Compounds									
	1,2-Dichloroethane-d4(surr)	109	%	1.00		70-130			06/15/23 13:05	RT
	Dibromofluoromethane(surr)	102	%	1.00		70-130			06/15/23 13:05	RT
	p-Bromofluorobenzene(surr)	103	%	1.00		70-130			06/15/23 13:05	RT
	Toluene-d8(surr)	99	%	1.00		70-130			06/15/23 13:05	RT

QUALITY CONTROL CERTIFICATE

Job ID : 23061503 **Date :** 6/22/2023

Analysis : Volatile Organic Compounds **Method :** EPA 624.1 **Reporting Units :** mg/L

QC Batch ID : Qb230615201 **Created Date :** 06/15/23 **Created By :** Rajeev

Samples in This QC Batch : 23061503.01

Sample Preparation : PB23061596 **Prep Method :** EPA 624.1 **Prep Date :** 06/15/23 09:00 **Prep By :** Rajeev

QC Type: Method Blank

Parameter	CAS #	Result	Units	D.F.	MQL	MDL	Qual
1,1,1-Trichloroethane	71-55-6	< MDL	mg/L	1.00	0.005	0.001	
1,1,2,2-Tetrachloroethane	79-34-5	< MDL	mg/L	1.00	0.005	0.001	
1,1,2-Trichloroethane	79-00-5	< MDL	mg/L	1.00	0.005	0.001	
1,1-Dichloroethane	75-34-3	< MDL	mg/L	1.00	0.005	0.001	
1,1-Dichloroethylene	75-35-4	< MDL	mg/L	1.00	0.005	0.001	
1,2-Dibromoethane	106-93-4	< MDL	mg/L	1.00	0.005	0.001	
1,2-Dichlorobenzene	95-50-1	< MDL	mg/L	1.00	0.005	0.001	
1,2-Dichloroethane	107-06-2	< MDL	mg/L	1.00	0.005	0.001	
1,2-Dichloropropane	78-87-5	< MDL	mg/L	1.00	0.005	0.001	
1,3-Dichlorobenzene	541-73-1	< MDL	mg/L	1.00	0.005	0.001	
1,4-Dichlorobenzene	106-46-7	< MDL	mg/L	1.00	0.005	0.001	
2-Butanone	78-93-3	< MDL	mg/L	1.00	0.005	0.005	
2-chloroethylvinyl Ether	110-75-8	< MDL	mg/L	1.00	0.01	0.006	
Acrolein	107-02-8	< MDL	mg/L	1.00	0.01	0.006	
Acrylonitrile	107-13-1	< MDL	mg/L	1.00	0.005	0.003	
Benzene	71-43-2	< MDL	mg/L	1.00	0.005	0.001	
Bromodichloromethane	75-27-4	< MDL	mg/L	1.00	0.005	0.001	
Bromoform	75-25-2	< MDL	mg/L	1.00	0.005	0.001	
Bromomethane	74-83-9	< MDL	mg/L	1.00	0.005	0.002	
Carbon tetrachloride	56-23-5	< MDL	mg/L	1.00	0.005	0.001	
Chlorobenzene	108-90-7	< MDL	mg/L	1.00	0.005	0.001	
Chloroethane	75-00-3	< MDL	mg/L	1.00	0.005	0.001	
Chloroform	67-66-3	< MDL	mg/L	1.00	0.005	0.001	
Chloromethane	74-87-3	< MDL	mg/L	1.00	0.005	0.001	
cis-1,3-Dichloropropene	10061-01-5	< MDL	mg/L	1.00	0.005	0.001	
Dibromochloromethane	124-48-1	< MDL	mg/L	1.00	0.005	0.001	
Ethylbenzene	100-41-4	< MDL	mg/L	1.00	0.005	0.001	
Methylene chloride	75-09-2	< MDL	mg/L	1.00	0.005	0.001	
Tetrachloroethylene	127-18-4	< MDL	mg/L	1.00	0.005	0.001	
Toluene	108-88-3	< MDL	mg/L	1.00	0.005	0.001	
trans-1,2-Dichloroethylene	156-60-5	< MDL	mg/L	1.00	0.005	0.001	
trans-1,3-Dichloropropene	10061-02-6	< MDL	mg/L	1.00	0.005	0.001	
Trichloroethylene	79-01-6	< MDL	mg/L	1.00	0.005	0.001	
TTHMs		< MDL	mg/L	1.00	0.02	0.002	
Vinyl Chloride	75-01-4	< MDL	mg/L	1.00	0.005	0.001	
Dibromofluoromethane(surr	1868-53-7	97.3	%	1.00			
1,2-Dichloroethane-d4(surr	17060-07-0	101	%	1.00			
Toluene-d8(surr)	2037-26-5	99.9	%	1.00			

ab-q213-0321

Refer to the Definition page for terms.

Job ID : 23061503 **Date :** 6/22/2023

Analysis : Volatile Organic Compounds **Method :** EPA 624.1 **Reporting Units :** mg/L

QC Batch ID : Qb230615201 **Created Date :** 06/15/23 **Created By :** Rajeev

Samples in This QC Batch : 23061503.01

QC Type: Method Blank

Parameter	CAS #	Result	Units	D.F.	MQL	MDL		Qual
p-Bromofluorobenzene(surr	460-00-4	101	%	1.00				

QC Type: LCS and LCSD

Parameter	LCS Spk Added	LCS Result	LCS % Rec	LCSD Spk Added	LCSD Result	LCSD % Rec	RPD	RPD CtrlLimit	%Recovery CtrlLimit	Qual
1,1-Dichloroethylene	0.04	0.0417	104	0.04	0.0426	106	2.1	30	82.6-123	
Benzene	0.04	0.0409	102	0.04	0.0416	104	1.6	30	89.9-118	
Chlorobenzene	0.04	0.0412	103	0.04	0.0414	103	0.5	30	91.5-114	
Toluene	0.04	0.0411	103	0.04	0.0410	102	0.3	30	89.6-118	
Trichloroethylene	0.04	0.0430	107	0.04	0.0432	108	0.5	30	84.2-115	
1,1,1-Trichloroethane	0.04	0.0417	104	0.04	0.0416	104	0.2	30	83.2-127	
1,1,2,2-Tetrachloroethane	0.04	0.0400	100	0.04	0.0404	101	1	30	83.1-121	
1,1,2-Trichloroethane	0.04	0.0419	105	0.04	0.0419	105	0.1	30	82.1-122	
1,1-Dichloroethane	0.04	0.0413	103	0.04	0.0417	104	0.9	30	84.8-123	
1,2-Dibromoethane	0.04	0.0409	102	0.04	0.0415	104	1.4	30	87.1-119	
1,2-Dichlorobenzene	0.04	0.0404	101	0.04	0.0413	103	2.1	30	91.1-115	
1,2-Dichloroethane	0.04	0.0424	106	0.04	0.0407	102	4.1	30	82.8-123	
1,2-Dichloropropane	0.04	0.0417	104	0.04	0.0428	107	2.5	30	87.9-122	
1,3-Dichlorobenzene	0.04	0.0411	103	0.04	0.0411	103	0	30	91.7-114	
1,4-Dichlorobenzene	0.04	0.0408	102	0.04	0.0411	103	0.8	30	91.4-115	
Acrolein	0.08	0.0760	95	0.08	0.0771	96.4	1.4	30	67.4-118	
Acrylonitrile	0.04	0.0386	96.5	0.04	0.0394	98.5	2.1	30	69-129	
Bromodichloromethane	0.04	0.0415	104	0.04	0.0420	105	1.2	30	86.3-122	
Bromoform	0.04	0.0401	100	0.04	0.0401	100	0	30	81.6-120	
Bromomethane	0.04	0.0372	93	0.04	0.0400	100	7.2	30	58.1-150	
Carbon tetrachloride	0.04	0.0415	104	0.04	0.0422	106	1.6	30	85.6-130	
Chloroethane	0.04	0.0400	100	0.04	0.0412	103	3	30	77.5-130	
Chloroform	0.04	0.0411	103	0.04	0.0416	104	1.3	30	85.4-121	
Chloromethane	0.04	0.0363	90.7	0.04	0.0375	93.8	3.3	30	71.4-131	
cis-1,3-Dichloropropene	0.04	0.0415	104	0.04	0.0422	106	1.7	30	89.6-118	
Dibromochloromethane	0.04	0.0413	103	0.04	0.0412	103	0.3	30	83.8-118	
Ethylbenzene	0.04	0.0417	104	0.04	0.0415	104	0.4	30	91.1-115	
Methylene chloride	0.04	0.0416	104	0.04	0.0414	104	0.4	28	60-140	
Tetrachloroethylene	0.04	0.0429	107	0.04	0.0428	107	0.1	30	70-130	
trans-1,2-Dichloroethylene	0.04	0.0409	102	0.04	0.0417	104	2	30	85.3-123	
trans-1,3-Dichloropropene	0.04	0.0399	99.8	0.04	0.0396	98.9	0.8	30	84.7-119	
Vinyl Chloride	0.04	0.0368	91.9	0.04	0.0379	94.6	3	30	78.5-121	
2-chloroethylvinyl Ether	0.08	0.0855	107	0.08	0.0842	105	1.5	30	32.6-169	
2-Butanone	0.04	0.0404	101	0.04	0.0397	99.3	1.8	30	61.2-133	
TTHMs	0.16	0.164	102	0.16	0.1649	103	0.6	30	60-140	

QUALITY CONTROL CERTIFICATE

Job ID : 23061503 **Date :** 6/22/2023

Analysis : Volatile Organic Compounds **Method :** EPA 624.1 **Reporting Units :** mg/L

QC Batch ID : Qb230615201 **Created Date :** 06/15/23 **Created By :** Rajeev

Samples in This QC Batch : 23061503.01

QC Type: MS and MSD
QC Sample ID: 23061503.01

Parameter	Sample Result	MS Spk Added	MS Result	MS % Rec	MSD Spk Added	MSD Result	MSD % Rec	RPD	RPD CtrlLimit	%Rec CtrlLimit	Qual
1,1-Dichloroethylene	BRL	0.04	0.0459	115						74.5-129	
2-chloroethylvinyl Ether	BRL	0.08	0.100	125						10-239	
Benzene	BRL	0.04	0.0436	109						88.4-143	
Chlorobenzene	BRL	0.04	0.0419	105						88-112	
Toluene	BRL	0.04	0.0414	103						47-150	
Trichloroethylene	BRL	0.04	0.0457	114						78.8-117	
1,1,1-Trichloroethane	BRL	0.04	0.0451	113						74.1-132	
1,1,2,2-Tetrachloroethane	BRL	0.04	0.0480	120						92.5-151	
1,1,2-Trichloroethane	BRL	0.04	0.0475	119						83.1-143	
1,1-Dichloroethane	BRL	0.04	0.0451	113						74.6-127	
1,2-Dibromoethane	BRL	0.04	0.0472	118						90-133	
1,2-Dichlorobenzene	BRL	0.04	0.0425	106						88.7-115	
1,2-Dichloroethane	BRL	0.04	0.0476	119						59-155	
1,2-Dichloropropane	BRL	0.04	0.0456	114						84.1-128	
1,3-Dichlorobenzene	BRL	0.04	0.0414	104						84.5-114	
1,4-Dichlorobenzene	BRL	0.04	0.0413	103						83.6-115	
Acrolein	BRL	0.08	0.0791	98.9						40-160	
Acrylonitrile	BRL	0.04	0.0536	134						40-160	
Bromodichloromethane	0.0177	0.04	0.0646	117						79.2-143	
Bromoform	BRL	0.04	0.0489	122						67.2-167	
Bromomethane	BRL	0.04	0.0410	103						10-242	
Carbon tetrachloride	BRL	0.04	0.0436	109						78.7-137	
Chloroethane	BRL	0.04	0.0453	113						68.3-134	
Chloroform	0.0404	0.04	0.0857	113						69.2-138	
Chloromethane	BRL	0.04	0.0409	102						10-273	
cis-1,3-Dichloropropene	BRL	0.04	0.0460	115						76.9-129	
Dibromochloromethane	0.00586	0.04	0.0538	135						65.1-149	
Ethylbenzene	BRL	0.04	0.0420	105						64.3-133	
Methylene chloride	BRL	0.04	0.0451	113						25.1-195	
Tetrachloroethylene	BRL	0.04	0.0470	117						64-138	
trans-1,2-Dichloroethylene	BRL	0.04	0.0446	111						79.6-126	
trans-1,3-Dichloropropene	BRL	0.04	0.0444	111						76.2-134	
Vinyl Chloride	BRL	0.04	0.0430	108						54.7-139	
2-Butanone	BRL	0.04	0.0584	146						39.5-193	
TTHMs	0.0639	0.16	0.253	118						60-140	

NWDLS
North Water District Laboratory Services, Inc.

Job ID:23061503
08/15/2023 NWDLS AMS

SUBCONTRACT ORDER

Sending Laboratory:

North Water District Laboratory Services, Inc.
130 South Trade Center Parkway
Conroe, TX 77385
Phone: 936-321-6060
Fax: 936-321-6061

Project Manager: Deena Higginbotham

Subcontracted Laboratory:

A & B Labs
10100 East Freeway, Suite 100
Houston, TX 77029
Phone: (713) 453-6060
Fax: (713) 453-6091

Work Order: 23F2847

Analysis	Due	Expires	Comments

Sample ID: 23F2847-04 ***Waste Water Sampled: 06/13/2023 09:00***

VOA-624 06/27/2023 06/27/2023 09:00

Analyte(s):

1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane
1,1-Dichloroethane	1,1-Dichloroethylene	1,2-Dibromoethane (EDB, Ethylene dibromide)
1,2-Dichlorobenzene (o-Dichlorobenzene)	1,2-Dichloroethane (Ethylene dichloride)	1,2-Dichloropropane
1,3-Dichlorobenzene (m-Dichlorobenzene)	1,4-Dichlorobenzene (p-Dichlorobenzene)	2-Butanone (Methyl ethyl ketone, MEK)
2-Chloroethyl vinyl ether	Acrolein (Propenal)	Acrylonitrile
Benzene	Bromodichloromethane	Bromoform
Carbon tetrachloride	Chlorobenzene	Chlorodibromomethane
Chloroethane (Ethyl chloride)	Chloroform	cis-1,3-Dichloropropene
Ethylbenzene	Methyl bromide (Bromomethane)	Methyl chloride (Chloromethane)
Methylene chloride (Dichloromethane)	Tetrachloroethylene (Perchloroethylene)	Toluene
Total Trihalomethanes (TTHMs)	trans-1,2-Dichloroethylene	trans-1,3-Dichloropropylene
Trichloroethene (Trichloroethylene)	Vinyl chloride (Chloroethene)	

01TF

Containers Supplied:

Jam Kosky 0840 — Released By
6.15.23 — Date
Received By
06/15/23 0840 — Date
2-3°C

Sample Condition Checklist

A&B JobID : **23061503**	Date Received : **06/15/2023**	Time Received : **8:40AM**
Client Name : **NWDLS**		
Temperature : **2.3°C**	Sample pH : **NA**	
Thermometer ID : **IR5**	pH Paper ID : **NA**	
Perservative :		

	Check Points	Yes	No	N/A
1.	**Cooler Seal present and signed.**		X	
2.	**Sample(s) in a cooler.**	X		
3.	**If yes, ice in cooler.**	X		
4.	**Sample(s) received with chain-of-custody.**	X		
5.	**C-O-C signed and dated.**	X		
6.	**Sample(s) received with signed sample custody seal.**		X	
7.	**Sample containers arrived intact. (If No comment)**	X		
8.	**Matrix:** Water ☑ Soil ☐ Liquid ☐ Sludge ☐ Solid ☐ Cassette ☐ Tube ☐ Bulk ☐ Badge ☐ Food ☐ Other ☐			
9.	**Samples were received in appropriate container(s)**	X		
10.	**Sample(s) were received with Proper preservative**	X		
11.	**All samples were tagged or labeled.**	X		
12.	**Sample ID labels match C-O-C ID's.**	X		
13.	**Bottle count on C-O-C matches bottles found.**	X		
14.	**Sample volume is sufficient for analyses requested.**	X		
15.	**Samples were received with in the hold time.**	X		
16.	**VOA vials completely filled.**	X		
17.	**Sample accepted.**	X		
18.	**Has client been contacted about sub-out**			X

Comments : Include actions taken to resolve discrepancies/problem:

Received by : ASmith

Check in by/date : ASmith / 06/15/2023

ab-s005-0321

2600 Dudley Rd. Kilgore, Texas 75662
R: PO Box 3275 Kilgore, TX 75663
Office: 903-984-0551 * Fax: 903-984-5914

ANA LAB
Testing the Limits of Science and Service

Project
1062002

NWDS-G

North Water District Laboratory
Deena McDaniel
130 S Trade Center Parkway
Conroe, TX 77385

Printed 06/29/2023 11:17

TABLE OF CONTENTS

23F2847

This report consists of this Table of Contents and the following pages:

Email: projectmanager@ana-lab.com

2600 Dudley Rd. Kilgore, Texas 75662
R: PO Box 3275 Kilgore, TX 75663
Office: 903-984-0551 * Fax: 903-984-5914

ANA LAB
Testing the Limits of Science and Service

SAMPLE CROSS REFERENCE

Project
1062002

Printed 6/29/2023 Page 1 of 1

North Water District Laboratory
Deena McDaniel
130 S Trade Center Parkway
Conroe, TX 77385

Sample	Sample ID	Taken	Time	Received
2205253	*23F2847-02*	06/13/2023	05:00:00	06/15/2023

Bottle 01 Client Supplied Amber Glass
Bottle 02 Client Supplied Amber Glass
Bottle 03 Prepared Bottle: 632L\632S 2 mL Autosampler Vial (Batch 1068111) Volume: 1.00000 mL <== Derived from 01 (990 ml)

Method	Bottle	PrepSet	Preparation	QcGroup	Analytical
EPA 632	03	1068111	06/19/2023	1069506	06/26/2023

Email: projectmanager@ana-lab.com

2600 Dudley Rd. Kilgore, Texas 75662
R: PO Box 3275 Kilgore, TX 75663
Office: 903-984-0551 * Fax: 903-984-5914

ANALAB
Testing the Limits of Science and Service

NWDS-G

North Water District Laboratory
Deena McDaniel
130 S Trade Center Parkway
Conroe, TX 77385

Project
1062002

Printed: 06/29/2023

23F2847

RESULTS

Sample Results

2205253 **23F2847-02** Received: 06/15/2023

Non-Potable Water | Collected by: Client | North Water District | PO: #26201
Taken: 06/13/2023 05:00:00

EPA 632 Prepared: 1068111 06/19/2023 14:00:00 Analyzed 1069506 06/26/2023 15:41:00 BRU

	Parameter	Results	Units	RL	Flags	CAS	Bottle
NELAC	**Carbaryl (Sevin)**	**<2.53**	**ug/L**	2.53		**63-25-2**	03
z	**Danitol**	**<0.101**	**ug/L**	0.101		**64357-84-7**	03
z	**Diuron**	**<0.0455**	**ug/L**	0.0455		**330-54-1**	03

Sample Preparation

2205253 **23F2847-02** Received: 06/15/2023

#26201

06/13/2023

Prepared: 06/19/2023 17:56:49 Calculated 06/19/2023 17:56:49 CAL

z	**Environmental Fee (per Project)**	**Verified**

EPA 632 Prepared: 1068111 06/19/2023 14:00:00 Analyzed 1068111 06/19/2023 14:00:00 CRS

	Liquid-Liquid Extr. W/Hex Ex	**1/990**	**ml** 01

EPA 632 Prepared: 1068111 06/19/2023 14:00:00 Analyzed 1069506 06/26/2023 15:41:00 BRU

z	**Carbaryl/Diuron/Danitol**	**Entered**	03

2600 Dudley Rd. Kilgore, Texas 75662
R: PO Box 3275 Kilgore, TX 75663
Office: 903-984-0551 * Fax: 903-984-5914

ANA LAB
Testing the Limits of Science and Service

NWDS-G

North Water District Laboratory
Deena McDaniel
130 S Trade Center Parkway
Conroe, TX 77385

Project
1062002

Printed: 06/29/2023

Qualifiers:

We report results on an As Received (or Wet) basis unless marked Dry Weight.

Unless otherwise noted, testing was performed at Ana-lab corporate laboratory which holds International, Federal, and state accreditations. Please see our Websites for details.
These analytical results relate to the sample tested. This report may NOT be reproduced EXCEPT in FULL without written approval of Ana-Lab Corp. Unless otherwise specified, these test results meet the requirements of NELAC.
RL is the Reporting Limit (sample specific quantitation limit) and is at or above the Method Detection Limit (MDL). CAS is Chemical Abstract Service number. RL is our Reporting Limit, or Minimum Quantitation Level. The RL takes into account the Instrument Detection Limit (IDL), Method Detection Limit (MDL), and Practical Quantitation Limit (PQL), and any dilutions and/or concentrations performed during sample preparation (EQL). Our analytical result must be above this RL before we report a value in the 'Results' column of our report (without a 'J' flag). Otherwise, we report ND (Not Detected above RL), because the result is "<" (less than) the number in the RL column. MAL is Minimum Analytical Level and is typically from regulatory agencies. Unless we report a result in the result column, or interferences prevent it, we work to have our RL at or below the MAL.

Bill Peery

Bill Peery, MS, VP Technical Services

QUALITY CONTROL

ANALAB
Testing the Limits of Science and Service

NWDS-G

North Water District Laboratory
Deena McDaniel
130 S Trade Center Parkway
Conroe, TX 77385

Project
1062002

Printed 06/29/2023

Analytical Set 1069506 EPA 632

Blank

Parameter	PrepSet	Reading	MDL	MQL	Units	File
Carbaryl (Sevin)	1068111	ND	66.1	2500	ug/L	125133315
Danitol	1068111	ND	66.1	2500	ug/L	125133315
Diuron	1068111	ND	44.4	45.0	ug/L	125133315

CCV

Parameter	Reading	Known	Units	Recover%	Limits%	File
Carbaryl (Sevin)	1050	1000	ug/L	105	70.0 - 130	125133314
Carbaryl (Sevin)	1020	1000	ug/L	102	70.0 - 130	125133319
Carbaryl (Sevin)	1080	1000	ug/L	108	70.0 - 130	125137441
Danitol	873	1000	ug/L	87.3	70.0 - 130	125133314
Danitol	987	1000	ug/L	98.7	70.0 - 130	125133319
Danitol	914	1000	ug/L	91.4	70.0 - 130	125137441
Diuron	991	1000	ug/L	99.1	70.0 - 130	125133314
Diuron	995	1000	ug/L	99.5	70.0 - 130	125133319
Diuron	1020	1000	ug/L	102	70.0 - 130	125137441

LCS Dup

Parameter	PrepSet	LCS	LCSD	Known	Limits%	LCS%	LCSD%	Units	RPD	Limit%
Carbaryl (Sevin)	1068111	1100	1120	1000	17.1 - 131	110	112	ug/L	1.80	30.0
Danitol	1068111	3120	3160	1000	0.100 - 334	312	316	ug/L	1.27	30.0
Diuron	1068111	907	409	1000	0.100 - 138	90.7	40.9	ug/L	75.7 *	30.0

* Out RPD is Relative Percent Difference: abs(r1-r2) / mean(r1,r2) * 100% Recover% is Recovery Percent: result / known * 100%

Blank - Method Blank (reagent water or other blank matrices that contains all reagents except standard(s) and is processed simultaneously with and under the same conditions as samples; carried through preparation and analytical procedures exactly like a sample; monitors); CCV - Continuing Calibration Verification (same standard used to prepare the curve; typically a mid-range concentration; verifies the continued validity of the calibration curve); LCS Dup - Laboratory Control Sample Duplicate (replicate LCS; analyzed when there is insufficient sample for duplicate or MSD; quantifies accuracy and precision.)

NWDLS

SUBCONTRACT ORDER

Sending Laboratory:

North Water District Laboratory Services, Inc.
130 South Trade Center Parkway
Conroe, TX 77385
Phone: 936-321-6060
Fax: 936-321-6061

Project Manager: Deena Higginbotham

Subcontracted Laboratory:

Ana-Lab Corporation
2600 Dudley Road
Kilgore, TX 75662
Phone: (903) 984-0551
Fax: (903) 984-5914

Work Order: 23F2847

Analysis	Due	Expires	Comments
Sample ID: 23F2847-02 *Waste Water* *Sampled: 06/13/2023 05:00*			2205253
Sub_CBURP-632	06/27/2023	06/20/2023 05:00	
Analyte(s): Carbaryl	Danitol		Diuron
Containers Supplied:			

Released By — 6/14/23 Date — Received By UPS — 6/14/23 Date

Relinquished UPS 6/15/23 0930

Kathy Tarver SPL, Inc.

Sub Arranged for Tracking # and Temp

KRYSTAL MOORE
9363216060
NWDLS
130 S TRADE CENTER PKWY
CONROE TX 77385

5 LBS

1 OF 1

SHIP TO:
ANA-LAB
903-984-0551
ANA-LAB
2600 DUDLEY ROAD
KILGORE TX 75662

TX 756 0-32

UPS NEXT DAY AIR **1**

TRACKING #: 1Z 12W 40V 01 9827 9149

BILLING: P/P

XOL 23.05.22 NV45 24.0A 06/2023

Date 6/15 Time 0945 Tech JG

Temp: 2.4/2.4 C

Therm#: 6443 Corr Fact: 0.0 C

Laboratory Analysis Report

Total Number of Pages: 6

Job ID : 23062288

10100 East Freeway, Suite 100, Houston, TX 77029 tel: 713-453-6060, fax: 713-453-6091, http://www.ablabs.com

Client Project Name :
23F2847

Report To :	Client Name:	NWDLS	P.O.#.: 23F2847
	Attn:	Deena Higginbotham	Sample Collected By:
	Client Address:	130 S Trade Center Pkwy	Date Collected: 06/13/23
	City, State, Zip:	Conroe, Texas, 77385	

A&B Labs has analyzed the following samples...

Client Sample ID	Matrix	A&B Sample ID
23F2847-02	Waste Water	23062288.01

Released By: Senthilkumar Sevukan
Title: Vice President Operations
Date: 6/30/2023

This Laboratory is NELAP (T104704213-23-31) accredited. Effective: 04/13/2023; Expires: 3/31/2024
Scope: Non-Potable Water, Drinking Water, Air, Solid, Biological Tissue, Hazardous Waste

I am the laboratory manager, or his/her designee, and I am responsible for the release of this data package. This laboratory data package has been reviewed and is complete and technically compliant with the requirements of the methods used, except where noted in the attached exception reports. I affirm, to the best of my knowledge that all problems/anomalies observed by this laboratory (and if applicable, any and all laboratories subcontracted through this laboratory) that might affect the quality of the data, have been identified in the Laboratory Review Checklist, and that no information or data have been knowingly withheld that would affect the quality of the data.

ab-q210-0321

Date Received : 06/23/2023 08:30

LABORATORY TERM AND QUALIFIER DEFINITION REPORT

Job ID : 23062288

Date: 6/30/2023

General Term Definition

Back-Wt	Back Weight	Post-Wt	Post Weight
BRL	Below Reporting Limit	ppm	parts per million
cfu	colony-forming units	Pre-Wt	Previous Weight
Conc.	Concentration	Q	Qualifier
D.F.	Dilution Factor	RegLimit	Regulatory Limit
Front-Wt	Front Weight	RPD	Relative Percent Difference
LCS	Laboratory Check Standard	RptLimit	Reporting Limit
LCSD	Laboratory Check Standard Duplicate	SDL	Sample Detection Limit
MS	Matrix Spike	surr	Surrogate
MSD	Matrix Spike Duplicate	T	Time
MW	Molecular Weight	TNTC	Too numerous to count
J	Estimation. Below calibration range but above MDL	MQL	Minimum Quantitation Limit

Qualifier Definition

S2	Surrogate recovery is below control limit. Results may be biased low.
U	Undetected at SDL (Sample Detection Limit).

LABORATORY TEST RESULTS

Job ID : 23062288

Date 6/30/2023

Client Name: NWDLS

Attn: Deena Higginbotham

Project Name: 23F2847

Client Sample ID: 23F2847-02
Date Collected: 06/13/23
Time Collected: 05:00
Other Information:

Job Sample ID: 23062288.01
Sample Matrix Waste Water
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	SQL	Reg Limit	Q	Date Time	Analyst
EPA 608.3	Polychlorinated Biphenyls									
	Aroclor 1016	<0.02	ug/L	1.00	0.02	0.0500		U	06/27/23 01:47	KMN
	Aroclor 1221	<0.01	ug/L	1.00	0.01	0.0500		U	06/27/23 01:47	KMN
	Aroclor 1232	<0.01	ug/L	1.00	0.01	0.0500		U	06/27/23 01:47	KMN
	Aroclor 1242	<0.01	ug/L	1.00	0.01	0.0500		U	06/27/23 01:47	KMN
	Aroclor 1248	<0.01	ug/L	1.00	0.01	0.0500		U	06/27/23 01:47	KMN
	Aroclor 1254	<0.01	ug/L	1.00	0.01	0.0500		U	06/27/23 01:47	KMN
	Aroclor 1260	<0.01	ug/L	1.00	0.01	0.0500		U	06/27/23 01:47	KMN
	Total PCBs	<0.01	ug/L	1.00	0.01	0.0500		U	06/27/23 01:47	KMN
	Decachlorobiphenyl(surr)	54.5	%	1.00		35-129			06/27/23 01:47	KMN
	Tetrachloro-m-xylene(surr)	75	%	1.00		27-127			06/27/23 01:47	KMN

QUALITY CONTROL CERTIFICATE

Job ID : 23062288 **Date :** 6/30/2023

Analysis : Polychlorinated Biphenyls **Method :** EPA 608.3 **Reporting Units :** ug/L

QC Batch ID : Qb230627110 **Created Date :** 06/26/23 **Created By :** KMedina

Samples in This QC Batch : 23062288.01

Extraction : PB23062644 **Prep Method :** EPA 608.3 **Prep Date :** 06/26/23 09:00 **Prep By :** VRodriguez

QC Type: Method Blank

Parameter	CAS #	Result	Units	D.F.	MQL	MDL		Qual
Aroclor 1016	12674-11-2	< MDL	ug/L	1.00	0.05	0.0146		
Aroclor 1221	11104-28-2	< MDL	ug/L	1.00	0.05	0.0129		
Aroclor 1232	11141-16-5	< MDL	ug/L	1.00	0.05	0.0129		
Aroclor 1242	53469-21-9	< MDL	ug/L	1.00	0.05	0.0129		
Aroclor 1248	12672-29-6	< MDL	ug/L	1.00	0.05	0.0129		
Aroclor 1254	11097-69-1	< MDL	ug/L	1.00	0.05	0.0129		
Aroclor 1260	11096-82-5	< MDL	ug/L	1.00	0.05	0.01005		
Total PCBs		< MDL	ug/L	1.00	0.05	0.0129		
Decachlorobiphenyl(surr)	2051-24-3	44	%	1.00				
Tetrachloro-m-xylene(surr)	877-09-8	62.5	%	1.00				

QC Type: LCS and LCSD

Parameter	LCS Spk Added	LCS Result	LCS % Rec	LCSD Spk Added	LCSD Result	LCSD % Rec	RPD	RPD CtrlLimit	%Recovery CtrlLimit	Qual
Aroclor 1016	2	1.25	62.4	2	1.29	64.5	3.4	18	53.7-136	
Aroclor 1260	2	1.17	58.5	2	1.21	60.4	3.4	18	57.9-146	
Total PCBs	4	2.36	59.1	4	2.40	60	1.5	18	51.7-138	

QC Type: MS and MSD
QC Sample ID: 23062371.01

Parameter	Sample Result	MS Spk Added	MS Result	MS % Rec	MSD Spk Added	MSD Result	MSD % Rec	RPD	RPD CtrlLimit	%Rec CtrlLimit	Qual
Aroclor 1016	BRL	2	2.33	116						50-140	
Aroclor 1260	BRL	2	2.00	100						10-140	
Total PCBs	BRL	4	4.33	108						50-140	

NWDLS
North Water District Laboratory Services, LLC

Job ID:23062288
06/23/2023 NWDLS AMS

SUBCONTRACT ORDER

Sending Laboratory:

North Water District Laboratory Services, Inc.
130 South Trade Center Parkway
Conroe, TX 77385
Phone: 936-321-6060
Fax: 936-321-6061

Project Manager: Deena Higginbotham

Subcontracted Laboratory:

A & B Labs
10100 East Freeway, Suite 100
Houston, TX 77029
Phone: (713) 453-6060
Fax: (713) 453-6091

Work Order: 23F2847

Analysis	Due	Expires	Comments
Sample ID: 23F2847-02 ***Waste Water Sampled: 06/13/2023 05:00***			
PCB-608	06/27/2023	06/07/2024 05:00	01A

Analyte(s):

Aroclor-1016 (PCB-1016)
Aroclor-1221 (PCB-1221)
Aroclor-1232 (PCB-1232)
Aroclor-1242 (PCB-1242)
Aroclor-1248 (PCB-1248)
Aroclor-1254 (PCB-1254)
Aroclor-1260 (PCB-1260)
PCBs, Total

Containers Supplied:

[redacted]

~~01A~~

Analyte(s):

1,1,1-Trichloroethane
1,1,2,2-Tetrachloroethane
1,1,2-Trichloroethane
1,1-Dichloroethane
1,1-Dichloroethylene
1,2-Dibromoethane (EDB, Ethylene dibromide)
1,2-Dichlorobenzene (o-Dichlorobenzene)
1,2-Dichloroethane (Ethylene dichloride)
1,2-Dichloropropane
1,3-Dichlorobenzene (m-Dichlorobenzene)
1,4-Dichlorobenzene (p-Dichlorobenzene)
2-Butanone (Methyl ethyl ketone, MEK)
2-Chloroethyl vinyl ether
Acrolein (Propenal)
Acrylonitrile
Benzene
Bromodichloromethane
Bromoform
Carbon tetrachloride
Chlorobenzene
Chlorodibromomethane
Chloroethane (Ethyl chloride)
Chloroform
cis-1,3-Dichloropropene
Ethylbenzene
Methyl bromide (Bromomethane)
Methyl chloride (Chloromethane)
Methylene chloride (Dichloromethane)
Tetrachloroethylene (Perchloroethylene)
Toluene
Total Trihalomethanes (TTHMs)
trans-1,2-Dichloroethylene
trans-1,3-Dichloropropylene
Trichloroethene (Trichloroethylene)
Vinyl chloride (Chloroethene)

Containers Supplied:

Andrew Rodriguez — Released By — 6-23-23 8:30 — Date

[signature] — Received By — 6/23/23 8:30 — Date

5.5 °C
IR5
ANS

Sample Condition Checklist

A&B JobID : **23062288**	Date Received : **06/23/2023**	Time Received : **8:30AM**
Client Name : **NWDLS**		
Temperature : **5.5°C**	Sample pH : **NA**	
Thermometer ID : **IR5**	pH Paper ID : **NA**	
Perservative :		

	Check Points	Yes	No	N/A
1.	**Cooler Seal present and signed.**		X	
2.	**Sample(s) in a cooler.**	X		
3.	**If yes, ice in cooler.**	X		
4.	**Sample(s) received with chain-of-custody.**	X		
5.	**C-O-C signed and dated.**	X		
6.	**Sample(s) received with signed sample custody seal.**		X	
7.	**Sample containers arrived intact. (If No comment)**	X		
8.	**Matrix:** Water ☑ Soil ☐ Liquid ☐ Sludge ☐ Solid ☐ Cassette ☐ Tube ☐ Bulk ☐ Badge ☐ Food ☐ Other ☐			
9.	**Samples were received in appropriate container(s)**	X		
10.	**Sample(s) were received with Proper preservative**			X
11.	**All samples were tagged or labeled.**	X		
12.	**Sample ID labels match C-O-C ID's.**	X		
13.	**Bottle count on C-O-C matches bottles found.**	X		
14.	**Sample volume is sufficient for analyses requested.**	X		
15.	**Samples were received with in the hold time.**	X		
16.	**VOA vials completely filled.**			X
17.	**Sample accepted.**	X		
18.	**Has client been contacted about sub-out**			X

Comments : Include actions taken to resolve discrepancies/problem:

Received by : ASmith

Check in by/date : ASmith / 06/23/2023

ab-s005-0321

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June 24, 2024

Abesha Michael
Water Quality Division (MC-148)
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, TX 78711-3087

Re: Response to TCEQ Notice of Deficiency
Application to Amend Wastewater Permit No. WQ0013872001 (RN101612232)
City of Manvel (CN600580633)

Dear Ms. Michael:

The City of Manvel and Freese and Nichols, Inc. (FNI) received a letter from the Texas Commission on Environmental Quality (TCEQ) dated June 19, 2024, that requested a written response to address the deficiencies associated with the application to amend Wastewater Permit No. WQ0013872001. On behalf of the applicant, City of Manvel, FNI offers the following responses to the TCEQ NOD:

1. ***Section III, item 22 on page 2 of the Core Data Form (CDF) and Section 9, item B on page 8 of the administrative report: Thank you for addressing this item. However, the facility name in the existing permit and our records is City of Manvel WWTP. If you don't want to change the name of the facility, please update page 2 and page 8.***

    a. A corrected CDF is attached to this correspondence as Attachment A. The revised Regulated Entity Name is consistent with the facility name in the current permit.

2. ***Section III, items 27 and 28 on page 2 of the Core Data Form (CDF): Thank you for addressing these items. However, the coordinates of the location of the facility is not consistent with the existing permit and our records. As per the existing permit and records the latitude is 29 degrees 28 minutes 24 seconds and the longitude -95 degrees 22 minutes 19.4 seconds. Please confirm and update page 2 of the CDF.***
    a. The coordinates provided in the updated CDF in Attachment A are correct for the facility. The coordinates in the existing permit and TCEQ records should be updated.

3. ***Section 10, item D on page 9 of the administrative report: Thank you for addressing this item. Please confirm Brazoria County is the only county which is located with 100 statute miles downstream from the point of discharge. If not, please update page 9.***
    a. Brazoria County is the only county within 100 statute miles downstream of the discharge location.

4. ***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.***

a. Please revise the NORI to state the following:
City of Manvel, 20025 Morris Avenue, Manvel, Texas 77575, has applied to the Texas Commission on Environmental Quality (TCEQ) to amend Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0013872001 (EPA I.D. No. TX0118397) to authorize an increase in the discharge of treated wastewater to a volume not to exceed an annual average flow of 5,000,000 gallons per day ~~via~~ additional Outfall 002. The domestic wastewater treatment facility is located at 7315 Corporate Drive, Manvel, in Brazoria County, Texas 77578. The discharge route is from the plant site to ~~Bra~~zoria County Flood Control Ditch No. 12; thence to Chocolate Bayou Above Tidal ~~(Pending RWA confirmation)~~. TCEQ received this application on June 10, 2024. The permit application will be available for viewing and copying at Manvel Public Library, Front Desk of Library, 20514 Highway 6, Suite B, Manvel, 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=-95.367716,29.473353&level=18

Further information may also be obtained from the City of Manvel at the address stated above or by calling Mr. Ray Word at 281-734-4401.

5. ***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.***
    a. The translated Spanish NORI in a Microsoft Word document is included with this correspondence.

In addition, please see the addendum to page 2 of the Administrative Report 1.0 as Attachment B. Please feel free to contact Mr. Ray Word with the City of Manvel or me for additional information as necessary.

Sincerely,

Cassandra Villarreal, M.S.
Freese and Nichols, Inc.

cc: Mr. Ray Word, City of Manvel
File MNV22106

Attachments

Attachment A

Revised 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 **Major Amendment**

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 600580633		**RN 101612232**

SECTION II: Customer Information

4. General Customer Information | **5. Effective Date for Customer Information Updates** (mm/dd/yyyy) 5/20/2024

☐ New Customer ☒ Update to Customer Information ☐ Change in Regulated Entity Ownership

☐ Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)

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

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

City of Manvel

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

11. Type of Customer:

☐ Corporation ☐ Individual Partnership: ☐ General ☐ Limited

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

12. Number of Employees

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

13. Independently Owned and Operated?

☒ **Yes** ☐ **No**

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

☐ Owner ☐ Operator ☒ Owner & Operator ☐ Other:

☐ Occupational Licensee ☐ Responsible Party ☐ VCP/BSA Applicant

15. Mailing Address:

20025 Morris Avenue

City	Manvel	**State**	TX	**ZIP**	77575	**ZIP + 4**	3801

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

18. Telephone Number	**19. Extension or Code**	**20. Fax Number** *(if applicable)*

(281) 489-0634		(281) 489-0634

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.)*

City of Manvel Wastewater Treatment Facility

23. Street Address of the Regulated Entity: ***(No PO Boxes)***	7315 Corporate Drive							
	City	Manvel	**State**	TX	**ZIP**	77578	**ZIP + 4**	
24. County	Brazoria							

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

25. Description to Physical Location:	N/A				
26. Nearest City			**State**		**Nearest ZIP Code**
Manvel			TX		77578

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

27. Latitude (N) In Decimal:	29.474123		**28. Longitude (W) In Decimal:**	-95.370147	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
29	28	26.8422	-95	22	12.5292

29. Primary SIC Code (4 digits)	**30. Secondary SIC Code** (4 digits)	**31. Primary NAICS Code** (5 or 6 digits)	**32. Secondary NAICS Code** (5 or 6 digits)
4952		221320	

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

Wastewater Treatment

34. Mailing Address:	**20025 Morris Avenue**							
	City	**Manvel**	**State**	**TX**	**ZIP**	**77578**	**ZIP + 4**	
35. E-Mail Address:	**rhall@cityofmanvel.com**							

36. Telephone Number	**37. Extension or Code**	**38. Fax Number** *(if applicable)*
(281) 585-4997		( ) -

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
			23960	
☐ Sludge	☐ Storm Water	☐ Title V Air	☐ Tires	☐ Used Oil
☐ Voluntary Cleanup	☒ Wastewater	☐ Wastewater Agriculture	☐ Water Rights	☐ Other:
	WQ0013872001			

SECTION IV: Preparer Information

40. Name:	Cassandra Villarreal	41. Title:	Environmental Scientist

42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(817) 735-7294		( ) -	cassandra.villarreal@freese.com

SECTION V: Authorized Signature

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

Company:	Freese and Nichols, Inc	Job Title:	Environmental Scientist
Name *(In Print)*:	Cassandra Villarreal	Phone:	(817) 735- 7294
Signature:	CVillarreal	Date:	6/10/2024

Attachment B

Administrative Report 1.0

Page 2

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

APPLICATION FOR A DOMESTIC WASTEWATER PERMIT ADMINISTRATIVE REPORT 1.0

If you have questions about completing this form please contact the Applications Review and Processing Team at 512-239-4671.

Section 1. Application Fees (Instructions Page 29)

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

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

Minor Amendment (for any flow) $150.00 ☐

Payment Information:

Mailed Check/Money Order Number: 201963

Check/Money Order Amount: $2,050.00

Name Printed on Check: City of Manvel

EPAY Voucher Number: N/A

Copy of Payment Voucher enclosed? Yes ☐

Section 2. Type of Application (Instructions Page 29)

☐ New TPDES

☐ Major Amendment *with* Renewal

☒ Major Amendment *without* Renewal

☐ Renewal without changes

☐ New TLAP

☐ Minor Amendment *with* Renewal

☐ Minor Amendment *without* Renewal

☐ Minor Modification of permit

For amendments or modifications, describe the proposed changes: Additional outfall (Outfall 002) for plant expansion as part of the current permit.

For existing permits:

Permit Number: WQ0013872001

EPA I.D. (TPDES only): TX0118397

Expiration Date: February 27, 2028

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

Comisión de Calidad Ambiental del Estado de Texas

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

PERMISO NO. WQoo_____

SOLICITUD. La Ciudad de Manvel, 20025 Morris Avenue, Manvel, Texas 77575, ha solicitado a la Comisión de Calidad Ambiental del Estado de Texas (TCEQ) para modificar el Permiso No. WQ0013872001 (EPA I.D. No. TX0118397) del Sistema de Eliminación de Descargas de Contaminantes de Texas (TPDES) para autorizar la descarga de aguas residuales tratadas en un volumen que no sobrepasa un flujo promedio anual de 5,000,000 de galones por día y a través del Emisario 002 adicional. La planta está ubicada en 7315 Corporate Drive, Manvel, en el condado de Brazoria, Texas 77578. La ruta de descarga es del sitio de la planta a hasta la zanja de control de inundaciones N° 12 del condado de Brazoria; de allí a Chocolate Bayou Above Tidal. La TCEQ recibió esta solicitud el 10 de junio de 2024. La solicitud para el permiso estará disponible para leerla y copiarla en la Biblioteca Pública de Manvel, en el mostrador de enfrente, 20514 Highway 6, Suite B, Manvel, Texas antes de la fecha de publicación de este aviso en el periódico. Este enlace a un mapa electrónico de la ubicación general del sitio o de la instalación es proporcionado como una cortesía y no es parte de la solicitud o del aviso. Para la ubicación exacta, consulte la solicitud.
https://gisweb.tceq.texas.gov/LocationMapper/?marker=-95.367716,29.473353&level=18

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

AVISO ADICIONAL. El Director Ejecutivo de la TCEQ ha determinado que la solicitud es administrativamente completa y conducirá una revisión técnica de la solicitud. Después de completar la revisión técnica, el Director Ejecutivo puede preparar un borrador del permiso y emitirá una Decisión Preliminar sobre la solicitud. **El aviso de la solicitud y la decisión preliminar serán publicados y enviado a los que están en la lista de correo de las**

personas a lo largo del condado que desean recibir los avisos y los que están en la lista de correo que desean recibir avisos de esta solicitud. El aviso dará la fecha límite para someter comentarios públicos.

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

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

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

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

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

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

También se puede obtener información adicional de la ciudad de Manvela la dirección indicada arriba o llamando a Sr. Ray Word al 281-734-4401.

Fecha de emisión _____ *[Date notice issued]*