



Technical Package Cover Page

This file contains the following documents:

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



Portada de Paquete Técnico

Este archivo contiene los siguientes documentos:

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

Harris County MUD No. 200
Renewal with Major Amendment – Plain Language Summary

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.

Harris County Municipal Utility District No. 200 (CN600740468) operates the HCMUD No. 200 wastewater treatment facility (RN102849288), an activated sludge process plant operated in the complete mix mode. The facility is located at 13050 Stonefield Drive, in Harris County, Texas 77014.

This application is for a renewal with major amendment to increase the annual average flow of 1,440,000 gallons per day to 1,900,000 gallons per day of treated domestic wastewater.

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 an activated sludge process plant and the treatment units include a bar screen, aeration basins, final clarifiers, sludge digesters, chlorine contact chambers and a dechlorination chamber.

Harris County MUD No. 200
Renewal with Major Amendment – Plain Language Summary

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.

El Distrito Municipal de Servicios Públicos No. 200 del Condado de Harris (CN600740468) opera la instalación de tratamiento de aguas residuales HCMUD No. 200 (RN102849288), una planta de proceso de lodos activados que opera en modo de mezcla completa. La instalación está ubicada en 13050 Stonefield Drive, en el condado de Harris, Texas 77014.

Esta solicitud es para una renovación con enmienda importante para aumentar el flujo promedio anual de 1,440,000 galones por día a 1,900,000 galones por día de aguas residuales domésticas tratadas.

Se espera que las descargas de la instalación contengan demanda bioquímica de oxígeno carbonoso (CBOD₅) de cinco días, sólidos suspendidos totales (TSS), 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 son tratadas mediante una planta de proceso de lodos activados y las unidades de tratamiento incluyen criba de barras, balsas de aireación, clarificadores finales, digestores de lodos, cámaras de contacto de cloro y cámara de deoloración.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



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

PERMIT NO. WQ0012294001

APPLICATION. Harris County Municipal Utility District No. 200, 1300 Post Oak Boulevard, Suite 2400, Houston, Texas 77056, has applied to the Texas Commission on Environmental Quality (TCEQ) to amend Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0012294001 (EPA I.D. No. TX0085413) to authorize an increase to the discharge of treated wastewater to a volume not to exceed an annual average flow of 1,900,000 gallons per day and relocation of the outfall approximately 140 feet upstream. The domestic wastewater treatment facility is located at 13050 Stonefield Drive, near the city of Houston, in Harris County, Texas 77014. The discharge route is from the plant site to a Harris County Flood Control District ditch, thence to Greens Bayou Above Tidal. TCEQ received this application on June 6, 2024. The permit application will be available for viewing and copying at Aldine Branch Library, 11331 Airline Drive, Houston, in Harris County, Texas prior to the date this notice is published in the newspaper. The application, including any updates, and associated notices are available electronically at the following webpage:

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

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

<https://gisweb.tceq.texas.gov/LocationMapper/?marker=-95.430404,29.972868&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 Harris County Municipal Utility District No. 200 at the address stated above or by calling Mr. Jonathan Nguyen, Quiddity Engineering, at 512-685-5156.

Issuance Date: July 8, 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. WQ0012294001

SOLICITUD. Distrito de Servicios Públicos Municipales No. 200 del Condado de Harris, 1300 Post Oak Boulevard, Suite 2400, Houston, Texas 77056, ha solicitado a la Comisión de Calidad Ambiental del Estado de Texas (TCEQ) para modificar el Permiso No. WQ0012294001 (EPA I.D. No. TX0085413) 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 diario de 1,900,000 galones por día. La planta está ubicada 13050 Stonefield Drive, cerca de la ciudad de Houston, en el condado de Harris, Texas 77014. La ruta de descarga es del sitio de la planta a una zanja del Distrito de Control de Inundaciones del Condado de Harris, de allí a Greens Bayou Above Tidal. La TCEQ recibió esta solicitud el 6 de junio de 2024. La solicitud para el permiso estará disponible para leerla y copiarla en Biblioteca sucursal de Aldine, 11331 Airline Drive, Houston, en el condado de Harris, Texas antes de la fecha de publicación de este aviso en el periódico. La solicitud (cualquier actualización y aviso inclusive) está disponible electrónicamente en la siguiente página web:

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

Este enlace a un mapa electrónico de la ubicación general del sitio o de la instalación es proporcionado como una cortesía y no es parte de la solicitud o del aviso. Para la ubicación exacta, consulte la solicitud.

<https://gisweb.tceq.texas.gov/LocationMapper/?marker=-95.430404,29.972868&level=18>

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

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

COMENTARIO PUBLICO / REUNION PUBLICA. Usted puede presentar comentarios públicos o pedir una reunión pública sobre esta solicitud. El propósito de una reunión pública es dar

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

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

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

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

LISTA DE CORREO. Si somete comentarios públicos, un pedido para una audiencia administrativa de lo contencioso o una reconsideración de la decisión del Director Ejecutivo, la Oficina del Secretario Principal enviará por correo los avisos públicos en relación con la solicitud. Además, puede pedir que la TCEQ ponga su nombre en una o más de las listas correos siguientes (1) la lista de correo permanente para recibir los avisos del solicitante

indicado por nombre y número del permiso específico y/o (2) la lista de correo de todas las solicitudes en un condado específico. Si desea que se agregue su nombre en una de las listas designe cual lista(s) y envía por correo su pedido a la Oficina del Secretario Principal de la TCEQ.

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

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

También se puede obtener más información del Distrito de Servicios Públicos Municipales No. 200 del Condado de Harris en la dirección indicada anteriormente o llamando al Sr. Jonathan Nguyen, Quiddity Engineering, al 512-685-5156.

Fecha de emisión el 8 de julio de 2024

Texas Commission on Environmental Quality



NOTICE OF APPLICATION AND PRELIMINARY DECISION FOR TPDES PERMIT FOR MUNICIPAL WASTEWATER

AMENDMENT

PERMIT NO. WQ0012294001

APPLICATION AND PRELIMINARY DECISION. Harris County Municipal Utility District No. 200, 1300 Post Oak Boulevard, Suite 2400, Houston, Texas 77056, has applied to the Texas Commission on Environmental Quality (TCEQ) for a major amendment to Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0012294001 to authorize an increase in the discharge of treated domestic wastewater from an annual average flow not to exceed 1,440,000 gallons per day to an annual average flow not to exceed 1,900,000 gallons per day and relocation of the outfall approximately 140 feet upstream. TCEQ received this application on June 6, 2024.

The facility is located at 13050 Stonefield Drive, in Harris County, Texas 77014. The treated effluent is discharged to Harris County Flood Control Drainage Ditch (HCFD) P145-00-00, thence to Greens Bayou Above Tidal in Segment No. 1016 of the San Jacinto River Basin. The unclassified receiving water use is limited aquatic life use for HCFD P145-00-00. The designated uses for Segment No. 1016 are primary contact recreation and limited aquatic life use. In accordance with 30 Texas Administrative Code §307.5 and the TCEQ *Procedures to Implement the Texas Surface Water Quality Standards* (June 2010), an antidegradation review of the receiving waters was performed. A Tier 1 antidegradation review has preliminarily determined that existing water quality uses will not be impaired by this permit action. Numerical and narrative criteria to protect existing uses will be maintained. A Tier 2 review is not required since no exceptional, high, or intermediate aquatic life use water bodies have been identified in the discharge route. Existing uses will be maintained and protected. The preliminary determination can be reexamined and may be modified if new information is received. This link to an electronic map of the site or facility's general location is provided as a public courtesy and is not part of the application or notice. For the exact location, refer to the application.

<https://gisweb.tceq.texas.gov/LocationMapper/?marker=-95.430404,29.972868&level=18>

The TCEQ Executive Director has completed the technical review of the application and prepared a draft permit. The draft permit, if approved, would establish the conditions under which the facility must operate. The Executive Director has made a preliminary decision that this permit, if issued, meets all statutory and regulatory requirements. The permit application, Executive Director's preliminary decision, and draft permit are available for viewing and copying at Aldine Branch Library, 11331 Airline Drive, Houston, in Harris County, Texas. The application is available for viewing and copying at the following webpage:

<https://www.tceq.texas.gov/permitting/wastewater/tpdes-applications>.

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

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

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

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

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

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

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

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

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

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

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

Further information may also be obtained from Harris County Municipal Utility District No. 200 at the address stated above or by calling Mr. Jonathan Nguyen, Permitting Specialist, Quiddity Engineering, at 512-685-5156.

Issuance Date: December 2, 2025

Comisión De Calidad Ambiental Del Estado De Texas



AVISO DE LA SOLICITUD Y DECISIÓN PRELIMINAR PARA EL PERMISO DEL SISTEMA DE ELIMINACION DE DESCARGAS DE CONTAMINANTES DE TEXAS (TPDES) PARA AGUAS RESIDUALES MUNICIPALES

MODIFICACIÓN

PERMISO NO. WQ0012294001

SOLICITUD Y DECISIÓN PRELIMINAR. Distrito Municipal de Servicios Públicos del Condado de Harris No. 200, 1300 Post Oak Boulevard, Suite 2400, Houston, Texas 77056, ha solicitado a la Comisión de Calidad Ambiental del Estado de Texas (TCEQ) por una modificación principal al Permiso no. WQ0012294001 del Sistema de Eliminación de Descargas Contaminantes de Texas (TPDES) para autorizar un aumento en la descarga de aguas residuales domésticas tratadas de un caudal promedio anual que no exceda los 1,440,000 galones por día a un caudal promedio anual que no exceda los 1,900,000 galones por día y la reubicación del emisario aproximadamente 140 pies río arriba. La TCEQ recibió esta solicitud el 6 de junio de 2024.

La planta está ubicada en 13050 Stonefield Drive en el Condado de Harris, Texas 77014. El efluente tratado es descargado a la zanja de drenaje para control de inundaciones del condado de Harris (HCFD) P145-00-00, de allí a Greens Bayou por encima de la marea en el Segmento No. 1016 de la Cuenca del Río San Jacinto. Los usos no clasificados de las aguas receptoras son limitados usos de la vida acuática para HCFD P145-00-00. Los usos designados para el Segmento No. 1016 son recreación de contacto primario y limitados uso de vida acuática. De acuerdo con el 30 TAC §307.5 y los procedimientos de implementación de la TCEQ (Junio 2010) para las Normas de Calidad de Aguas Superficiales en Texas, fue realizada una revisión de la antidegradación de las aguas recibidas. Una revisión de antidegradación del Nivel 1 ha determinado preliminarmente que los usos de la calidad del agua existente no serán perjudicados por la acción de este permiso. Se mantendrá un criterio narrativo y numérico para proteger los usos existentes. Esta revisión ha determinado preliminarmente que ninguno de los cuerpos de agua con usos intermedio, alto o excepcional de vida acuática están presentes dentro del acceso para llegar a la corriente; por lo tanto, no se requiere ninguna determinación de degradación del Nivel 2. No se espera ninguna degradación significativa de la calidad del agua en los cuerpos de agua con usos intermedios, elevados o excepcionales de la vida acuática río abajo y que los usos existentes serán mantenidos y protegidos. La determinación preliminar puede ser reexaminada y puede ser modificada, si se recibe alguna información nueva. 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=-95.430404,29.972868&level=18>

El Director Ejecutivo de la TCEQ ha completado la revisión técnica de la solicitud y ha preparado un borrador del permiso. El borrador del permiso, si es aprobado, establecería las condiciones bajo las cuales la instalación debe operar. El Director Ejecutivo ha tomado una decisión preliminar que si este permiso es emitido, cumple con todos los requisitos normativos y legales. La solicitud del permiso, la decisión preliminar del Director Ejecutivo y el borrador del permiso están disponibles para leer y copiar en Biblioteca sucursal de Aldine, 11331 Airline Drive, Houston, condado de Harris, Texas. La solicitud está disponible para su consulta y reproducción a través del siguiente enlace: <https://www.tceq.texas.gov/permitting/wastewater/pending-permits/tpdes-applications>.

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

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 de la fecha límite para presentar comentarios públicos, el Director Ejecutivo considerará los comentarios y preparará una respuesta a todos los comentarios públicos relevantes y materiales, o significativos. **A menos que la solicitud sea remitida directamente para una audiencia de caso impugnado, la respuesta a los comentarios se enviará por correo a todos los que enviaron comentarios públicos y a aquellas personas que estén en la lista de correo para esta solicitud. Si se reciben comentarios, el correo también proporcionará instrucciones para solicitar una audiencia de caso impugnado o reconsiderar la decisión del Director Ejecutivo.** Una audiencia de caso impugnado es un procedimiento legal similar a un juicio civil en un tribunal de distrito estatal.

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 por qué el miembro sería afectado; y explicar cómo los intereses que el grupo desea proteger son pertinentes al propósito del grupo.

Tras el cierre de todos los periodos de comentarios y solicitudes aplicables, el Director Ejecutivo remitirá la solicitud y cualquier solicitud de reconsideración o de una audiencia de caso impugnado a los Comisionados de la TCEQ para su consideración en una reunión programada de la Comisión.

La Comisión sólo puede conceder una solicitud de una audiencia de caso impugnado sobre los temas que el solicitante haya presentado en sus comentarios oportunos que no fueron retirados posteriormente. **Si se concede una audiencia, el tema de la audiencia estará limitado a cuestiones de hecho en disputa o cuestiones mixtas de hecho y de derecho relacionadas a intereses pertinentes y materiales de calidad del agua que se hayan presentado durante el período de comentarios.**

ACCIÓN DEL DIRECTOR EJECUTIVO. El Director Ejecutivo puede emitir la aprobación final de la solicitud a menos que se presente una solicitud de audiencia de caso impugnado oportunamente o una solicitud de reconsideración. Si se presenta una solicitud de audiencia oportuna o una solicitud de reconsideración, el Director Ejecutivo no emitirá la aprobación final del permiso y enviará la solicitud y la solicitud a los Comisionados de TCEQ para su consideración en una reunión programada de la Comisión.

LISTA DE CORREO. Si envía comentarios públicos, una solicitud de una audiencia de caso impugnado o una reconsideración de la decisión del Director Ejecutivo, se le agregará a la lista de correo de esta solicitud específica para recibir futuros avisos públicos enviados por correo por la Oficina del Secretario Oficial. Además, puede solicitar ser colocado en: (1) la lista de correo permanente para un nombre de solicitante específico y número de permiso; y/o (2) la lista de correo para un condado específico. Si desea ser colocado en la lista de correo permanente y / o del condado, especifique claramente qué lista (s) y envíe su solicitud a la Oficina del Secretario Oficial de la TCEQ a la dirección a continuación.

Todos los comentarios públicos escritos y las solicitudes de reunión pública deben enviarse a Office of the Chief Clerk, MC 105, TCEQ, P.O. Box 13087, Austin, TX 78711-3087 o electrónicamente a <https://www.tceq.texas.gov/goto/comment> dentro de los 30 días a partir de la fecha de publicación de este aviso en el periódico.

INFORMACIÓN DISPONIBLE EN LÍNEA. Para obtener detalles sobre el estado de la solicitud, visite la Base de Datos Integrada de los Comisionados en <https://www.tceq.texas.gov/goto/cid/>. Busque en la base de datos utilizando el número de permiso para esta solicitud, que se proporciona en la parte superior de este aviso.

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

También se puede obtener información adicional del Distrito Municipal de Servicios Públicos del Condado de Harris No. 200 a la dirección indicada arriba o llamando a Sr. Jonathan Nguyen, Quiddity Engineering, al 512-685-5156.

Fecha de emission 2 de diciembre de 2025



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

DOMESTIC WASTEWATER PERMIT APPLICATION CHECKLIST

Complete and submit this checklist with the application.

APPLICANT NAME: Harris County MUD No. 200

PERMIT NUMBER (If new, leave blank): WQ00 WQ0012294001

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

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

For TCEQ Use Only

Segment Number _____ County _____
Expiration Date _____ Region _____
Permit Number _____



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

**DOMESTIC WASTEWATER PERMIT APPLICATION
ADMINISTRATIVE REPORT 1.0**

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

Section 1. Application Fees (Instructions Page 26)

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

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

Minor Amendment (for any flow) \$150.00 ☐

Payment Information:

Mailed Check/Money Order Number: 6234
Check/Money Order Amount: \$2,050
Name Printed on Check: HCMUD 200 STP Fund

EPAY Voucher Number: Click to enter text.

Copy of Payment Voucher enclosed? Yes ☐

Section 2. Type of Application (Instructions Page 26)

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

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

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

- ☒ Active ☐ Inactive

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

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

d. Check the box next to the appropriate application type

- | | |
|---|---|
| <input type="checkbox"/> New | |
| <input checked="" type="checkbox"/> Major Amendment <u>with</u> Renewal | <input type="checkbox"/> Minor Amendment <u>with</u> Renewal |
| <input type="checkbox"/> Major Amendment <u>without</u> Renewal | <input type="checkbox"/> Minor Amendment <u>without</u> Renewal |
| <input type="checkbox"/> Renewal without changes | <input type="checkbox"/> Minor Modification of permit |

e. For amendments or modifications, describe the proposed changes: increase final phase flow to 1.9 MGD with an interim phase of 1.6 MGD and relocate the outfall 140 feet upstream for the new phases

f. For existing permits:

Permit Number: WQ00 12294001

EPA I.D. (TPDES only): TX 0085413

Expiration Date: February 10, 2026

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

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

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

Harris County MUD No. 200

(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: 600740468

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

Prefix: Mr.

Last Name, First Name: Wright, James

Title: President

Credential: Click to enter text.

B. Co-applciant 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-applciant applying for this permit?

N/A

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

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

CN: N/A

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

Prefix: N/A

Last Name, First Name: N/A

Title: N/A

Credential: N/A

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

C. Core Data Form

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

Section 4. Application Contact Information (Instructions Page 27)

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

A. Prefix: Mr.

Last Name, First Name: Nguyen, Jonathan

Title: Permitting Specialist

Credential: Click to enter text.

Organization Name: Quiddity Engineering

Mailing Address: 3100 Alvin Devane Blvd, Suite 150 City, State, Zip Code: Austin, TX 78741

Phone No.: 512-685-5156

E-mail Address: jnguyen@quiddity.com

Check one or both: ☒ Administrative Contact ☒ Technical Contact

B. Prefix: Miss

Last Name, First Name: Troy, Michelle

Title: Senior Project Manager

Credential: PE

Organization Name: Quiddity Engineering

Mailing Address: 4500 Mercantile Plaza Dr, Suite 210 City, State, Zip Code: Fort Worth, TX 76137

Phone No.: 682-268-2202

E-mail Address: mtroy@quiddity.com

Check one or both: ☒ Administrative Contact ☒ Technical Contact

Section 5. Permit Contact Information (Instructions Page 27)

Provide the names and contact information for two individuals that can be contacted throughout the permit term.

A. Prefix: Mr.

Last Name, First Name: Wright, James

Title: President

Credential: Click to enter text.

Organization Name: HCMUD No. 200

Mailing Address: 1300 Post Oak Blvd, Suite 2400 City, State, Zip Code: Houston, TX 77056

Phone No.: 713-623-4531

E-mail Address: gfree@sphllp.com

B. Prefix: Miss

Last Name, First Name: Smith, Yvonne

Title: Secretary

Credential: Click to enter text.

Organization Name: HCMUD No. 200

Mailing Address: 1300 Post Oak Blvd, Suite 2400

City, State, Zip Code: Houston, TX 77056

Phone No.: 713-623-4531

E-mail Address: gfree@sphllp.com

Section 6. Billing Contact Information (Instructions Page 27)

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

Prefix: Mr.

Last Name, First Name: Leggett, Tyler

Title: Bookkeeper

Credential: Click to enter text.

Organization Name: Municipal Accounts & Consulting, LP

Mailing Address: 1281 Brittmoore Road

City, State, Zip Code: Houston, TX 77043

Phone No.: 713-623-4539

E-mail Address: tleggett@municipalaccounts.com

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

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

Prefix: Mr.

Last Name, First Name: Wright, Lonnie

Title: Operator

Credential: Click to enter text.

Organization Name: Municipal Operators & Consulting

Mailing Address: 20141 Schiel Road

City, State, Zip Code: Cypress, TX 77433

Phone No.: 281-367-5511

E-mail Address: lwright@municipalops.com

Section 8. Public Notice Information (Instructions Page 27)

A. Individual Publishing the Notices

Prefix: Mr.

Last Name, First Name: Nguyen, Jonathan

Title: Permitting Specialist

Credential: Click to enter text.

Organization Name: Quiddity Engineering

Mailing Address: 3100 Alvin Devane Blvd, Suite 150

City, State, Zip Code: Austin, TX 78741

Phone No.: 512-685-5156

E-mail Address: jnguyen@quiddity.com

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

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

☒ E-mail Address

☐ Fax

☐ Regular Mail

C. Contact permit to be listed in the Notices

Prefix: Mr.

Last Name, First Name: Nguyen, Jonathan

Title: Click to enter text.

Credential: Click to enter text.

Organization Name: Quiddity Engineering

Mailing Address: 3100 Alvin Devane Blvd, Suite 150 City, State, Zip Code: Austin, TX 78741

Phone No.: 512-685-5156

E-mail Address: jnguyen@quiddity.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: Aldine Branch Library

Location within the building: Click to enter text.

Physical Address of Building: 11331 Airline Drive

City: Houston

County: Harris

Contact (Last Name, First Name): Click to enter text.

Phone No.: 832-927-5410 Ext.: Click to enter text.

E. Bilingual Notice Requirements

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

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

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

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

☒ Yes

☐ No

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

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

☒ Yes

☐ No

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

☐ Yes ☒ No

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

☐ Yes ☒ No

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

F. Plain Language Summary Template

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

Attachment: Attachment B

G. Public Involvement Plan Form

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

Attachment: Attachment C

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

A. If the site is currently regulated by TCEQ, provide the Regulated Entity Number (RN) issued to this site. RN 102849288

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):

HCMUD No. 200 WWTP

C. Owner of treatment facility: HCMUD No. 200

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

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

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

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

Organization Name: HCMUD 200

Mailing Address: 1300 Post Oak Blvd, Suite 2400 City, State, Zip Code: Houston, TX 77056

Phone No.: 713-623-4531 E-mail Address: gfree@sphllp.com

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

Attachment: N/A

E. Owner of effluent disposal site:

Prefix: N/A

Last Name, First Name: N/A

Title: N/A

Credential: N/A

Organization Name: N/A

Mailing Address: N/A

City, State, Zip Code: N/A

Phone No.: N/A

E-mail Address: N/A

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

Attachment: N/A

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

Prefix: N/A

Last Name, First Name: N/A

Title: N/A

Credential: N/A

Organization Name: N/A

Mailing Address: N/A

City, State, Zip Code: N/A

Phone No.: N/A

E-mail Address: N/A

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

Attachment: N/A

Section 10. TPDES Discharge Information (Instructions Page 31)

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



Yes



No

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

N/A

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



Yes



No

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

Outfall is relocating 140 feet upstream. Discharge route will remain the same.

City nearest the outfall(s): Houston

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

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



Yes



No

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

- ☐ Authorization granted ☐ Authorization pending

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

Attachment: N/A

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

Section 11. TLAP Disposal Information (Instructions Page 32)

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

☐ Yes ☐ No

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

N/A

- B. City nearest the disposal site: N/A

- C. County in which the disposal site is located: N/A

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

N/A

- E. 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 32)

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

☐ Yes ☒ No

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

☐ Yes ☐ No ☒ Not Applicable

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

N/A

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

☒ Yes ☐ No

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

- D. Do you owe any fees to the TCEQ?

☐ Yes ☒ No

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

Account number: N/A

Amount past due: N/A

E. Do you owe any penalties to the TCEQ?

☐ Yes ☒ No

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

Enforcement order number: N/A

Amount past due: N/A

Section 13. Attachments (Instructions Page 33)

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

- ☐ Lease agreement or deed recorded easement, if the land where the treatment facility is located or the effluent disposal site are not owned by the applicant or co-applicant.
- ☒ Original full-size USGS Topographic Map with the following information:
 - Applicant's property boundary
 - Treatment facility boundary
 - Labeled point of discharge for each discharge point (TPDES only)
 - Highlighted discharge route for each discharge point (TPDES only)
 - Onsite sewage sludge disposal site (if applicable)
 - Effluent disposal site boundaries (TLAP only)
 - New and future construction (if applicable)
 - 1 mile radius information
 - 3 miles downstream information (TPDES only)
 - All ponds.
- ☐ Attachment 1 for Individuals as co-applicants
- ☐ Other Attachments. Please specify: See List of Attachments

Section 14. Signature Page (Instructions Page 34)

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

Permit Number: WQ0012294001

Applicant: HCMUD No. 200


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): Mr. James Wright

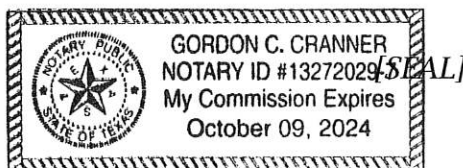
Signatory title: President

Signature:  Date: 5/28/24
(Use blue ink)

Subscribed and Sworn to before me by the said James Wright
on this 28th day of May, 20 24.
My commission expires on the 9th day of October, 20 24.


Notary Public

Harris
County, Texas



DOMESTIC WASTEWATER PERMIT APPLICATION ADMINISTRATIVE REPORT 1.0

The following information is required for new and amendment applications.

Section 1. Affected Landowner Information (Instructions Page 36)

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

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

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

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

- ☐ USB Drive ☒ Four sets of labels

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

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

- ☐ Yes ☒ No

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

N/A

Section 2. Original Photographs (Instructions Page 38)

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

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

Section 3. Buffer Zone Map (Instructions Page 38)

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

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

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

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

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

- ☒ Yes ☐ No

DOMESTIC WASTEWATER PERMIT APPLICATION

SUPPLEMENTAL PERMIT INFORMATION FORM (SPIF)

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

Attachment: Attachment D



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

DOMESTIC WASTEWATER PERMIT APPLICATION TECHNICAL REPORT 1.0

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

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

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

A. Existing/Interim I Phase

Design Flow (MGD): 1.44

2-Hr Peak Flow (MGD): 5.76

Estimated construction start date: Click to enter text.

Estimated waste disposal start date: 1990

B. Interim II Phase

Design Flow (MGD): 1.60

2-Hr Peak Flow (MGD): 6.40

Estimated construction start date: 7/2026

Estimated waste disposal start date: 7/2028

C. Final Phase

Design Flow (MGD): 1.90

2-Hr Peak Flow (MGD): 7.60

Estimated construction start date: 2/2030

Estimated waste disposal start date: 2/2031

D. Current Operating Phase

Provide the startup date of the facility: 1990

Section 2. Treatment Process (Instructions Page 43)

A. Current Operating Phase

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

See Attachment K – Supplemental Technical Report

B. Treatment Units

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

Table 1.0(1) - Treatment Units

Treatment Unit Type	Number of Units	Dimensions (L x W x D)
See Attachment K		

C. Process Flow Diagram

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

Attachment: Attachment L

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

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

- Latitude: Current – 29.972612; Proposed 29.972861
- Longitude: Current - -95.723772; Proposed 95.431394

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

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

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

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

Attachment: Attachment M

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

The plant serves Harris County MUD No. 200 and HCMUD No. 215.

Collection System Information **for wastewater TPDES permits only:** Provide information for each **uniquely owned** collection system, existing and new, served by this facility, including satellite collection systems. **Please see the instructions for a detailed explanation and examples.**

Collection System Information

Collection System Name	Owner Name	Owner Type	Population Served
HCMUD 200	HCMUD 200	Publicly Owned	15,239

Section 4. Unbuilt Phases (Instructions Page 45)

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

☐ Yes ☒ No

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

☐ Yes ☒ No

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

N/A

Section 5. Closure Plans (Instructions Page 45)

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

☐ Yes ☒ No

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

☐ Yes ☐ No

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

RBC, RBC chlorine contact tank, and dechlorination basin will be abandoned in place.

Section 6. Permit Specific Requirements (Instructions Page 45)

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

A. Summary transmittal

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

☒ Yes ☐ No

If **yes**, provide the date(s) of approval for each phase: 1989

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 transmittal letters will be approved for future phases.

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.

Restrictive easements will be needed for future phases.

C. Other actions required by the current permit

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

☐ Yes ☒ No

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

N/A

D. Grit and grease treatment

1. Acceptance of grit and grease waste

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

☐ Yes ☒ No

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

2. Grit and grease processing

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

N/A

3. Grit disposal

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

☐ Yes ☐ No

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

Describe the method of grit disposal.

N/A

4. Grease and decanted liquid disposal

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

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

N/A

E. Stormwater management

1. Applicability

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

☒ Yes ☐ No

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

☐ Yes ☒ No

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

2. MSGP coverage

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

☒ Yes ☐ No

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

TXR05 Q408 or TXRNE [Click to enter text.](#)

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

☐ Yes ☐ No

3. Conditional exclusion

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

☐ Yes ☒ No

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

N/A

4. Existing coverage in individual permit

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

☐ Yes ☒ No

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

N/A

5. Zero stormwater discharge

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

☐ Yes ☒ No

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

N/A

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

6. Request for coverage in individual permit

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

☐ Yes ☒ No

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

N/A

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

F. Discharges to the Lake Houston Watershed

Does the facility discharge in the Lake Houston watershed?

☐ Yes ☒ No

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

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

1. Acceptance of sludge from other WWTPs

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

☐ Yes ☒ No

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

In addition, provide the date the plant started or is anticipated to start accepting sludge, an estimate of monthly sludge acceptance (gallons or millions of gallons), an estimate of the BOD₅ concentration of the sludge, and the design BOD₅ concentration of the influent from the collection system. Also note if this information has or has not changed since the last permit action.

N/A

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

2. *Acceptance of septic waste*

Is the facility accepting or will it accept septic waste?

☐ Yes ☒ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

If **yes to any of the above**, provide the date the plant started or is anticipated to start accepting septic waste, an estimate of monthly septic waste acceptance (gallons or millions of gallons), an estimate of the BOD₅ concentration of the septic waste, and the design BOD₅ concentration of the influent from the collection system. Also note if this information has or has not changed since the last permit action.

N/A

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

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

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

☐ Yes ☒ No

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

N/A

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

Is the facility in operation?

☒ Yes ☐ No

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

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

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

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

Pollutant	Average Conc.	Max Conc.	No. of Samples	Sample Type	Sample Date/Time
CBOD ₅ , mg/l	15.8	15.8	1	Comp	3/7/2024 @ 05:00
Total Suspended Solids, mg/l	8.63	8.63	1	Comp	3/7/2024 @ 05:00
Ammonia Nitrogen, mg/l	18.8	18.8	1	Comp	3/7/2024 @ 05:00
Nitrate Nitrogen, mg/l	4280	4280	1	Comp	3/7/2024 @ 05:00
Total Kjeldahl Nitrogen, mg/l	21.8	21.8	1	Comp	3/7/2024 @ 05:00
Sulfate, mg/l	29.5	29.5	1	Comp	3/7/2024 @ 05:00
Chloride, mg/l	71.6	71.6	1	Comp	3/7/2024 @ 05:00
Total Phosphorus, mg/l	3.71	3.71	1	Comp	3/7/2024 @ 05:00
pH, standard units	7.27	7.27	1	Grab	3/7/2024 @ 08:35
Dissolved Oxygen*, mg/l	8.16	8.16	1	Grab	3/7/2024 @ 08:35
Chlorine Residual, mg/l	2.60	2.60	1	Grab	3/7/2024 @ 08:35
<i>E.coli</i> (CFU/100ml) freshwater	104	104	1	Grab	3/7/2024 @ 08:35
Enterococci (CFU/100ml) saltwater	N/A	N/A	N/A	N/A	N/A
Total Dissolved Solids, mg/l	422	422	1	Comp	3/7/2024 @ 05:00
Electrical Conductivity, μ mohs/cm, †	717	717	1	Comp	3/7/2024 @ 05:00
Oil & Grease, mg/l	<5	<5	1	Grab	3/7/2024 @ 08:35
Alkalinity (CaCO ₃)*, mg/l	172	172	1	Comp	3/7/2024 @ 05:00

*TPDES permits only

†TLAP permits only

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

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

Section 8. Facility Operator (Instructions Page 50)

Facility Operator Name: Municipal Operations and Consulting

Facility Operator's License Classification and Level: Click to enter text.

Facility Operator's License Number: OC0000023

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

A. WWTP's Biosolids Management Facility Type

Check all that apply. See instructions for guidance

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

B. WWTP's Biosolids Treatment Process

Check all that apply. See instructions for guidance.

- ☒ Aerobic Digestion
- ☐ Air Drying (or sludge drying beds)
- ☐ Lower Temperature Composting
- ☐ Lime Stabilization
- ☐ Higher Temperature Composting
- ☐ Heat Drying
- ☐ Thermophilic Aerobic Digestion

- ☐ Beta Ray Irradiation
- ☐ Gamma Ray Irradiation
- ☐ Pasteurization
- ☐ Preliminary Operation (e.g. grinding, de-gritting, blending)
- ☐ Thickening (e.g. gravity thickening, centrifugation, filter press, vacuum filter)
- ☐ Sludge Lagoon
- ☐ Temporary Storage (< 2 years)
- ☐ Long Term Storage (>= 2 years)
- ☐ Methane or Biogas Recovery
- ☒ Other Treatment Process: Dewatering

C. Biosolids Management

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

Biosolids Management

Management Practice	Handler or Preparer Type	Bulk or Bag Container	Amount (dry metric tons)	Pathogen Reduction Options	Vector Attraction Reduction Option
Agricultural Land Application	Off-site Third-Party Handler or Preparer	Bulk	See Attachment Q	Choose an item.	Choose an item.

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

D. Disposal site

Disposal site name: See Attachment Q

TCEQ permit or registration number: See Attachment Q

County where disposal site is located: See Attachment Q

E. Transportation method

Method of transportation (truck, train, pipe, other): See Attachment Q

Name of the hauler: See Attachment Q

Hauler registration number: See Attachment Q

Sludge is transported as a:

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

Section 10. Permit Authorization for Sewage Sludge Disposal

(Instructions Page 53)

A. Beneficial use authorization

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

☐ Yes ☒ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

B. Sludge processing authorization

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

Sludge Composting ☐ 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 53)

Does this facility include sewage sludge lagoons?

☐ Yes ☒ No

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

A. Location information

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

- Original General Highway (County) Map:

Attachment: N/A

- USDA Natural Resources Conservation Service Soil Map:

Attachment: N/A

- Federal Emergency Management Map:

Attachment: N/A

- Site map:

Attachment: N/A

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

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

Attachment: Click 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: N/A

Total Kjeldahl Nitrogen, mg/kg: N/A

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

Phosphorus, mg/kg: N/A

Potassium, mg/kg: N/A

pH, standard units: N/A

Ammonia Nitrogen mg/kg: N/A

Arsenic: N/A

Cadmium: N/A

Chromium: N/A

Copper: N/A

Lead: N/A

Mercury: N/A

Molybdenum: N/A

Nickel: N/A

Selenium: N/A

Zinc: N/A

Total PCBs: N/A

Provide the following information:

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

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

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

C. Liner information

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

☐ Yes ☐ No

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

N/A

D. Site development plan

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

N/A

Attach the following documents to the application.

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

E. Groundwater monitoring

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

☐ Yes ☐ No

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

Attachment: N/A

Section 12. Authorizations/Compliance/Enforcement (Instructions)

A. Additional authorizations

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

☐ Yes ☒ No

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

N/A

B. Permittee enforcement status

Is the permittee currently under enforcement for this facility?

☐ Yes ☒ No

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

☐ Yes ☒ No

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

N/A

Section 13. RCRA/CERCLA Wastes (Instructions Page 55)**A. RCRA hazardous wastes**

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

☐ Yes ☒ No

B. Remediation activity wastewater

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

☐ Yes ☒ No

C. Details about wastes received

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

Attachment: N/A

Section 14. Laboratory Accreditation (Instructions Page 56)

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

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

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

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

CERTIFICATION:

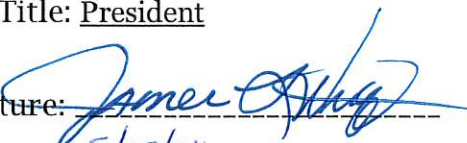
I certify that all laboratory tests submitted with this application meet the requirements of *30 TAC Chapter 25, Environmental Testing Laboratory Accreditation and Certification*.

Printed Name: James Wright

Title: President

Signature: _____

Date: _____


5/28/24

DOMESTIC WASTEWATER PERMIT APPLICATION

TECHNICAL REPORT 1.1

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

Section 1. Justification for Permit (Instructions Page 57)

A. Justification of permit need

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

See Attachment N – Justification

B. Regionalization of facilities

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

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

1. *Municipally incorporated areas*

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

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

☐ Yes ☐ No ☒ Not Applicable

If yes, within the city limits of: N/A

If yes, attach correspondence from the city.

Attachment: N/A

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

Attachment: N/A

2. *Utility CCN areas*

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

☐ Yes ☐ No

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

Attachment: N/A

¹ <https://www.tceq.texas.gov/permitting/wastewater/tceq-regionalization-for-wastewater>

3. *Nearby WWTPs or collection systems*

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

☐ Yes ☐ No

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

Attachment: N/A

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

Attachment: N/A

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

Attachment: N/A

Section 2. Proposed Organic Loading (Instructions Page 59)

Is this facility in operation?

☒ Yes ☐ No

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

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

A. Current organic loading

Facility Design Flow (flow being requested in application): 1.44/1.60/1.90

Average Influent Organic Strength or BOD₅ Concentration in mg/l: 300

Average Influent Loading (lbs/day = total average flow X average BOD₅ conc. X 8.34):
4.003/4.754

Provide the source of the average organic strength or BOD₅ concentration.

Influent testing

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	N/A	N/A

Source	Total Average Flow (MGD)	Influent BOD5 Concentration (mg/l)
Subdivision	N/A	N/A
Trailer park – transient	N/A	N/A
Mobile home park	N/A	N/A
School with cafeteria and showers	N/A	N/A
School with cafeteria, no showers	N/A	N/A
Recreational park, overnight use	N/A	N/A
Recreational park, day use	N/A	N/A
Office building or factory	N/A	N/A
Motel	N/A	N/A
Restaurant	N/A	N/A
Hospital	N/A	N/A
Nursing home	N/A	N/A
Other	N/A	N/A
TOTAL FLOW from all sources	N/A	N/A
AVERAGE BOD ₅ from all sources	N/A	N/A

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

A. Existing/Interim I Phase Design Effluent Quality

Biochemical Oxygen Demand (5-day), mg/l: 10

Total Suspended Solids, mg/l: 15

Ammonia Nitrogen, mg/l: report

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

Dissolved Oxygen, mg/l: 4.0

Other: Click to enter text.

B. Interim II Phase Design Effluent Quality

Biochemical Oxygen Demand (5-day), mg/l: 10

Total Suspended Solids, mg/l: 15

Ammonia Nitrogen, mg/l: 2

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

Dissolved Oxygen, mg/l: 4.0

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

C. Final Phase Design Effluent Quality

Biochemical Oxygen Demand (5-day), mg/l: 10

Total Suspended Solids, mg/l: 15

Ammonia Nitrogen, mg/l: 2

Total Phosphorus, mg/l: [Click to enter text.](#)

Dissolved Oxygen, mg/l: 4.0

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

D. Disinfection Method

Identify the proposed method of disinfection.

☒ Chlorine: 1.0 mg/l after 20 minutes detention time at peak flow

Dechlorination process: sulfur dioxide

☐ Ultraviolet Light: [Click to enter text.](#) seconds contact time at peak flow

☐ Other: [Click to enter text.](#)

Section 4. Design Calculations (Instructions Page 59)

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

Attachment: [Attachment K](#)

Section 5. Facility Site (Instructions Page 60)

A. 100-year floodplain

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

☒ Yes ☐ No

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

N/A

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

See Attachment R

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

☐ Yes ☒ No

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

☐ Yes ☐ No

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

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

B. Wind rose

Attach a wind rose: Attachment S

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

A. Beneficial use authorization

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

☐ Yes ☒ No

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

B. Sludge processing authorization

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

- ☐ Sludge Composting
- ☐ Marketing and Distribution of sludge
- ☐ Sludge Surface Disposal or Sludge Monofill

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

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

Attach a solids management plan to the application.

Attachment: Attachment O

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

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

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

DOMESTIC WASTEWATER PERMIT APPLICATION

WORKSHEET 2.0: RECEIVING WATERS

The following information is required for all TPDES permit applications.

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

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

☐ Yes ☒ No

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

Owner of the drinking water supply: N/A

Distance and direction to the intake: N/A

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

Attachment: N/A

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

Does the facility discharge into tidally affected waters?

☐ Yes ☒ No

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

A. Receiving water outfall

Width of the receiving water at the outfall, in feet: 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 64)

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

☐ Yes ☒ No

If **yes**, this Worksheet is complete.

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

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

Name of the immediate receiving waters: HCFC Ditch P145-00-00

A. Receiving water type

Identify the appropriate description of the receiving waters.

- ☐ Stream
- ☐ Freshwater Swamp or Marsh
- ☐ Lake or Pond

Surface area, in acres: Click to enter text.

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

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

- ☒ Man-made Channel or Ditch
- ☐ Open Bay
- ☐ Tidal Stream, Bayou, or Marsh
- ☐ Other, specify: Click to enter text.

B. Flow characteristics

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

- ☐ Intermittent - dry for at least one week during most years
- ☐ Intermittent with Perennial Pools - enduring pools with sufficient habitat to maintain significant aquatic life uses
- ☒ Perennial - normally flowing

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

- ☐ USGS flow records
- ☐ Historical observation by adjacent landowners
- ☒ Personal observation
- ☐ Other, specify: Click 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.

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.

N/A

E. Normal dry weather characteristics

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

Low flowing stream with a small amount of weeds.

Date and time of observation: 9/22/24 @ 08:15

Was the water body influenced by stormwater runoff during observations?

☐ Yes ☒ No

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

A. Upstream influences

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

- | | |
|---|--|
| <input type="checkbox"/> Oil field activities | <input checked="" type="checkbox"/> Urban runoff |
| <input checked="" type="checkbox"/> Upstream discharges | <input type="checkbox"/> Agricultural runoff |
| <input type="checkbox"/> Septic tanks | <input type="checkbox"/> Other(s), specify: Click to enter text. |

B. Waterbody uses

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

- | | |
|--|--|
| <input type="checkbox"/> Livestock watering | <input type="checkbox"/> Contact recreation |
| <input type="checkbox"/> Irrigation withdrawal | <input checked="" type="checkbox"/> Non-contact recreation |
| <input type="checkbox"/> Fishing | <input type="checkbox"/> Navigation |
| <input type="checkbox"/> Domestic water supply | <input type="checkbox"/> Industrial water supply |
| <input type="checkbox"/> Park activities | <input type="checkbox"/> Other(s), specify: Click to enter text. |

C. Waterbody aesthetics

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

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

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

DOMESTIC WASTEWATER PERMIT APPLICATION

WORKSHEET 4.0: POLLUTANT ANALYSIS REQUIREMENTS

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

This worksheet is not required minor amendments without renewal.

Section 1. Toxic Pollutants (Instructions Page 78)

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

Grab ☒

Composite ☒

Date and time sample(s) collected: 3/6/24 @ 07:40 and 14:20; 3/7/24 @ 05:00 and 08:35; and 3/26/24 @ 05:00

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	<50	1	50
Aldrin	<0.004	<0.004	1	0.01
Aluminum	28.1	28.1	1	2.5
Anthracene	<0.35	<0.35	1	10
Antimony	<5	<5	1	5
Arsenic	2.40	2.40	1	0.5
Barium	164	164	1	3
Benzene	<10	<10	1	10
Benzidine	<0.66	<0.66	1	50
Benzo(a)anthracene	<0.38	<0.38	1	5
Benzo(a)pyrene	<0.85	<0.85	1	5
Bis(2-chloroethyl)ether	<0.72	<0.72	1	10
Bis(2-ethylhexyl)phthalate	<2.2	<2.2	1	10
Bromodichloromethane	<10	<10	1	10
Bromoform	<10	<10	1	10
Cadmium	<1	<1	1	1
Carbon Tetrachloride	<2	<2	1	2
Carbaryl	<2.7	<2.7	1	5
Chlordane*	<0.1	<0.1	1	0.2
Chlorobenzene	<10	<10	1	10

Pollutant	AVG Effluent Conc. (µg/l)	MAX Effluent Conc. (µg/l)	Number of Samples	MAL (µg/l)
Chlorodibromomethane	<10	<10	1	10
Chloroform	<10	<10	1	10
Chlorpyrifos	<0.0265	<0.0265	1	0.05
Chromium (Total)	<3	<3	1	3
Chromium (Tri) (*1)	<0.003	<0.003	1	N/A
Chromium (Hex)	7.34	7.34	1	3
Copper	10.2	10.2	1	2
Chrysene	<0.57	<0.57	1	5
p-Chloro-m-Cresol	<0.53	<0.53	1	10
4,6-Dinitro-o-Cresol	<0.66	<0.66	1	50
p-Cresol	<1	<1	1	10
Cyanide (*2)	<10	<10	1	10
4,4'- DDD	<0.002	<0.002	1	0.1
4,4'- DDE	<0.009	<0.009	1	0.1
4,4'- DDT	<0.004	<0.004	1	0.02
2,4-D	<0.237	<0.237	1	0.7
Demeton (O and S)	<0.0133	<0.0133	1	0.20
Diazinon	<0.0332	<0.0332	1	0.5/0.1
1,2-Dibromoethane	<10	<10	1	10
m-Dichlorobenzene	<10	<10	1	10
o-Dichlorobenzene	<10	<10	1	10
p-Dichlorobenzene	<10	<10	1	10
3,3'-Dichlorobenzidine	<0.88	<0.88	1	5
1,2-Dichloroethane	<10	<10	1	10
1,1-Dichloroethylene	<10	<10	1	10
Dichloromethane	<20	<20	1	20
1,2-Dichloropropane	<10	<10	1	10
1,3-Dichloropropene	<10	<10	1	10
Dicofol	<0.05	<0.05	1	1
Dieldrin	<0.005	<0.005	1	0.02
2,4-Dimethylphenol	<0.53	<0.53	1	10
Di-n-Butyl Phthalate	<1.2	<1.2	1	10
Diuron	<0.0486	<0.0486	1	0.09

Pollutant	AVG Effluent Conc. (µg/l)	MAX Effluent Conc. (µg/l)	Number of Samples	MAL (µg/l)
Endosulfan I (alpha)	<0.007	<0.007	1	0.01
Endosulfan II (beta)	<0.004	<0.004	1	0.02
Endosulfan Sulfate	<0.005	<0.005	1	0.1
Endrin	<0.004	<0.004	1	0.02
Ethylbenzene	<10	<10	1	10
Fluoride	0.302	0.302	1	500
Guthion	<0.0344	<0.0344	1	0.1
Heptachlor	<0.004	<0.004	1	0.01
Heptachlor Epoxide	<0.004	<0.004	1	0.01
Hexachlorobenzene	<0.69	<0.69	1	5
Hexachlorobutadiene	<0.41	<0.41	1	10
Hexachlorocyclohexane (alpha)	<0.003	<0.003	1	0.05
Hexachlorocyclohexane (beta)	<0.004	<0.004	1	0.05
gamma-Hexachlorocyclohexane (Lindane)	<0.004	<0.004	1	0.05
Hexachlorocyclopentadiene	<0.35	<0.35	1	10
Hexachloroethane	<0.47	<0.47	1	20
Hexachlorophene	<2.9	<2.9	1	10
Lead	<0.5	<0.5	1	0.5
Malathion	<0.0137	<0.0137	1	0.1
Mercury	<0.005	<0.005	6	0.005
Methoxychlor	<0.003	<0.003	1	2
Methyl Ethyl Ketone	<50	<50	1	50
Mirex	<0.01	<0.01	1	0.02
Nickel	<2	<2	1	2
Nitrate-Nitrogen	4280	4280	1	100
Nitrobenzene	<0.91	<0.91	1	10
N-Nitrosodiethylamine	<5	<5	1	20
N-Nitroso-di-n-Butylamine	<5	<5	1	20
Nonylphenol	<333	<333	1	333
Parathion (ethyl)	<0.0214	<0.0214	1	0.1
Pentachlorobenzene	<3	<3	1	20
Pentachlorophenol	<0.5	<0.5	1	5

Pollutant	AVG Effluent Conc. (µg/l)	MAX Effluent Conc. (µg/l)	Number of Samples	MAL (µg/l)
Phenanthrene	<0.44	<0.44	1	10
Polychlorinated Biphenyls (PCB's) (*3)	<0.03	<0.03	1	0.2
Pyridine	<0.35	<0.35	1	20
Selenium	<5	<5	1	5
Silver	<0.5	<0.5	1	0.5
1,2,4,5-Tetrachlorobenzene	<5	<5	1	20
1,1,2,2-Tetrachloroethane	<10	<10	1	10
Tetrachloroethylene	<10	<10	1	10
Thallium	<0.5	<0.5	1	0.5
Toluene	<10	<10	1	10
Toxaphene	<0.1	<0.1	1	0.3
2,4,5-TP (Silvex)	<0.239	<0.239	1	0.3
Tributyltin (see instructions for explanation)	N/A	N/A	N/A	0.01
1,1,1-Trichloroethane	<10	<10	1	10
1,1,2-Trichloroethane	<10	<10	1	10
Trichloroethylene	<10	<10	1	10
2,4,5-Trichlorophenol	<0.85	<0.85	1	50
TTHM (Total Trihalomethanes)	<10	<10	1	10
Vinyl Chloride	<10	<10	1	10
Zinc	27	27	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: 3/6/24 @ 07:40 and 14:20; 3/7/24 @ 05:00 and 08:35; and 3/26/24 @ 05:00

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

Pollutant	AVG Effluent Conc. (µg/l)	MAX Effluent Conc. (µg/l)	Number of Samples	MAL (µg/l)
Antimony	<5	<5	1	5
Arsenic	2.4	2.4	1	0.5
Beryllium	<0.5	<0.5	1	0.5
Cadmium	<1	<1	1	1
Chromium (Total)	<3	<3	1	3
Chromium (Hex)	7.34	7.34	1	3
Chromium (Tri) (*1)	<0.003	<0.003	1	N/A
Copper	10.2	10.2	1	2
Lead	<0.5	<0.5	1	0.5
Mercury	0.005	0.005	6	0.005
Nickel	<2	<2	1	2
Selenium	<5	<5	1	5
Silver	<0.5	<0.5	1	0.5
Thallium	<0.5	<0.5	1	0.5
Zinc	27	27	1	5
Cyanide (*2)	<10	<10	1	10
Phenols, Total	<0.44	<0.44	1	10

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

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

Table 4.0(2)B – Volatile Compounds

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

Table 4.0(2)C – Acid Compounds

Pollutant	AVG Effluent Conc. (µg/l)	MAX Effluent Conc. (µg/l)	Number of Samples	MAL (µg/l)
2-Chlorophenol	<0.50	<0.50	1	10
2,4-Dichlorophenol	<0.69	<0.69	1	10
2,4-Dimethylphenol	<0.53	<0.53	1	10
4,6-Dinitro-o-Cresol	<0.66	<0.66	1	50
2,4-Dinitrophenol	<1.4	<1.4	1	50
2-Nitrophenol	<0.88	<0.88	1	20
4-Nitrophenol	<1.1	<1.1	1	50
P-Chloro-m-Cresol	<0.53	<0.53	1	10
Pentalchlorophenol	<0.5	<0.5	1	5
Phenol	<0.44	<0.44	1	10
2,4,6-Trichlorophenol	<0.79	<0.79	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	<0.28	<0.28	1	10
Acenaphthylene	<0.47	<0.47	1	10
Anthracene	<0.35	<0.35	1	10
Benzidine	<0.66	<0.66	1	50
Benzo(a)Anthracene	<0.38	<0.38	1	5
Benzo(a)Pyrene	<0.85	<0.85	1	5
3,4-Benzofluoranthene	<5.7	<5.7	1	10
Benzo(ghi)Perylene	<0.63	<0.63	1	20
Benzo(k)Fluoranthene	<0.57	<0.57	1	5
Bis(2-Chloroethoxy)Methane	<0.35	<0.35	1	10
Bis(2-Chloroethyl)Ether	<0.72	<0.72	1	10
Bis(2-Chloroisopropyl)Ether	<1	<1	1	10
Bis(2-Ethylhexyl)Phthalate	<2.2	<2.2	1	10
4-Bromophenyl Phenyl Ether	<0.41	<0.41	1	10
Butyl benzyl Phthalate	<0.69	<0.69	1	10
2-Chloronaphthalene	<0.28	<0.28	1	10
4-Chlorophenyl phenyl ether	<0.66	<0.66	1	10
Chrysene	<0.57	<0.57	1	5
Dibenzo(a,h)Anthracene	<0.69	<0.69	1	5
1,2-(o)Dichlorobenzene	<10	<10	1	10
1,3-(m)Dichlorobenzene	<10	<10	1	10
1,4-(p)Dichlorobenzene	<10	<10	1	10
3,3-Dichlorobenzidine	<0.88	<0.88	1	5
Diethyl Phthalate	<0.63	<0.63	1	10
Dimethyl Phthalate	<0.63	<0.63	1	10
Di-n-Butyl Phthalate	<1.2	<1.2	1	10
2,4-Dinitrotoluene	<0.97	<0.97	1	10
2,6-Dinitrotoluene	<1.2	<1.2	1	10
Di-n-Octyl Phthalate	<2.8	<2.8	1	10
1,2-Diphenylhydrazine (as Azo-benzene)	<0.22	<0.22	1	20
Fluoranthene	<0.44	<0.44	1	10

Pollutant	AVG Effluent Conc. (µg/l)	MAX Effluent Conc. (µg/l)	Number of Samples	MAL (µg/l)
Fluorene	<0.47	<0.47	1	10
Hexachlorobenzene	<0.69	<0.69	1	5
Hexachlorobutadiene	<0.41	<0.41	1	10
Hexachlorocyclo-pentadiene	<0.35	<0.35	1	10
Hexachloroethane	<0.47	<0.47	1	20
Indeno(1,2,3-cd)pyrene	<0.22	<0.22	1	5
Isophorone	<0.28	<0.28	1	10
Naphthalene	<0.31	<0.31	1	10
Nitrobenzene	<0.91	<0.91	1	10
N-Nitrosodimethylamine	<0.79	<0.79	1	50
N-Nitrosodi-n-Propylamine	<0.72	<0.72	1	20
N-Nitrosodiphenylamine	<0.47	<0.47	1	20
Phenanthrene	<0.44	<0.44	1	10
Pyrene	<0.57	<0.57	1	10
1,2,4-Trichlorobenzene	<10	<10	1	10

Table 4.0(2)E - Pesticides

Pollutant	AVG Effluent Conc. (µg/l)	MAX Effluent Conc. (µg/l)	Number of Samples	MAL (µg/l)
Aldrin	<0.004	<0.004	1	0.01
alpha-BHC (Hexachlorocyclohexane)	<0.003	<0.003	1	0.05
beta-BHC (Hexachlorocyclohexane)	<0.004	<0.004	1	0.05
gamma-BHC (Hexachlorocyclohexane)	<0.004	<0.004	1	0.05
delta-BHC (Hexachlorocyclohexane)	<0.006	<0.006	1	0.05
Chlordane	<0.1	<0.1	1	0.2
4,4-DDT	<0.004	<0.004	1	0.02
4,4-DDE	<0.009	<0.009	1	0.1
4,4,-DDD	<0.002	<0.002	1	0.1
Dieldrin	<0.005	<0.005	1	0.02
Endosulfan I (alpha)	<0.007	<0.007	1	0.01
Endosulfan II (beta)	<0.004	<0.004	1	0.02
Endosulfan Sulfate	<0.005	<0.005	1	0.1
Endrin	<0.004	<0.004	1	0.02
Endrin Aldehyde	<0.003	<0.003	1	0.1
Heptachlor	<0.004	<0.004	1	0.01
Heptachlor Epoxide	<0.004	<0.004	1	0.01
PCB-1242	<0.03	<0.03	1	0.2
PCB-1254	<0.03	<0.03	1	0.2
PCB-1221	<0.03	<0.03	1	0.2
PCB-1232	<0.03	<0.03	1	0.2
PCB-1248	<0.03	<0.03	1	0.2
PCB-1260	<0.03	<0.03	1	0.2
PCB-1016	<0.03	<0.03	1	0.2
Toxaphene	<0.1	<0.1	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 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 to enter text.](#)

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

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

Grab ☐ Composite ☐

Date and time sample(s) collected: [Click to enter text.](#)

Table 4.0(2)F – Dioxin/Furan Compounds

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

DOMESTIC WASTEWATER PERMIT APPLICATION

WORKSHEET 5.0: TOXICITY TESTING REQUIREMENTS

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

This worksheet is not required for minor amendments without renewal.

Section 1. Required Tests (Instructions Page 88)

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

7-day Chronic: 7

48-hour Acute: [Click to enter text.](#)

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 DMR			

DOMESTIC WASTEWATER PERMIT APPLICATION

WORKSHEET 6.0: INDUSTRIAL WASTE CONTRIBUTION

The following is required for all publicly owned treatment works.

Section 1. All POTWs (Instructions Page 89)

A. Industrial users (IUs)

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

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

Categorical IUs:

Number of IUs: 0

Average Daily Flows, in MGD: 0

Significant IUs - non-categorical:

Number of IUs: 0

Average Daily Flows, in MGD: 0

Other IUs:

Number of IUs: 0

Average Daily Flows, in MGD: 0

B. Treatment plant interference

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

☐ Yes ☒ No

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

N/A

C. Treatment plant pass through

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

☐ Yes ☒ No

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

N/A

D. Pretreatment program

Does your POTW have an approved pretreatment program?

☐ Yes ☒ No

If **yes**, complete Section 2 only of this Worksheet.

Is your POTW required to develop an approved pretreatment program?

☐ Yes ☒ No

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

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

E. Service Area Map

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

Attachment: Attachment M

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

A. Substantial modifications

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

☐ Yes ☐ No

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

N/A

B. Non-substantial modifications

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

☐ Yes ☐ No

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

N/A

C. Effluent parameters above the MAL

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

Table 6.0(1) – Parameters Above the MAL

Pollutant	Concentration	MAL	Units	Date
<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>

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 90)

A. General information

Company Name: No SIUs or CIUs

SIC Code: No SIUs or CIUs

Contact name: No SIUs or CIUs

Address: No SIUs or CIUs

City, State, and Zip Code: No SIUs or CIUs

Telephone number: No SIUs or CIUs

Email address: No SIUs or CIUs

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: N/A

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: N/A

Subcategories: N/A

Category: N/A

Subcategories: N/A

Category: N/A

Subcategories: N/A

Category: N/A

Subcategories: N/A

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

**LIST OF ATTACHMENTS
HARRIS COUNTY MUD NO. 200
TPDES RENEWAL WITH MAJOR AMENDMENT**

- Attachment A – Core Data Form (Admin Report 1.0, Section 3.C)
- Attachment B – Plain Language Summary (Admin Report 1.0, Section 8.F)
- Attachment C – Public Involvement Plan (Admin Report 1.0, Section 8.G)
- Attachment D – Supplemental Permit Information Form (Admin Report)
- Attachment E – USGS Map (Admin. Report 1.0, Section 13)
- Attachment F – Adjacent and Downstream Landowners (Admin. Report 1.1, Section 1.A and C)
- Attachment G – Original Photographs (Admin Report 1.1, Section 2)
- Attachment H – Buffer Zone Map (Admin Report 1.1, Section 3.A)
- Attachment I – Area Water Wells (Admin Report 1.1, Section 3.C)
- Attachment J – Wetlands Map (Admin Report 1.1, Section 3.C and Tech. Report 1.1, Section 5.A)
- Attachment K – Supplemental Technical Reports (Tech Report 1.0, Section 2.A and B and Tech Report 1.1, Section 4)
- Attachment L – Flow Schematics (Tech Report 1.0, Section 2.C)
- Attachment M – Service Area Map (Tech Report 1.0, Section 3)
- Attachment N – Justification (Tech Report 1.0, Section 4 and Tech Report 1.1, Section 1.A)
- Attachment O – Sewage Sludge Management Plan (Tech Report 1.0 Section 6.F and Tech. Report 1.1, Item 7)
- Attachment P – Final Effluent Analysis (Tech Report 1.0, Section 7, worksheet 4.0)
- Attachment Q – Sludge Disposal Information (Tech Report 1.0, Section 9.B)
- Attachment R – FEMA Flood Map (Tech Rep 1.1, Section 5.A)
- Attachment S – Wind Rose (Tech Report 1.1, Section 5.B)

ATTACHMENT A

CORE DATA FORM

HARRIS COUNTY MUD NO. 200
TPDES RENEWAL WITH MAJOR AMENDMENT

MAY 2024



QUIDDITY

Texas Board of Professional Engineers and Land Surveyors Registration Nos. F-23290 & 10046100
6330 West Loop South, Suite 150 • Bellaire, TX 77401 • 713.777.5337



TCEQ Use Only

TCEQ Core Data Form

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

SECTION I: General Information

1. Reason for Submission (If other is checked please describe in space provided.)		
<input type="checkbox"/> New Permit, Registration or Authorization (Core Data Form should be submitted with the program application.)		
<input type="checkbox"/> Renewal (Core Data Form should be submitted with the renewal form)	<input checked="" type="checkbox"/> Other renewal with 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 600740468		RN 102849288

SECTION II: Customer Information

4. General Customer Information		5. Effective Date for Customer Information Updates (mm/dd/yyyy)	
<input type="checkbox"/> New Customer		<input checked="" type="checkbox"/> Update to Customer Information	
<input type="checkbox"/> Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)		<input type="checkbox"/> Change in Regulated Entity Ownership	
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:	
Harris County Municipal Utility District No. 200			
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:	<input type="checkbox"/> Corporation	<input type="checkbox"/> Individual	Partnership: <input type="checkbox"/> General <input type="checkbox"/> Limited
Government: <input type="checkbox"/> City <input type="checkbox"/> County <input type="checkbox"/> Federal <input type="checkbox"/> State <input checked="" type="checkbox"/> Other	<input type="checkbox"/> Sole Proprietorship	<input type="checkbox"/> Other:	
12. Number of Employees		13. Independently Owned and Operated?	
<input checked="" type="checkbox"/> 0-20 <input type="checkbox"/> 21-100 <input type="checkbox"/> 101-250 <input type="checkbox"/> 251-500 <input type="checkbox"/> 501 and higher		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
14. Customer Role (Proposed or Actual) – as it relates to the Regulated Entity listed on this form. Please check one of the following			
<input type="checkbox"/> Owner <input type="checkbox"/> Operator <input checked="" type="checkbox"/> Owner & Operator			
<input type="checkbox"/> Occupational Licensee <input type="checkbox"/> Responsible Party <input type="checkbox"/> Voluntary Cleanup Applicant <input type="checkbox"/> Other:			
15. Mailing Address:	1300 Post Oak Blvd		
	Suite 2400		
	City	Houston	State TX ZIP 77056 ZIP + 4
16. Country Mailing Information (if outside USA)		17. E-Mail Address (if applicable)	
		gfree@sphllp.com	
18. Telephone Number	19. Extension or Code	20. Fax Number (if applicable)	
(713) 623-4531		(713) 623-6143	

SECTION III: Regulated Entity Information

21. General Regulated Entity Information (If 'New Regulated Entity' is selected below this form should be accompanied by a permit application)		
<input type="checkbox"/> New Regulated Entity <input type="checkbox"/> Update to Regulated Entity Name <input checked="" type="checkbox"/> Update to Regulated Entity Information		
The Regulated Entity Name submitted may be updated in order to meet TCEQ Agency 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.)		
HCMUD 200 Wastewater Treatment Facility		

23. Street Address of the Regulated Entity: (No PO Boxes)	13050 Stonefield Drive						
	City		State	TX	ZIP	77014	ZIP + 4
24. County	Harris						

Enter Physical Location Description if no street address is provided.

25. Description to Physical Location:	N/A						
26. Nearest City	Houston				State	TX	Nearest ZIP Code
						77014	
27. Latitude (N) In Decimal:	29.973006			28. Longitude (W) In Decimal:	-95.430569		
Degrees	Minutes	Seconds		Degrees	Minutes	Seconds	
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.)							
treatment of municipal wastewater							
34. Mailing Address:	20141 Schiel Road						
	City	Cypress	State	TX	ZIP	77433	ZIP + 4
35. E-Mail Address:		lwright@municipalops.com					
36. Telephone Number		37. Extension or Code		38. Fax Number (if applicable)			
(281) 368-5511				(281) 367-5517			

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


<input type="checkbox"/> Dam Safety	<input type="checkbox"/> Districts	<input type="checkbox"/> Edwards Aquifer	<input type="checkbox"/> Emissions Inventory Air	<input type="checkbox"/> Industrial Hazardous Waste
<input type="checkbox"/> Municipal Solid Waste	<input type="checkbox"/> New Source Review Air	<input type="checkbox"/> OSSF	<input type="checkbox"/> Petroleum Storage Tank	<input type="checkbox"/> PWS
<input type="checkbox"/> Sludge	<input checked="" type="checkbox"/> Storm Water	<input type="checkbox"/> Title V Air	<input type="checkbox"/> Tires	<input type="checkbox"/> Used Oil
	TXR05Q408			
<input type="checkbox"/> Voluntary Cleanup	<input checked="" type="checkbox"/> Waste Water	<input type="checkbox"/> Wastewater Agriculture	<input type="checkbox"/> Water Rights	<input type="checkbox"/> Other:
	WQ0012294001			

SECTION IV: Preparer Information

40. Name:	Jonathan Nguyen		41. Title:	Permitting Specialist
42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address	
(512) 685-5156		() -	jnguyen@quiddity.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:	Harris County MUD No. 200	Job Title:	President
Name (In Print):	James Wright	Phone:	(713) 623- 4531
Signature:		Date:	5/28/24

ATTACHMENT B

PLAIN LANGUAGE SUMMARY

HARRIS COUNTY MUD NO. 200
TPDES RENEWAL WITH MAJOR AMENDMENT

MAY 2024



QUIDDITY

Texas Board of Professional Engineers and Land Surveyors Registration Nos. F-23290 & 10046100
6330 West Loop South, Suite 150 • Bellaire, TX 77401 • 713.777.5337

Harris County MUD No. 200
Renewal with Major Amendment – Plain Language Summary

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.

Harris County Municipal Utility District No. 200 (CN600740468) operates the HCMUD No. 200 wastewater treatment facility (RN102849288), an activated sludge process plant operated in the complete mix mode. The facility is located at 13050 Stonefield Drive, in Harris County, Texas 77014.

This application is for a renewal with major amendment to increase the annual average flow of 1,440,000 gallons per day to 1,900,000 gallons per day of treated domestic wastewater.

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 an activated sludge process plant and the treatment units include a bar screen, aeration basins, final clarifiers, sludge digesters, chlorine contact chambers and a dechlorination chamber.

Harris County MUD No. 200
Renewal with Major Amendment – Plain Language Summary

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.

El Distrito Municipal de Servicios Públicos No. 200 del Condado de Harris (CN600740468) opera la instalación de tratamiento de aguas residuales HCMUD No. 200 (RN102849288), una planta de proceso de lodos activados que opera en modo de mezcla completa. La instalación está ubicada en 13050 Stonefield Drive, en el condado de Harris, Texas 77014.

Esta solicitud es para una renovación con enmienda importante para aumentar el flujo promedio anual de 1,440,000 galones por día a 1,900,000 galones por día de aguas residuales domésticas tratadas.

Se espera que las descargas de la instalación contengan demanda bioquímica de oxígeno carbonoso (CBOD₅) de cinco días, sólidos suspendidos totales (TSS), 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 son tratadas mediante una planta de proceso de lodos activados y las unidades de tratamiento incluyen criba de barras, balsas de aireación, clarificadores finales, digestores de lodos, cámaras de contacto de cloro y cámara de decoloración.

ATTACHMENT C

PUBLIC INVOLVEMENT PLAN

HARRIS COUNTY MUD NO. 200
TPDES RENEWAL WITH MAJOR AMENDMENT

MAY 2024



QUIDDITY

Texas Board of Professional Engineers and Land Surveyors Registration Nos. F-23290 & 10046100
6330 West Loop South, Suite 150 • Bellaire, TX 77401 • 713.777.5337



Texas Commission on Environmental Quality

Public Involvement Plan Form for Permit and Registration Applications

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

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

Section 1. Preliminary Screening

New Permit or Registration Application

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

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

Section 2. Secondary Screening

Requires public notice,

Considered to have significant public interest, and

Located within any of the following geographical locations:

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

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

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

Section 3. Application Information

Type of Application (check all that apply):

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

Water Quality

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

Water Rights New Permit

New Appropriation of Water
New or existing reservoir

Amendment to an Existing Water Right

Add a New Appropriation of Water

Add a New or Existing Reservoir

Major Amendment that could affect other water rights or the environment

Section 4. Plain Language Summary

Provide a brief description of planned activities.

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 D

SUPPLEMENTAL PERMIT INFORMATION FORM

HARRIS COUNTY MUD NO. 200
TPDES RENEWAL WITH MAJOR AMENDMENT

MAY 2024



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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: Harris County MUD No. 200

Permit No. WQ00 12294001

EPA ID No. TX 0085413

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

13050 Stonefield Drive, in Harris County, Texas 77014

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: Jonathan Nguyen

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

Title: Permit Specialist

Mailing Address: 3100 Alvin Devane Blvd, Suite 150

City, State, Zip Code: Austin, TX 78741

Phone No.: 512-685-5156 Ext.:

Fax No.:

E-mail Address: jnguyen@quiddity.com

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

HCMUD No. 200

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 Harris County Flood Control District Ditch P145-00-00, then to Greens Bayou Above Tidal in Segment No. 1016 of the San 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.

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):

Additional phases are expected in the future. No additional land will need to be required for future expansion.

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

Existing land use is the WWTF.

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:

N/A

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

N/A

ATTACHMENT E

USGS MAP

**HARRIS COUNTY MUD NO. 200
TPDES RENEWAL WITH MAJOR AMENDMENT**

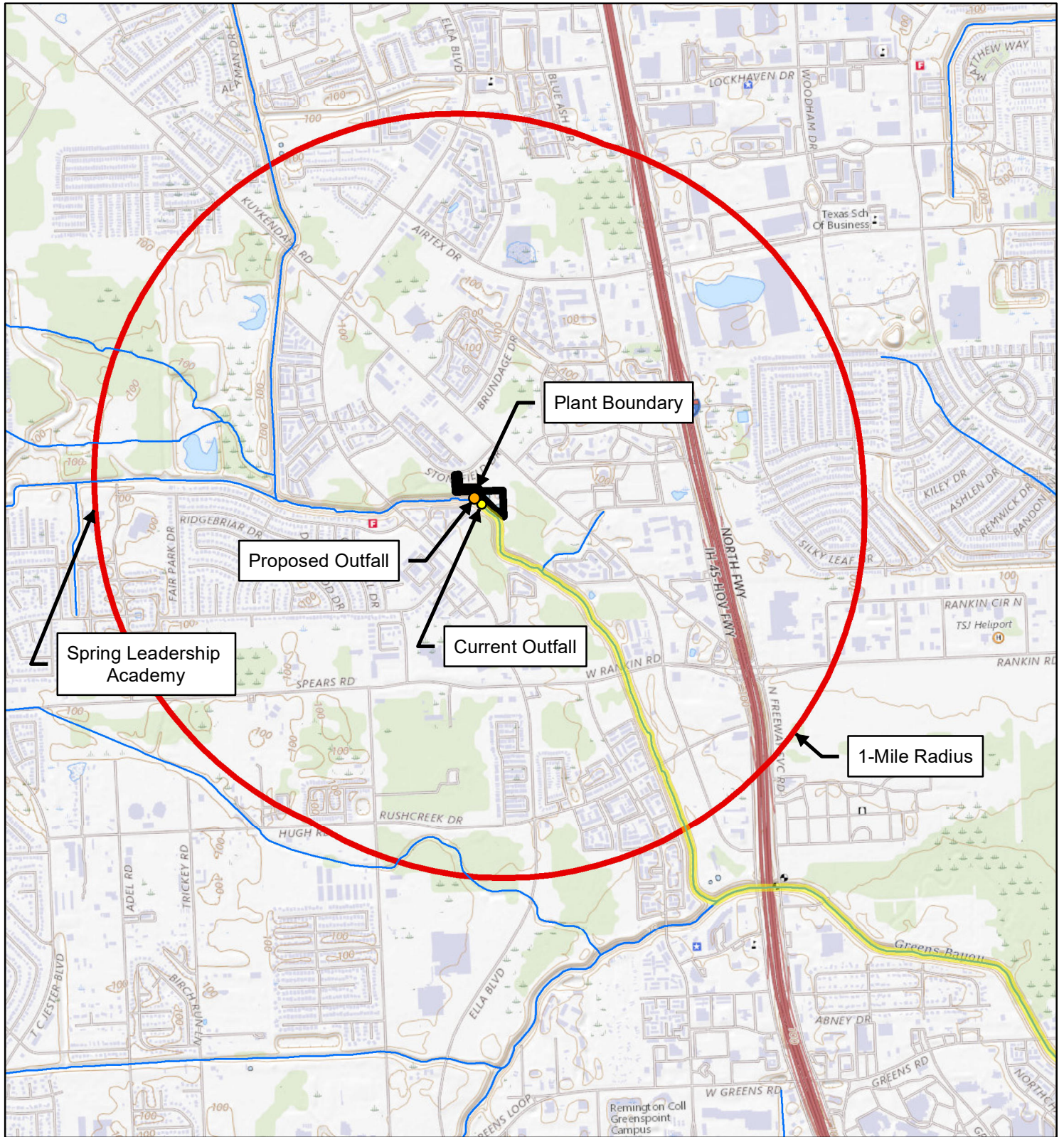
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USGS TOPO MAP EXHIBIT 1



Disclaimer: This product is offered for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey and represents only the approximate relative location of property, governmental and/or political boundaries or related facilities to said boundary. No express warranties are made by Quiddity Engineering concerning the accuracy, completeness, reliability, or usability of the information included within this exhibit.



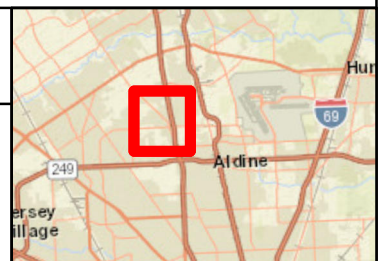
QUIDDITY



1 inch equals 2,000 feet
HARRIS COUNTY MUD No. 200
 HARRIS COUNTY, TEXAS

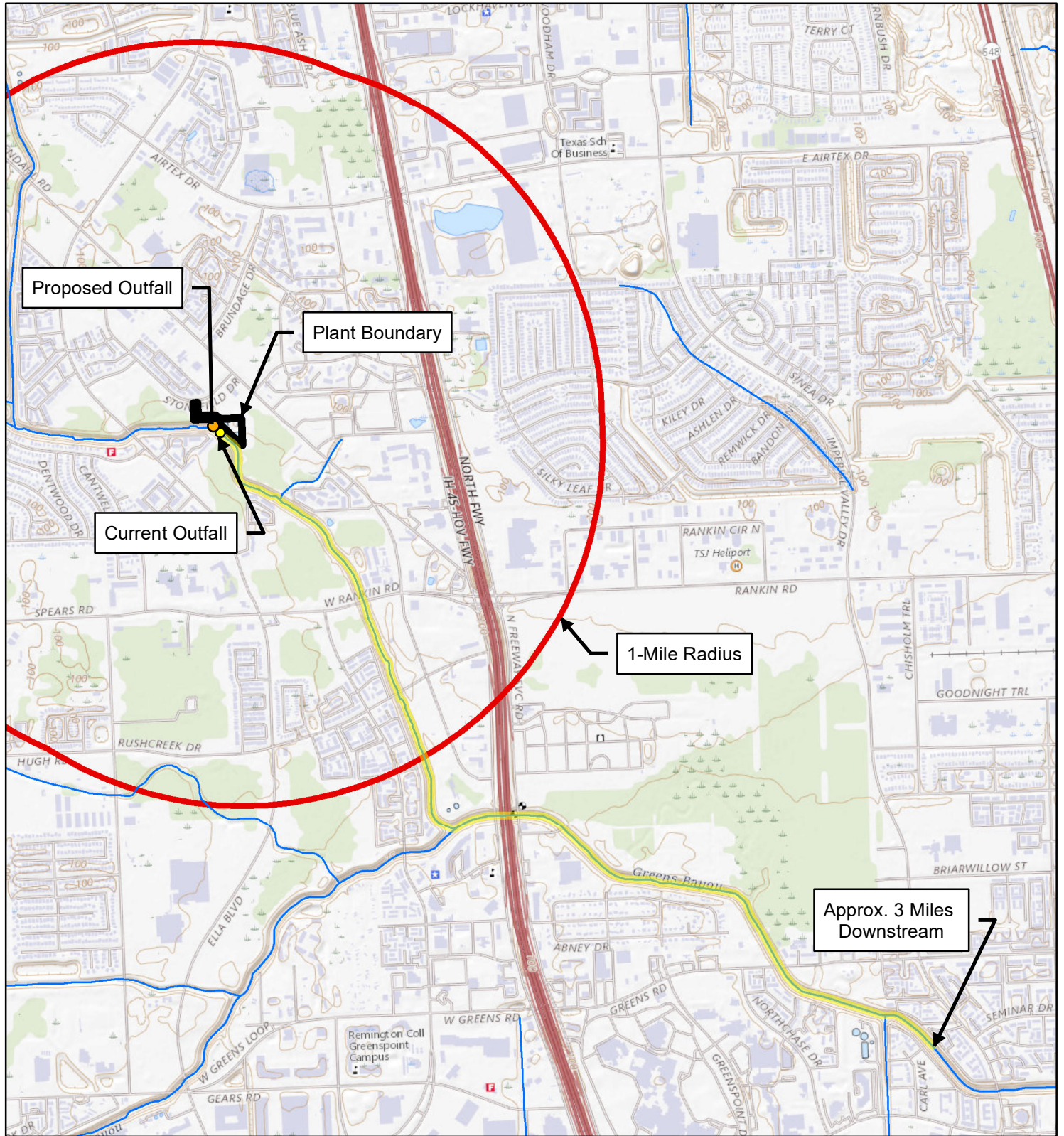
LEGEND

- Proposed Outfall
- Current Outfall
- Discharge Route
- Streams
- ▭ 1 Mile Radius
- ▭ Plant Boundary



VICINITY MAP
 Scale: 1 inch equals 10 miles

USGS TOPO MAP EXHIBIT 2



Disclaimer: This product is offered for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey and represents only the approximate relative location of property, governmental and/or political boundaries or related facilities to said boundary. No express warranties are made by Quiddity Engineering concerning the accuracy, completeness, reliability, or usability of the information included within this exhibit.



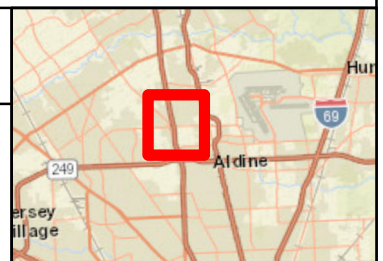
QUIDDITY



1 inch equals 2,000 feet
HARRIS COUNTY MUD No. 200
 HARRIS COUNTY, TEXAS

LEGEND

- Proposed Outfall
- Outfall
- Discharge Route
- Streams
- 1 Mile Radius
- Plant Boundary



VICINITY MAP
 Scale: 1 inch equals 10 miles

ATTACHMENT F

AFFECTED LANDOWNERS

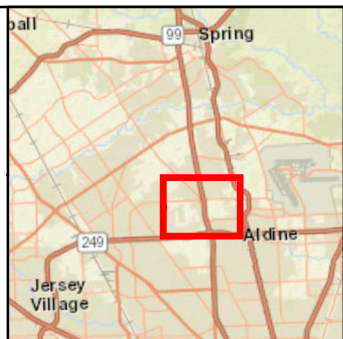
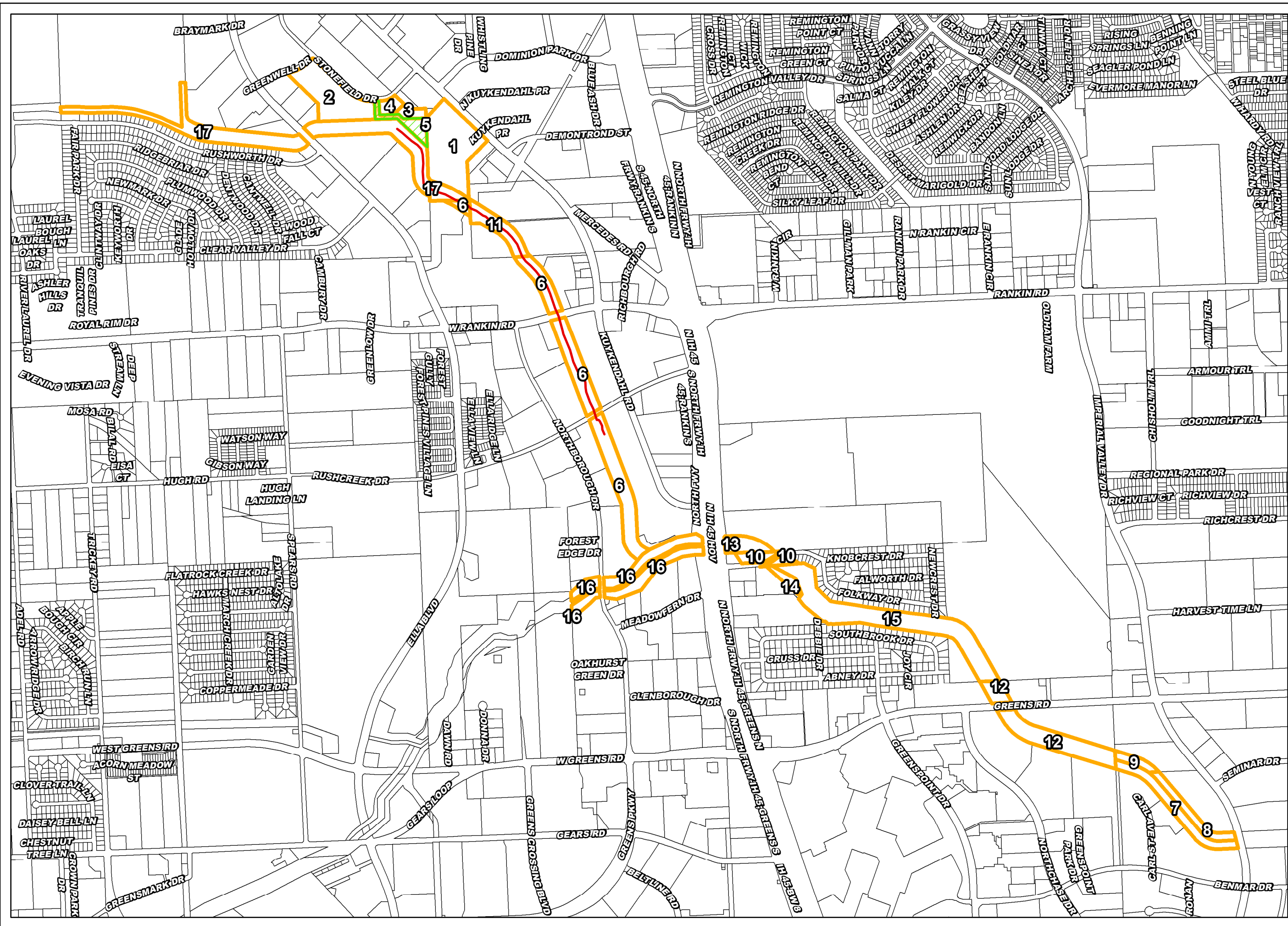
HARRIS COUNTY MUD NO. 200
TPDES RENEWAL WITH MAJOR AMENDMENT

MAY 2024



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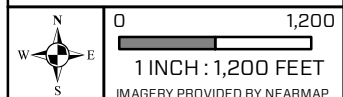


VICINITY MAP
1 INCH = 10 MILES

- LEGEND**
- Discharge Route
 - Affected Landowners
 - ▨ Plant Boundary
 - HCAD Parcels

AFFECTED LANDOWNERS MAP

HARRIS COUNTY MUD No. 200
HARRIS COUNTY, TEXAS



Disclaimer: This product is offered for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey and represents only the approximate relative location of property, governmental and/or political boundaries or related facilities to said boundary. No express warranties are made by Quiddity Engineering concerning the accuracy, completeness, reliability, or usability of the information included within this exhibit.



Affected Landowners List

Object ID	Owner	Mailing Address
1	KUYKENDAHL PROPERTY 1996	4808 GIBSON ST HOUSTON TX 77007-5480
2	SIERA INVEST TX INC	7047 HARRISBURG BLVD HOUSTON TX 77011-4645
3	Property owned by the permittee	Property owned by the permittee
4	Property owned by the permittee	Property owned by the permittee
5	Property owned by the permittee	Property owned by the permittee
6	HARRIS COUNTY FLOOD CONTROL DISTRICT	9900 NORTHWEST FWY HOUSTON TX 77092-8601
7	HARRIS COUNTY FLOOD CONTROL DISTRICT	9900 NORTHWEST FWY HOUSTON TX 77092-8601
8	HARRIS COUNTY FLOOD CONTROL DISTRICT	9900 NORTHWEST FWY HOUSTON TX 77092-8601
9	HARRIS COUNTY FLOOD CONTROL DISTRICT	9900 NORTHWEST FWY HOUSTON TX 77092-8601
10	HARRIS COUNTY FLOOD CONTROL DISTRICT	9900 NORTHWEST FWY HOUSTON TX 77092-8601
11	HARRIS COUNTY FLOOD CONTROL DISTRICT	9900 NORTHWEST FWY HOUSTON TX 77092-8601
12	HARRIS COUNTY FLOOD CONTROL DISTRICT	9900 NORTHWEST FWY HOUSTON TX 77092-8601
13	HARRIS COUNTY FLOOD CONTROL DISTRICT	9900 NORTHWEST FWY HOUSTON TX 77092-8601
14	HARRIS COUNTY FLOOD CONTROL DISTRICT	9900 NORTHWEST FWY HOUSTON TX 77092-8601
15	HARRIS COUNTY FLOOD CONTROL DISTRICT	9900 NORTHWEST FWY HOUSTON TX 77092-8601
16	HARRIS COUNTY FLOOD CONTROL DISTRICT	9900 NORTHWEST FWY HOUSTON TX 77092-8601
17	HARRIS COUNTY FLOOD CONTROL DISTRICT	9900 NORTHWEST FWY HOUSTON TX 77092-8601

KUYKENDAHL PROPERTY 1996
4808 GIBSON ST
HOUSTON TX 77007-5480

SIERA INVEST TX INC
7047 HARRISBURG BLVD
HOUSTON TX 77011-4645

HARRIS COUNTY FLOOD CONTROL
DISTRICT
9900 NORTHWEST FWY
HOUSTON TX 77092-8601

ATTACHMENT G

ORIGINAL PHOTOS

**HARRIS COUNTY MUD NO. 200
TPDES RENEWAL WITH MAJOR AMENDMENT**

MAY 2024



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ATTACHMENT E - ORIGINAL PHOTOS

HCMUD 200



HCMUD 200 WWTF
Image 1: Treatment Unit



HCMUD 200 WWTF
Image 2: Outfall



HCMUD 200 WWTF
Image 3: Outfall Downstream



HCMUD 200 WWTF
Image 4: Outfall Downstream



HCMUD 200 WWTF
Image 5: Outfall Upstream



HCMUD 200 WWTF
Image 6: Outfall Upstream



ATTACHMENT H

BUFFER ZONE MAPS

HARRIS COUNTY MUD NO. 200
TPDES RENEWAL WITH MAJOR AMENDMENT

MAY 2024



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LEGEND:

SBR - Sequencing Batch Reactor



HARRIS COUNTY M.U.D. No. 200
HCAD No. 0411150000197
HCAD No. 0411150001701
HCAD No. 0450540000132
HCAD No. 0411150000159
HCAD No. 0411150000621

MKSN INVESTMENTS LLC
HCAD No. 1401520010001

KUYKENDAHL PROPERTY 1996
HCAD No. 0450540000012

BUFFER ZONE
PHASE I - 1.44 MGD
SCALE: 1"=120'

SCALE: 1"=120'



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ATTACHMENT I

AREA WATER WELLS

**HARRIS COUNTY MUD NO. 200
TPDES RENEWAL WITH MAJOR AMENDMENT**

MAY 2024



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ATTACHMENT J

WETLANDS MAP

**HARRIS COUNTY MUD NO. 200
TPDES RENEWAL WITH MAJOR AMENDMENT**

MAY 2024



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ATTACHMENT K

SUPPLEMENTAL TECHNICAL REPORT

HARRIS COUNTY MUD NO. 200
TPDES RENEWAL WITH MAJOR AMENDMENT

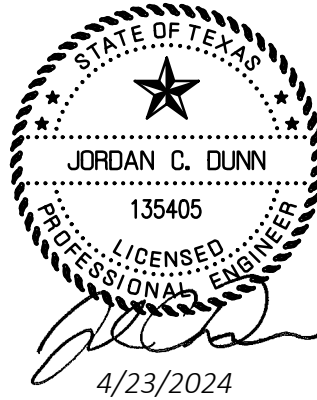
MAY 2024



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SUPPLEMENTAL TECHNICAL REPORT
for the
DOMESTIC WASTEWATER PERMIT MAJOR AMENDMENT
for
HARRIS COUNTY MUNICIPAL UTILITY DISTRICT NO. 200
HARRIS COUNTY, TEXAS



April 2024
Job No. 00085-0228-01



I. INTRODUCTION

The purpose of this report is to provide additional information pertaining to items in the Domestic Administrative Report and the Domestic Technical Report for the permit major amendment application for the Harris County Municipal Utility District No. 200 (the District) Wastewater Treatment Plant (WWTP). The existing permit has a final phase of 1.44 million gallons per day (MGD) average daily flow (ADF) and 4,000 gallon per minute (gpm) 2-hour peak flow (2-hr PF). The proposed permit includes 3 operational phases. Phase I treats 1.44 MGD ADF and 4,000 gpm 2-hr PF. Phase II treats 1.60 MGD ADF and 4,444 gpm 2-hr PF. Phase III treats 1.90 MGD ADF and 5,278 gpm 2-hr PF.

The current and proposed facilities are located at 13050 Stonefield Drive, approximately 530' southwest of the intersection of Kuykendahl Road and Stonefield Drive in Harris County, Texas 77014.

II. LOCATION INFORMATION

Please see Item 7 of the Domestic Admin. Report 1.0 for specific location information. A USGS Map with the required site information is provided as Attachment A.

III. TREATMENT UNITS

(For Item 3 of Technical Report 1.0)

The facilities will be constructed in 3 operational phases with total design flows as described above. A detailed description of the treatment process for each phase is presented below:

The Phase I facility is the current operational 1.44 MGD ADF and 4,000 gpm 2-hr PF phase. The existing facility consists of an on- site lift station, an elevated concrete headworks, a single stage nitrification conventional activated sludge (CAS) treatment train, a rotating biological contactor (RBC) treatment train, a dechlorination and flow measurement basin, aerobic digesters, and dewatering system. The CAS treatment train consists of a circular structure that includes one aeration basin, one secondary clarifier, one chlorine contact basin, and one aerobic digester. The RBC treatment train consists of an influent channel with two mechanical fine screens, one RBC basin, one secondary clarifier, one chlorine contact basin, and one aerobic digester. In this phase, raw sewage is pumped from the on-site lift station to the headworks for screening and a flow splitting to the two treatment trains. Flow to the CAS treatment train is mixed with return activated sludge in the aeration basin and the mixed liquor flows through the aeration basin operated in the single-stage nitrification mode to consume organics and break down ammonia. Mixed liquor then flows to the secondary clarifier for clarification. Clarified effluent flows to the chlorine contact basin for disinfection and waste-activated sludge is pumped to the aerobic digester for digestion. Flow to the RBC treatment train passes through a mechanical fine screen before entering the rotating biological contactor basin. Fixed film biomass on the seven (7) RBC units consume organics. Flow from the RBC basin then flows to the secondary clarifier for clarification. Clarified effluent flows to the chlorine contact basin for disinfection and waste-activated sludge is pumped to the aerobic digester for digestion. Disinfected effluent from each chlorine contact basin combines for dechlorination and flow measurement in a common basin prior to discharge at the existing outfall. Digested sludge is pumped from the existing aerobic digesters to existing dewatering system and the dewatered sludge is hauled off for disposal.

The Phase II facilities will be designed to treat 1.60 MGD ADF and 4,444 gpm 2-hr PF. The existing on-site lift station will be expanded by replacing pumps and piping to accommodate the design flow. The existing headworks will remain in service. A proposed four-train sequencing batch reactor (SBR) will be constructed that will operate with a suspended growth activated sludge process with anaerobic, anoxic, and oxic phases

within the sequencing batch process. The proposed facilities will also include a disinfection basin with a chlorine mixing chamber and two chlorine contact channels, a dechlorination mixing chamber, and flow measurement channel with a Parshall flume. The outfall will be relocated to accommodate the location of the proposed facilities. The existing CAS treatment train will be abandoned in place. The existing RBC basin and RBC chlorine contact basin will be abandoned in place. The existing RBC aerobic digester will remain in service and the existing RBC secondary clarifier will be converted to an aerobic digester. The existing dewatering system will remain in service. In this phase, raw sewage is pumped from the on-site lift station to the existing headworks for screening. Screened influent then flows to the proposed SBR units for biological treatment of organics and ammonia and clarification. Clarified effluent flows from the SBR units to the proposed disinfection basin for disinfection, dechlorination and flow measurement prior to discharge at the re-located outfall.

The Phase III facilities will be designed to treat 1.90 MGD ADF and 5,278 gpm 2-hr PF, and will operate under the same process as Phase II. The proposed facilities will include a new onsite lift station and one additional proposed SBR basin will be constructed to operate in parallel with the existing four SBR basins. The abandoned-in-place CAS treatment train will be converted to an aerobic digester. The flow pattern and treatment process will match the description provided for Phase II.

IV. DESIGN CALCULATIONS AND FEATURES

(For Item 3g of Technical Report 1.0 & Item 4 of Technical Report 1.1)

Design calculations are provided as part of this report on the following pages for each phase of construction.

The current facility and all proposed future expansions will be equipped with design features to prevent overflows or bypassing of untreated wastewater. A backup generator sized to accommodate the Phase I facilities is currently installed onsite with an automatic transfer switch to provide power to essential equipment in the event of a main power failure. An appropriately sized generator and automatic transfer switch will be added in the Phase II expansion to provide power to essential equipment in Phases II and III in the event of a main power failure. The current and proposed facilities will have an automatic telephone dialer that notifies the operator of equipment failures, main power failures, and high basin levels. The onsite lift station will maintain a redundant pump to protect against overflows in the event of a pump failure. The Phase II and Phase III SBR basins will be designed to provide treatment capacity for the permit phase with one SBR basin out of service. Additionally, critical equipment throughout the facility will be designed with redundancy in the event of critical equipment failure.

HARRIS COUNTY MUNICIPAL UTILITY DISTRICT NO. 200
WASTEWATER TREATMENT PLANT
TREATMENT UNITS AND VOLUMES

The existing Harris County Municipal Utility District No. 200 Wastewater Treatment Plan consists of two treatment trains operating in parallel.

A schematic of the existing wastewater treatment plant is provided as Phase I under *Attachment I – Flow Schematics* of this application.

The following are the treatment unit volumes and surface areas:

Conventional Activated Sludge (CAS) Train

Aeration Basin	= 32,172 ft ³
Secondary Clarifier	= 2,642 ft ²
Chlorine Contact Basin	= 5,982 ft ³
Aerobic Digester	= 12,774 ft ³
Air Blowers (firm capacity)	= 3,050 scfm

Rotating Biological Contactor (RBC) Train

RBC Basin	= 910,000 ft ²
Secondary Clarifier	= 5,985 ft ²
Chlorine Contact Basin	= 8,672 ft ³
Aerobic Digester	= 24,681 ft ³
Air Blowers (firm capacity)	
Digester Blowers	= 1,050 scfm
RBC Basin Blowers	= 1,400 scfm

I. SUMMARY

The Phase II facility will utilize a four-train true-batch sequencing batch reactor (SBR) that operates in a suspended growth activated sludge process for biochemical oxygen demand (BOD₅) and ammonia nitrogen (NH₃-N) reduction. Treatment units include an elevated headworks with a mechanical fine screen and mechanical coarse and manual bar screen backups, 4 SBR process basins, a disinfection basin, two (2) aerobic digesters, and a mechanical dewatering unit.

II. WASTEWATER TREATMENT PLANT DESIGN

A. DESIGN CRITERIA

1. Proposed Effluent Limits.

- a. BOD₅ = 10 mg/l (daily average)
- b. TSS = 15 mg/l (daily average)
- c. NH₃-N = 2 mg/l (daily average)
- d. *E.coli* = 63 CFU/100 mL (daily average)
- e. DO = 4 mg/l (daily average)

2. Process Criteria. The process criteria are taken from 30 TAC §217, Design Criteria for Sewerage Systems.

- a. Maximum Aeration Basin Organic Loading
(lb BOD₅ /day/1,000 ft³) = 35
- b. Minimum Oxygen Requirement in Conventional Activated Sludge Systems Intended to Nitrify
(lb O₂/lb BOD₅) = 2.2
- c. Minimum Chlorine Contact Detention Time at Peak Flow
(minutes) = 20
- d. Mean Cell Residence Time in Aerobic Digester*
(days) = 28*

*28-day SRT utilized instead of a 40-day SRT for use of a multi-stage digester per EPA publication "Control of Pathogens and Vector Attraction in Sewage Sludge."

- e. Maximum Allowable Decant Rate with the Largest Basin Out of Service
(gpm) = 4,444

B. PHASE II TREATMENT FACILITIES

1. Flow.

a. Average (Design) = 1.0Q = 1,600,000 gpd = 1,111 gpm

b. Peak (2 hour) = 4.0Q = 6,400,000 gpd = 4,444 gpm

2. Organic Loadings.

BOD₅ = (1.60 MGD)(8.34)(300 mg/L) = 4,003 Lbs BOD₅/day

TSS = (1.60 MGD)(8.34)(350 mg/L) = 4,670 Lbs TSS/day

NH₃-N = (1.60 MGD)(8.34)(50 mg/L) = 667 Lbs NH₃-N/day

TKN = (1.60 MGD)(8.34)(70 mg/L) = 931 Lbs TKN/day

The concentrations of BOD₅, TSS, NH₃-N, and TKN utilized to determine the organic loadings are based on the most recently available influent sample data (composite samples taken three times weekly for the period of January 2022 through April 2023).

3. Process Equipment.

a. Screening. This phase will utilize the existing elevated concrete headworks equipped with mechanical fine screening equipment hydraulically sized to pass the Phase II two-hour peak flow of 6.40 MGD, a mechanical coarse screen backup, and a backup manual bar screen. Flow will be directed from the headworks to the SBR basins.

b. SBR: Aeration Basin Volume. The proposed facilities will include four (4) SBR basins sized at 40' wide by 118' long. The design water depth is assumed at 21'.

i. Total Required Volume

Required Volume Using Traditional Design Method (30 TAC §217 Guidelines)
(1.60 MGD)(8.34)(300 mg/L)/(35 lb. BOD₅/1,000 ft³) = 114,378 ft³

ii. Proposed Volume

(4)[(40 ft x 118 ft)](21 ft) = 396,480 ft³

iii. Proposed Volume with One Basin Out of Service (30 TAC §217.156(a)(2))

(3)[(40 ft x 118 ft)](21 ft) = 297,360 ft³

c. SBR: Settling Area and Decant Equipment. The proposed facilities will include four (4) SBR basins sized at 40' wide by 118' long. The design maximum water depth is assumed at 21' and minimum water depth is assumed at 13.7'. The maximum decantable range is assumed at 6.9' during normal operation. The SBR basins and equipment will be sized so that the maximum decant rate will not be exceeded at peak flow with one basin out of service and therefore an equalization basin downstream of the SBR basins will not be provided. The design decantable depth during peak flow events will be 7.3' so that the maximum decant rate does not exceed

the peak 2-hour flow.

i. Surface Area

1. Minimum Surface Area at Peak Flow
 $(6,400,000 \text{ gpd}) / (1,200 \text{ gpd/ft}^2) = 5,333 \text{ ft}^2$
2. Total Proposed Surface Area with One Basin Out of Service
 $(3)(40 \text{ ft} \times 118 \text{ ft}) = 14,160 \text{ ft}^2$

ii. Minimum Decantable Volume Per Basin with One Basin Out of Service (At Peak Flow)

1. Total Peak Flow Cycle Time = 216 minutes
2. Total Non-Decant Time per Peak Flow Cycle = 157.8 minutes
3. Minimum Decantable Volume per Peak Flow Cycle Per Basin
 $(4,444 \text{ gpm})(157.8 \text{ min}) / [(3 \text{ Basins})(7.48)] = 31,254 \text{ ft}^3$
4. Total Proposed Decantable Volume per Basin
 $(40 \text{ ft} \times 118 \text{ ft})(7.3 \text{ ft}) = 34,456 \text{ ft}^3$

iii. Maximum Decant Rate Per Basin with One Basin Out of Service (At Peak Flow)

1. Maximum Allowable Decant Rate
(Peak Flow Rate) = 4,444 gpm
2. Total Decant Time per Peak Flow Cycle = 58.2 minutes
3. Maximum Decant Rate per Basin
(Flow Rate to Empty Minimum Decantable Volume)
 $(31,254 \text{ ft}^3)(7.48) / (58.2 \text{ minutes}) = 4,017 \text{ gpm}$

- d. Chlorine Contact Basin. The proposed facilities include two 4' by 200' chlorine contact basins (including baffles) designed to a 40:1 length to width ratio in a serpentine layout. The design water depth is at 9.5'.

- i. Required Volume at Peak Flow
 $(4,444 \text{ gpm})(20 \text{ min}) / (7.48) = 11,882 \text{ ft}^3$
- ii. Total Proposed Volume (Accounts for Baffles)
 $(2) [(4 \text{ ft})(200 \text{ ft})](9.5 \text{ ft}) = 15,200 \text{ ft}^3$
- iii. Actual Detention Time at Peak Flow
 $(15,200 \text{ ft}^3)(7.48) / (4,444 \text{ gpm}) = 25.6 \text{ minutes}$

- e. Dechlorination Basin. The proposed facilities include one 6' by 10' partitioned chamber and a 6' by 43.50' channel downstream of the chlorine contact basins. The design water depths are 8.82' and 1.0'.

- i. Required Volume at Peak Flow

$$(4,444 \text{ gpm})(20 \text{ seconds})/[(60 \text{ seconds/minute})(7.48)] = 198 \text{ ft}^3$$
 - ii. Total Proposed Volume

$$(6 \text{ ft})(10 \text{ ft})(8.82 \text{ ft}) + (6 \text{ ft})(43.50 \text{ ft})(1.0 \text{ ft}) = 791 \text{ ft}^3$$
 - iii. Actual Detention Time at Peak Flow

$$(791 \text{ ft}^3)(7.48)/(60 \text{ seconds/min})/(4,444 \text{ gpm}) = 79 \text{ seconds}$$
- f. Aerobic Digester. The proposed 1.60 MGD phase includes converting the existing 85' diameter octagonal clarifier into a two-stage aerobic digester and utilizing the existing digester.

Assume 1 pound of solids produced per pound of BOD₅ applied; solids are 70% volatile organics; 30% of the volatiles are destroyed during digestion; 15,000 mg/l MLSS concentration in the digester on average for the thickened sludge.

- i. Digester Sizing
 1. Solids Production

$$(4,003 \text{ lb BOD}_5 / \text{day})/(1 \text{ lb solids}/1 \text{ lb BOD}_5) = 4,003 \text{ lb solids/day}$$
 2. Digested Solids Production

$$(4,003 \text{ lb solid/day})(1-(0.3)(0.7)) = 3,162 \text{ lb solids/day}$$
 3. Average Digested Solids Production

$$(4,003 \text{ lb solids/day} + 3,162 \text{ lb solids/day})/2 = 3,583 \text{ lb solids/day}$$
 4. Total Solids in Digester for 28-day SRT*

$$(3,583 \text{ lb solids/day})(28 \text{ days}) = 100,324 \text{ lb solids}$$
- ii. Required Volume

$$(100,324 \text{ lb solids})(10^6)/[(8.34)(15,000 \text{ mg/l MLSS in digester})(7.48)] = 107,213 \text{ ft}^3$$
- iii. Existing Digester Volume

$$= 20,776 \text{ ft}^3$$
- iv. Proposed Digester Volume

$$(15.25 \text{ ft}) \{(85 \text{ ft})^2 - [85/((1/\sqrt{2})) + (1/\sqrt{2}) + 1]^2\} = 91,277 \text{ ft}^3$$
- v. Total Digester Volume

$$= 112,053 \text{ ft}^3$$
- vi. Total Solids Detention Time

$$= 29.3 \text{ days}$$

*28-day SRT utilized instead of 40-day SRT for use of a multi-stage digester per EPA publication "Control of Pathogens and Vector Attraction in Sewage Sludge."

- g. Mechanical Dewatering Unit. The proposed phase includes one existing mechanical dewatering unit. The existing mechanical dewatering unit is sized to handle all digested sludge from the aerobic digesters. If the mechanical dewatering unit is out of service, the digesters are sized to stabilize all sludge and the digested sludge can be wet hauled.

h. Diffused Air Requirements.

i. Aeration Requirements for SBR
Proposed SBR Basins

1. Air Required for Treatment (30 TAC §217.155; Eq. F-2)
$$\frac{(1.2)(300 \text{ mg/l BOD}_5) + (4.6)(70 \text{ mg/l TKN})}{(300 \text{ mg/l BOD}_5)} = 2.27 \text{ lb O}_2 / \text{lb BOD}_5$$
2. Minimum Air Required for Conventional Activated Sludge Systems that are Intended to Nitrify (30 TAC §217.155; Table F-3)
$$= 2.2 \text{ lbs O}_2 / \text{lb BOD}_5$$
3. Fine Bubble Requirements

The design diffuser submergence will vary from 12.7' to 20' based on the decantable volume. The required capacity will be based on the minimum submergence of 12.7' so adequate aeration can be achieved at all depths.

$$\frac{(300 \text{ mg/l BOD}_5)(8.34)(1.6 \text{ MGD})(2.27 \text{ lb O}_2 / \text{lb BOD}_5)(0.979)^{***}}{(0.1000^{**})(0.23)(0.075)(1440)} = 3,471 \text{ scfm}$$

** TCEQ Wastewater Oxygen Transfer Efficiency for Fine Bubble (1.75%/ft. x (12.7) ft of submergence x 0.45).

*** TCEQ Chapter 217 Table F.5 Submergence Correction Factor for 12.7' of submergence.

ii. Aeration Requirements for Digesters

1. Diffused Air Requirements for Mixing
$$(112,053 \text{ ft}^3)(30 \text{ scfm/ft}^2)/1000 = 3,362 \text{ scfm}$$

iii. Aeration Requirements for Chlorine Contact Basin (4 mg/l DO minimum)

1. Fine Bubble Requirement for Dissolved Oxygen
$$(4)(1.6 \text{ MGD})(8.34) = 53 \text{ lb O}_2 / \text{day}$$
$$(53)(1.7^{***}) / (0.075^{**})(0.075)(0.23)(1440) = 49 \text{ scfm}$$

**WOTE: 9.5 ft(1.75)(0.45)= 7.5 %

*** Correction Factor for 9.5 ft

i. Blower Capacity.

The facilities will include one proposed bank of blowers to serve the SBRs, one proposed bank of blowers to serve the digesters, and one proposed bank of blowers for the chlorine contact basins. Each bank of blowers will provide air to separate processes and will have independent piping with adequate spare blower capacity at each bank.

i. Aeration Requirements for SBRs

- | | | |
|---|---|------------|
| 1. Proposed Blower Capacity
(5)(1,500 scfm) | = | 7,500 scfm |
| 2. Firm Blower Capacity with Largest Unit Out of Service
(4)(1,500 scfm) | = | 6,000 scfm |

ii. Aeration Requirements for Digesters

- | | | |
|---|---|------------|
| 1. Proposed Blower Capacity
(4)(1,300 scfm) | = | 5,200 scfm |
| 2. Firm Blower Capacity with Largest Unit Out of Service
(3)(1,300 scfm) | = | 3,900 scfm |

iii. Aeration Requirements for Chlorine Contact Basins

- | | | |
|---|---|----------|
| 1. Proposed Blower Capacity
(2)(100 scfm) | = | 200 scfm |
| 2. Firm Blower Capacity with Largest Unit Out of Service
(1)(100 scfm) | = | 100 scfm |

j. Chlorination Equipment

- | | | |
|--|---|-------------|
| i. Chlorine Dosage Rate (Activated Sludge) | = | 8 mg/l |
| ii. Chlorine Feed Rate at Average Daily Flow
(1.60 MGD)(8.34)(8 mg/l) | = | 107 lbs/day |
| iii. Required Chlorine Feed Rate at Peak Flow
(6.40 MGD)(8.34)(8 mg/l) | = | 427 lbs/day |
| iv. Max Withdrawal Rate for one (1) one-ton cylinder
(8 lbs/day/°F)(65°F) | = | 520 lbs/day |

One (1) one ton cylinder is required for treatment. One (1) additional one-ton cylinder will be kept on site at all times to comply with 30 TAC §217 requirements.

k. De-chlorination Equipment

- | | | |
|--|---|-------------|
| i. Sulfur Dioxide Dosage Rate | = | 2 mg/l |
| ii. Sulfur Dioxide Feed Rate at Average Daily Flow
(1.60 MGD)(8.34)(2 mg/l) | = | 27 lbs/day |
| iii. Required Chlorine Feed Rate at Peak Flow
(6.40 MGD)(8.34)(2 mg/l) | = | 107 lbs/day |

iv. Max Withdrawal Rate for one (1) one-ton cylinder
 $(6 \text{ lbs/day/}^{\circ}\text{F})(65^{\circ}\text{F}-30^{\circ}\text{F}) = 210 \text{ lbs/day}$

One (1) one ton cylinder is required for treatment. One (1) additional one-ton cylinder will be kept on site at all times to comply with 30 TAC §217 requirements.

I. SUMMARY

The Phase III facility will utilize a five-train true-batch sequencing batch reactor (SBR) that operates in a suspended growth activated sludge process for biochemical oxygen demand (BOD₅) and ammonia nitrogen (NH₃-N) reduction. Treatment units include an elevated headworks with a mechanical fine screen and mechanical coarse and manual bar screen backups, 5 SBR process basins, a disinfection basin, four (4) two-stage aerobic digesters, and a mechanical dewatering unit.

II. WASTEWATER TREATMENT PLANT DESIGN

A. DESIGN CRITERIA

1. Proposed Effluent Limits.

- a. BOD₅ = 10 mg/l (daily average)
- b. TSS = 15 mg/l (daily average)
- c. NH₃-N = 2 mg/l (daily average)
- d. *E.coli* = 63 CFU/100 mL (daily average)
- e. DO = 4 mg/l (daily average)

2. Process Criteria. The process criteria are taken from 30 TAC §217, Design Criteria for Sewerage Systems.

- a. Maximum Aeration Basin Organic Loading
(lb BOD₅ /day/1,000 ft³) = 35
- b. Minimum Oxygen Requirement in Conventional Activated Sludge Systems Intended to Nitrify
(lb O₂/lb BOD₅) = 2.2
- c. Minimum Chlorine Contact Detention Time at Peak Flow
(minutes) = 20
- d. Mean Cell Residence Time in Aerobic Digester* (days) = 28*

*28-day SRT utilized instead of a 40-day SRT for use of a multi-stage digester per EPA publication "Control of Pathogens and Vector Attraction in Sewage Sludge."

- e. Maximum Allowable Decant Rate with the Largest Basin Out of Service
(gpm) = 5,278

B. PHASE III TREATMENT FACILITIES

1. Flow.

a. Average (Design) = 1.0Q = 1,900,000 gpd = 1,319 gpm

b. Peak (2 hour) = 4.0Q = 7,600,000 gpd = 5,278 gpm

2. Organic Loadings.

BOD₅ = (1.90 MGD)(8.34)(300 mg/L) = 4,754 Lbs BOD₅/day

TSS = (1.90 MGD)(8.34)(350 mg/L) = 5,546 Lbs TSS/day

NH₃-N = (1.90 MGD)(8.34)(50 mg/L) = 792 Lbs NH₃-N/day

TKN = (1.90 MGD)(8.34)(70 mg/L) = 1,109 Lbs TKN/day

The concentrations of BOD₅, TSS, NH₃-N, and TKN utilized to determine the organic loadings are based on the most recently available influent sample data (composite samples taken three times weekly for the period of January 2022 through April 2023).

3. Process Equipment.

- a. Screening. This phase will utilize the existing elevated concrete headworks equipped with mechanical fine screening equipment hydraulically sized to pass the Phase II two-hour peak flow of 7.60 MGD, a mechanical coarse screen backup, and a backup manual bar screen. Flow will be directed from the headworks to the SBR basins.

- b. SBR: Aeration Basin Volume. The proposed facilities will include four (4) existing SBR basins and one (1) proposed SBR basins sized at 40' wide by 118' long. The design water depth is assumed at 21'.

i. Total Required Volume

Required Volume Using Traditional Design Method (30 TAC §217 Guidelines)
(1.90 MGD)(8.34)(300 mg/L)/(35 lb. BOD /1,000 ft³) = 135,823 ft³

ii. Existing Volume

(4)[(40 ft x 118 ft)](21 ft) = 396,480 ft³

iii. Proposed Volume

(1)[(40 ft x 118 ft)](21 ft) = 99,120 ft³

iv. Proposed Volume with One Basin Out of Service (30 TAC §217.156(a)(2))

(4)[(40 ft x 118 ft)](21 ft) = 396,480 ft³

- c. SBR: Settling Area and Decant Equipment. The proposed facilities will include five (5) SBR basins sized at 40' wide by 118' long. The design maximum water depth is assumed at 21' and minimum water depth is assumed at 12.6'. The maximum decantable range is assumed at 6.9' during normal

operation. The SBR basins and equipment will be sized so that the maximum decant rate will not be exceeded at peak flow with one basin out of service and therefore an equalization basin downstream of the SBR basins will not be provided. The design decantable depth during peak flow events will be 8.4' so that the maximum decant rate does not exceed the peak 2-hour flow.

i. Surface Area

1. Minimum Surface Area at Peak Flow

$$(7,600,000 \text{ gpd}) / (1,200 \text{ gpd/ft}^2) = 6,333 \text{ ft}^2$$
2. Total Proposed Surface Area with One Basin Out of Service

$$(4)(40 \text{ ft} \times 118 \text{ ft}) = 18,880 \text{ ft}^2$$

ii. Minimum Decantable Volume Per Basin with One Basin Out of Service (At Peak Flow)

1. Total Peak Flow Cycle Time = 282 minutes
2. Total Non-Decant Time per Peak Flow Cycle = 211.8 minutes
3. Minimum Decantable Volume per Peak Flow Cycle

$$(5,278 \text{ gpm})(211.8 \text{ min}) / [(4 \text{ basins})(7.48)] = 37,361 \text{ ft}^3$$
4. Total Proposed Decantable Volume per Basin

$$(40 \text{ ft} \times 118 \text{ ft})(8.4 \text{ ft}) = 39,648 \text{ ft}^3$$

iii. Maximum Decant Rate Per Basin with One Basin Out of Service (At Peak Flow)

1. Maximum Allowable Decant Rate
(Peak Flow Rate) = 5,278 gpm
2. Total Decant Time per Peak Flow Cycle = 70.2 minutes
3. Maximum Decant Rate per Basin
(Flow Rate to Empty Maximum Decantable Volume)

$$(37,361 \text{ ft}^3)(7.48) / (70.2 \text{ minutes}) = 3,981 \text{ gpm}$$

- d. Chlorine Contact Basin. The proposed facilities include two 4' by 200' chlorine contact basins (including baffles) designed to a 40:1 length to width ratio in a serpentine layout. The design water depth is at 9.5'.

- i. Required Volume at Peak Flow

$$(5,278 \text{ gpm})(20 \text{ min}) / (7.48) = 14,112 \text{ ft}^3$$
- ii. Total Proposed Volume (Accounts for Baffles)

$$(2) [(4 \text{ ft})(200 \text{ ft})](9.5 \text{ ft}) = 15,200 \text{ ft}^3$$
- iii. Actual Detention Time at Peak Flow

$$(15,200 \text{ ft}^3)(7.48) / (5,278 \text{ gpm}) = 21.5 \text{ minutes}$$

- e. Dechlorination Basin. The existing facilities include one 6' by 10' partitioned chamber and a 6' by 43.50' channel downstream of the chlorine contact basins. The design water depths are 8.88' and

1.0'.

- i. Required Volume at Peak Flow
 $(5,278 \text{ gpm})(20 \text{ seconds})/[(60 \text{ seconds/minute})(7.48)] = 235 \text{ ft}^3$
- ii. Total Existing Volume
 $(6 \text{ ft})(10 \text{ ft})(8.88 \text{ ft}) + (6 \text{ ft})(43.50 \text{ ft})(1.0 \text{ ft}) = 794 \text{ ft}^3$
- iii. Actual Detention Time at Peak Flow
 $(794 \text{ ft}^3)(7.48)(60 \text{ seconds/min})/(5,278 \text{ gpm}) = 67 \text{ seconds}$

- f. Aerobic Digester. The proposed 1.90 MGD phase includes utilizing the existing digester volume and converting the existing abandoned in place 88' diameter main process unit structure into an aerobic digester.

Assume 1 pound of solids produced per pound of BOD₅ applied; solids are 70% volatile organics; 30% of the volatiles are destroyed during digestion; 15,000 mg/l MLSS concentration in the digester on average for the thickened sludge.

- i. Digester Sizing
 - 1. Solids Production
 $(4,754 \text{ lb BOD}_5 / \text{day})/(1 \text{ lb solids}/1 \text{ lb BOD}_5) = 4,754 \text{ lb solids/day}$
 - 2. Digested Solids Production
 $(4,754 \text{ lb solid/day})(1-(0.3)(0.7)) = 3,756 \text{ lb solids/day}$
 - 3. Average Solids in Digester
 $(4,754 \text{ lb solids/day} + 3,756 \text{ lb solids/day})/2 = 4,255 \text{ lb solids/day}$
 - 4. Total Solids in Digester for 28-day SRT*
 $(4,255 \text{ lb solids/day})(28 \text{ days}) = 119,130 \text{ lb solids}$
- ii. Required Volume
 $(119,130 \text{ lb solids})(10^6)/[(8.34)(15,000 \text{ mg/l MLSS in digester})(7.48)] = 127,310 \text{ ft}^3$
- iii. Existing Digester Volume
 - Digester No. 1 = 20,776 ft³
 - Digester No. 2 = 91,277 ft³
- iv. Proposed Digester Volume
 $(15.00 \text{ ft}) (\pi/4) (88 \text{ ft})^2 - (15.00 \text{ ft})(88 \text{ ft})(1.50 \text{ ft}) = 89,252 \text{ ft}^3$
- iv. Total Digester Volume = 201,305 ft³

*28-day SRT utilized instead of 40-day SRT for use of a multi-stage digester per EPA publication "Control of Pathogens and Vector Attraction in Sewage Sludge."

- iv. Total Solids Detention Time = 44 days

g. Mechanical Dewatering Unit. The proposed phase includes one existing mechanical dewatering unit. The exist mechanical dewatering unit is sized to handle all digested sludge from the aerobic digesters. If the mechanical dewatering unit is out of service, the digesters are sized to stabilize all sludge and the digested sludge can be wet hauled.

h. Diffused Air Requirements.

i. Aeration Requirements for SBR
Proposed SBR Basins

1. Air Required for Treatment (30 TAC §217.155; Eq. F-2)

$$\frac{(1.2)(300 \text{ mg/l BOD}_5) + (4.6)(70 \text{ mg/l TKN})}{(300 \text{ mg/l BOD}_5)} = 2.27 \text{ lb O}_2 / \text{lb BOD}_5$$

2. Minimum Air Required for Conventional Activated Sludge Systems that are Intended to Nitrify (30 TAC §217.155; Table F-3)

$$= 2.2 \text{ lbs O}_2 / \text{lb BOD}_5$$

3. Fine Bubble Requirements

The design diffuser submergence will vary from 11.6' to 20' based on the decantable volume. The required capacity will be based on the minimum submergence of 11.6' so adequate aeration can be achieved at all depths.

$$\frac{(300 \text{ mg/l BOD}_5)(8.34)(1.9 \text{ MGD})(2.27 \text{ lb O}_2 / \text{lb BOD}_5)(1.012)^{***}}{(0.0945^{**})(0.23)(0.075)(1440)} = 4,652 \text{ scfm}$$

** TCEQ Wastewater Oxygen Transfer Efficiency for Fine Bubble (1.75%/ft. x (12) ft of submergence x 0.45).

*** TCEQ Chapter 217 Table F.5 Submergence Correction Factor for 11.6' of submergence.

ii. Aeration Requirements for Digesters

1. Coarse Bubble Requirements for Mixing

$$(201,305 \text{ ft}^3)(30 \text{ scfm/ft}^2)/1000 = 6,039 \text{ scfm}$$

iii. Aeration Requirements for Chlorine Contact Basin (4 mg/l DO minimum)

1. Fine Bubble Requirement for Dissolved Oxygen

$$(4)(1.9 \text{ MGD})(8.34) = 63 \text{ lb O}_2 / \text{day}$$

$$(63)(1.7^{***}) / (0.075^{**})(0.075)(0.23)(1440) = 58 \text{ scfm}$$

**WOTE: 9.5 ft(1.75)(0.45)=7.5 %

*** Correction Factor for 9.5 ft

i. Blower Capacity.

The facilities will include one expanded existing bank of blowers to serve the SBRs, one expanded existing bank of blowers to serve the digesters, and one existing bank of blowers for the chlorine contact basins. Each bank of blowers will provide air to separate processes and will have independent piping with adequate spare blower capacity at each bank.

i. Aeration Requirements for SBRs

1. Existing Blower Capacity (5)(1,500 scfm)	=	7,500 scfm
2. Proposed Additional Blower Capacity (1)(1,500 scfm)	=	1,500 scfm
3. Firm Blower Capacity with Largest Unit Out of Service (5)(1,500 scfm)	=	7,500 scfm

ii. Aeration Requirements for Digesters

1. Existing Blower Capacity (4)(1,300 scfm)	=	5,200 scfm
2. Proposed Additional Blower Capacity (2)(1,300 scfm)	=	2,600 scfm
3. Firm Blower Capacity with Largest Unit Out of Service (5)(1,300 scfm)	=	6,500 scfm

iii. Aeration Requirements for Chlorine Contact Basins

1. Existing Blower Capacity (2)(100 scfm)	=	200 scfm
2. Firm Blower Capacity (1)(100 scfm)	=	100 scfm

j. Chlorination Equipment

i. Chlorine Dosage Rate (Activated Sludge)	=	8 mg/l
ii. Chlorine Feed Rate at Average Daily Flow (1.90 MGD)(8.34)(8 mg/l)	=	127 lbs/day
iii. Required Chlorine Feed Rate at Peak Flow (7.60 MGD)(8.34)(8 mg/l)	=	507 lbs/day
iv. Max Withdrawal Rate for one (1) one-ton cylinder (8 lbs/day/°F)(65°F)	=	520 lbs/day

One (1) one ton cylinder is required for treatment. One (1) additional one-ton cylinder will be kept on site at all times to comply with 30 TAC §217 requirements.

k. De-chlorination Equipment

- | | | |
|--|---|-------------|
| 1. Sulfur Dioxide Dosage Rate | = | 2 mg/l |
| 2. Sulfur Dioxide Feed Rate at Average Daily Flow
(1.90 MGD)(8.34)(2 mg/l) | = | 32 lbs/day |
| 3. Required Chlorine Feed Rate at Peak Flow
(7.60 MGD)(8.34)(2 mg/l) | = | 127 lbs/day |
| 4. Max Withdrawal Rate for one (1) one-ton cylinder
(6 lbs/day/°F)(65°F-30°F) | = | 210 lbs/day |

One (1) one ton cylinder is required for treatment. One (1) additional one-ton cylinder will be kept on site at all times to comply with 30 TAC §217 requirements.

ATTACHMENT L

FLOW SCHEMATICS

HARRIS COUNTY MUD NO. 200
TPDES RENEWAL WITH MAJOR AMENDMENT

MAY 2024



QUIDDITY

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LEGEND:



AIR LIFT



MECHANICAL PUMP

WAS

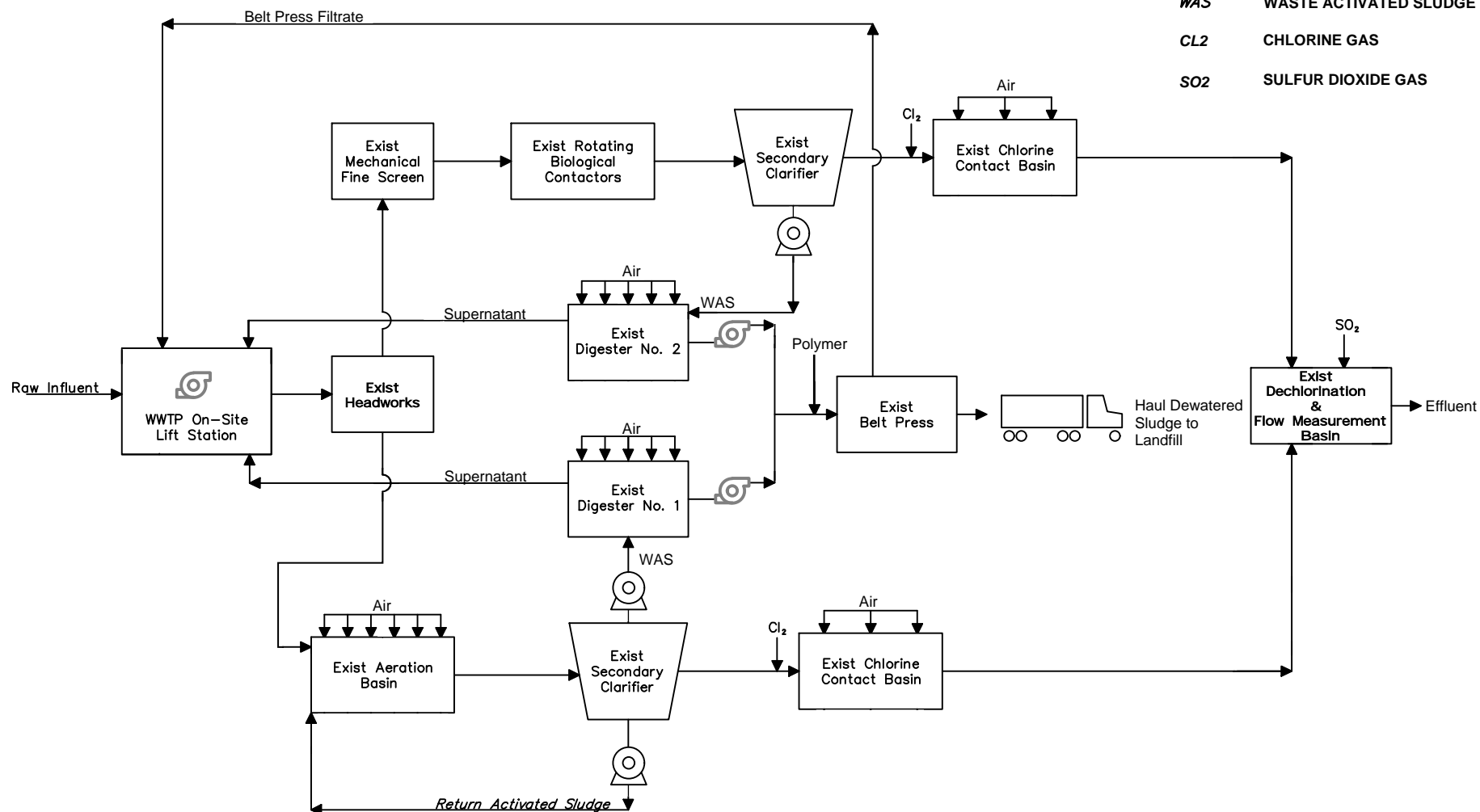
WASTE ACTIVATED SLUDGE

CL₂

CHLORINE GAS

SO₂

SULFUR DIOXIDE GAS



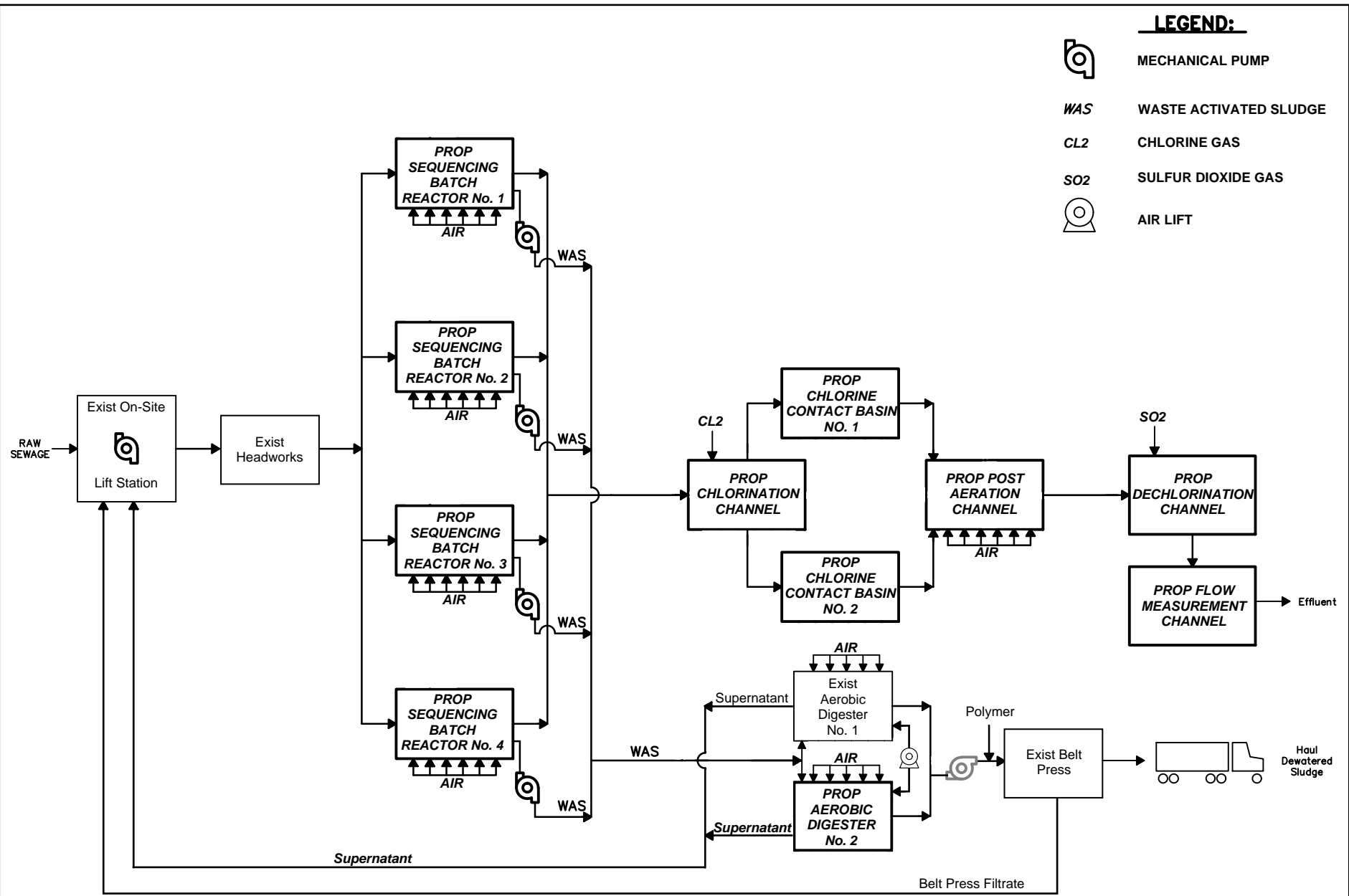
FLOW DIAGRAM PHASE I - 1.44 MGD

NOT TO SCALE





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LEGEND:

-  **MECHANICAL PUMP**
- WAS** **WASTE ACTIVATED SLUDGE**
- CL2** **CHLORINE GAS**
- SO2** **SULFUR DIOXIDE GAS**
-  **AIR LIFT**

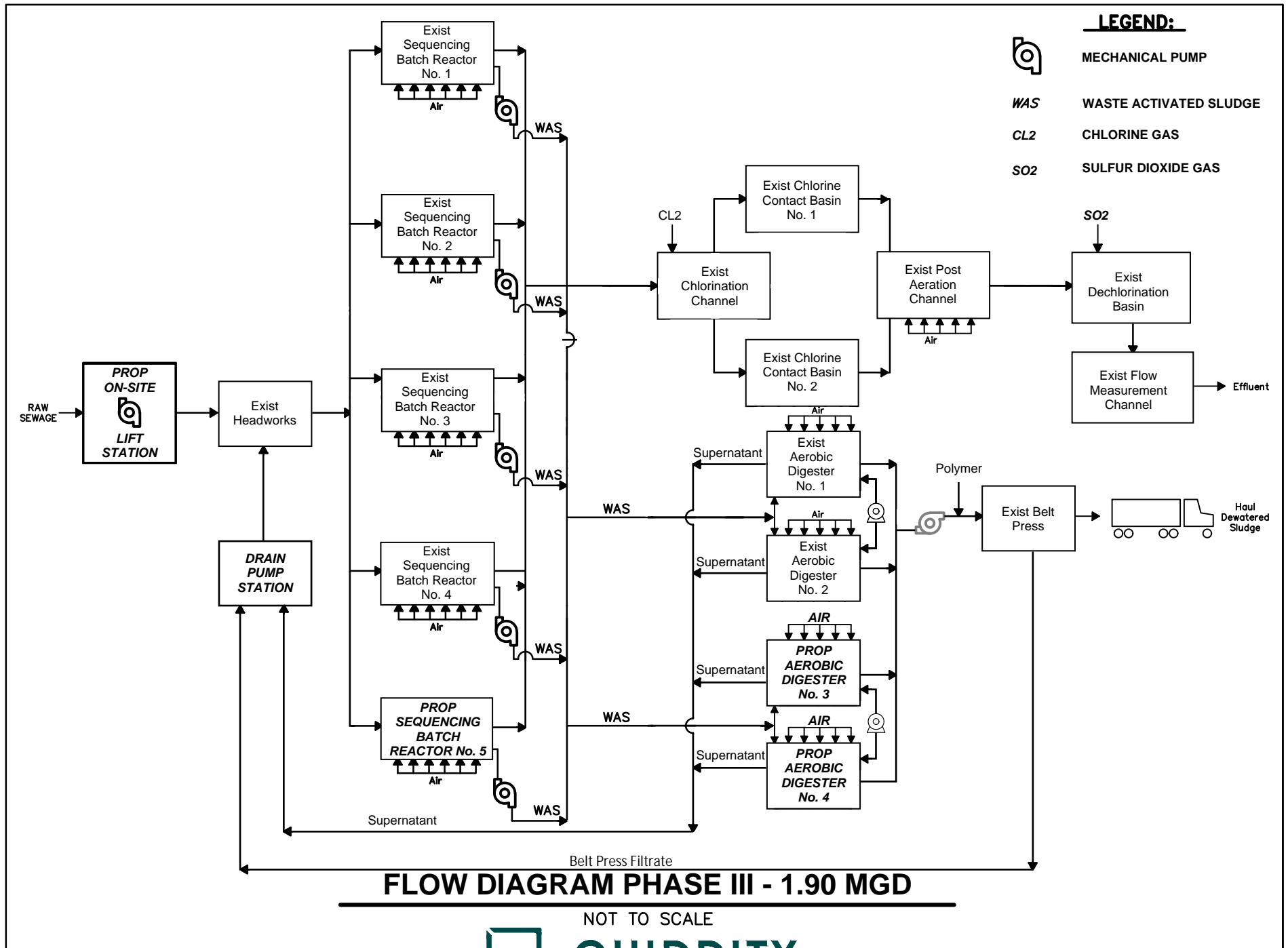
FLOW DIAGRAM PHASE II - 1.60 MGD

NOT TO SCALE



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ATTACHMENT M

SERVICE AREA MAP

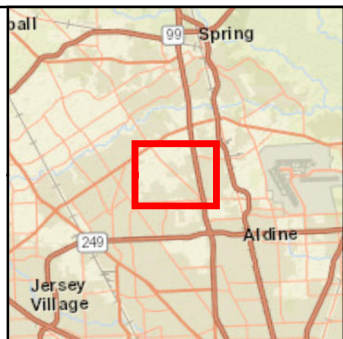
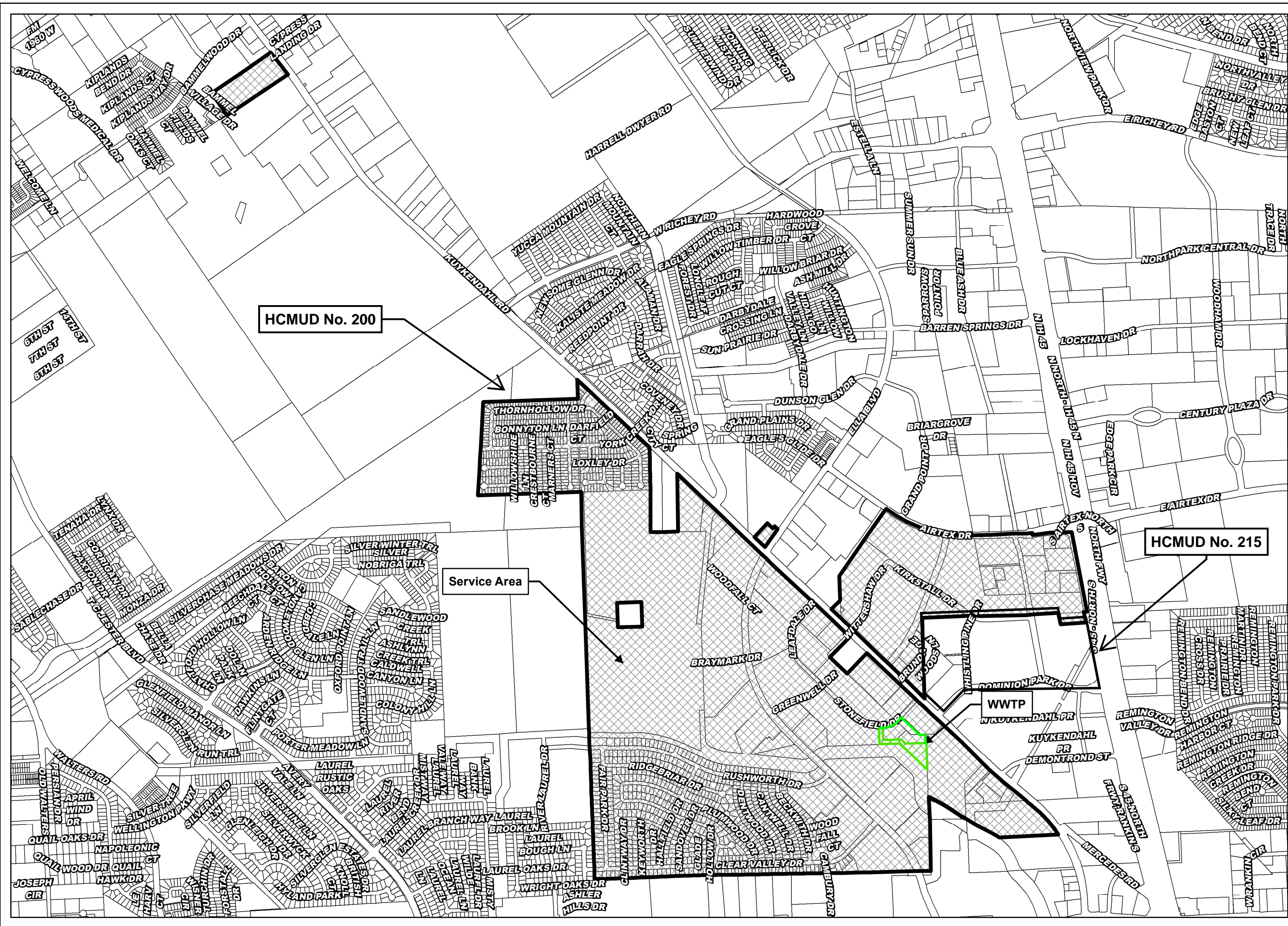
HARRIS COUNTY MUD NO. 200
TPDES RENEWAL WITH MAJOR AMENDMENT

MAY 2024



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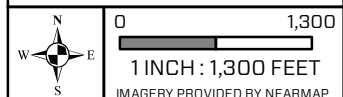


VICINITY MAP
1 INCH = 10 MILES

- LEGEND
- Plant Boundary
 - Service Area
 - Service Area Boundary
 - HCAD Parcels

SERVICE AREA
MAP

HARRIS COUNTY MUD No. 200
HARRIS COUNTY, TEXAS



Disclaimer: This product is offered for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey and represents only the approximate relative location of property, governmental and/or political boundaries or related facilities to said boundary. No express warranties are made by Quiddity Engineering concerning the accuracy, completeness, reliability, or usability of the information included within this exhibit.



ATTACHMENT N

JUSTIFICATION

**HARRIS COUNTY MUD NO. 200
TPDES RENEWAL WITH MAJOR AMENDMENT**

MAY 2024



QUIDDITY

Texas Board of Professional Engineers and Land Surveyors Registration Nos. F-23290 & 10046100
6330 West Loop South, Suite 150 • Bellaire, TX 77401 • 713.777.5337

**JUSTIFICATION FOR PLANT EXPANSION
HARRIS COUNTY MUNICIPAL UTILITY DISTRICT NO. 200**

The Harris County Municipal Utility District No. 200 Wastewater Treatment Facility serves HCMUD 200 and HCMUD 215. This application is for a major amendment to increase the final phase flow to 1.9 million gallons per day (MGD) with an interim phase of 1.6 MGD. The current permit has one flow phase of 1.44 MGD.

At build out, there will be 1,360 residential connections, 9,406 apartment connections, and 109 commercial connections. For design purposes, the wastewater flow for residential, apartment, and commercial connections is 260 gallons per day per connection (gpd / conn), 135 gpd/conn, and 1,500 gpd/conn, respectively.

Following is the connection and flow projection for HCMUD 200 to complete build out:

Month / yr	Single family residential		Apartment Units		Commercial		Total	
	connections	flow (gpd)	connections	flow (gpd)	connections	flow (gpd)	connections	flow (gpd)
Jan-2024	1,121	291,460	4,386	592,110	72	108,000	5,579	991,570
Jan-2025	1,121	291,460	4,386	592,110	74	111,000	5,581	994,570
Jan-2026	1,126	292,760	4,386	592,110	80	120,000	5,592	1,004,870
Jan-2027	1,186	308,360	4,436	598,860	82	123,000	5,704	1,030,220
Jan-2028	1,246	323,960	4,996	674,460	106	159,000	6,348	1,157,420
Jan-2029	1,304	339,040	5,596	755,460	109	163,500	7,009	1,258,000
Jan-2030	1,360	353,600	6,196	836,460	109	163,500	7,665	1,353,560
Jan-2035	1,360	353,600	9,196	1,241,460	109	163,500	10,665	1,758,560
Aug-2035	1,360	353,600	9,406	1,269,810	109	163,500	10,875	1,786,910

Following is the construction schedule for the current and final plant phases:

<u>Proposed flow</u>	<u>Interim I</u>	<u>Interim II</u>	<u>Final</u>
Design Flow (MGD)	1.44	1.60	1.90
2-Hr Peak Flow (MGD)	5.76	6.40	7.60
Date construction to commence	---	5/2028	2/2030
Date construction completed and discharge begins	---	5/2029	2/2031

ATTACHMENT O

SLUDGE MANAGEMENT PLAN

HARRIS COUNTY MUD NO. 200
TPDES RENEWAL WITH MAJOR AMENDMENT

MAY 2024



QUIDDITY

Texas Board of Professional Engineers and Land Surveyors Registration Nos. F-23290 & 10046100
6330 West Loop South, Suite 150 • Bellaire, TX 77401 • 713.777.5337

**SLUDGE MANAGEMENT PLAN
HARRIS COUNTY MUD NO. 200
TPDES MAJOR AMENDMENT**

INTRODUCTION

This sludge management and disposal plan is being submitted as an attachment to the TPDES permit major amendment application for Harris County MUD No. 200. The HCMUD 200 Wastewater Treatment Plant is a 1.44 MGD single stage nitrification activated sludge plant, with proposed future phases of 1.60 MGD and 1.90 MGD. The 1.44 MGD phase has effluent limits of 10 mg/l CBOD₅, 15 mg/l TSS, and report NH₃-N.

DIMENSIONS AND CAPACITIES

Excess solids generated from the activated plant will be wasted to an aerobic digester for further treatment. The digester has a volume of 37,455 ft³ in the Interim I phase. The Interim II and Final phases will have digester volumes of 112,053 ft³ and 201,305 ft³, respectively. The dewatered stabilized sludge will then be hauled away to a TCEQ permitted land application site for disposal by a licensed sludge hauler.

SOLIDS GENERATION

Solids to be wasted from the activated sludge process are based on 1.0 pounds of TSS produced per pound of BOD applied. Following is the amount of solids generated by the wastewater treatment plant at design flow and at 75 percent, 50 percent and 25 percent of design flow:

Interim I Phase – 1.44 MGD		
Percent of Design Flow	Flow (MGD)	Solids Generated (lb/day)
25	0.36	901
50	0.72	1,801
75	1.08	2,702
100	1.44	3,603



Interim II Phase – 1.60 MGD		
Percent of Design Flow	Flow (MGD)	Solids Generated (lb/day)
25	0.40	1,001
50	0.80	2,002
75	1.20	3,002
100	1.60	4,003

Final Phase – 1.90 MGD		
Percent of Design Flow	Flow (MGD)	Solids Generated (lb/day)
25	0.48	1,188
50	0.95	2,377
75	1.43	3,565
100	1.90	4,754

OPERATING PARAMETERS

The single stage nitrification activated sludge process works best between mixed liquor suspended solids (MLSS) concentrations of 2,000 – 6,000 mg/l. The operator will determine the mixed liquor concentration that produces the highest quality effluent taking into consideration factors such as hydraulic and organic loading, available air capacity, and solids handling. Field testing and laboratory analysis will be done to monitor the MLSS and maintain the appropriate solids concentration.

SOLIDS REMOVAL PROCEDURE

Laboratory analysis and field testing will be conducted to determine the solids concentration in the aeration basin. To maintain an appropriate solids inventory, the amount of solids to be wasted per day is equal to the amount of solids generated per day. This amount is stated in the SOLIDS GENERATION section of this plan. Excess solids will then be wasted from the bottom of the clarifier directly to the aerobic digester to maintain the appropriate solids concentration in the aeration basin.

SOLIDS REMOVAL SCHEDULE

It is assumed that 70% of the solids wasted to the digester are volatile solids and the volatile solids reduction is 30%. For every pound of solids wasted to the digester, 0.79 pounds of solids will need to be disposed of by land application. In addition, it is assumed that the solids can be thickened to 15,000 mg/l in the digester.

At this concentration, a 37,455 ft³ digester will hold 35,048 pounds of solids in the Interim I phase. In the Interim II phase, a 112,053 ft³ digester will hold 104,853 pounds of solids. In the Final phase, a 201,305 ft³ digester will hold 188,371 pounds of solids. The capacity of the digester divided by the pounds per day of solids to be disposed of will give the sludge hauling schedule.

Interim I Phase – 1.44 MGD		
Percent of Design Flow	Solids Disposed (lb/day)	Hauling Schedule (days)
25	712	49
50	1,423	25
75	2,135	16
100	2,846	12

Interim II Phase – 1.60 MGD		
Percent of Design Flow	Solids Disposed (lb/day)	Hauling Schedule (days)
25	791	133
50	1,581	66
75	2,372	44
100	3,163	33

Final Phase – 1.90 MGD		
Percent of Design Flow	Solids Disposed (lb/day)	Hauling Schedule (days)
25	939	201
50	1,878	100
75	2,817	67
100	3,756	50

ULTIMATE SLUDGE DISPOSAL

Sludge will be liquid hauled from the plant by a TCEQ registered sludge transporter to a TCEQ permitted land application site or another wastewater treatment plant.

A manifest will be issued with each load of sludge that is hauled from the plant. The following information will be on the manifest to document ultimate disposal of the sludge:

1. Date of sludge hauling
2. Generator Name
3. Generator's address
4. Volume of sludge hauled
5. Name of transporter
6. TCEQ transporter registration number
7. Driver's name
8. Name of disposal site
9. TCEQ Site permit number
10. Date of disposal
11. Volume of sludge disposed

This information, along with laboratory and field data will be used to determine the amount of solids disposed of in dry weight form.

ATTACHMENT P

EFFLUENT ANALYSIS

HARRIS COUNTY MUD NO. 200
TPDES RENEWAL WITH MAJOR AMENDMENT

MAY 2024



QUIDDITY

Texas Board of Professional Engineers and Land Surveyors Registration Nos. F-23290 & 10046100
6330 West Loop South, Suite 150 • Bellaire, TX 77401 • 713.777.5337



April 25, 2024

Laboratory Report

Accounts Payable
Municipal Operations and Consulting
27316 Spectrum Way
Oak Ridge, TX 77385

Report ID: 20240425085933DLH

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



Municipal Operations and Consulting
27316 Spectrum Way
Oak Ridge, TX 77385

Reported:
04/25/2024 08:59

Work Order Case Narrative

Work Order Case Narrative

Work Order Case Narrative

Work Order Case Narrative

Work Order Case Narrative

This report is a supplement to the original Test Report ID: 20240415123311DLH.

* 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 TX-C24-00086

Municipal Operations and Consulting
27316 Spectrum Way
Oak Ridge, TX 77385

Reported:
04/25/2024 08:59

Sample Results

Client Sample ID: 18 Mohm DI

Lab Sample ID: 24C1868-01

HC MUD 200 - Outfall 001 3 Part Grab Comp 1 [none]

Sample Matrix: Waste Water

Date Collected: 03/06/2024 7:40

Collected by: FERnando Alvarez

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
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Metals, Total

EPA 1631E	Mercury	A	<0.00500U	ug/L	1	0.00250	0.00500	BHC1479	03/12/2024 15:51	LPC
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* A = Accredited, N = Not Accredited or Accreditation not available



Municipal Operations and Consulting
27316 Spectrum Way
Oak Ridge, TX 77385

Reported:
04/25/2024 08:59

Sample Results
(Continued)

Client Sample ID: Outfall 001 3 Part Grab

Lab Sample ID: 24C1868-02

HC MUD 200 - Outfall 001 3 Part Grab Comp 1 [none]

Sample Matrix: Waste Water

Date Collected: 03/06/2024 7:40

Collected by:

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
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Metals, Total

EPA 1631E	Mercury	A	<0.00500U	ug/L	1	0.00250	0.00500	BHC1479	03/12/2024 15:57	LPC
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Municipal Operations and Consulting
27316 Spectrum Way
Oak Ridge, TX 77385

Reported:
04/25/2024 08:59

Sample Results
(Continued)

Client Sample ID: 18 Mohm DI

Lab Sample ID: 24C1869-01

HC MUD 200 - Outfall 001 3 Part Grab Comp 2 [none]

Sample Matrix: Waste Water

Date Collected: 03/06/2024 14:20

Collected by: FERnando Alvarez

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
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Metals, Total

EPA 1631E	Mercury	A	<0.00500U	ug/L	1	0.00250	0.00500	BHC1479	03/12/2024 15:03	LPC
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* A = Accredited, N = Not Accredited or Accreditation not available



Municipal Operations and Consulting
27316 Spectrum Way
Oak Ridge, TX 77385

Reported:
04/25/2024 08:59

Sample Results
(Continued)

Client Sample ID: Outfall 001 3 Part Grab

Lab Sample ID: 24C1869-02

HC MUD 200 - Outfall 001 3 Part Grab Comp 2 [none]

Sample Matrix: Waste Water

Date Collected: 03/06/2024 14:20

Collected by:

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
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Metals, Total

EPA 1631E	Mercury	A	<0.00500U	ug/L	1	0.00250	0.00500	BHC1479	03/12/2024 15:08	LPC
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Municipal Operations and Consulting
27316 Spectrum Way
Oak Ridge, TX 77385

Reported:
04/25/2024 08:59

Sample Results (Continued)

Client Sample ID: Outfall 001
Lab Sample ID: 24C2287-01
HC MUD 200 - Large Permit Renewal

[none]

Sample Matrix: Waste Water
Date Collected: 03/07/2024 8:35
Collected by: Francisco Gutierrez

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
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General Chemistry

EPA 1664A	n-Hexane Extractable Material (O&G)	A	<5.00U	mg/L	1	5.00	5.00	BHC1581	03/11/2024 09:08	IDC
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Microbiology

SM 9223 B (Colilert Quanti-Tray)	Escherichia coli (E. coli)	A	104	MPN/100 mL	1	1.00	1.00	BHC1212	03/08/2024 15:12	KIO
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Field

Calc	Flow Field	N	0.875	MGD	1	0.00	0.00	BHD1684	04/09/2024 16:15	DLH
Hach 10360	DO Field	N	8.16	mg/L	1	1.00	1.00	BHC1791	03/07/2024 08:35	FG
Calc	Flow Field	N	1.18	MGD	1	0.00	0.00	BHC1791	03/07/2024 08:35	FG
SM 4500-H+ B	pH	A	7.27	pH Units @ 25 °C	1	1.00	1.00	BHC1791	03/07/2024 08:35	FG
SM 4500-Cl G	Total Residual Chlorine	A	2.60	mg/L	1	0.25	0.25	BHC1791	03/07/2024 08:35	FG

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Municipal Operations and Consulting
27316 Spectrum Way
Oak Ridge, TX 77385

Reported:
04/25/2024 08:59

Sample Results
(Continued)

Client Sample ID: Outfall 001
Lab Sample ID: 24C2287-01RE2
HC MUD 200 - Large Permit Renewal [none]

Sample Matrix: Waste Water
Date Collected: 03/07/2024 8:35
Collected by: Francisco Gutierrez

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
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General Chemistry

SM 4500-CN ⁻ G	Amenable Cyanide (Rerun)	A	<10.0U	ug/L	1	5.00	10.0	BHC3525	03/21/2024 15:48	TBB
SM 4500-CN ⁻ C	Total Cyanide (Rerun)	A	<10.0U	ug/L	1	5.00	10.0	BHC3525	03/21/2024 15:48	TBB

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Municipal Operations and Consulting
27316 Spectrum Way
Oak Ridge, TX 77385

Reported:
04/25/2024 08:59

Sample Results (Continued)

Client Sample ID: Outfall 001 Sampler

Sample Matrix: Waste Water

Lab Sample ID: 24C2287-02

Date Collected: 03/07/2024 5:00

HC MUD 200 - Large Permit Renewal

[none]

Collected by: Francisco Gutierrez

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
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Semivolatile Organic Compounds by GCMS

ASTM D7065	Nonylphenol	N	<333U	ug/L	2	5.92	333	BHC3499	03/28/2024 06:42	KRB
ASTM D7065	Surrogate: n-NP-surr	89.4%	60-140						03/28/2024 06:42	

Organics by GC

SM 6640 B	2,4-D	A	<0.237U, C+	ug/L	2	0.237	0.700	BHC2219	03/16/2024 14:33	KRB
SM 6640 B	Silvex (2,4,5-TP)	A	<0.239U	ug/L	2	0.239	0.300	BHC2219	03/16/2024 14:33	KRB
SM 6640 B	Surrogate: DCAA-surr	112%	70-130						03/16/2024 14:33	
EPA 1657	Azinphos-methyl (Guthion)	A	<0.0344U	ug/L	1	0.0344	0.103	BHC2474	03/16/2024 03:21	KRB
EPA 1657	Chlorpyrifos	A	<0.0265U	ug/L	1	0.0265	0.0516	BHC2474	03/16/2024 03:21	KRB
EPA 1657	Demeton	A	<0.0133U	ug/L	1	0.0133	0.206	BHC2474	03/16/2024 03:21	KRB
EPA 1657	Diazinon	A	<0.0332U	ug/L	1	0.0332	0.516	BHC2474	03/16/2024 03:21	KRB
EPA 1657	Malathion	A	<0.0137U	ug/L	1	0.0137	0.103	BHC2474	03/16/2024 03:21	KRB
EPA 1657	Parathion, ethyl	A	<0.0214U	ug/L	1	0.0214	0.103	BHC2474	03/16/2024 03:21	KRB
EPA 1657	Surrogate: Tributyl Phosphate-surr	113%	40-120						03/16/2024 03:21	
EPA 1657	Surrogate: Triphenyl Phosphate-surr	82.7%	40-120						03/16/2024 03:21	

Metals, Total

EPA 200.8	Aluminum	A	28.1	ug/L	1	0.167	6.25	BHC1568	03/13/2024 09:48	JKC
EPA 200.8	Antimony	A	<5.00U	ug/L	1	0.0589	5.00	BHC1568	03/13/2024 09:48	JKC
EPA 200.8	Arsenic	A	2.40	ug/L	1	0.0468	0.500	BHC1568	03/22/2024 11:39	TBB
EPA 200.8	Barium	A	164	ug/L	1	0.0200	3.00	BHC1568	03/13/2024 09:48	JKC
EPA 200.8	Beryllium	A	<0.500U	ug/L	1	0.0137	0.500	BHC1568	03/22/2024 16:05	TBB
EPA 200.8	Cadmium	A	<1.00U	ug/L	1	0.00798	1.00	BHC1568	03/13/2024 09:48	JKC
EPA 200.8	Chromium	A	<3.00U	ug/L	1	0.0839	3.00	BHC1568	03/13/2024 09:48	JKC
EPA 200.8	Copper	A	10.2	ug/L	1	0.182	2.00	BHC1568	03/13/2024 09:48	JKC
Calc	Chromium (III)		<0.00300	mg/L	1	8.39E-5	0.00300	[CALC]	03/13/2024 09:48	JKC
EPA 200.8	Lead	A	<0.500U	ug/L	1	0.0120	0.500	BHC1568	03/13/2024 13:16	JKC
EPA 200.8	Nickel	A	<2.00U	ug/L	1	0.0398	2.00	BHC1568	03/13/2024 09:48	JKC
EPA 200.8	Selenium	A	<5.00U	ug/L	1	0.354	5.00	BHC1568	03/13/2024 13:16	JKC
EPA 200.8	Silver	A	<0.500U	ug/L	1	0.00467	0.500	BHC1568	03/13/2024 09:48	JKC
EPA 200.8	Thallium	A	<0.500U	ug/L	1	0.0617	0.500	BHC1568	03/13/2024 09:48	JKC
EPA 200.8	Zinc	A	27.0	ug/L	1	0.207	5.00	BHC1568	03/13/2024 09:48	JKC

General Chemistry

SM 2320 B	Alkalinity as CaCO3	A	172	mg/L	1	10.0	10.0	BHC1286	03/08/2024 12:54	AKA
SM 5210 B	Carbonaceous BOD (CBOD)	A	15.8FF	mg/L	13514	2.03	2.03	BHC1305	03/13/2024 10:48	JDD
EPA 300.0	Chloride	A	71.6	mg/L	10	0.345	10.0	BHC1389	03/08/2024 16:57	ORP

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



Municipal Operations and Consulting
27316 Spectrum Way
Oak Ridge, TX 77385

Reported:
04/25/2024 08:59

Sample Results (Continued)

Client Sample ID: Outfall 001 Sampler (Continued)

Sample Matrix: Waste Water

Lab Sample ID: 24C2287-02

Date Collected: 03/07/2024 5:00

HC MUD 200 - Large Permit Renewal

[none]

Collected by: Francisco Gutierrez

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
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General Chemistry (Continued)

SM 2510 B	Conductivity	A	717	umhos/cm @ 25 °C	1	2.00	2.00	BHC1286	03/08/2024 12:54	AKA
EPA 300.0	Fluoride	A	0.302	mg/L	1	0.0105	0.250	BHC1389	03/08/2024 16:37	ORP
EPA 350.1	Ammonia as N	A	18.8	mg/L	50	1.00	2.50	BHC1436	03/11/2024 14:18	GJG
EPA 300.0	Nitrate as N	A	4280	ug/L	1	14.2	100	BHC1389	03/08/2024 16:37	ORP
EPA 300.0	Nitrite as N	A	<50.0U	ug/L	1	5.10	50.0	BHC1389	03/08/2024 16:37	ORP
SM 2540 C	Residue-filterable (TDS)	A	422	mg/L	1	10.0	10.0	BHC1266	03/11/2024 10:50	BP
SM 4500-NH3 C	Total Kjeldahl Nitrogen - (TKN)	A	21.8	mg/L	1	0.100	1.00	BHC1897	03/13/2024 12:40	GIW
EPA 365.1	Total Phosphorus	A	3.71	mg/L	1	0.117	0.200	BHC1340	03/13/2024 09:13	TBB
SM 2540 D	Residue-nonfilterable (TSS)	A	8.63	mg/L	1	1.00	1.00	BHC1463	03/11/2024 10:59	ENR

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Municipal Operations and Consulting
27316 Spectrum Way
Oak Ridge, TX 77385

Reported:
04/25/2024 08:59

Sample Results
(Continued)

Client Sample ID: Outfall 001 Sampler

Lab Sample ID: 24C2287-02RE1

HC MUD 200 - Large Permit Renewal [none]

Sample Matrix: Waste Water

Date Collected: 03/07/2024 5:00

Collected by: Francisco Gutierrez

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
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General Chemistry

EPA 300.0	Sulfate (Rerun)	A	29.5	mg/L	1	0.0341	1.00	BHC1541	03/10/2024 00:04	ORP
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* A = Accredited, N = Not Accredited or Accreditation not available



Municipal Operations and Consulting
27316 Spectrum Way
Oak Ridge, TX 77385

Reported:
04/25/2024 08:59

Sample Results
(Continued)

Client Sample ID: Outfall 001 3 Part Grab

Lab Sample ID: 24C2287-03

HC MUD 200 - Large Permit Renewal [none]

Sample Matrix: Waste Water

Date Collected: 03/07/2024 8:35

Collected by: Francisco Gutierrez

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
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Metals, Total

EPA 1631E	Mercury	A	<0.00500U	ug/L	1	0.00250	0.00500	BHC1479	03/12/2024 14:58	LPC
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* A = Accredited, N = Not Accredited or Accreditation not available



Municipal Operations and Consulting
27316 Spectrum Way
Oak Ridge, TX 77385

Reported:
04/25/2024 08:59

Sample Results
(Continued)

Client Sample ID: Outfall 001 3 Part Grab Composite
Lab Sample ID: 24C2287-04
HC MUD 200 - Large Permit Renewal

[none]

Sample Matrix: Waste Water
Date Collected: 03/07/2024 8:35
Collected by: Francisco Gutierrez

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
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Volatile Organic Compounds by GCMS

EPA 624.1	1,1,1-Trichloroethane	A	<10.0U	ug/L	1	0.622	10.0	BHC1087	03/07/2024 20:39	EM
EPA 624.1	1,1,2,2-Tetrachloroethane	A	<10.0U	ug/L	1	0.867	10.0	BHC1087	03/07/2024 20:39	EM
EPA 624.1	1,1,2-Trichloroethane	A	<10.0U	ug/L	1	0.789	10.0	BHC1087	03/07/2024 20:39	EM
EPA 624.1	1,1-Dichloroethane	A	<10.0U	ug/L	1	0.967	10.0	BHC1087	03/07/2024 20:39	EM
EPA 624.1	1,1-Dichloroethylene	A	<10.0U	ug/L	1	0.849	10.0	BHC1087	03/07/2024 20:39	EM
EPA 624.1	1,2,4-Trichlorobenzene	N	<5.00U	ug/L	1	1.00	5.00	BHC1087	03/07/2024 20:39	EM
EPA 624.1	1,2-Dibromoethane (EDB, Ethylene dibromide)	A	<10.0U	ug/L	1	0.706	10.0	BHC1087	03/07/2024 20:39	EM
EPA 624.1	1,2-Dichlorobenzene (o-Dichlorobenzene)	A	<10.0U	ug/L	1	0.881	10.0	BHC1087	03/07/2024 20:39	EM
EPA 624.1	1,2-Dichloroethane (Ethylene dichloride)	A	<10.0U	ug/L	1	0.870	10.0	BHC1087	03/07/2024 20:39	EM
EPA 624.1	1,2-Dichloropropane	A	<10.0U	ug/L	1	0.854	10.0	BHC1087	03/07/2024 20:39	EM
EPA 624.1	1,3-Dichlorobenzene (m-Dichlorobenzene)	A	<10.0U	ug/L	1	0.717	10.0	BHC1087	03/07/2024 20:39	EM
EPA 624.1	1,4-Dichlorobenzene (p-Dichlorobenzene)	A	<10.0U	ug/L	1	0.641	10.0	BHC1087	03/07/2024 20:39	EM
EPA 624.1	2-Butanone (Methyl ethyl ketone, MEK)	A	<50.0U	ug/L	1	7.38	50.0	BHC1087	03/07/2024 20:39	EM
EPA 624.1	2-Chloroethyl vinyl ether	A	<10.0U	ug/L	1	3.14	10.0	BHC1087	03/07/2024 20:39	EM
EPA 624.1	Acrolein (Propenal)	A	<50.0U	ug/L	1	5.68	50.0	BHC1087	03/07/2024 20:39	EM
EPA 624.1	Acrylonitrile	A	<50.0U	ug/L	1	1.60	50.0	BHC1087	03/07/2024 20:39	EM
EPA 624.1	Benzene	A	<10.0U	ug/L	1	0.604	10.0	BHC1087	03/07/2024 20:39	EM
EPA 624.1	Bromodichloromethane	A	<10.0U	ug/L	1	0.727	10.0	BHC1087	03/07/2024 20:39	EM
EPA 624.1	Bromoform	A	<10.0U	ug/L	1	0.678	10.0	BHC1087	03/07/2024 20:39	EM
EPA 624.1	Carbon tetrachloride	A	<2.00U	ug/L	1	0.500	2.00	BHC1087	03/07/2024 20:39	EM
EPA 624.1	Chlorobenzene	A	<10.0U	ug/L	1	0.724	10.0	BHC1087	03/07/2024 20:39	EM
EPA 624.1	Chlorodibromomethane	A	<10.0U	ug/L	1	0.802	10.0	BHC1087	03/07/2024 20:39	EM
EPA 624.1	Chloroethane (Ethyl chloride)	A	<50.0U	ug/L	1	1.30	50.0	BHC1087	03/07/2024 20:39	EM
EPA 624.1	Chloroform	A	<10.0B, U	ug/L	1	0.688	10.0	BHC1087	03/07/2024 20:39	EM
EPA 624.1	cis-1,3-Dichloropropene	A	<10.0U	ug/L	1	0.580	10.0	BHC1087	03/07/2024 20:39	EM
EPA 624.1	Ethylbenzene	A	<10.0U	ug/L	1	0.727	10.0	BHC1087	03/07/2024 20:39	EM
EPA 624.1	Methyl bromide (Bromomethane)	A	<50.0U	ug/L	1	1.42	50.0	BHC1087	03/07/2024 20:39	EM
EPA 624.1	Methyl chloride (Chloromethane)	A	<50.0U	ug/L	1	0.765	50.0	BHC1087	03/07/2024 20:39	EM
EPA 624.1	Methylene chloride (Dichloromethane)	A	<20.0U	ug/L	1	1.60	20.0	BHC1087	03/07/2024 20:39	EM
EPA 624.1	Tetrachloroethylene (Perchloroethylene)	A	<10.0U	ug/L	1	0.703	10.0	BHC1087	03/07/2024 20:39	EM
EPA 624.1	Toluene	A	<10.0U	ug/L	1	0.649	10.0	BHC1087	03/07/2024 20:39	EM
EPA 624.1	Total Trihalomethanes (TTHMs)	A	<10.0U	ug/L	1	2.00	10.0	BHC1087	03/07/2024 20:39	EM

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Municipal Operations and Consulting
27316 Spectrum Way
Oak Ridge, TX 77385

Reported:
04/25/2024 08:59

Sample Results

(Continued)

Client Sample ID: Outfall 001 3 Part Grab Composite (Continued)

Sample Matrix: Waste Water

Lab Sample ID: 24C2287-04

Date Collected: 03/07/2024 8:35

HC MUD 200 - Large Permit Renewal

[none]

Collected by: Francisco Gutierrez

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
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Volatile Organic Compounds by GCMS (Continued)

EPA 624.1	trans-1,2-Dichloroethylene	A	<10.0U	ug/L	1	0.899	10.0	BHC1087	03/07/2024 20:39	EM
EPA 624.1	trans-1,3-Dichloropropylene	A	<10.0U	ug/L	1	0.496	10.0	BHC1087	03/07/2024 20:39	EM
EPA 624.1	Trichloroethene (Trichloroethylene)	A	<10.0U	ug/L	1	0.744	10.0	BHC1087	03/07/2024 20:39	EM
EPA 624.1	Vinyl chloride (Chloroethene)	A	<10.0U	ug/L	1	1.30	10.0	BHC1087	03/07/2024 20:39	EM
<hr/>										
EPA 624.1	Surrogate: 4-Bromofluorobenzene-surr		97.6%	70-130					03/07/2024 20:39	
EPA 624.1	Surrogate: 1,2-Dichloroethane-d4-surr		93.4%	70-130					03/07/2024 20:39	
EPA 624.1	Surrogate: Dibromofluoromethane-surr		95.9%	70-130					03/07/2024 20:39	
EPA 624.1	Surrogate: Toluene-d8-surr		101%	70-130					03/07/2024 20:39	

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Reported:
04/25/2024 08:59

Sample Results
(Continued)

Client Sample ID: 18 Mohm DI
Lab Sample ID: 24C2287-05
HC MUD 200 - Large Permit Renewal [none]

Sample Matrix: Waste Water
Date Collected: 03/07/2024 8:35
Collected by: Francisco Gutierrez

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
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Metals, Total

EPA 1631E	Mercury	A	<0.00500U	ug/L	1	0.00250	0.00500	BHC1479	03/12/2024 14:53	LPC
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TCEQ TX-C24-00086

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27316 Spectrum Way
Oak Ridge, TX 77385

Reported:
04/25/2024 08:59

Sample Results (Continued)

Client Sample ID: Outfall 001 Sampler
Lab Sample ID: 24C5240-01
HC MUD 200 - Permit Renewal - Recollect

[none]

Sample Matrix: Waste Water
Date Collected: 03/26/2024 5:00
Collected by: Fernando Alvarez

Method	Analyte	*	Result Q	Units	DF	SDL	LRL	Batch	Analyzed	Analyst
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Metals, Dissolved

SM 3500-Cr B	Chromium (VI)	A	7.34	ug/L	1	1.50	3.00	BHC4631	03/28/2024 12:29	JVG
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Municipal Operations and Consulting
27316 Spectrum Way
Oak Ridge, TX 77385

Reported:
04/25/2024 08:59

Quality Control

Volatile Organic Compounds by GCMS

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BHC1087 - EPA 624										
Blank (BHC1087-BLK1)					Prepared & Analyzed: 03/07/2024					
1,1,1-Trichloroethane	<2.00	U	2.00	ug/L						
1,1,2,2-Tetrachloroethane	<3.00	U	3.00	ug/L						
1,1,2-Trichloroethane	<2.00	U	2.00	ug/L						
1,1-Dichloroethane	<3.00	U	3.00	ug/L						
1,1-Dichloroethylene	<3.00	U	3.00	ug/L						
1,2,4-Trichlorobenzene	<5.00	U	5.00	ug/L						
1,2-Dibromoethane (EDB, Ethylene dibromide)	<2.00	U	2.00	ug/L						
1,2-Dichlorobenzene (o-Dichlorobenzene)	<3.00	U	3.00	ug/L						
1,2-Dichloroethane (Ethylene dichloride)	<3.00	U	3.00	ug/L						
1,2-Dichloropropane	<3.00	U	3.00	ug/L						
1,3-Dichlorobenzene (m-Dichlorobenzene)	<2.00	U	2.00	ug/L						
1,4-Dichlorobenzene (p-Dichlorobenzene)	<2.00	U	2.00	ug/L						
2-Butanone (Methyl ethyl ketone, MEK)	<22.0	U	22.0	ug/L						
2-Chloroethyl vinyl ether	<9.00	U	9.00	ug/L						
Acrolein (Propenal)	<17.0	U	17.0	ug/L						
Acrylonitrile	<5.00	U	5.00	ug/L						
Benzene	<2.00	U	2.00	ug/L						
Bromodichloromethane	<2.00	U	2.00	ug/L						
Bromoform	<2.00	U	2.00	ug/L						
Carbon tetrachloride	<1.00	U	1.00	ug/L						
Chlorobenzene	<2.00	U	2.00	ug/L						
Chlorodibromomethane	<2.00	U	2.00	ug/L						
Chloroethane (Ethyl chloride)	<4.00	U	4.00	ug/L						
Chloroform	3.01		2.00	ug/L						
cis-1,3-Dichloropropene	<2.00	U	2.00	ug/L						
Ethylbenzene	<2.00	U	2.00	ug/L						
Methyl bromide (Bromomethane)	<4.00	U	4.00	ug/L						
Methyl chloride (Chloromethane)	<2.00	U	2.00	ug/L						
Methylene chloride (Dichloromethane)	<5.00	U	5.00	ug/L						
Tetrachloroethylene (Perchloroethylene)	<2.00	U	2.00	ug/L						
Toluene	<2.00	U	2.00	ug/L						
Total Trihalomethanes (TTHMs)	<10.0	U	10.0	ug/L						
trans-1,2-Dichloroethylene	<3.00	U	3.00	ug/L						
trans-1,3-Dichloropropylene	<1.00	U	1.00	ug/L						
Trichloroethene (Trichloroethylene)	<2.00	U	2.00	ug/L						
Vinyl chloride (Chloroethene)	<4.00	U	4.00	ug/L						

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Municipal Operations and Consulting
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Oak Ridge, TX 77385

Reported:
04/25/2024 08:59

Quality Control
(Continued)

Volatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit
Batch: BHC1087 - EPA 624 (Continued)									
LCS (BHC1087-BS1)					Prepared & Analyzed: 03/07/2024				
1,1,1-Trichloroethane	39.1		2.00	ug/L	50.0		78.1	70-130	
1,1,2,2-Tetrachloroethane	44.6		3.00	ug/L	50.0		89.2	60-140	
1,1,2-Trichloroethane	43.5		2.00	ug/L	50.0		87.1	70-130	
1,1-Dichloroethane	40.7		3.00	ug/L	50.0		81.4	70-130	
1,1-Dichloroethylene	40.0		3.00	ug/L	50.0		80.0	50-150	
1,2,4-Trichlorobenzene	40.8		5.00	ug/L	50.0		81.6	70-130	
1,2-Dibromoethane (EDB, Ethylene dibromide)	42.1		2.00	ug/L	50.0		84.2	70-130	
1,2-Dichlorobenzene (o-Dichlorobenzene)	41.5		3.00	ug/L	50.0		83.1	65-135	
1,2-Dichloroethane (Ethylene dichloride)	40.2		3.00	ug/L	50.0		80.4	70-130	
1,2-Dichloropropane	41.9		3.00	ug/L	50.0		83.9	35-165	
1,3-Dichlorobenzene (m-Dichlorobenzene)	41.1		2.00	ug/L	50.0		82.1	70-130	
1,4-Dichlorobenzene (p-Dichlorobenzene)	40.7		2.00	ug/L	50.0		81.3	65-135	
2-Butanone (Methyl ethyl ketone, MEK)	431		22.0	ug/L	500		86.1	70-130	
2-Chloroethyl vinyl ether	44.9		9.00	ug/L	50.0		89.8	0-225	
Acrolein (Propenal)	234		17.0	ug/L	250		93.7	60-140	
Acrylonitrile	49.4		5.00	ug/L	50.0		98.8	60-140	
Benzene	42.0		2.00	ug/L	50.0		84.0	65-135	
Bromodichloromethane	49.9		2.00	ug/L	50.0		99.7	65-135	
Bromoform	45.5		2.00	ug/L	50.0		90.9	70-130	
Carbon tetrachloride	40.4		1.00	ug/L	50.0		80.8	70-130	
Chlorobenzene	42.7		2.00	ug/L	50.0		85.4	65-135	
Chlorodibromomethane	49.9		2.00	ug/L	50.0		99.7	70-135	
Chloroethane (Ethyl chloride)	39.6		4.00	ug/L	50.0		79.2	40-160	
Chloroform	43.0		2.00	ug/L	50.0		85.9	70-135	
cis-1,3-Dichloropropene	44.1		2.00	ug/L	50.0		88.1	25-175	
Ethylbenzene	41.4		2.00	ug/L	50.0		82.7	60-140	
Methyl bromide (Bromomethane)	41.1		4.00	ug/L	50.0		82.3	15-185	
Methyl chloride (Chloromethane)	40.3		2.00	ug/L	50.0		80.7	0-205	
Methylene chloride (Dichloromethane)	40.6		5.00	ug/L	50.0		81.1	60-140	
Tetrachloroethylene (Perchloroethylene)	35.8		2.00	ug/L	50.0		71.6	70-130	
Toluene	41.9		2.00	ug/L	50.0		83.8	70-130	
Total Trihalomethanes (TTHMs)	188		10.0	ug/L	200		94.1	70-130	
trans-1,2-Dichloroethylene	40.5		3.00	ug/L	50.0		80.9	70-130	
trans-1,3-Dichloropropylene	42.9		1.00	ug/L	50.0		85.7	50-150	
Trichloroethene (Trichloroethylene)	41.4		2.00	ug/L	50.0		82.7	65-135	
Vinyl chloride (Chloroethene)	39.3		4.00	ug/L	50.0		78.7	5-195	
Surrogate: 4-Bromofluorobenzene-surr			50.9	ug/L	50.0		102	70-130	
Surrogate: 1,2-Dichloroethane-d4-surr			48.3	ug/L	50.0		96.5	70-130	
Surrogate: Dibromofluoromethane-surr			49.3	ug/L	50.0		98.6	70-130	
Surrogate: Toluene-d8-surr			49.2	ug/L	50.0		98.5	70-130	

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Municipal Operations and Consulting
27316 Spectrum Way
Oak Ridge, TX 77385

Reported:
04/25/2024 08:59

Quality Control
(Continued)

Volatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BHC1087 - EPA 624 (Continued)										
LCS Dup (BHC1087-BSD1)					Prepared & Analyzed: 03/07/2024					
1,1,1-Trichloroethane	38.6		2.00	ug/L	50.0		77.2	70-130	1.19	36
1,1,2,2-Tetrachloroethane	43.8		3.00	ug/L	50.0		87.6	60-140	1.82	61
1,1,2-Trichloroethane	41.5		2.00	ug/L	50.0		83.0	70-130	4.80	45
1,1-Dichloroethane	39.2		3.00	ug/L	50.0		78.5	70-130	3.58	40
1,1-Dichloroethylene	38.0		3.00	ug/L	50.0		75.9	50-150	5.22	32
1,2,4-Trichlorobenzene	41.7		5.00	ug/L	50.0		83.3	70-130	2.09	30
1,2-Dibromoethane (EDB, Ethylene dibromide)	40.4		2.00	ug/L	50.0		80.8	70-130	4.07	30
1,2-Dichlorobenzene (o-Dichlorobenzene)	41.5		3.00	ug/L	50.0		82.9	65-135	0.167	57
1,2-Dichloroethane (Ethylene dichloride)	39.1		3.00	ug/L	50.0		78.3	70-130	2.69	49
1,2-Dichloropropane	42.1		3.00	ug/L	50.0		84.3	35-165	0.463	55
1,3-Dichlorobenzene (m-Dichlorobenzene)	42.2		2.00	ug/L	50.0		84.3	70-130	2.60	43
1,4-Dichlorobenzene (p-Dichlorobenzene)	41.1		2.00	ug/L	50.0		82.2	65-135	1.05	57
2-Butanone (Methyl ethyl ketone, MEK)	422		22.0	ug/L	500		84.4	70-130	2.01	30
2-Chloroethyl vinyl ether	44.6		9.00	ug/L	50.0		89.2	0-225	0.714	71
Acrolein (Propenal)	223		17.0	ug/L	250		89.2	60-140	4.88	60
Acrylonitrile	46.8		5.00	ug/L	50.0		93.6	60-140	5.44	60
Benzene	41.0		2.00	ug/L	50.0		81.9	65-135	2.54	61
Bromodichloromethane	48.5		2.00	ug/L	50.0		96.9	65-135	2.83	56
Bromoform	43.0		2.00	ug/L	50.0		86.0	70-130	5.53	42
Carbon tetrachloride	38.8		1.00	ug/L	50.0		77.6	70-130	4.10	41
Chlorobenzene	40.9		2.00	ug/L	50.0		81.9	65-135	4.21	53
Chlorodibromomethane	47.1		2.00	ug/L	50.0		94.3	70-135	5.59	50
Chloroethane (Ethyl chloride)	37.2		4.00	ug/L	50.0		74.4	40-160	6.28	78
Chloroform	41.0		2.00	ug/L	50.0		82.0	70-135	4.71	54
cis-1,3-Dichloropropene	41.9		2.00	ug/L	50.0		83.8	25-175	5.07	58
Ethylbenzene	40.0		2.00	ug/L	50.0		80.0	60-140	3.31	63
Methyl bromide (Bromomethane)	39.1		4.00	ug/L	50.0		78.1	15-185	5.20	61
Methyl chloride (Chloromethane)	38.7		2.00	ug/L	50.0		77.5	0-205	4.03	60
Methylene chloride (Dichloromethane)	39.2		5.00	ug/L	50.0		78.4	60-140	3.47	28
Tetrachloroethylene (Perchloroethylene)	35.9		2.00	ug/L	50.0		71.9	70-130	0.352	39
Toluene	40.6		2.00	ug/L	50.0		81.1	70-130	3.18	41
Total Trihalomethanes (TTHMs)	180		10.0	ug/L	200		89.8	70-130	4.64	30
trans-1,2-Dichloroethylene	39.8		3.00	ug/L	50.0		79.6	70-130	1.62	45
trans-1,3-Dichloropropylene	41.7		1.00	ug/L	50.0		83.4	50-150	2.80	86
Trichloroethene (Trichloroethylene)	39.6		2.00	ug/L	50.0		79.2	65-135	4.39	48
Vinyl chloride (Chloroethene)	38.0		4.00	ug/L	50.0		76.1	5-195	3.40	66
Surrogate: 4-Bromofluorobenzene-surr			49.6	ug/L	50.0		99.3	70-130		
Surrogate: 1,2-Dichloroethane-d4-surr			49.0	ug/L	50.0		98.0	70-130		
Surrogate: Dibromofluoromethane-surr			49.6	ug/L	50.0		99.1	70-130		
Surrogate: Toluene-d8-surr			49.1	ug/L	50.0		98.2	70-130		

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Reported:
04/25/2024 08:59

Quality Control
(Continued)

Volatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BHC1087 - EPA 624 (Continued)										
Matrix Spike (BHC1087-MS1)			Source: 24C2287-04			Prepared & Analyzed: 03/07/2024				
1,1,1-Trichloroethane	20.2	J1	2.00	ug/L	50.0	<2.00	40.4	52-162		
1,1,1,2-Tetrachloroethane	21.0	J1	3.00	ug/L	50.0	<3.00	41.9	46-157		
1,1,2-Trichloroethane	19.6	J1	2.00	ug/L	50.0	<2.00	39.2	52-150		
1,1-Dichloroethane	20.8	J1	3.00	ug/L	50.0	<3.00	41.5	59-155		
1,1-Dichloroethylene	21.1		3.00	ug/L	50.0	<3.00	42.3	0-234		
1,2,4-Trichlorobenzene	21.0	J1	5.00	ug/L	50.0	1.38	39.3	70-130		
1,2-Dibromoethane (EDB, Ethylene dibromide)	19.5	J1	2.00	ug/L	50.0	<2.00	39.0	70-130		
1,2-Dichlorobenzene (o-Dichlorobenzene)	20.8		3.00	ug/L	50.0	<3.00	41.7	18-190		
1,2-Dichloroethane (Ethylene dichloride)	19.1	J1	3.00	ug/L	50.0	<3.00	38.2	49-155		
1,2-Dichloropropane	20.5		3.00	ug/L	50.0	<3.00	40.9	0-210		
1,3-Dichlorobenzene (m-Dichlorobenzene)	20.7	J1	2.00	ug/L	50.0	<2.00	41.3	59-156		
1,4-Dichlorobenzene (p-Dichlorobenzene)	21.1		2.00	ug/L	50.0	<2.00	42.2	18-190		
2-Butanone (Methyl ethyl ketone, MEK)	207	J1	22.0	ug/L	500	<22.0	41.4	70-130		
2-Chloroethyl vinyl ether	38.0		9.00	ug/L	50.0	<9.00	76.0	0-305		
Acrolein (Propenal)	172		17.0	ug/L	250	<17.0	68.8	40-160		
Acrylonitrile	25.3		5.00	ug/L	50.0	<5.00	50.5	40-160		
Benzene	20.8		2.00	ug/L	50.0	<2.00	41.5	37-151		
Bromodichloromethane	21.3		2.00	ug/L	50.0	<2.00	42.6	35-155		
Bromoform	18.6	J1	2.00	ug/L	50.0	<2.00	37.2	45-169		
Carbon tetrachloride	19.9	J1	1.00	ug/L	50.0	<1.00	39.7	70-140		
Chlorobenzene	21.3		2.00	ug/L	50.0	<2.00	42.6	37-160		
Chlorodibromomethane	17.7	J1	2.00	ug/L	50.0	<2.00	35.5	53-149		
Chloroethane (Ethyl chloride)	40.9		4.00	ug/L	50.0	<4.00	81.7	14-230		
Chloroform	22.5	J1	2.00	ug/L	50.0	3.56	37.8	51-138		
cis-1,3-Dichloropropene	20.4		2.00	ug/L	50.0	<2.00	40.9	0-227		
Ethylbenzene	20.1		2.00	ug/L	50.0	<2.00	40.1	37-162		
Methyl bromide (Bromomethane)	38.6		4.00	ug/L	50.0	<4.00	77.1	0-242		
Methyl chloride (Chloromethane)	41.6		2.00	ug/L	50.0	<2.00	83.2	0-273		
Methylene chloride (Dichloromethane)	20.4		5.00	ug/L	50.0	<5.00	40.8	0-221		
Tetrachloroethylene (Perchloroethylene)	18.3	J1	2.00	ug/L	50.0	<2.00	36.5	64-148		
Toluene	22.9	J1	2.00	ug/L	50.0	3.30	39.3	47-150		
Total Trihalomethanes (TTHMs)	80.1	J1	10.0	ug/L	200	3.56	38.3	70-130		
trans-1,2-Dichloroethylene	21.4	J1	3.00	ug/L	50.0	<3.00	42.9	54-156		
trans-1,3-Dichloropropylene	20.3		1.00	ug/L	50.0	<1.00	40.7	17-183		
Trichloroethene (Trichloroethylene)	20.9	J1	2.00	ug/L	50.0	<2.00	41.8	70-157		
Vinyl chloride (Chloroethene)	41.4		4.00	ug/L	50.0	<4.00	82.9	0-251		
Surrogate: 4-Bromofluorobenzene-surr			49.6	ug/L	50.0		99.2	70-130		
Surrogate: 1,2-Dichloroethane-d4-surr			48.6	ug/L	50.0		97.1	70-130		
Surrogate: Dibromofluoromethane-surr			49.8	ug/L	50.0		99.5	70-130		
Surrogate: Toluene-d8-surr			49.7	ug/L	50.0		99.5	70-130		

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Quality Control
(Continued)

Volatile Organic Compounds by GCMS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BHC1087 - EPA 624 (Continued)										
Matrix Spike Dup (BHC1087-MSD1)			Source: 24C2287-04			Prepared & Analyzed: 03/07/2024				
1,1,1-Trichloroethane	41.6	J1	2.00	ug/L	50.0	<2.00	83.2	52-162	69.3	36
1,1,2,2-Tetrachloroethane	43.0	J1	3.00	ug/L	50.0	<3.00	86.0	46-157	68.9	61
1,1,2-Trichloroethane	43.9	J1	2.00	ug/L	50.0	<2.00	87.8	52-150	76.4	45
1,1-Dichloroethane	42.1	J1	3.00	ug/L	50.0	<3.00	84.2	59-155	67.9	40
1,1-Dichloroethylene	41.6	J1	3.00	ug/L	50.0	<3.00	83.3	0-234	65.3	32
1,2,4-Trichlorobenzene	43.0	J1	5.00	ug/L	50.0	1.38	83.2	70-130	68.7	30
1,2-Dibromoethane (EDB, Ethylene dibromide)	41.6	J1	2.00	ug/L	50.0	<2.00	83.1	70-130	72.3	30
1,2-Dichlorobenzene (o-Dichlorobenzene)	41.8	J1	3.00	ug/L	50.0	<3.00	83.5	18-190	66.9	57
1,2-Dichloroethane (Ethylene dichloride)	39.6	J1	3.00	ug/L	50.0	<3.00	79.2	49-155	69.8	49
1,2-Dichloropropane	42.7	J1	3.00	ug/L	50.0	<3.00	85.5	0-210	70.5	55
1,3-Dichlorobenzene (m-Dichlorobenzene)	41.3	J1	2.00	ug/L	50.0	<2.00	82.5	59-156	66.6	43
1,4-Dichlorobenzene (p-Dichlorobenzene)	41.3	J1	2.00	ug/L	50.0	<2.00	82.6	18-190	64.8	57
2-Butanone (Methyl ethyl ketone, MEK)	437	J1	22.0	ug/L	500	<22.0	87.3	70-130	71.4	30
2-Chloroethyl vinyl ether	48.8		9.00	ug/L	50.0	<9.00	97.7	0-305	25.0	71
Acrolein (Propenal)	188		17.0	ug/L	250	<17.0	75.0	40-160	8.68	60
Acrylonitrile	48.9	J1	5.00	ug/L	50.0	<5.00	97.8	40-160	63.7	60
Benzene	42.8	J1	2.00	ug/L	50.0	<2.00	85.7	37-151	69.5	61
Bromodichloromethane	45.1	J1	2.00	ug/L	50.0	<2.00	90.3	35-155	71.7	56
Bromoform	41.9	J1	2.00	ug/L	50.0	<2.00	83.9	45-169	77.2	42
Carbon tetrachloride	41.0	J1	1.00	ug/L	50.0	<1.00	82.1	70-140	69.5	41
Chlorobenzene	42.2	J1	2.00	ug/L	50.0	<2.00	84.4	37-160	65.7	53
Chlorodibromomethane	43.0	J1	2.00	ug/L	50.0	<2.00	86.0	53-149	83.2	50
Chloroethane (Ethyl chloride)	44.2		4.00	ug/L	50.0	<4.00	88.3	14-230	7.75	78
Chloroform	42.9	J1	2.00	ug/L	50.0	3.56	78.7	51-138	62.5	54
cis-1,3-Dichloropropene	43.7	J1	2.00	ug/L	50.0	<2.00	87.3	0-227	72.4	58
Ethylbenzene	41.7	J1	2.00	ug/L	50.0	<2.00	83.4	37-162	70.1	63
Methyl bromide (Bromomethane)	44.6		4.00	ug/L	50.0	<4.00	89.2	0-242	14.6	61
Methyl chloride (Chloromethane)	45.6		2.00	ug/L	50.0	<2.00	91.2	0-273	9.16	60
Methylene chloride (Dichloromethane)	41.8	J1	5.00	ug/L	50.0	<5.00	83.6	0-221	68.7	28
Tetrachloroethylene (Perchloroethylene)	36.4	J1	2.00	ug/L	50.0	<2.00	72.7	64-148	66.3	39
Toluene	45.3	J1	2.00	ug/L	50.0	3.30	84.0	47-150	65.5	41
Total Trihalomethanes (TTHMs)	173	J1	10.0	ug/L	200	3.56	84.7	70-130	73.4	30
trans-1,2-Dichloroethylene	42.2	J1	3.00	ug/L	50.0	<3.00	84.3	54-156	65.2	45
trans-1,3-Dichloropropylene	42.4		1.00	ug/L	50.0	<1.00	84.7	17-183	70.3	86
Trichloroethene (Trichloroethylene)	41.1	J1	2.00	ug/L	50.0	<2.00	82.1	70-157	65.1	48
Vinyl chloride (Chloroethene)	45.8		4.00	ug/L	50.0	<4.00	91.5	0-251	9.94	66
Surrogate: 4-Bromofluorobenzene-surr			50.0	ug/L	50.0		100	70-130		
Surrogate: 1,2-Dichloroethane-d4-surr			48.9	ug/L	50.0		97.9	70-130		
Surrogate: Dibromofluoromethane-surr			48.4	ug/L	50.0		96.7	70-130		
Surrogate: Toluene-d8-surr			49.4	ug/L	50.0		98.8	70-130		

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Quality Control
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Semivolatile Organic Compounds by GCMS

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit
Batch: BHC3499 - SW-3511									
MB NP (BHC3499-BLK1)					Prepared: 03/21/2024 Analyzed: 03/28/2024				
Nonylphenol	<333	U	333	ug/L					
Surrogate: n-NP-surr			8.79	ug/L	7.97		110	60-140	
BS NP (BHC3499-BS1)									
					Prepared: 03/21/2024 Analyzed: 03/28/2024				
Nonylphenol	43.0	U	333	ug/L	39.9		108	56-112	
Surrogate: n-NP-surr			8.45	ug/L	7.98		106	60-140	
BSD NP (BHC3499-BSD1)									
					Prepared: 03/21/2024 Analyzed: 03/28/2024				
Nonylphenol	41.5	U	333	ug/L	39.3		105	56-112	3.57
Surrogate: n-NP-surr			8.45	ug/L	7.87		107	60-140	22
24C2933-02 MS (BHC3499-MS1)									
			Source: 24C2933-02		Prepared: 03/21/2024 Analyzed: 03/28/2024				
Nonylphenol	<333	J1, U	333	ug/L	39.4	<333		56-112	
Surrogate: n-NP-surr		S	0.458	ug/L	7.87		5.82	60-140	
24C2933-02 MSD (BHC3499-MSD1)									
			Source: 24C2933-02		Prepared: 03/21/2024 Analyzed: 03/28/2024				
Nonylphenol	<333	J1, U	333	ug/L	39.6	<333		56-112	22
Surrogate: n-NP-surr		S	0.617	ug/L	7.93		7.78	60-140	

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Quality Control
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Organics by GC

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BHC2219 - SW-3511										
Blank (BHC2219-BLK1)					Prepared: 03/13/2024 Analyzed: 03/16/2024					
2,4-D	<0.700	U	0.700	ug/L						
Silvex (2,4,5-TP)	<0.300	U	0.300	ug/L						
LCS (BHC2219-BS1)										
					Prepared: 03/13/2024 Analyzed: 03/16/2024					
2,4-D	4.14		0.700	ug/L	5.15		80.3	70-130		
Silvex (2,4,5-TP)	4.25		0.300	ug/L	5.00		85.0	70-130		
<i>Surrogate: DCAA-surr</i>			21.7	ug/L	25.0		86.8	70-130		
LCS Dup (BHC2219-BSD1)										
					Prepared: 03/13/2024 Analyzed: 03/16/2024					
2,4-D	4.18		0.700	ug/L	5.15		81.1	70-130	1.02	30
Silvex (2,4,5-TP)	4.18		0.300	ug/L	5.00		83.6	70-130	1.69	30
<i>Surrogate: DCAA-surr</i>			24.2	ug/L	25.0		96.7	70-130		
Matrix Spike (BHC2219-MS1)										
			Source: 24C1678-01		Prepared: 03/13/2024 Analyzed: 03/16/2024					
2,4-D	16.1		0.944	ug/L	20.6	<0.944	78.0	70-130		
Silvex (2,4,5-TP)	16.2		0.952	ug/L	20.0	<0.952	81.2	70-130		
<i>Surrogate: DCAA-surr</i>			92.5	ug/L	100		92.5	70-130		
Matrix Spike Dup (BHC2219-MSD1)										
			Source: 24C1678-01		Prepared: 03/13/2024 Analyzed: 03/16/2024					
2,4-D	15.6		0.944	ug/L	20.6	<0.944	76.0	70-130	2.70	30
Silvex (2,4,5-TP)	15.7		0.952	ug/L	20.0	<0.952	78.6	70-130	3.30	30
<i>Surrogate: DCAA-surr</i>			94.1	ug/L	100		94.1	70-130		
Batch: BHC2474 - EPA 1657 SPE										
Blank (BHC2474-BLK1)					Prepared: 03/14/2024 Analyzed: 03/16/2024					
Azinphos-methyl (Guthion)	<0.100	U	0.100	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	<0.100	U	0.100	ug/L						
Parathion, ethyl	<0.100	U	0.100	ug/L						

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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: BHC2474 - EPA 1657 SPE (Continued)										
LCS (BHC2474-BS1)			Prepared: 03/14/2024 Analyzed: 03/16/2024							
Azinphos-methyl (Guthion)	0.256		0.100	ug/L	0.250		102	37-150		
Chlorpyrifos	0.200		0.0500	ug/L	0.250		80.0	48-150		
Demeton	0.183	J	0.200	ug/L	0.250		73.0	16-150		
Diazinon	0.256	J	0.500	ug/L	0.250		102	50-150		
Malathion	0.162		0.100	ug/L	0.250		64.9	50-150		
Parathion, ethyl	0.215		0.100	ug/L	0.250		86.2	50-150		
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Surrogate: Tributyl Phosphate-surr		S	0.259	ug/L	0.200		130	40-120		
Surrogate: Triphenyl Phosphate-surr			0.198	ug/L	0.200		99.1	40-120		
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LCS Dup (BHC2474-BS1)			Prepared: 03/14/2024 Analyzed: 03/16/2024							
Azinphos-methyl (Guthion)	0.165	J1	0.100	ug/L	0.249		66.3	37-150	43.0	40
Chlorpyrifos	0.167		0.0500	ug/L	0.249		67.1	48-150	17.9	40
Demeton	0.178	J	0.200	ug/L	0.249		71.6	16-150	2.32	40
Diazinon	0.222	J	0.500	ug/L	0.249		89.0	50-150	14.5	40
Malathion	0.142		0.100	ug/L	0.249		57.0	50-150	13.3	40
Parathion, ethyl	0.190		0.100	ug/L	0.249		76.3	50-150	12.5	40
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Surrogate: Tributyl Phosphate-surr			0.171	ug/L	0.199		86.0	40-120		
Surrogate: Triphenyl Phosphate-surr			0.153	ug/L	0.199		76.6	40-120		
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Matrix Spike (BHC2474-MS1)			Source: 24C3502-02		Prepared: 03/14/2024 Analyzed: 03/16/2024					
Azinphos-methyl (Guthion)	0.0506	J1, J	0.103	ug/L	0.258	<0.103	19.6	25-150		
Chlorpyrifos	0.151		0.0516	ug/L	0.258	<0.0516	58.4	25-150		
Demeton	0.0157	J1, J	0.206	ug/L	0.258	<0.206	6.10	25-150		
Diazinon	0.245	J	0.516	ug/L	0.258	<0.516	95.2	25-150		
Malathion	0.186		0.103	ug/L	0.258	<0.103	72.2	25-150		
Parathion, ethyl	0.179		0.103	ug/L	0.258	<0.103	69.3	25-150		
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Surrogate: Tributyl Phosphate-surr		S	0.472	ug/L	0.206		229	40-120		
Surrogate: Triphenyl Phosphate-surr			0.117	ug/L	0.206		56.8	40-120		

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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: BHC2474 - EPA 1657 SPE (Continued)										
Matrix Spike Dup (BHC2474-MSD1)			Source: 24C3502-02			Prepared: 03/14/2024 Analyzed: 03/16/2024				
Azinphos-methyl (Guthion)	<0.108	J1, U	0.108	ug/L	0.269	<0.108		25-150	200	40
Chlorpyrifos	0.161		0.0539	ug/L	0.269	<0.0539	59.9	25-150	6.83	40
Demeton	0.0162	J1, J	0.216	ug/L	0.269	<0.216	6.01	25-150	2.80	40
Diazinon	0.238	J	0.539	ug/L	0.269	<0.539	88.4	25-150	3.09	40
Malathion	0.173		0.108	ug/L	0.269	<0.108	64.1	25-150	7.62	40
Parathion, ethyl	0.183		0.108	ug/L	0.269	<0.108	67.8	25-150	2.08	40
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Surrogate: Tributyl Phosphate-surr		S	0.455	ug/L	0.216		211	40-120		
Surrogate: Triphenyl Phosphate-surr			0.106	ug/L	0.216		49.2	40-120		



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Quality Control
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Metals, Total

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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Batch: BHC1479 - EPA 1631

Blank (BHC1479-BLK1)

Prepared: 03/08/2024 Analyzed: 03/12/2024

Mercury	<0.00500	U	0.00500	ug/L
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Blank (BHC1479-BLK2)

Prepared: 03/08/2024 Analyzed: 03/12/2024

Mercury	<0.00500	U	0.00500	ug/L
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Blank (BHC1479-BLK3)

Prepared: 03/08/2024 Analyzed: 03/12/2024

Mercury	<0.00500	U	0.00500	ug/L
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Matrix Spike (BHC1479-MS1)

Source: 24C1868-02

Prepared: 03/08/2024 Analyzed: 03/12/2024

Mercury	0.0407		0.00526	ug/L	0.0526	<0.00526	77.4	71-125
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Matrix Spike Dup (BHC1479-MSD1)

Source: 24C1868-02

Prepared: 03/08/2024 Analyzed: 03/12/2024

Mercury	0.0421		0.00526	ug/L	0.0526	<0.00526	80.1	71-125	3.36	24
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Batch: BHC1568 - EPA 200.8

Blank (BHC1568-BLK1)

Prepared: 03/11/2024 Analyzed: 03/13/2024

Aluminum	<6.25	U	6.25	ug/L
Antimony	<5.00	U	5.00	ug/L
Barium	<3.00	U	3.00	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
Nickel	<2.00	U	2.00	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



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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: BHC1568 - EPA 200.8 (Continued)										
Blank (BHC1568-BLK2)					Prepared: 03/11/2024 Analyzed: 03/13/2024					
Lead	<0.500	U	0.500	ug/L						
Selenium	<5.00	U	5.00	ug/L						
Blank (BHC1568-BLK3)					Prepared: 03/11/2024 Analyzed: 03/22/2024					
Arsenic	<0.500	U	0.500	ug/L						
Blank (BHC1568-BLK4)					Prepared: 03/11/2024 Analyzed: 03/22/2024					
Beryllium	<0.500	U	0.500	ug/L						
LCS (BHC1568-BS1)					Prepared: 03/11/2024 Analyzed: 03/13/2024					
Aluminum	258		6.25	ug/L	250		103	85-115		
Antimony	104		1.00	ug/L	100		104	85-115		
Barium	307		3.00	ug/L	300		102	85-115		
Cadmium	102		1.00	ug/L	100		102	85-115		
Chromium	307		3.00	ug/L	300		102	85-115		
Copper	105		2.00	ug/L	100		105	85-115		
Nickel	102		2.00	ug/L	100		102	85-115		
Silver	53.4		0.500	ug/L	50.0		107	85-115		
Thallium	52.5		0.500	ug/L	50.0		105	85-115		
Zinc	208		4.00	ug/L	200		104	85-115		
LCS (BHC1568-BS2)					Prepared: 03/11/2024 Analyzed: 03/13/2024					
Lead	52.5		0.500	ug/L	50.0		105	85-115		
Selenium	199		5.00	ug/L	200		99.7	85-115		
LCS (BHC1568-BS3)					Prepared: 03/11/2024 Analyzed: 03/22/2024					
Arsenic	52.7		0.500	ug/L	50.0		105	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
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Batch: BHC1568 - EPA 200.8 (Continued)

LCS (BHC1568-BS4)

Prepared: 03/11/2024 Analyzed: 03/22/2024

Beryllium	20.7		0.200	ug/L	20.0		103	85-115		
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Duplicate (BHC1568-DUP1)

Source: 24C2287-02

Prepared: 03/11/2024 Analyzed: 03/13/2024

Aluminum	28.6		6.25	ug/L		28.1			1.54	20
Antimony	0.424	U	1.00	ug/L		0.444			4.61	20
Barium	168		3.00	ug/L		164			2.73	20
Cadmium	0.0170	U	1.00	ug/L		0.0200			16.2	20
Chromium	<3.00	U	3.00	ug/L		<3.00				20
Copper	10.2		2.00	ug/L		10.2			0.460	20
Nickel	1.66	U	2.00	ug/L		1.64			1.58	20
Silver	0.0300	U	0.500	ug/L		0.0320			6.45	20
Thallium	<0.500	U	0.500	ug/L		<0.500				20
Zinc	27.2		4.00	ug/L		27.0			0.502	20

Duplicate (BHC1568-DUP2)

Source: 24C2564-02

Prepared: 03/11/2024 Analyzed: 03/13/2024

Aluminum	7.43		6.25	ug/L		7.60			2.34	20
Antimony	0.549	U	1.00	ug/L		0.567			3.23	20
Barium	103		3.00	ug/L		108			3.93	20
Cadmium	<1.00	U	1.00	ug/L		<1.00				20
Chromium	<3.00	U	3.00	ug/L		<3.00				20
Copper	2.81		2.00	ug/L		3.07			8.97	20
Nickel	1.35	U	2.00	ug/L		1.55			14.0	20
Silver	0.0200	U	0.500	ug/L		0.0260			26.1	20
Thallium	<0.500	U	0.500	ug/L		<0.500				20
Zinc	42.4		4.00	ug/L		42.3			0.260	20

Duplicate (BHC1568-DUP3)

Source: 24C2287-02

Prepared: 03/11/2024 Analyzed: 03/13/2024

Lead	0.111	U	0.500	ug/L		0.110			0.905	20
Selenium	0.538	U	5.00	ug/L		0.608			12.2	20

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Quality Control
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Metals, Total (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BHC1568 - EPA 200.8 (Continued)										
Duplicate (BHC1568-DUP4)		Source: 24C2564-02		Prepared: 03/11/2024 Analyzed: 03/13/2024						
Lead	0.198	U	0.500	ug/L		0.197			0.506	20
Selenium	<5.00	U	5.00	ug/L		0.409			200	20
Duplicate (BHC1568-DUP5)		Source: 24C2287-02		Prepared: 03/11/2024 Analyzed: 03/22/2024						
Arsenic	2.40		0.500	ug/L		2.40			0.208	20
Duplicate (BHC1568-DUP6)		Source: 24C2564-02		Prepared: 03/11/2024 Analyzed: 03/22/2024						
Arsenic	1.85		0.500	ug/L		1.97			6.19	20
Duplicate (BHC1568-DUP8)		Source: 24C2287-02		Prepared: 03/11/2024 Analyzed: 03/22/2024						
Beryllium	<0.200	U	0.200	ug/L		<0.200				20
Duplicate (BHC1568-DUP9)		Source: 24C2564-02		Prepared: 03/11/2024 Analyzed: 03/22/2024						
Beryllium	<0.200	U	0.200	ug/L		<0.200				20
Matrix Spike (BHC1568-MS1)		Source: 24C2287-02		Prepared: 03/11/2024 Analyzed: 03/13/2024						
Aluminum	278		6.25	ug/L	250	28.1	100	75-125		
Antimony	102		1.00	ug/L	100	0.444	102	75-125		
Barium	468		3.00	ug/L	300	164	101	75-125		
Cadmium	99.9		1.00	ug/L	100	0.0200	99.9	75-125		
Chromium	294		3.00	ug/L	300	<3.00	97.9	75-125		
Copper	108		2.00	ug/L	100	10.2	97.7	75-125		
Nickel	98.6		2.00	ug/L	100	1.64	96.9	75-125		
Silver	51.4		0.500	ug/L	50.0	0.0320	103	75-125		
Thallium	50.2		0.500	ug/L	50.0	<0.500	100	75-125		
Zinc	222		4.00	ug/L	200	27.0	97.3	75-125		
Matrix Spike (BHC1568-MS2)		Source: 24C2564-02		Prepared: 03/11/2024 Analyzed: 03/13/2024						
Aluminum	268		6.25	ug/L	250	7.60	104	75-125		
Antimony	105		1.00	ug/L	100	0.567	105	75-125		
Barium	414		3.00	ug/L	300	108	102	75-125		
Cadmium	100		1.00	ug/L	100	<1.00	100	75-125		
Chromium	295		3.00	ug/L	300	<3.00	98.3	75-125		
Copper	100		2.00	ug/L	100	3.07	97.4	75-125		
Nickel	99.0		2.00	ug/L	100	1.55	97.4	75-125		
Silver	52.1		0.500	ug/L	50.0	0.0260	104	75-125		
Thallium	49.7		0.500	ug/L	50.0	<0.500	99.3	75-125		
Zinc	241		4.00	ug/L	200	42.3	99.4	75-125		

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Quality Control
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Metals, Total (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BHC1568 - EPA 200.8 (Continued)										
Matrix Spike (BHC1568-MS3)			Source: 24C2287-02		Prepared: 03/11/2024 Analyzed: 03/13/2024					
Lead	50.4		0.500	ug/L	50.0	0.110	101	75-125		
Selenium	194		5.00	ug/L	200	0.608	96.9	75-125		
Matrix Spike (BHC1568-MS4)			Source: 24C2564-02		Prepared: 03/11/2024 Analyzed: 03/13/2024					
Lead	53.0		0.500	ug/L	50.0	0.197	106	75-125		
Selenium	198		5.00	ug/L	200	0.409	98.6	75-125		
Matrix Spike (BHC1568-MS5)			Source: 24C2287-02		Prepared: 03/11/2024 Analyzed: 03/22/2024					
Arsenic	56.6		0.500	ug/L	50.0	2.40	108	75-125		
Matrix Spike (BHC1568-MS6)			Source: 24C2564-02		Prepared: 03/11/2024 Analyzed: 03/22/2024					
Arsenic	57.7		0.500	ug/L	50.0	1.97	111	75-125		
Matrix Spike (BHC1568-MS8)			Source: 24C2287-02		Prepared: 03/11/2024 Analyzed: 03/22/2024					
Beryllium	21.6		0.200	ug/L	20.0	<0.200	108	75-125		
Matrix Spike (BHC1568-MS9)			Source: 24C2564-02		Prepared: 03/11/2024 Analyzed: 03/22/2024					
Beryllium	20.5		0.200	ug/L	20.0	<0.200	102	75-125		

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Quality Control
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Metals, Dissolved

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit
Batch: BHC4631 - Cr VI									
Matrix Spike (BHC4631-MS1)									
Chromium (VI)	236		3.00	ug/L	250	7.34	91.6	70-130	
Matrix Spike Dup (BHC4631-MSD1)									
Chromium (VI)	305	J1	3.00	ug/L	250	7.34	119	70-130	25.2 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: BHC1266 - TDS										
Blank (BHC1266-BLK1)										
Residue-filterable (TDS)	<10.0	U	10.0	mg/L						
Prepared: 03/08/2024 Analyzed: 03/11/2024										
LCS (BHC1266-BS1)										
Residue-filterable (TDS)	149		10.0	mg/L	150		99.3	90-110		
Prepared: 03/08/2024 Analyzed: 03/11/2024										
Duplicate (BHC1266-DUP1)										
Residue-filterable (TDS)	2110		10.0	mg/L		2150			1.69	10
Prepared: 03/08/2024 Analyzed: 03/11/2024										
Duplicate (BHC1266-DUP2)										
Residue-filterable (TDS)	402		10.0	mg/L		422			4.85	10
Prepared: 03/08/2024 Analyzed: 03/11/2024										
Batch: BHC1286 - Alkalinity										
Blank (BHC1286-BLK1)										
Conductivity	<2.00	U	2.00	umhos/cm @ 25 °C						
Prepared & Analyzed: 03/08/2024										
LCS (BHC1286-BS1)										
Conductivity	1410			umhos/cm @ 25 °C	1410		99.7	90-110		
Prepared & Analyzed: 03/08/2024										
QSC (BHC1286-BS2)										
Conductivity	517			umhos/cm @ 25 °C	500		103	90-110		
Prepared & Analyzed: 03/08/2024										
LCS (BHC1286-BS4)										
Alkalinity as CaCO3	99.9			mg/L	100		99.9	90-110		
Prepared & Analyzed: 03/08/2024										
Duplicate (BHC1286-DUP1)										
Alkalinity as CaCO3	140		10.0	mg/L		143			2.28	15
Conductivity	835		2.00	umhos/cm @ 25 °C		831			0.480	15
Prepared & Analyzed: 03/08/2024										

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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: BHC1286 - Alkalinity (Continued)										
Duplicate (BHC1286-DUP2)		Source: 24C2140-01		Prepared & Analyzed: 03/08/2024						
Conductivity	580		2.00	umhos/cm @ 25 °C		592			2.05	15
Alkalinity as CaCO3	183		10.0	mg/L		183			0.311	15
Batch: BHC1305 - CBOD-5210										
LCS (BHC1305-BS1)				Prepared: 03/08/2024 Analyzed: 03/13/2024						
Carbonaceous BOD (CBOD)	169			mg/L	198		85.6	85-115		
Duplicate (BHC1305-DUP1)		Source: 24C2253-02		Prepared: 03/08/2024 Analyzed: 03/13/2024						
Carbonaceous BOD (CBOD)	<2.40	U	2.40	mg/L		3.54			200	40
Duplicate (BHC1305-DUP2)		Source: 24C2216-01		Prepared: 03/08/2024 Analyzed: 03/13/2024						
Carbonaceous BOD (CBOD)	4.39		2.40	mg/L		4.23			3.62	40
Duplicate (BHC1305-DUP3)		Source: 24C2234-02		Prepared: 03/08/2024 Analyzed: 03/13/2024						
Carbonaceous BOD (CBOD)	<2.40	U	2.40	mg/L		3.13			200	40
Duplicate (BHC1305-DUP4)		Source: 24C2180-02		Prepared: 03/08/2024 Analyzed: 03/13/2024						
Carbonaceous BOD (CBOD)	2.92		2.40	mg/L		3.54			19.1	40
Duplicate (BHC1305-DUP5)		Source: 24C2150-02		Prepared: 03/08/2024 Analyzed: 03/13/2024						
Carbonaceous BOD (CBOD)	3.48		2.40	mg/L		2.45			34.9	40
Duplicate (BHC1305-DUP6)		Source: 24C2246-02		Prepared: 03/08/2024 Analyzed: 03/13/2024						
Carbonaceous BOD (CBOD)	<2.40	U	2.40	mg/L		3.10			200	40
Duplicate (BHC1305-DUP7)		Source: 24C0447-02		Prepared: 03/08/2024 Analyzed: 03/13/2024						
Carbonaceous BOD (CBOD)	2.44		2.40	mg/L		<2.40			200	40

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Quality Control
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General Chemistry (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BHC1305 - CBOD-5210 (Continued)										
Duplicate (BHC1305-DUP8)			Source: 24C2106-02		Prepared: 03/08/2024 Analyzed: 03/13/2024					
Carbonaceous BOD (CBOD)	4.70		2.40	mg/L		4.64			1.41	40
Duplicate (BHC1305-DUP9)			Source: 24C2115-04		Prepared: 03/08/2024 Analyzed: 03/13/2024					
Carbonaceous BOD (CBOD)	3.93	J1	2.40	mg/L		2.53			43.3	40
Duplicate (BHC1305-DUPA)			Source: 24C2145-04		Prepared: 03/08/2024 Analyzed: 03/13/2024					
Carbonaceous BOD (CBOD)	197		50.0	mg/L		172			13.6	20
Duplicate (BHC1305-DUPB)			Source: 24C2473-08		Prepared: 03/08/2024 Analyzed: 03/13/2024					
Carbonaceous BOD (CBOD)	147		50.0	mg/L		144			1.78	20
Batch: BHC1340 - Phosphorus EPA 365.1										
LCS (BHC1340-BS1)					Prepared: 03/08/2024 Analyzed: 03/13/2024					
Total Phosphorus	0.244		0.0100	mg/L	0.250		97.5	90-110		
Matrix Spike (BHC1340-MS1)			Source: 24C2019-03		Prepared: 03/08/2024 Analyzed: 03/13/2024					
Total Phosphorus	22.9		0.500	mg/L	12.5	9.13	110	80-120		
Matrix Spike (BHC1340-MS2)			Source: 24C2180-05		Prepared: 03/08/2024 Analyzed: 03/13/2024					
Total Phosphorus	20.1		0.500	mg/L	12.5	7.52	100	80-120		
Matrix Spike Dup (BHC1340-MSD1)			Source: 24C2019-03		Prepared: 03/08/2024 Analyzed: 03/13/2024					
Total Phosphorus	21.6		0.500	mg/L	12.5	9.13	99.9	80-120	5.73	20
Matrix Spike Dup (BHC1340-MSD2)			Source: 24C2180-05		Prepared: 03/08/2024 Analyzed: 03/13/2024					
Total Phosphorus	20.1		0.500	mg/L	12.5	7.52	101	80-120	0.348	20

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Quality Control
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General Chemistry (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BHC1389 - EPA 300.0										
Duplicate (BHC1389-DUP1)		Source: 24C2287-02			Prepared & Analyzed: 03/08/2024					
Fluoride	0.312		0.250	mg/L		0.302			3.26	15
Nitrate as N	4330		100	ug/L		4280			1.11	15
Chloride	73.6		10.0	mg/L		71.6			2.67	15
Sulfate	28.0		1.00	mg/L		28.0			0.0643	15
Nitrite as N	<50.0	U	50.0	ug/L		<50.0				15
Duplicate (BHC1389-DUP2)		Source: 24C2021-02			Prepared & Analyzed: 03/09/2024					
Nitrite as N	<50.0	U	50.0	ug/L		<50.0				15
Chloride	127		10.0	mg/L		119			6.71	15
Fluoride	0.241	U	0.250	mg/L		0.238			1.25	15
Sulfate	54.5		1.00	mg/L		54.5			0.00183	15
Nitrate as N	4550		100	ug/L		4550			0.0220	15
MRL Check (BHC1389-MRL1)					Prepared & Analyzed: 03/08/2024					
Fluoride	0.349		0.250	mg/L	0.250		140	50-150		
Sulfate	1.14		1.00	mg/L	1.00		114	50-150		
Nitrite as N	56.0		50.0	ug/L	50.0		112	50-150		
Chloride	1.09		1.00	mg/L	1.00		109	50-150		
Nitrate as N	110		100	ug/L	100		110	50-150		
Matrix Spike (BHC1389-MS1)		Source: 24C2287-02			Prepared & Analyzed: 03/08/2024					
Sulfate	49.9		1.11	mg/L	22.2	28.0	98.6	80-120		
Nitrite as N	1920	J1	55.6	ug/L	1110	<55.6	173	80-120		
Fluoride	5.61		0.278	mg/L	5.56	0.302	95.6	80-120		
Nitrate as N	6480		111	ug/L	2220	4280	98.8	80-120		
Chloride	86.6	J1	11.1	mg/L	11.1	71.6	135	80-120		
Matrix Spike (BHC1389-MS2)		Source: 24C2021-02			Prepared & Analyzed: 03/09/2024					
Fluoride	5.80		0.278	mg/L	5.56	0.238	100	80-120		
Chloride	133	J1	11.1	mg/L	11.1	119	129	80-120		
Nitrate as N	6700		111	ug/L	2220	4550	97.1	80-120		
Nitrite as N	2300	J1	55.6	ug/L	1110	<55.6	207	80-120		
Sulfate	78.2		1.11	mg/L	22.2	54.5	106	80-120		

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Quality Control
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General Chemistry (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BHC1436 - NH3-N SEAL-350.1										
Matrix Spike (BHC1436-MS1)		Source: 24C2198-02			Prepared & Analyzed: 03/11/2024					
Ammonia as N	0.513		0.0500	mg/L	0.400	0.0963	104	90-110		
Matrix Spike (BHC1436-MS2)		Source: 24C2235-01			Prepared & Analyzed: 03/11/2024					
Ammonia as N	0.582		0.0500	mg/L	0.400	0.168	104	90-110		
Matrix Spike Dup (BHC1436-MSD1)		Source: 24C2198-02			Prepared & Analyzed: 03/11/2024					
Ammonia as N	0.548	J1	0.0500	mg/L	0.400	0.0963	113	90-110	6.54	20
Matrix Spike Dup (BHC1436-MSD2)		Source: 24C2235-01			Prepared & Analyzed: 03/11/2024					
Ammonia as N	0.565		0.0500	mg/L	0.400	0.168	99.3	90-110	2.98	20
Batch: BHC1463 - TSS										
Blank (BHC1463-BLK1)		Prepared: 03/08/2024 Analyzed: 03/11/2024								
Residue-nonfilterable (TSS)	<1.00	U	1.00	mg/L						
LCS (BHC1463-BS1)		Prepared: 03/08/2024 Analyzed: 03/11/2024								
Residue-nonfilterable (TSS)	98.7		1.00	mg/L	100		98.7	85-115		
Duplicate (BHC1463-DUP1)		Source: 24C2209-01			Prepared: 03/08/2024 Analyzed: 03/11/2024					
Residue-nonfilterable (TSS)	1.26	J1	1.00	mg/L		<1.00			200	10
Duplicate (BHC1463-DUP2)		Source: 24C2221-01			Prepared: 03/08/2024 Analyzed: 03/11/2024					
Residue-nonfilterable (TSS)	1.26	J1	1.00	mg/L		1.47			15.4	10
Batch: BHC1541 - EPA 300.0										
Duplicate (BHC1541-DUP1)		Source: 24C2281-02			Prepared & Analyzed: 03/09/2024					
Sulfate	41.2		10.0	mg/L		41.6			0.797	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: BHC1541 - EPA 300.0 (Continued)										
Duplicate (BHC1541-DUP2)		Source: 24C2198-02			Prepared & Analyzed: 03/10/2024					
Sulfate	64.4		10.0	mg/L		64.5			0.155	15
MRL Check (BHC1541-MRL1)					Prepared & Analyzed: 03/09/2024					
Sulfate	1.14		1.00	mg/L	1.00		114	50-150		
Matrix Spike (BHC1541-MS1)		Source: 24C2281-02			Prepared & Analyzed: 03/09/2024					
Sulfate	61.4		11.1	mg/L	22.2	41.6	89.1	80-120		
Matrix Spike (BHC1541-MS2)		Source: 24C2198-02			Prepared & Analyzed: 03/10/2024					
Sulfate	83.8		11.1	mg/L	22.2	64.5	86.8	80-120		
Batch: BHC1581 - EPA 1664										
Blank (BHC1581-BLK1)					Prepared & Analyzed: 03/11/2024					
n-Hexane Extractable Material (O&G)	<5.00	U	5.00	mg/L						
LCS (BHC1581-BS1)					Prepared & Analyzed: 03/11/2024					
n-Hexane Extractable Material (O&G)	45.0		5.00	mg/L	40.0		113	77.5-114.5		
LCS Dup (BHC1581-BSD1)					Prepared & Analyzed: 03/11/2024					
n-Hexane Extractable Material (O&G)	45.3		5.00	mg/L	40.0		113	77.5-114.5	0.602	20
Matrix Spike (BHC1581-MS1)		Source: 24C2124-01			Prepared & Analyzed: 03/11/2024					
n-Hexane Extractable Material (O&G)	<5.00	J1, U	5.00	mg/L	40.0	<5.00		77.5-114.5		
Batch: BHC1897 - TKN T										
Blank (BHC1897-BLK1)					Prepared: 03/12/2024 Analyzed: 03/13/2024					
Total Kjeldahl Nitrogen - (TKN)	<1.00	U	1.00	mg/L						

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



Municipal Operations and Consulting
27316 Spectrum Way
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Reported:
04/25/2024 08:59

Quality Control
(Continued)

General Chemistry (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BHC1897 - TKN T (Continued)										
LCS (BHC1897-BS1)					Prepared: 03/12/2024 Analyzed: 03/13/2024					
Total Kjeldahl Nitrogen - (TKN)	2.02		1.00	mg/L	1.97		102	85-115		
Duplicate (BHC1897-DUP1)					Source: 24C2095-02 Prepared: 03/12/2024 Analyzed: 03/13/2024					
Total Kjeldahl Nitrogen - (TKN)	41.1		1.00	mg/L		49.7			19.0	20
Matrix Spike (BHC1897-MS1)					Source: 24C2095-02 Prepared: 03/12/2024 Analyzed: 03/13/2024					
Total Kjeldahl Nitrogen - (TKN)	54.1		1.00	mg/L	4.00	49.7	109	85-115		
Batch: BHC2885 - CN-4500										
Blank (BHC2885-BLK1)					Prepared & Analyzed: 03/18/2024					
Total Cyanide	<10.0	U	10.0	ug/L						
LCS (BHC2885-BS1)					Prepared & Analyzed: 03/18/2024					
Total Cyanide	285	J1	10.0	ug/L	200		142	90-110		
QCS (BHC2885-BS2)					Prepared & Analyzed: 03/18/2024					
Total Cyanide	284	J1	10.0	ug/L	200		142	90-110		
MRL Check (BHC2885-MRL1)					Prepared & Analyzed: 03/18/2024					
Total Cyanide	17.9	J1	10.0	ug/L	10.0		179	50-150		
Matrix Spike (BHC2885-MS1)					Source: 24C1862-01 Prepared & Analyzed: 03/18/2024					
Total Cyanide	281	J1	10.2	ug/L	204	<10.2	138	80-120		
Matrix Spike Dup (BHC2885-MSD1)					Source: 24C1862-01 Prepared & Analyzed: 03/18/2024					
Total Cyanide	245		10.2	ug/L	204	<10.2	120	80-120	13.6	20

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Reported:
04/25/2024 08:59

Quality Control
(Continued)

General Chemistry (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BHC3146 - CN-4500										
Blank (BHC3146-BLK1)					Prepared & Analyzed: 03/20/2024					
Total Cyanide	<10.0	U	10.0	ug/L						
LCS (BHC3146-BS1)					Prepared & Analyzed: 03/20/2024					
Total Cyanide	196		10.0	ug/L	200		98.0	90-110		
QCS (BHC3146-BS2)					Prepared & Analyzed: 03/20/2024					
Total Cyanide	199		10.0	ug/L	200		99.3	90-110		
MRL Check (BHC3146-MRL1)					Prepared & Analyzed: 03/20/2024					
Total Cyanide	19.2	J1	10.0	ug/L	10.0		192	50-150		
Matrix Spike (BHC3146-MS1)					Prepared & Analyzed: 03/20/2024					
Total Cyanide	179		10.2	ug/L	204	<10.2	87.6	80-120		
Matrix Spike Dup (BHC3146-MSD1)					Prepared & Analyzed: 03/20/2024					
Total Cyanide	169		10.2	ug/L	204	<10.2	82.9	80-120	5.55	20
Batch: BHC3525 - CN-4500										
Blank (BHC3525-BLK1)					Prepared & Analyzed: 03/21/2024					
Total Cyanide	<10.0	U	10.0	ug/L						
LCS (BHC3525-BS1)					Prepared & Analyzed: 03/21/2024					
Total Cyanide	206		10.0	ug/L	200		103	90-110		
QCS (BHC3525-BS2)					Prepared & Analyzed: 03/21/2024					
Total Cyanide	204		10.0	ug/L	200		102	90-110		

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Reported:
04/25/2024 08:59

Quality Control (Continued)

General Chemistry (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit
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Batch: BHC3525 - CN-4500 (Continued)

MRL Check (BHC3525-MRL1)

Total Cyanide	12.8		10.0	ug/L	10.0		128	50-150	
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Matrix Spike (BHC3525-MS1)

		Source: 24C1862-01RE2		Prepared & Analyzed: 03/21/2024					
Total Cyanide	184		10.0	ug/L	200	<10.0	92.2	80-120	

Matrix Spike Dup (BHC3525-MSD1)

		Source: 24C1862-01RE2		Prepared & Analyzed: 03/21/2024					
Total Cyanide	189		10.0	ug/L	200	<10.0	94.6	80-120	2.60 20

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Reported:
04/25/2024 08:59

Quality Control
(Continued)

Microbiology

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit
Batch: BHC1212 - TC EC Quantitray									
Blank (BHC1212-BLK1)									
Escherichia coli (E. coli)	<1.00	U	1.00	MPN/100 mL					
Prepared: 03/07/2024 Analyzed: 03/08/2024									
Duplicate (BHC1212-DUP1)									
Escherichia coli (E. coli)	<1.00	U	1.00	MPN/100 mL		<1.00			200
Prepared: 03/07/2024 Analyzed: 03/08/2024									
Duplicate (BHC1212-DUP2)									
Escherichia coli (E. coli)	<1.00	U	1.00	MPN/100 mL		<1.00			200
Prepared: 03/07/2024 Analyzed: 03/08/2024									

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Reported:
04/25/2024 08:59

Sample Condition Checklist

Work Order: 24C1868

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: 24C1869

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: 24C2287

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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Reported:
04/25/2024 08:59

Work Order: 24C5240

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: 24D4502

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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27316 Spectrum Way
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Reported:
04/25/2024 08:59

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.
FF	The blank for biochemical oxygen demand depleted more than the method limit of 0.20 mg/l.
J	Estimated value - The reported value is between the detection limit and reporting limit.
J1	Estimated value - The reported value is outside the established quality control criteria for accuracy and/or precision.
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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TCEQ T104704238-23-39

Lab PM : Deena Higginbotham		Project Name : HC MUD 200 - Outfall 001 3 Part Grab Comp 1						Schedule Comments:	
Municipal Operations and Consulting Accounts Payable 27316 Spectrum Way Oak Ridge, TX 77385 Phone: (281) 367-5511		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	
24C1868-01	18 Mohm DI		3/6/2024 1040	AQ Grab	A Glass 4oz Boston Round	LL Hg-1631	BrCl		
24C1868-02	Outfall 001 3 Part Grab		3/6/2024 1	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 Composite VOA	BrCl 4°C		

Field Remarks:		Lab Preservation: H2SO4 HNO3 NaOH Other: _____				
(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	Received for Laboratory By (Signature)	Date/Time
Custody Seal: Yes / No		COC Labels Agree: Yes / No		Appropriate Volume: Yes / No		Receives on Ice: Yes / No
Container Intact: Yes / No		Appropriate Containers: Yes / No		Coolers Intact: Yes / No		Samples Accepted: Yes / No
						Temperature: _____ °C
						Thermometer ID: _____

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24C1869

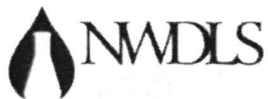
TCEQ T104704238-23-39

Lab PM : Deena Higginbotham		Project Name : HC MUD 200 - Outfall 001 3 Part Grab Comp 2						Schedule Comments	
Municipal Operations and Consulting Accounts Payable 27316 Spectrum Way Oak Ridge, TX 77385 Phone: (281) 367-5511		Project Comments: COORDINATE GRAB 1 & GRAB 2 COLLECTION TIMES WITH OTHER FIELD TECH IF NEEDED 13050 Stonefield Dr 77014 Gate Combo 2006							
Sample ID	Collection Point	Date/Time Begin	Date/Time Sampled	Sample Type	Container	Analysis/Preservation		Field Results	
24C1869-01	18 Mohm DI		3/6/2024 1420	AQ Grab	A Glass 4oz Boston Round	LL Hg-1631	BrCl		
24C1869-02	Outfall 001 3 Part Grab		3/6/2024	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 Composite VOA	BrCl 4°C		

Field Remarks:		Lab Preservation: H2SO4 HNO3 NaOH Other: _____							
(Circle and Write ID Below)		Date/Time		Received By: (Signature)		Date/Time			
Sampler Signature: <i>[Signature]</i>		Re Induced By: (Signature)		Date/Time		Received By: (Signature)		Date/Time	
Print Name: <i>Fernando C Alvarez</i>		Re Induced By: (Signature)		Date/Time		Received By: (Signature)		Date/Time	
Affiliation: <i>NWDLS</i>		Re Induced By Lab By: (Signature)		Date/Time: <i>3-6-24/1305</i>		Received for Laboratory By: (Signature)		Date/Time: <i>3-6-24/1305</i>	
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: _____	

North West

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24C2287

TCEQ T104704238-23-39

Lab PM : Deena Higginbotham		Project Name : HC MUD 200 - Large Permit Renewal						Schedule Comments	
Municipal Operations and Consulting Accounts Payable 27316 Spectrum Way Oak Ridge, TX 77385 Phone: (281) 367-5511		Project Comments: DO reading must be recorded before 9am If CL2 not <.1 Call Office Mark out Duplicated Outfall samples on the regular chain 13050 Stonefield Dr 77014 Gate Combo 2006							
Sample ID	Collection Point	Date/Time Begin	Date/Time Sampled	Sample Type	Container	Analysis/Preservation		Field Results	
24C2287-01	Outfall 001		3/7/2024 835	AQ Grab	A HDPE 250mL NaOH B Glass Wide 1L w/ Teflon-lined Lid C HDPE S250mL Na2S2O3	TC EC-9223 O&G-1664 CN AMEN-4500 CN T-4500	Na2S2O3 <10°C HCl 4°C NaOH 4°C NaOH 4°C	DO Field Flow MGD Field pH Field Total Chlorine Residual WW Field	8.16 1.176 7.27 2.6



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24C2287

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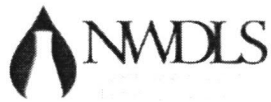
TCEQ T104704238-23-39

Lab PM : Deena Higginbotham		Project Name : HC MUD 200 - Large Permit Renewal						Schedule Comments:	
Municipal Operations and Consulting Accounts Payable 27316 Spectrum Way Oak Ridge, TX 77385 Phone: (281) 367-5511		Project Comments: DO reading must be recorded before 9am If CL2 not <.1 Call Office Mark out Duplicated Outfall samples on the regular chain 13050 Stonefield Dr 77014 Gate Combo 2006							
24C2287-03	Outfall 001 3 Part Grab		3/7/2024 835	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 Composite VOA	BrCl 4°C		
24C2287-04	Outfall 001 3 Part Grab		3/7/2024	AQ Grab 3-Part Cor		Sub_VOA-624	4°C		
24C2287-05	18 Mohm DI		3/7/2024	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) <i>[Signature]</i>	Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Date/Time	
Print Name Francisco Gutierrez	Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Date/Time	
Affiliation NWDLS	Relinquished To Lab By: (Signature) <i>[Signature]</i>	Date/Time 3-7-24 / 1435	Received for Laboratory By: (Signature) <i>[Signature]</i>	Date/Time 3-7-24 / 1435	
Custody Seal: Yes / No		COC Labels Agree: Yes / No		Appropriate Volume: Yes / No	
Container Intact: Yes / No		Appropriate Containers: Yes / No		Coolers Intact: Yes / No	
		Received on Ice: Yes / No		Temperature: _____ °C	
		Samples Accepted: Yes / No		Thermometer ID: _____	

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TCEQ T104704238-23-39

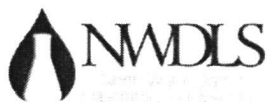


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24C2287

(Continued)

Lab PM : Deena Higginbotham		Project Name : HC MUD 200 - Large Permit Renewal		Schedule Comments			
Municipal Operations and Consulting Accounts Payable 27316 Spectrum Way Oak Ridge, TX 77385 Phone: (281) 367-5511		Project Comments: DO reading must be recorded before 9am If CL2 not <.1 Call Office Mark out Duplicated Outfall samples on the regular chain 13050 Stonefield Dr 77014 Gate Combo 2006					
24C2287-02	Outfall 001 Sampler	3-6-24/0500	3/7/2024/0500	AQ 24HR Comp	A HDPE 250mL B HDPE 1L C HDPE 250mL D PreCleaned HDPE 250mL HNO3 E HDPE 250 Cr6+Buf after filtration F Glass VOA 60mL G Glass VOA 60mL H Glass VOA 60mL I HDPE 250mL J HDPE 250mL H2SO4 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 1L w/ Teflon-lined Lid W Amber Glass 1L w/ Teflon-lined Lid X Glass 250mL Y Glass 250mL H2SO4 Z HDPE 1L	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 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	



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24C5240

TCEQ TX-C24-00086

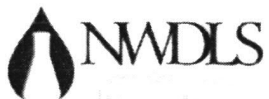
Lab PM : Deena Higginbotham	Project Name : HC MUD 200 - Permit Renewal - Recollect	Schedule Comments:
Municipal Operations and Consulting John Montgomery 27316 Spectrum Way Oak Ridge, TX 77385 Phone: (281) 367-5511	Project Comments: 13050 Stonefield Dr Houston 77014 Gate Combo 2006	

Sample ID	Collection Point	Date/Time Begin	Date/Time Sampled	Sample Type	Container	Analysis/Preservation	Field Results
24C5240-01	Outfall 001 Sampler	3-25-24/0500	3/26/2024/0500	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) <i>[Signature]</i>	Relinquished By: (Signature) <i>[Signature]</i>	Date/Time	Received By: (Signature)	Date/Time	
Print Name <i>Fernando (Phan)</i>	Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Date/Time	
Affiliation <i>NWDLS</i>	Relinquished To Lab By: (Signature) <i>[Signature]</i>	Date/Time <i>3-26-24/1215</i>	Received for Laboratory By: (Signature) <i>[Signature]</i>	Date/Time <i>3-26-24/1215</i>	
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: _____	

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Page 1 of 1

24D4502

TCEQ TX-C24-00086

Lab PM : Deena Higginbotham		Project Name : HC MUD 200 - Permit Renewal - Recollect						Schedule Comments:
Municipal Operations and Consulting John Taylor 27316 Spectrum Way Oak Ridge, TX 77385 Phone: (281) 367-5511		Project Comments: 13050 Stonefield Dr Houston 77014 Gate Combo 2006						
Sample ID	Collection Point	Date/Time Begin	Date/Time Sampled	Sample Type	Container	Analysis/Preservation	Field Results	
24D4502-01	Outfall 001 Sampler	4-17-24 0600	4/18/2024 0600 1970	AQ 24HR Comp	A Amber Glass 1L w/ Teflon-lined Lid B Amber Glass 1L w/ Teflon-lined Lid	Sub_SVOA-625.1 4°C		

Field Remarks:				Lab Preservation: H2SO4 HNO3 NaOH Other: _____			
				(Circle and Write ID Below)			
Sampler (Signature) <i>HWR</i>		Relinquished By: (Signature)		Date/Time	Received By: (Signature)		Date/Time
Print Name <i>Heath Reinke</i>		Relinquished By: (Signature)		Date/Time	Received By: (Signature)		Date/Time
Affiliation <i>NWDLS</i>		Relinquished To Lab By: (Signature) <i>HWR</i>		Date/Time <i>1340</i> <i>4-18-24</i>	Received for Laboratory By: (Signature) <i>KMC</i>		Date/Time <i>1340</i> <i>4-18-24</i>
Custody Seal : Yes / No		COC Labels Agree: Yes / No		Appropriate Volume: Yes / No		Received on Ice: Yes / No	
Container Intact : Yes / No		Appropriate Containers: Yes / No		Coolers Intact: Yes / No		Samples Accepted: Yes / No	
						Temperature: _____ °C	
						Thermometer ID: _____	

North West

wko_NWDLS_COC_LS Revision 4.1 Effective: 2/17/2022

Laboratory Analysis Report

Total Number of Pages: 9

Job ID : 24031227



10100 East Freeway, Suite 100, Houston, TX 77029 tel: 713-453-6060, fax: 713-453-6091, <http://www.ablabs.com>

Client Project Name : 24C2287

Report To :	Client Name:	NWDLS	P.O.#.: 24C2287
	Attn:	Deena Higginbotham	Sample Collected By:
	Client Address:	130 S Trade Center Pkwy	Date Collected: 03/07/24
	City, State, Zip:	Conroe, Texas, 77385	

A&B Labs has analyzed the following samples...

Client Sample ID	Matrix	A&B Sample ID
24C2287-02	Waste Water	24031227.01

A handwritten signature in black ink, appearing to read 'S. C. W. K.'.

Released By: Senthilkumar Sevukan
Title: Vice President Operations
Date: 03/20/2024



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.

This report cannot be reproduced, except in full, without prior written permission of A&B Labs. Results shown relate only to the items tested. Results apply to the sample as received. Samples are assumed to be in acceptable condition unless otherwise noted. Blank correction is not made unless otherwise noted. Air concentrations reported are based on field sampling information provided by client. Soil samples are reported on a wet weight basis unless otherwise noted. Uncertainty estimates are available on request.

ab-q210-0321

Date Received : 03/13/2024 09:58

LABORATORY TERM AND QUALIFIER DEFINITION REPORT



Job ID : 24031227

Date: 3/20/2024

General Term Definition

Back-Wt	Back Weight	MQL	Unadjusted Minimum Quantitation Limit
BRL	Below Reporting Limit	Post-Wt	Post Weight
cfu	colony-forming units	ppm	parts per million
Conc.	Concentration	Pre-Wt	Previous Weight
D.F.	Dilution Factor	Q	Qualifier
Front-Wt	Front Weight	RegLimit	Regulatory Limit
J	Estimation. Below calibration range but above MDL	RLU	Relative Light Unit
LCS	Laboratory Check Standard	RPD	Relative Percent Difference
LCSD	Laboratory Check Standard Duplicate	RptLimit	Reporting Limit
LOD	Limit of detection adjusted for %M + DF	SDL	Sample Detection Limit
LOQ	Limit of Quantitation adjusted for %M + DF	surr	Surrogate
MS	Matrix Spike	T	Time
MSD	Matrix Spike Duplicate	TNTC	Too numerous to count
MW	Molecular Weight	UQL	Unadjusted Upper Quantitation Limit

Qualifier Definition

S6	Surrogate recovery is outside control limits due to matrix effects.
U	Undetected at SDL (Sample Detection Limit).

**LABORATORY TEST RESULTS**

Job ID : 24031227

Date 3/20/2024

Client Name: NWDLS

Attn: Deena Higginbotham

Project Name: 24C2287

Client Sample ID: 24C2287-02

Job Sample ID: 24031227.01

Date Collected: 03/07/24

Sample Matrix Waste Water

Time Collected: 05:00

% Moisture

Other Information:

Test Method	Parameter/Test Description	Result	Units	DF	SDL	SQL	Reg Limit	Q	Date Time	Analyst
EPA 608.3	Polychlorinated Biphenyls									
	Aroclor 1016	<0.03	ug/L	1.00	0.03	0.0500		U	03/15/24 08:31	MQ
	Aroclor 1221	<0.03	ug/L	1.00	0.03	0.0500		U	03/15/24 08:31	MQ
	Aroclor 1232	<0.03	ug/L	1.00	0.03	0.0500		U	03/15/24 08:31	MQ
	Aroclor 1242	<0.03	ug/L	1.00	0.03	0.0500		U	03/15/24 08:31	MQ
	Aroclor 1248	<0.03	ug/L	1.00	0.03	0.0500		U	03/15/24 08:31	MQ
	Aroclor 1254	<0.03	ug/L	1.00	0.03	0.0500		U	03/15/24 08:31	MQ
	Aroclor 1260	<0.03	ug/L	1.00	0.03	0.0500		U	03/15/24 08:31	MQ
	Total PCBs	<0.03	ug/L	1.00	0.03	0.0500		U	03/15/24 08:31	MQ
	Decachlorobiphenyl(surr)	39	%	1.00		35-129			03/15/24 08:31	MQ
	Tetrachloro-m-xylene(surr)	66.5	%	1.00		27-127			03/15/24 08:31	MQ
EPA 608.3	Organochlorine Pesticides									
	Alpha-chlordane	<0.004	ug/L	1.00	0.004	0.010		U	03/15/24 15:43	MQ
	Dicofol ²	<0.050	ug/L	1.00	0.050	0.050		U	03/15/24 15:43	MQ
	Gamma-chlordane	<0.004	ug/L	1.00	0.004	0.010		U	03/15/24 15:43	MQ
	4,4-DDD	<0.002	ug/L	1.00	0.002	0.010		U	03/15/24 15:43	MQ
	4,4-DDE	<0.009	ug/L	1.00	0.009	0.010		U	03/15/24 15:43	MQ
	4,4-DDT	<0.004	ug/L	1.00	0.004	0.010		U	03/15/24 15:43	MQ
	a-BHC	<0.003	ug/L	1.00	0.003	0.010		U	03/15/24 15:43	MQ
	Aldrin	<0.004	ug/L	1.00	0.004	0.010		U	03/15/24 15:43	MQ
	b-BHC	<0.004	ug/L	1.00	0.004	0.010		U	03/15/24 15:43	MQ
	Chlordane	<0.100	ug/L	1.00	0.100	0.100		U	03/15/24 15:43	MQ
	d-BHC	<0.006	ug/L	1.00	0.006	0.010		U	03/15/24 15:43	MQ
	Dieldrin	<0.005	ug/L	1.00	0.005	0.010		U	03/15/24 15:43	MQ
	Endosulfan I	<0.007	ug/L	1.00	0.007	0.010		U	03/15/24 15:43	MQ
	Endosulfan II	<0.004	ug/L	1.00	0.004	0.010		U	03/15/24 15:43	MQ
	Endosulfan sulfate	<0.005	ug/L	1.00	0.005	0.010		U	03/15/24 15:43	MQ
	Endrin	<0.004	ug/L	1.00	0.004	0.010		U	03/15/24 15:43	MQ
	Endrin aldehyde	<0.003	ug/L	1.00	0.003	0.010		U	03/15/24 15:43	MQ
	g-BHC	<0.004	ug/L	1.00	0.004	0.010		U	03/15/24 15:43	MQ
	Heptachlor	<0.004	ug/L	1.00	0.004	0.010		U	03/15/24 15:43	MQ
	Heptachlor epoxide	<0.004	ug/L	1.00	0.004	0.010		U	03/15/24 15:43	MQ
	Methoxychlor	<0.003	ug/L	1.00	0.003	0.010		U	03/15/24 15:43	MQ
	Mirex ²	<0.010	ug/L	1.00	0.010	0.010		U	03/15/24 15:43	MQ
	Toxaphene	<0.100	ug/L	1.00	0.100	0.100		U	03/15/24 15:43	MQ
	Decachlorobiphenyl(surr)	22.3	%	1.00		34-120		S6	03/15/24 15:43	MQ

ab-q212-0321



LABORATORY TEST RESULTS

Job ID : 24031227

Date 3/20/2024

Client Name: NWDLS Attn: Deena Higginbotham
Project Name: 24C2287

Client Sample ID: 24C2287-02 Job Sample ID: 24031227.01
Date Collected: 03/07/24 Sample Matrix Waste Water
Time Collected: 05:00 % Moisture
Other Information:

Test Method	Parameter/Test Description	Result	Units	DF	SDL	SQL	Reg Limit	Q	Date Time	Analyst
EPA 608.3	Organochlorine Pesticides									
	Tetrachloro-m-xylene(surr)	55.3	%	1.00		24-127			03/15/24 15:43	MQ

ab-q212-0321

²-Parameter not available for accreditation.

QUALITY CONTROL CERTIFICATE



Job ID : 24031227

Date : 3/20/2024

Analysis : Polychlorinated Biphenyls Method : EPA 608.3 Reporting Units : ug/L

QC Batch ID : Qb240315122 Created Date : 03/14/24 Created By : mqiao

Samples in This QC Batch : 24031227.01

Extraction : PB24031469 Prep Method : EPA 608.3 Prep Date : 03/13/24 13:30 Prep By : Msoria

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	0.025		
Aroclor 1221	11104-28-2	< MDL	ug/L	1.00	0.05	0.026		
Aroclor 1232	11141-16-5	< MDL	ug/L	1.00	0.05	0.026		
Aroclor 1242	53469-21-9	< MDL	ug/L	1.00	0.05	0.026		
Aroclor 1248	12672-29-6	< MDL	ug/L	1.00	0.05	0.026		
Aroclor 1254	11097-69-1	< MDL	ug/L	1.00	0.05	0.026		
Aroclor 1260	11096-82-5	< MDL	ug/L	1.00	0.05	0.026		
Total PCBs		< MDL	ug/L	1.00	0.05	0.026		
Decachlorobiphenyl(surr)	2051-24-3	88.5	%	1.00				
Tetrachloro-m-xylene(surr)	877-09-8	75	%	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	1.64	81.9	2	1.65	82.6	0.7	18	53.7-136	
Aroclor 1260	2	1.87	93.4	2	1.86	93	0.4	18	57.9-146	
Total PCBs	4	3.50	87.6	4	3.51	87.8	0.1	18	51.7-138	

ab-q213-0321

Refer to the Definition page for terms.

QUALITY CONTROL CERTIFICATE



Job ID : 24031227

Date : 3/20/2024

Analysis : Organochlorine Pesticides

Method : EPA 608.3

Reporting Units : ug/L

QC Batch ID : Qb24031855

Created Date : 03/15/24

Created By : mqiao

Samples in This QC Batch : 24031227.01

Extraction : PB24031421

Prep Method : EPA 608.3

Prep Date : 03/13/24 17:00 Prep By : Msoria

QC Type: Method Blank

Parameter	CAS #	Result	Units	D.F.	MQL	MDL	Qual
Alpha-chlordane	5103-71-9	< MDL	ug/L	1.00	0.01	0.004	
Dicofol	115-32-2	< MDL	ug/L	1.00	0.05	0.05	
Gamma-chlordane	5103-74-2	< MDL	ug/L	1.00	0.01	0.004	
4,4-DDD	72-54-8	< MDL	ug/L	1.00	0.01	0.002	
4,4-DDE	72-55-9	< MDL	ug/L	1.00	0.01	0.009	
4,4-DDT	50-29-3	< MDL	ug/L	1.00	0.01	0.004	
a-BHC	319-84-6	< MDL	ug/L	1.00	0.01	0.003	
Aldrin	309-00-2	< MDL	ug/L	1.00	0.01	0.004	
b-BHC	319-85-7	< MDL	ug/L	1.00	0.01	0.004	
Chlordane	57-74-9	< MDL	ug/L	1.00	0.1	0.1	
d-BHC	319-86-8	< MDL	ug/L	1.00	0.01	0.006	
Dieldrin	60-57-1	< MDL	ug/L	1.00	0.01	0.005	
Endosulfan I	959-98-8	< MDL	ug/L	1.00	0.01	0.007	
Endosulfan II	33213-65-9	< MDL	ug/L	1.00	0.01	0.004	
Endosulfan sulfate	1031-07-8	< MDL	ug/L	1.00	0.01	0.005	
Endrin	72-20-8	< MDL	ug/L	1.00	0.01	0.004	
Endrin aldehyde	7421-93-4	< MDL	ug/L	1.00	0.01	0.003	
g-BHC	58-89-9	< MDL	ug/L	1.00	0.01	0.004	
Heptachlor	76-44-8	< MDL	ug/L	1.00	0.01	0.004	
Heptachlor epoxide	1024-57-3	< MDL	ug/L	1.00	0.01	0.004	
Methoxychlor	72-43-5	< MDL	ug/L	1.00	0.01	0.003	
Mirex	2385-85-5	< MDL	ug/L	1.00	0.01	0.01	
Toxaphene	8001-35-2	< MDL	ug/L	1.00	0.1	0.1	
Tetrachloro-m-xylene(surr)	877-09-8	79.3	%	1.00			
Decachlorobiphenyl(surr)	2051-24-3	110	%	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
Alpha-chlordane	0.4	0.455	114	0.4	0.458	115	0.7	23	42-132	
Gamma-chlordane	0.4	0.438	110	0.4	0.440	110	0.3	21	45-133	
4,4-DDD	0.4	0.402	101	0.4	0.438	110	8.4	24	40.8-141	
4,4-DDE	0.4	0.428	107	0.4	0.436	109	2	21	30-145	
4,4-DDT	0.4	0.448	112	0.4	0.475	119	6	30	34.3-134	
a-BHC	0.4	0.426	106	0.4	0.431	108	1.3	25	37-125	
Aldrin	0.4	0.444	111	0.4	0.449	112	1.2	23	42-129	
b-BHC	0.4	0.412	103	0.4	0.411	103	0.2	24	38.5-133	

ab-q213-0321

Refer to the Definition page for terms.

QUALITY CONTROL CERTIFICATE



Job ID : 24031227

Date : 3/20/2024

Analysis : Organochlorine Pesticides

Method : EPA 608.3

Reporting Units : ug/L

QC Batch ID : Qb24031855

Created Date : 03/15/24

Created By : mqiao

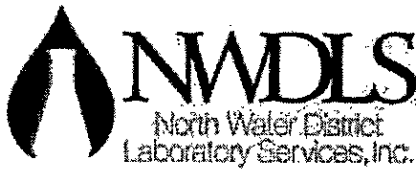
Samples in This QC Batch : 24031227.01

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
d-BHC	0.4	0.458	115	0.4	0.474	119	3.4	20	26.5-140	
Dieldrin	0.4	0.402	101	0.4	0.403	101	0.2	21	40.7-133	
Endosulfan I	0.4	0.408	102	0.4	0.411	103	0.7	24	45-124	
Endosulfan II	0.4	0.386	96.4	0.4	0.382	95.6	0.9	21	10-114	
Endosulfan sulfate	0.4	0.418	105	0.4	0.410	103	1.9	20	45-131	
Endrin	0.4	0.426	107	0.4	0.435	109	2	24	35.1-136	
Endrin aldehyde	0.4	0.422	105	0.4	0.436	109	3.4	33	33.9-130	
g-BHC	0.4	0.457	114	0.4	0.454	114	0.7	25	39-132	
Heptachlor	0.4	0.422	105	0.4	0.422	105	0.1	20	34.6-134	
Heptachlor epoxide	0.4	0.424	106	0.4	0.428	107	0.9	24	39.2-135	
Methoxychlor	0.4	0.446	112	0.4	0.498	125	10.9	24	37.7-143	

ab-q213-0321

Refer to the Definition page for terms.



Job ID:24031227



03/13/2024

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: 24C2287

Analysis	Due	Expires	Comments
----------	-----	---------	----------

Sample ID: 24C2287-02 Waste Water Sampled: 03/07/2024 05:00

OCP-608 03/21/2024 03/14/2024 05:00 Okay to analyze by 608.3

01AB

Analyte(s):

4,4'-DDD

4,4'-DDE

4,4'-DDT

Aldrin

alpha-BHC (alpha-Hexachlorocyclohexane)

beta-BHC (beta-Hexachlorocyclohexane)

Chlordane (Total)

cis-Chlordane (alpha-Chlordane)

delta-BHC

Dicofol

Dieldrin

Endosulfan I

Endosulfan II

Endosulfan sulfate

Endrin

Endrin aldehyde

gamma-BHC (Lindane, gamma-Hexachlorocyclo

gamma-Chlordane

Heptachlor

Heptachlor epoxide

Methoxychlor

Mirex

Toxaphene (Chlorinated Camphene)

PCB-608

03/21/2024 03/02/2025 05:00 Okay to analyze by 608.3

Analyte(s):

2,4,5,6 Tetrachloro-m-xylene-surr

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)

Decachlorobiphenyl-surr

PCBs, Total

Containers Supplied:

Andrew Rodriguez 3-13-24
Released By Date
09:58

ASmith 3/13/24
Received By Date
09:58

1.1'C
1R5



Sample Condition Checklist

A&B JobID : 24031227	Date Received : 03/13/2024	Time Received : 9:58AM		
Client Name : NWDLS				
Temperature : 1.1°C	Sample pH : NA			
Thermometer ID : IR5	pH Paper ID : NA			
Perservative :	Lot# :			
	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 <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Liquid <input type="checkbox"/> Sludge <input type="checkbox"/> Solid <input type="checkbox"/> Cassette <input type="checkbox"/> Tube <input type="checkbox"/> Bulk <input type="checkbox"/> Badge <input type="checkbox"/> Food <input type="checkbox"/> Other <input type="checkbox"/>			
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:

Brought by : Client
Received by : ASmith

Check in by/date : ASmith / 03/13/2024

ab-s005-1123



Project
1095050

NWDS-G

North Water District Laboratory
Deena McDaniel
130 S Trade Center Parkway
Conroe, TX 77385

Printed 03/22/2024
11:06

TABLE OF CONTENTS

24C2287

This report consists of this Table of Contents and the following pages:

Report Name	Description	Pages
1095050_r02_01_ProjectSamples	SPL Kilgore Project P:1095050 C:NWDS Project Sample Cross Reference t:304	1
1095050_r03_03_ProjectResults	SPL Kilgore Project P:1095050 C:NWDS Project Results t:304 PO: #26201	2
1095050_r10_05_ProjectQC	SPL Kilgore Project P:1095050 C:NWDS Project Quality Control Groups	1
1095050_r99_09_CoC__1_of_1	SPL Kilgore CoC NWDS 1095050_1_of_1	2
Total Pages:		6





SAMPLE CROSS REFERENCE

Project
1095050

North Water District Laboratory
Deena McDaniel
130 S Trade Center Parkway
Conroe, TX 77385

Printed 3/22/2024 Page 1 of 1

Sample	Sample ID	Taken	Time	Received
2280196	24C2287-02	03/07/2024	05:00:00	03/12/2024

Bottle 01 Client Supplied Amber Glass
Bottle 02 Prepared Bottle: 632L\632S 2 mL Autosampler Vial (Batch 1109344) Volume: 1.00000 mL <== Derived from 01 (926 ml)

Method	Bottle	PrepSet	Preparation	QcGroup	Analytical
EPA 632	02	1109344	03/14/2024	1110228	03/19/2024

Email: Kilgore.ProjectManagement@spllabs.com



NWDS-G

North Water District Laboratory
Deena McDaniel
130 S Trade Center Parkway
Conroe, TX 77385

Page 1 of 2

Project
1095050

Printed: 03/22/2024

24C2287

RESULTS

Sample Results									
2280196		24C2287-02						Received:	03/12/2024
Non-Potable Water		Collected by: Client		North Water District		PO:		#26201	
		Taken: 03/07/2024		05:00:00					
EPA 632		Prepared: 1109344		03/14/2024	14:15:00	Analyzed 1110228	03/19/2024	20:37:00	BRU
Parameter		Results		Units	RL	Flags		CAS	Bottle
ELAC	Carbaryl (Sevin)		<2.70	ug/L	2.70			63-25-2	02
	Diuron		<0.0486	ug/L	0.0486			330-54-1	02

Sample Preparation									
2280196		24C2287-02						Received:	03/12/2024
									#26201
		03/07/2024							
		Prepared:		03/12/2024	15:38:32	Calculated		03/12/2024	15:38:32
Environmental Fee (per Project)		Verified							
EPA 632		Prepared:		1109344	03/14/2024	14:15:00	Analyzed	1109344	03/14/2024
								14:15:00	
Liquid-Liquid Extr. W/Hex Ex		1/926		ml					
EPA 632		Prepared:		1109344	03/14/2024	14:15:00	Analyzed	1110228	03/19/2024
								20:37:00	
ELAC	Carbaryl/Diuron		Entered						
				02					



NWDS-G

Page 2 of 2

North Water District Laboratory
Deena McDaniel
130 S Trade Center Parkway
Conroe, TX 77385

Project
1095050

Printed: 03/22/2024

Qualifiers:

We report results on an As Received (or Wet) basis unless marked Dry Weight.

Unless otherwise noted, testing was performed at SPL, Inc.- Kilgore laboratory which holds International, Federal, and state accreditations. Please see our Websites for details.

(N)ELAC - Covered in our NELAC scope of accreditation

z -- Not covered by our NELAC scope of accreditation

These analytical results relate to the sample tested. This report may NOT be reproduced EXCEPT in FULL without written approval of SPL Kilgore. 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, MS, VP Technical Services



Report Page 4 of 7

QUALITY CONTROL



Page 1 of 1

NWDS-G

North Water District Laboratory
Deena McDaniel
130 S Trade Center Parkway
Conroe, TX 77385

Project
1095050

Printed 03/22/2024

Analytical Set 1110228

EPA 632

Blank

Parameter	PrepSet	Reading	MDL	MQL	Units	File
Carbaryl (Sevin)	1109344	ND	66.1	2500	ug/L	126117756
Diuron	1109344	ND	44.4	45.0	ug/L	126117756

CCV

Parameter	Reading	Known	Units	Recover%	Limits%	File
Carbaryl (Sevin)	996	1000	ug/L	99.6	70.0 - 130	126117755
Carbaryl (Sevin)	1030	1000	ug/L	103	70.0 - 130	126117759
Carbaryl (Sevin)	996	1000	ug/L	99.6	70.0 - 130	126117763
Carbaryl (Sevin)	1030	1000	ug/L	103	70.0 - 130	126117765
Diuron	998	1000	ug/L	99.8	70.0 - 130	126117755
Diuron	1020	1000	ug/L	102	70.0 - 130	126117759
Diuron	1010	1000	ug/L	101	70.0 - 130	126117763
Diuron	1040	1000	ug/L	104	70.0 - 130	126117765

LCS Dup

Parameter	PrepSet	LCS	LCSD	Known	Limits%	LCS%	LCSD%	Units	RPD	Limit%
Carbaryl (Sevin)	1109344	945	875	1000	17.1 - 131	94.5	87.5	ug/L	7.69	30.0
Diuron	1109344	816	755	1000	0.100 - 138	81.6	75.5	ug/L	7.77	30.0

* Out RPD is Relative Percent Difference: $\text{abs}(r1-r2) / \text{mean}(r1,r2) * 100\%$

Recover% is Recovery Percent: $\text{result} / \text{known} * 100\%$

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.)

Email: Kilgore.ProjectManagement@spllabs.com



Report Page 5 of 7

1095050 CoC Print Group 001 of 001



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:

2280196

SPL
2600 Dudley Rd
Kilgore, TX 75662
Phone: (903) 984-0551
Fax:

Work Order: 24C2287

Analysis	Due	Expires	Comments
Sample ID: 24C2287-02 Waste Water Sampled: 03/07/2024 05:00			
Sub_CBURP-632	03/21/2024	03/14/2024 05:00	
Analyte(s): Carbaryl	Diuron		
Containers Supplied:			

<p><i>[Signature]</i></p> <p>Released By</p> <p><i>UPS</i></p>	<p><i>03-11-24</i></p> <p>Date</p> <p><i>3/12/24</i></p> <p><i>1040</i></p>	<p><i>UPS</i></p> <p>Received By</p> <p><i>[Signature]</i></p> <p>Jennifer Garrett SPL, Inc.</p>	<p><i>03-11-24</i></p> <p>Date</p> <p><i>3/12/24</i></p> <p><i>1040</i></p>
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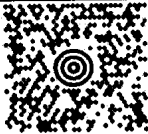

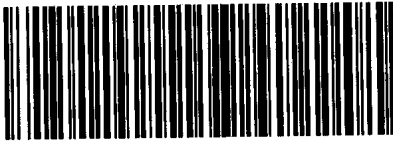

1
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3
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2 of 2

1095050 CoC Print Group 001 of 001

about:blank

3/11/24, 1:29 PM

CRAIG TODD 9363216060 NWDLS 130 S TRADE CENTER PKWY CONROE TX 77385		35 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 TRACKING #: 1Z 12W 40V 01 9526 3125			1
			
BILLING: P/P			
			
XOL 24.03.07 NV45 11.0A 03/2024*			

about:blank

3/12 1047 46
Date Time Tech
Temp: 0.6/0.7 C
Therm#: 6443 Corr Fact: 0.1 C

4

1/1

Laboratory Analysis Report

Total Number of Pages: 10

Job ID : 24042297



10100 East Freeway, Suite 100, Houston, TX 77029 tel: 713-453-6060, fax: 713-453-6091, <http://www.ablabs.com>

Client Project Name : 24D4502

Report To :	Client Name:	NWDLS	P.O.#.: 24D4502
	Attn:	Deena Higginbotham	Sample Collected By:
	Client Address:	130 S Trade Center Pkwy	Date Collected: 04/18/24
	City, State, Zip:	Conroe, Texas, 77385	

A&B Labs has analyzed the following samples...

Client Sample ID	Matrix	A&B Sample ID
24D4502-01	Waste Water	24042297.01

A handwritten signature in black ink, appearing to read 'S. C. W. K.'.

Released By: Senthilkumar Sevukan
Title: Vice President Operations
Date: 4/24/2024



This Laboratory is NELAP (T104704213-23-31) accredited. Effective: 04/01/2024; Expires: 03/31/2025
Scope: Non-Potable Water, Drinking Water, Air, Solid, Biological Tissue, Hazardous Waste

I am the laboratory manager, or his/her designee, and I am responsible for the release of this data package. This laboratory data package has been reviewed and is complete and technically compliant with the requirements of the methods used, except where noted in the attached exception reports. I affirm, to the best of my knowledge that all problems/anomalies observed by this laboratory (and if applicable, any and all laboratories subcontracted through this laboratory) that might affect the quality of the data, have been identified in the Laboratory Review Checklist, and that no information or data have been knowingly withheld that would affect the quality of the data.

This report cannot be reproduced, except in full, without prior written permission of A&B Labs. Results shown relate only to the items tested. Results apply to the sample as received. Samples are assumed to be in acceptable condition unless otherwise noted. Blank correction is not made unless otherwise noted. Air concentrations reported are based on field sampling information provided by client. Soil samples are reported on a wet weight basis unless otherwise noted. Uncertainty estimates are available on request.

ab-q210-0321

Date Received : 04/19/2024 07:30

LABORATORY TERM AND QUALIFIER DEFINITION REPORT



Job ID : 24042297

Date: 4/24/2024

General Term Definition

Back-Wt	Back Weight	MQL	Unadjusted Minimum Quantitation Limit
BRL	Below Reporting Limit	Post-Wt	Post Weight
cfu	colony-forming units	ppm	parts per million
Conc.	Concentration	Pre-Wt	Previous Weight
D.F.	Dilution Factor	Q	Qualifier
Front-Wt	Front Weight	RegLimit	Regulatory Limit
J	Estimation. Below calibration range but above MDL	RLU	Relative Light Unit
LCS	Laboratory Check Standard	RPD	Relative Percent Difference
LCSD	Laboratory Check Standard Duplicate	RptLimit	Reporting Limit
LOD	Limit of detection adjusted for %M + DF	SDL	Sample Detection Limit
LOQ	Limit of Quantitation adjusted for %M + DF	surr	Surrogate
MS	Matrix Spike	T	Time
MSD	Matrix Spike Duplicate	TNTC	Too numerous to count
MW	Molecular Weight	UQL	Unadjusted Upper Quantitation Limit

Qualifier Definition

S6	Surrogate recovery is outside control limits due to matrix effects.
U	Undetected at SDL (Sample Detection Limit).
V11	CCV recovery is below acceptance limits.

**LABORATORY TEST RESULTS**

Job ID : 24042297

Date 4/24/2024

Client Name: NWDLS

Attn: Deena Higginbotham

Project Name: 24D4502

Client Sample ID: 24D4502-01

Job Sample ID: 24042297.01

Date Collected: 04/18/24

Sample Matrix Waste Water

Time Collected: 06:00

% Moisture

Other Information:

Test Method	Parameter/Test Description	Result	Units	DF	SDL	SQL	Reg Limit	Q	Date Time	Analyst
EPA 625.1										
	1,2,4,5-Tetrachlorobenzene	<0.00500	mg/L	1.00	0.00500	0.00500		U	04/23/24 23:39	GM
	1,2,4-Trichlorobenzene	<0.00053	mg/L	1.00	0.00053	0.00500		U	04/23/24 23:39	GM
	1,2-Diphenylhydrazine as Azobenzene	<0.00022	mg/L	1.00	0.00022	0.00500		U	04/23/24 23:39	GM
	2,2-Oxybis (1-Chloropropane)	<0.00085	mg/L	1.00	0.00085	0.00500		U	04/23/24 23:39	GM
	2,4,5-Trichlorophenol	<0.00085	mg/L	1.00	0.00085	0.00500		U	04/23/24 23:39	GM
	2,4,6-Trichlorophenol	<0.00079	mg/L	1.00	0.00079	0.00500		U	04/23/24 23:39	GM
	2,4-Dichlorophenol	<0.00069	mg/L	1.00	0.00069	0.00500		U	04/23/24 23:39	GM
	2,4-Dimethylphenol	<0.00053	mg/L	1.00	0.00053	0.00500		U	04/23/24 23:39	GM
	2,4-Dinitrophenol	<0.00140	mg/L	1.00	0.00140	0.00500		U	04/23/24 23:39	GM
	2,4-Dinitrotoluene	<0.00097	mg/L	1.00	0.00097	0.00500		U	04/23/24 23:39	GM
	2,6-Dinitrotoluene	<0.00120	mg/L	1.00	0.00120	0.00500		U	04/23/24 23:39	GM
	2-Chloronaphthalene	<0.00028	mg/L	1.00	0.00028	0.00500		U	04/23/24 23:39	GM
	2-Chlorophenol	<0.00050	mg/L	1.00	0.00050	0.00500		U	04/23/24 23:39	GM
	2-Nitrophenol	<0.00088	mg/L	1.00	0.00088	0.00500		U	04/23/24 23:39	GM
	3,3-Dichlorobenzidine	<0.00088	mg/L	1.00	0.00088	0.00500		U	04/23/24 23:39	GM
	3,4-Dimethylphenol ²	<0.00500	mg/L	1.00	0.00500	0.00500		U	04/23/24 23:39	GM
	4,6-Dinitro-2-methylphenol	<0.00066	mg/L	1.00	0.00066	0.00500		U	04/23/24 23:39	GM
	4-Bromophenyl phenyl ether	<0.00041	mg/L	1.00	0.00041	0.00500		U	04/23/24 23:39	GM
	4-Chloro-3-methylphenol	<0.00053	mg/L	1.00	0.00053	0.00500		U	04/23/24 23:39	GM
	4-Chlorophenyl phenyl ether	<0.00066	mg/L	1.00	0.00066	0.00500		U	04/23/24 23:39	GM
	4-Nitrophenol	<0.00110	mg/L	1.00	0.00110	0.00500		U	04/23/24 23:39	GM
	Acenaphthene	<0.00028	mg/L	1.00	0.00028	0.00500		U	04/23/24 23:39	GM
	Acenaphthylene	<0.00047	mg/L	1.00	0.00047	0.00500		U	04/23/24 23:39	GM
	Anthracene	<0.00035	mg/L	1.00	0.00035	0.00500		U	04/23/24 23:39	GM
	Benzidine	<0.00066	mg/L	1.00	0.00066	0.00500		U	04/23/24 23:39	GM
	Benzo(a)anthracene	<0.00038	mg/L	1.00	0.00038	0.00500		U	04/23/24 23:39	GM
	Benzo(a)pyrene	<0.00085	mg/L	1.00	0.00085	0.00500		V11,U	04/23/24 23:39	GM
	Benzo(b)fluoranthene	<0.00057	mg/L	1.00	0.00057	0.00500		U	04/23/24 23:39	GM
	Benzo(g,h,i)perylene	<0.00063	mg/L	1.00	0.00063	0.00500		U	04/23/24 23:39	GM
	Benzo(k)fluoranthene	<0.00057	mg/L	1.00	0.00057	0.00500		V11,U	04/23/24 23:39	GM
	Bis(2-chloroethoxy) methane	<0.00035	mg/L	1.00	0.00035	0.00500		U	04/23/24 23:39	GM
	Bis(2-chloroethyl) ether	<0.00072	mg/L	1.00	0.00072	0.00500		U	04/23/24 23:39	GM
	Bis(2-ethylhexyl)phthalate	<0.00220	mg/L	1.00	0.00220	0.00500		U	04/23/24 23:39	GM
	Butyl benzyl phthalate	<0.00069	mg/L	1.00	0.00069	0.00500		U	04/23/24 23:39	GM
	Chrysene	<0.00057	mg/L	1.00	0.00057	0.00500		U	04/23/24 23:39	GM

ab-q212-0321

**LABORATORY TEST RESULTS**

Job ID : 24042297

Date 4/24/2024

Client Name: NWDLS

Attn: Deena Higginbotham

Project Name: 24D4502

Client Sample ID: 24D4502-01

Job Sample ID: 24042297.01

Date Collected: 04/18/24

Sample Matrix Waste Water

Time Collected: 06:00

% Moisture

Other Information:

Test Method	Parameter/Test Description	Result	Units	DF	SDL	SQL	Reg Limit	Q	Date Time	Analyst
EPA 625.1										
	Dibenzo(a,h)anthracene	<0.00069	mg/L	1.00	0.00069	0.00500		U	04/23/24 23:39	GM
	Diethyl phthalate	<0.00063	mg/L	1.00	0.00063	0.00500		U	04/23/24 23:39	GM
	Dimethyl phthalate	<0.00072	mg/L	1.00	0.00072	0.00500		U	04/23/24 23:39	GM
	Di-n-butyl phthalate	<0.00120	mg/L	1.00	0.00120	0.00500		U	04/23/24 23:39	GM
	Di-n-octyl Phthalate	<0.00280	mg/L	1.00	0.00280	0.00500		U	04/23/24 23:39	GM
	Fluoranthene	<0.00044	mg/L	1.00	0.00044	0.00500		U	04/23/24 23:39	GM
	Fluorene	<0.00047	mg/L	1.00	0.00047	0.00500		U	04/23/24 23:39	GM
	Hexachlorobenzene	<0.00069	mg/L	1.00	0.00069	0.00500		U	04/23/24 23:39	GM
	Hexachlorobutadiene	<0.00041	mg/L	1.00	0.00041	0.00500		U	04/23/24 23:39	GM
	Hexachlorocyclopentadiene	<0.00035	mg/L	1.00	0.00035	0.00500		V11,U	04/23/24 23:39	GM
	Hexachloroethane	<0.00047	mg/L	1.00	0.00047	0.00500		U	04/23/24 23:39	GM
	Hexachlorophene ²	<0.0290	mg/L	1.00	0.0290	0.200		U	04/23/24 23:39	GM
	Indeno(1,2,3-cd)pyrene	<0.00022	mg/L	1.00	0.00022	0.00500		U	04/23/24 23:39	GM
	Isophorone	<0.00028	mg/L	1.00	0.00028	0.00500		U	04/23/24 23:39	GM
	Naphthalene	<0.00031	mg/L	1.00	0.00031	0.00500		U	04/23/24 23:39	GM
	Nitrobenzene	<0.00091	mg/L	1.00	0.00091	0.00500		U	04/23/24 23:39	GM
	Nitroso-N-diethylamine	<0.00500	mg/L	1.00	0.00500	0.00500		U	04/23/24 23:39	GM
	N-Nitrosodibutylamine	<0.00500	mg/L	1.00	0.00500	0.00500		U	04/23/24 23:39	GM
	N-Nitrosodimethylamine	<0.00079	mg/L	1.00	0.00079	0.00500		U	04/23/24 23:39	GM
	N-nitroso-di-n-propylamine	<0.00072	mg/L	1.00	0.00072	0.00500		U	04/23/24 23:39	GM
	N-Nitrosodiphenylamine	<0.00047	mg/L	1.00	0.00047	0.00500		U	04/23/24 23:39	GM
	Pentachlorobenzene	<0.00300	mg/L	1.00	0.00300	0.00500		U	04/23/24 23:39	GM
	Pentachlorophenol	<0.00050	mg/L	1.00	0.00050	0.00500		U	04/23/24 23:39	GM
	Phenanthrene	<0.00044	mg/L	1.00	0.00044	0.00500		U	04/23/24 23:39	GM
	Phenol	<0.00044	mg/L	1.00	0.00044	0.00500		U	04/23/24 23:39	GM
	Pyrene	<0.00057	mg/L	1.00	0.00057	0.00500		U	04/23/24 23:39	GM
	Pyridine	<0.00035	mg/L	1.00	0.00035	0.00500		U	04/23/24 23:39	GM
	2,4,6-Tribromophenol(surr)	85.1	%	1.00		19-122			04/23/24 23:39	GM
	2-Fluorobiphenyl(surr)	84.9	%	1.00		30-115			04/23/24 23:39	GM
	2-Fluorophenol(surr)	42	%	1.00		15-115			04/23/24 23:39	GM
	Nitrobenzene-d5(surr)	70.7	%	1.00		23-120			04/23/24 23:39	GM
	Phenol-d6(surr)	4.61	%	1.00		10-130		S6	04/23/24 23:39	GM
	p-Terphenyl-d14(surr)	94.1	%	1.00		18-137			04/23/24 23:39	GM

ab-q212-0321

²-Parameter not available for accreditation.

QUALITY CONTROL CERTIFICATE



Job ID : 24042297

Date : 4/24/2024

Analysis :	Method : EPA 625.1	Reporting Units : mg/L
QC Batch ID : Qb240423150	Created Date : 04/23/24	Created By : GeMu
Samples in This QC Batch : 24042297.01		
Extraction : PB24042337	Prep Method : EPA 625.1	Prep Date : 04/23/24 08:00 Prep By : MMuteen

QC Type: Method Blank								
Parameter	CAS #	Result	Units	D.F.	MQL	MDL		Qual
1,2,4,5-Tetrachlorobenzene	95-94-3	< MDL	mg/L	1.00	0.005	0.005		
1,2,4-Trichlorobenzene	120-82-1	< MDL	mg/L	1.00	0.005	0.00053		
1,2-Diphenylhydrazine as A	122-66-7	< MDL	mg/L	1.00	0.005	0.00022		
2,2-Oxybis (1-Chloropropan	108-60-1	< MDL	mg/L	1.00	0.005	0.00085		
2,4,5-Trichlorophenol	95-95-4	< MDL	mg/L	1.00	0.005	0.00085		
2,4,6-Trichlorophenol	88-06-2	< MDL	mg/L	1.00	0.005	0.00079		
2,4-Dichlorophenol	120-83-2	< MDL	mg/L	1.00	0.005	0.00069		
2,4-Dimethylphenol	105-67-9	< MDL	mg/L	1.00	0.005	0.00053		
2,4-Dinitrophenol	51-28-5	< MDL	mg/L	1.00	0.005	0.00141		
2,4-Dinitrotoluene	121-14-2	< MDL	mg/L	1.00	0.005	0.00097		
2,6-Dinitrotoluene	606-20-2	< MDL	mg/L	1.00	0.005	0.00122		
2-Chloronaphthalene	91-58-7	< MDL	mg/L	1.00	0.005	0.00028		
2-Chlorophenol	95-57-8	< MDL	mg/L	1.00	0.005	0.00050		
2-Nitrophenol	88-75-5	< MDL	mg/L	1.00	0.005	0.00088		
3,3-Dichlorobenzidine	91-94-1	< MDL	mg/L	1.00	0.005	0.00088		
3,4-Dimethylphenol	95-65-8	< MDL	mg/L	1.00	0.005	0.005		
4,6-Dinitro-2-methylphenol	534-52-1	< MDL	mg/L	1.00	0.005	0.00066		
4-Bromophenyl phenyl ethe	101-55-3	< MDL	mg/L	1.00	0.005	0.00041		
4-Chloro-3-methylphenol	59-50-7	< MDL	mg/L	1.00	0.005	0.00053		
4-Chlorophenyl phenyl ethe	7005-72-3	< MDL	mg/L	1.00	0.005	0.00066		
4-Nitrophenol	100-02-7	< MDL	mg/L	1.00	0.005	0.00113		
Acenaphthene	83-32-9	< MDL	mg/L	1.00	0.005	0.00028		
Acenaphthylene	208-96-8	< MDL	mg/L	1.00	0.005	0.00047		
Anthracene	120-12-7	< MDL	mg/L	1.00	0.005	0.00035		
Benzidine	92-87-5	< MDL	mg/L	1.00	0.005	0.00066		
Benzo(a)anthracene	56-55-3	< MDL	mg/L	1.00	0.005	0.00038		
Benzo(a)pyrene	50-32-8	< MDL	mg/L	1.00	0.005	0.00085		
Benzo(b)fluoranthene	205-99-2	< MDL	mg/L	1.00	0.005	0.00057		
Benzo(g,h,i)perylene	191-24-2	< MDL	mg/L	1.00	0.005	0.00063		
Benzo(k)fluoranthene	207-08-9	< MDL	mg/L	1.00	0.005	0.00057		
Bis(2-chloroethoxy) methan	111-91-1	< MDL	mg/L	1.00	0.005	0.00035		
Bis(2-chloroethyl) ether	111-44-4	< MDL	mg/L	1.00	0.005	0.00072		
Bis(2-ethylhexyl)phthalate	117-81-7	< MDL	mg/L	1.00	0.005	0.00220		
Butyl benzyl phthalate	85-68-7	< MDL	mg/L	1.00	0.005	0.00069		
Chrysene	218-01-9	< MDL	mg/L	1.00	0.005	0.00057		
Dibenzo(a,h)anthracene	53-70-3	< MDL	mg/L	1.00	0.005	0.00069		
Diethyl phthalate	84-66-2	< MDL	mg/L	1.00	0.005	0.00063		
Dimethyl phthalate	131-11-3	< MDL	mg/L	1.00	0.005	0.00072		

ab-q213-0321

Refer to the Definition page for terms.

QUALITY CONTROL CERTIFICATE



Job ID : 24042297

Date : 4/24/2024

Analysis :	Method : EPA 625.1	Reporting Units : mg/L
QC Batch ID : Qb240423150	Created Date : 04/23/24	Created By : GeMu
Samples in This QC Batch : 24042297.01		

QC Type: Method Blank								
Parameter	CAS #	Result	Units	D.F.	MQL	MDL		Qual
Di-n-butyl phthalate	84-74-2	< MDL	mg/L	1.00	0.005	0.00122		
Di-n-octyl Phthalate	117-84-0	< MDL	mg/L	1.00	0.005	0.00276		
Fluoranthene	206-44-0	< MDL	mg/L	1.00	0.005	0.00044		
Fluorene	86-73-7	< MDL	mg/L	1.00	0.005	0.00047		
Hexachlorobenzene	118-74-1	< MDL	mg/L	1.00	0.005	0.00069		
Hexachlorobutadiene	87-68-3	< MDL	mg/L	1.00	0.005	0.00041		
Hexachlorocyclopentadiene	77-47-4	< MDL	mg/L	1.00	0.005	0.00035		
Hexachloroethane	67-72-1	< MDL	mg/L	1.00	0.005	0.00047		
Hexachlorophene	70-30-4	< MDL	mg/L	1.00	0.2	0.0287		
Indeno(1,2,3-cd)pyrene	193-39-5	< MDL	mg/L	1.00	0.005	0.00022		
Isophorone	78-59-1	< MDL	mg/L	1.00	0.005	0.00028		
Naphthalene	91-20-3	< MDL	mg/L	1.00	0.005	0.00031		
Nitrobenzene	98-95-3	< MDL	mg/L	1.00	0.005	0.00091		
Nitroso-N-diethylamine	55-18-5	< MDL	mg/L	1.00	0.005	0.005		
N-Nitrosodibutylamine	924-16-3	< MDL	mg/L	1.00	0.005	0.005		
N-Nitrosodimethylamine	62-75-9	< MDL	mg/L	1.00	0.005	0.00079		
N-nitroso-di-n-propylamine	621-64-7	< MDL	mg/L	1.00	0.005	0.00072		
N-Nitrosodiphenylamine	86-30-6	< MDL	mg/L	1.00	0.005	0.00047		
Pentachlorobenzene	608-93-5	< MDL	mg/L	1.00	0.005	0.003		
Pentachlorophenol	87-86-5	< MDL	mg/L	1.00	0.005	0.00050		
Phenanthrene	85-01-8	< MDL	mg/L	1.00	0.005	0.00044		
Phenol	108-95-2	< MDL	mg/L	1.00	0.005	0.00044		
Pyrene	129-00-0	< MDL	mg/L	1.00	0.005	0.00057		
Pyridine	110-86-1	< MDL	mg/L	1.00	0.005	0.00035		
2-Fluorophenol(surr)	367-12-4	48.4	%	1.00				
Phenol-d6(surr)	13127-88-3	30	%	1.00				
Nitrobenzene-d5(surr)	4165-60-0	59.8	%	1.00				
2-Fluorobiphenyl(surr)	321-60-8	74.1	%	1.00				
2,4,6-Tribromophenol(surr)	118-79-6	92.3	%	1.00				
p-Terphenyl-d14(surr)	1718-51-0	95.1	%	1.00				

QC Type: LCS and LCSD										
Parameter	LCS Spk Added	LCS Result	LCS % Rec	LCSD Spk Added	LCSD Result	LCSD % Rec	RPD	RPD CtrLimit	%Recovery CtrLimit	Qual
1,2,4,5-Tetrachlorobenzene	0.05	0.0409	81.8	0.05	0.0426	85.3	4	30	50.9-96.1	
1,2,4-Trichlorobenzene	0.05	0.0392	78.4	0.05	0.0402	80.4	2.5	30	57-130	
1,2-Diphenylhydrazine as A	0.05	0.0430	85.9	0.05	0.0431	86.1	0.3	30	47.1-113	
2,2-Oxybis (1-Chloropropan	0.05	0.0354	70.8	0.05	0.0355	71	0.3	30	70-130	
2,4,5-Trichlorophenol	0.05	0.0439	87.8	0.05	0.0435	87	0.9	30	35.4-117	

ab-q213-0321

Refer to the Definition page for terms.

QUALITY CONTROL CERTIFICATE



Job ID : 24042297

Date : 4/24/2024

Analysis :	Method : EPA 625.1	Reporting Units : mg/L
QC Batch ID : Qb240423150	Created Date : 04/23/24	Created By : GeMu
Samples in This QC Batch : 24042297.01		

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
2,4,6-Trichlorophenol	0.05	0.0482	96.4	0.05	0.0477	95.5	1	30	52-118	
2,4-Dichlorophenol	0.05	0.0435	87	0.05	0.0465	93	6.6	30	53-116	
2,4-Dimethylphenol	0.1	0.0909	90.9	0.1	0.0956	95.6	5	30	42-120	
2,4-Dinitrophenol	0.05	0.0508	102	0.05	0.0485	97	4.6	30	10-143	
2,4-Dinitrotoluene	0.05	0.0498	99.6	0.05	0.0484	96.7	2.9	30	51.2-127	
2,6-Dinitrotoluene	0.05	0.0482	96.5	0.05	0.0466	93.2	3.5	30	68-118	
2-Chloronaphthalene	0.05	0.0354	70.7	0.05	0.0358	71.7	1.3	30	65-120	
2-Chlorophenol	0.05	0.0349	69.9	0.05	0.0389	77.8	10.8	30	36-120	
2-Nitrophenol	0.05	0.0424	84.8	0.05	0.0432	86.4	1.9	30	45-119	
3,3-Dichlorobenzidine	0.05	0.0475	95.1	0.05	0.0501	100	5.3	30	48.2-116	
3,4-Dimethylphenol	0.05	0.0300	60	0.05	0.0322	64.4	7	30	60-140	
4,6-Dinitro-2-methylphenol	0.05	0.0464	92.8	0.05	0.0497	99.4	6.8	30	53-130	
4-Bromophenyl phenyl ethe	0.05	0.0488	97.6	0.05	0.0510	102	4.4	30	65-112	
4-Chloro-3-methylphenol	0.05	0.0489	97.8	0.05	0.0475	95	2.9	30	45.3-114	
4-Chlorophenyl phenyl ethe	0.05	0.0469	93.7	0.05	0.0458	91.6	2.3	30	56.3-108	
4-Nitrophenol	0.05	0.0234	46.8	0.05	0.0216	43.2	8	30	13-129	
Acenaphthene	0.05	0.0433	86.7	0.05	0.0418	83.5	3.6	30	60-132	
Acenaphthylene	0.05	0.0411	82.2	0.05	0.0421	84.2	2.4	30	54-126	
Anthracene	0.05	0.0444	88.9	0.05	0.0465	93	4.5	30	53.5-112	
Benzidine	0.05	0.0480	96.1	0.05	0.0517	103	7.3	30	24.8-140	
Benzo(a)anthracene	0.05	0.0455	91.1	0.05	0.0480	95.9	5.3	30	50.7-122	
Benzo(a)pyrene	0.05	0.0348	69.6	0.05	0.0339	67.8	2.6	30	41.3-146	
Benzo(b)fluoranthene	0.05	0.0352	70.4	0.05	0.0356	71.3	1.1	30	35.2-134	
Benzo(g,h,i)perylene	0.05	0.0359	71.8	0.05	0.0377	75.4	4.9	30	32-131	
Benzo(k)fluoranthene	0.05	0.0301	60.2	0.05	0.0314	62.7	4.3	30	35.3-128	
Bis(2-chloroethoxy) methan	0.05	0.0374	74.9	0.05	0.0382	76.4	2	30	49-165	
Bis(2-chloroethyl) ether	0.05	0.0309	61.8	0.05	0.0333	66.5	7.5	30	43-126	
Bis(2-ethylhexyl)phthalate	0.05	0.0502	100	0.05	0.0502	100	0	30	44.2-129	
Butyl benzyl phthalate	0.05	0.0478	95.6	0.05	0.0495	99	3.5	30	52.1-133	
Chrysene	0.05	0.0438	87.6	0.05	0.0469	93.7	6.8	30	57.5-119	
Dibenzo(a,h)anthracene	0.05	0.0368	73.5	0.05	0.0386	77.3	4.9	30	36.2-136	
Diethyl phthalate	0.05	0.0509	102	0.05	0.0492	98.4	3.4	30	50.7-120	
Dimethyl phthalate	0.05	0.0454	90.7	0.05	0.0443	88.7	2.3	30	55.9-112	
Di-n-butyl phthalate	0.05	0.0510	102	0.05	0.0496	99.2	2.8	30	54-120	
Di-n-octyl Phthalate	0.05	0.0539	108	0.05	0.0548	110	1.6	30	45.9-125	
Fluoranthene	0.05	0.0477	95.4	0.05	0.0494	98.8	3.5	30	48.9-121	
Fluorene	0.05	0.0476	95.3	0.05	0.0476	95.2	0.1	30	70-113	
Hexachlorobenzene	0.05	0.0498	99.5	0.05	0.0506	101	1.6	30	52.7-107	
Hexachlorobutadiene	0.05	0.0357	71.4	0.05	0.0386	77.3	7.8	30	38-120	
Hexachlorocyclopentadiene	0.05	0.0542	108	0.05	0.0563	113	3.8	30	12.7-170	
Hexachlorocyclopentadiene	0.05	0.0542	108	0.05	0.0563	113	3.8	30	12.7-171	

ab-q213-0321

Refer to the Definition page for terms.

QUALITY CONTROL CERTIFICATE



Job ID : 24042297

Date : 4/24/2024

Analysis : Method : EPA 625.1 Reporting Units : mg/L

QC Batch ID : Qb240423150 Created Date : 04/23/24 Created By : GeMu

Samples in This QC Batch : 24042297.01

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
Hexachloroethane	0.05	0.0438	87.6	0.05	0.0492	98.5	11.7	30	55-120	
Indeno(1,2,3-cd)pyrene	0.05	0.0362	72.3	0.05	0.0378	75.6	4.4	30	40.7-132	
Isophorone	0.05	0.0366	73.2	0.05	0.0388	77.6	5.8	30	47-180	
Naphthalene	0.05	0.0370	74.1	0.05	0.0386	77.3	4.1	30	36-120	
Nitrobenzene	0.05	0.0391	78.2	0.05	0.0419	83.8	6.9	30	54-158	
Nitroso-N-diethylamine	0.05	0.0374	74.7	0.05	0.0399	79.8	6.6	30	47.1-100	
N-Nitrosodibutylamine	0.05	0.0379	75.8	0.05	0.0369	73.8	2.6	30	47.3-102	
N-Nitrosodimethylamine	0.05	0.0276	55.1	0.05	0.0276	55.2	0.2	30	33.1-74.1	
N-nitroso-di-n-propylamine	0.05	0.0370	74.1	0.05	0.0406	81.2	9.2	30	14-198	
N-Nitrosodiphenylamine	0.05	0.0429	85.7	0.05	0.0448	89.5	4.4	30	56.2-110	
Pentachlorobenzene	0.05	0.0483	96.6	0.05	0.0488	97.5	1.1	30	56.1-101	
Pentachlorophenol	0.05	0.0498	99.6	0.05	0.0530	106	6.2	30	38-135	
Phenanthrene	0.05	0.0435	87	0.05	0.0448	89.7	2.9	30	65-120	
Phenol	0.05	0.0180	36	0.05	0.0193	38.5	6.9	30	17-120	
Pyrene	0.05	0.0424	84.9	0.05	0.0430	85.9	1.3	30	70-120	
Pyridine	0.05	0.0232	46.5	0.05	0.0237	47.4	2	30	33-158	



* Job ID:24042297



04/19/2024

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: 24D4502

Analysis	Due	Expires	Comments
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Sample ID: 24D4502-01 Waste Water Sampled: 04/18/2024 06:00

Sub_SVOA-625.1

04/24/2024 04/25/2024 06:00

Analyte(s):

1,2,4,5-Tetrachlorobenzene
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-me
2,4-Dichlorophenol
2,4-Dinitrotoluene (2,4-DNT)
2-Chlorophenol
3,3'-Dichlorobenzidine
4-Chloro-3-methylphenol
Acenaphthene
Benzidine
benzo(b&k)fluoranthene
Benzo(k)fluoranthene
Bis(2-ethylhexyl)phthalate
Dibenzo(a,h)anthracene
Di-n-butyl phthalate
Fluorene
Hexachlorocyclopentadiene
Indeno(1,2,3-cd)pyrene
Nitrobenzene
n-Nitroso-di-n-butylamine
Pentachlorobenzene
Phenol, Total

1,2,4-Trichlorobenzene
2,4,5-Trichlorophenol
2,4-Dimethylphenol
2,6-Dinitrotoluene (2,6-DNT)
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methyl
3,4-Methylphenol
4-Chlorophenyl phenylether
Acenaphthylene
Benzo(a)anthracene
Benzo(b)fluoranthene
bis(2-Chloroethoxy)methane
Butyl benzyl phthalate
Diethyl phthalate
Di-n-octyl phthalate
Hexachlorobenzene
Hexachloroethane
Isophorone
n-Nitrosodiethylamine
n-Nitrosodi-n-propylamine
Pentachlorophenol
Pyrene

1,2-Diphenylhydrazine
2,4,6-Trichlorophenol
2,4-Dinitrophenol
2-Chloronaphthalene
2-Nitrophenol
4-Bromophenyl phenyl ether (BDE-3)
4-Nitrophenol
Anthracene
Benzo(a)pyrene
Benzo(g,h,i)perylene
bis(2-Chloroethyl) ether
Chrysene
Dimethyl phthalate
Fluoranthene
Hexachlorobutadiene
Hexachlorophene
Naphthalene
n-Nitrosodimethylamine
n-Nitrosodiphenylamine
Phenanthrene
Pyridine

01A13

Containers Supplied:

Andrew Rodriguez
Released By

4-19-24
Date

Received By

04/19/24 0730
Date
3.1°C
1RS



Sample Condition Checklist

A&B JobID : 24042297		Date Received : 04/19/2024		Time Received : 7:30AM								
Client Name : NWDLS												
Temperature : 3.1°C		Sample pH : NA										
Thermometer ID : IR5		pH Paper ID : NA										
Perservative :		Lot# :										
	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
		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.	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:

--

Brought by : Client

Received by : Jedralin

Check in by/date : Jedralin / 04/19/2024

ab-s005-1123

Phone : 713-453-6060

www.ablabs.com

ATTACHMENT Q

SLUDGE DISPOSAL

HARRIS COUNTY MUD NO. 200
TPDES RENEWAL WITH MAJOR AMENDMENT

MAY 2024



QUIDDITY

Texas Board of Professional Engineers and Land Surveyors Registration Nos. F-23290 & 10046100
6330 West Loop South, Suite 150 • Bellaire, TX 77401 • 713.777.5337

K-3 Resources LP
CN603843426
Beneficial Land Application WQ0004448000
RN102911864
Certification Statement
Reporting Period: August 1, 2020 to July 31, 2021


A. I certify, under penalty of law, that:

1. The pathogen requirement in 30 TAC 312.82(b) and the vector attraction reduction requirements in 30 TAC 312.83(b) have been met.
2. The requirements to obtain information in 30 TAC 312.42 (e) have been met.
3. The management practices in 30 TAC 312.44 have been met.
4. The site restriction in 30 TAC 312.82 (b)(3) have been met.

This determination has been made under my direction and supervision in accordance with Biosolids Management's system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that these requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

B. Method of Compliance:

1. Certification data required for demonstrating Class B pathogen control (30 TAC 312.82 (b)), pollutant levels (30 TAC 312.43) and vector attraction reduction (30 TAC 312.83 (b)) are supplied by the generator (30 TAC 312.32 (e)) and retained at Biosolids Management's Main Office.
2. The following management practices are followed in compliance with 30 TAC 312.44:
 - a. Biosolids applications to this site do not adversely affect any threatened or endangered species.
 - b. Biosolids are not applied when ground is frozen, snow covered, or flooded.
 - c. Biosolids application is restricted to areas within the site in compliance with the requirements described in 30 TAC 312.44 (c), (h), and (k).
3. The following site restrictions are maintained in compliance with 30 TAC 312.82 (b)(3):
 - a. Food crops with harvested parts that touch the soil/biosolids mixture or have harvested parts below the surface are not grown on this site.
 - b. Food, feed, and fiber crops grown on this site are not harvested for thirty days after application.
 - c. Animals are not allowed to graze on the land for thirty days after application.
 - d. The site has a low potential for public exposure. Public access is restricted for at least thirty days after application.



Andy Drennan
Vice President/COO

Note to operator:

Please complete and submit with Discharge Monitoring Report (DMR):

Plant Name (as shown in permit): Harris County MUD 200

TPDES Permit Number: TX0085413

K-3 Resources LP
CN603843426
Beneficial Land Application WQ0004445000
RN102913431
Certification Statement
Reporting Period: August 1, 2020 to July 31, 2021

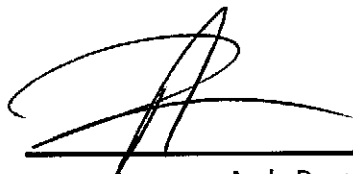
A. I certify, under penalty of law, that:

1. The pathogen requirement in 30 TAC 312.82(b) and the vector attraction reduction requirements in 30 TAC 312.83(b) have been met.
2. The requirements to obtain information in 30 TAC 312.42 (e) have been met.
3. The management practices in 30 TAC 312.44 have been met.
4. The site restriction in 30 TAC 312.82 (b)(3) have been met.

This determination has been made under my direction and supervision in accordance with Biosolids Management's system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that these requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

B. Method of Compliance:

1. Certification data required for demonstrating Class B pathogen control (30 TAC 312.82 (b)), pollutant levels (30 TAC 312.43) and vector attraction reduction (30 TAC 312.83 (b)) are supplied by the generator (30 TAC 312.32 (e)) and retained at Biosolids Management's Main Office.
2. The following management practices are followed in compliance with 30 TAC 312.44:
 - a. Biosolids applications to this site do not adversely affect any threatened or endangered species.
 - b. Biosolids are not applied when ground is frozen, snow covered, or flooded.
 - c. Biosolids application is restricted to areas within the site in compliance with the requirements described in 30 TAC 312.44 (c), (h), and (k).
3. The following site restrictions are maintained in compliance with 30 TAC 312.82 (b)(3):
 - a. Food crops with harvested parts that touch the soil/biosolids mixture or have harvested parts below the surface are not grown on this site.
 - b. Food, feed, and fiber crops grown on this site are not harvested for thirty days after application.
 - c. Animals are not allowed to graze on the land for thirty days after application.
 - d. The site has a low potential for public exposure. Public access is restricted for at least thirty days after application.



Andy Drennan
Vice President/COO

Note to operator:

Please complete and submit with Discharge Monitoring Report (DMR):

Plant Name (as shown in permit): Harris County MUD 200

TPDES Permit Number: TX0085413

K-3 Resources LP
CN603843426
Beneficial Land Application WQ0004450000
RN1029911898
Certification Statement
Reporting Period: August 1, 2020 to July 31, 2021


A. I certify, under penalty of law, that:

1. The pathogen requirement in 30 TAC 312.82(b) and the vector attraction reduction requirements in 30 TAC 312.83(b) have been met.
2. The requirements to obtain information in 30 TAC 312.42 (e) have been met.
3. The management practices in 30 TAC 312.44 have been met.
4. The site restriction in 30 TAC 312.82 (b)(3) have been met.

This determination has been made under my direction and supervision in accordance with Biosolids Management's system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that these requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

B. Method of Compliance:

1. Certification data required for demonstrating Class B pathogen control (30 TAC 312.82 (b)), pollutant levels (30 TAC 312.43) and vector attraction reduction (30 TAC 312.83 (b)) are supplied by the generator (30 TAC 312.32 (e)) and retained at Biosolids Management's Main Office.
2. The following management practices are followed in compliance with 30 TAC 312.44:
 - a. Biosolids applications to this site do not adversely affect any threatened or endangered species.
 - b. Biosolids are not applied when ground is frozen, snow covered, or flooded.
 - c. Biosolids application is restricted to areas within the site in compliance with the requirements described in 30 TAC 312.44 (c), (h), and (k).
3. The following site restrictions are maintained in compliance with 30 TAC 312.82 (b)(3):
 - a. Food crops with harvested parts that touch the soil/biosolids mixture or have harvested parts below the surface are not grown on this site.
 - b. Food, feed, and fiber crops grown on this site are not harvested for thirty days after application.
 - c. Animals are not allowed to graze on the land for thirty days after application.
 - d. The site has a low potential for public exposure. Public access is restricted for at least thirty days after application.



Andy Drennan
Vice President/COO

Note to operator:

Please complete and submit with Discharge Monitoring Report (DMR):

Plant Name (as shown in permit): Harris County MUD 200
TPDES Permit Number: TX0085413

K-3 Resources LP
CN603843426
Beneficial Land Application WQ0004518000
RN102984986
Certification Statement
Reporting Period: August 1, 2020 to July 31, 2021

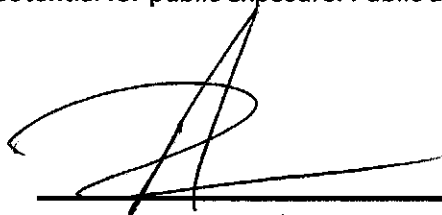
A. I certify, under penalty of law, that:

1. The pathogen requirement in 30 TAC 312.82(b) and the vector attraction reduction requirements in 30 TAC 312.83(b) have been met.
2. The requirements to obtain information in 30 TAC 312.42 (e) have been met.
3. The management practices in 30 TAC 312.44 have been met.
4. The site restriction in 30 TAC 312.82 (b)(3) have been met.

This determination has been made under my direction and supervision in accordance with Biosolids Management's system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that these requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

B. Method of Compliance:

1. Certification data required for demonstrating Class B pathogen control (30 TAC 312.82 (b)), pollutant levels (30 TAC 312.43) and vector attraction reduction (30 TAC 312.83 (b)) are supplied by the generator (30 TAC 312.32 (e)) and retained at Biosolids Management's Main Office.
2. The following management practices are followed in compliance with 30 TAC 312.44:
 - a. Biosolids applications to this site do not adversely affect any threatened or endangered species.
 - b. Biosolids are not applied when ground is frozen, snow covered, or flooded.
 - c. Biosolids application is restricted to areas within the site in compliance with the requirements described in 30 TAC 312.44 (c), (h), and (k).
3. The following site restrictions are maintained in compliance with 30 TAC 312.82 (b)(3):
 - a. Food crops with harvested parts that touch the soil/biosolids mixture or have harvested parts below the surface are not grown on this site.
 - b. Food, feed, and fiber crops grown on this site are not harvested for thirty days after application.
 - c. Animals are not allowed to graze on the land for thirty days after application.
 - d. The site has a low potential for public exposure. Public access is restricted for at least thirty days after application.



Andy Drennan
Vice President/COO

Note to operator:

Please complete and submit with Discharge Monitoring Report (DMR):

Plant Name (as shown in permit): Harris County MUD 200

TPDES Permit Number: TX0085413

K-3 Resources LP
CN603843426
Beneficial Land Application WQ0005222000
RN109679613
Certification Statement
Reporting Period: August 1, 2020 to July 31, 2021

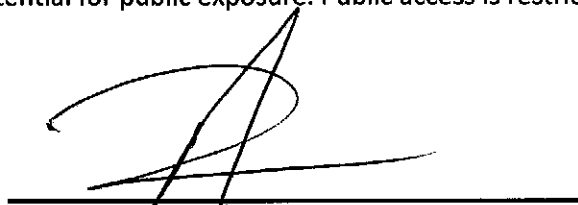
A. I certify, under penalty of law, that:

1. The pathogen requirement in 30 TAC 312.82(b) and the vector attraction reduction requirements in 30 TAC 312.83(b) have been met.
2. The requirements to obtain information in 30 TAC 312.42 (e) have been met.
3. The management practices in 30 TAC 312.44 have been met.
4. The site restriction in 30 TAC 312.82 (b)(3) have been met.

This determination has been made under my direction and supervision in accordance with Biosolids Management's system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that these requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

B. Method of Compliance:

1. Certification data required for demonstrating Class B pathogen control (30 TAC 312.82 (b)), pollutant levels (30 TAC 312.43) and vector attraction reduction (30 TAC 312.83 (b)) are supplied by the generator (30 TAC 312.32 (e)) and retained at Biosolids Management's Main Office.
2. The following management practices are followed in compliance with 30 TAC 312.44:
 - a. Biosolids applications to this site do not adversely affect any threatened or endangered species.
 - b. Biosolids are not applied when ground is frozen, snow covered, or flooded.
 - c. Biosolids application is restricted to areas within the site in compliance with the requirements described in 30 TAC 312.44 (c), (h), and (k).
3. The following site restrictions are maintained in compliance with 30 TAC 312.82 (b)(3):
 - a. Food crops with harvested parts that touch the soil/biosolids mixture or have harvested parts below the surface are not grown on this site.
 - b. Food, feed, and fiber crops grown on this site are not harvested for thirty days after application.
 - c. Animals are not allowed to graze on the land for thirty days after application.
 - d. The site has a low potential for public exposure. Public access is restricted for at least thirty days after application.



Andy Drennan
Vice President/COO

Note to operator:

Please complete and submit with Discharge Monitoring Report (DMR):

Plant Name (as shown in permit): Harris County MUD 200

TPDES Permit Number: TX0085413

K-3 Resources LP
CN603843426
Beneficial Land Application WQ0005248000
RN110134855
Certification Statement
Reporting Period: August 1, 2020 to July 31, 2021

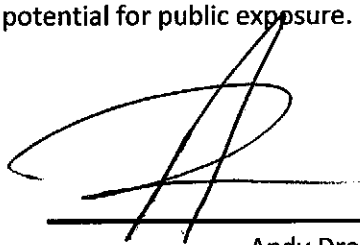
A. I certify, under penalty of law, that:

1. The pathogen requirement in 30 TAC 312.82(b) and the vector attraction reduction requirements in 30 TAC 312.83(b) have been met.
2. The requirements to obtain information in 30 TAC 312.42 (e) have been met.
3. The management practices in 30 TAC 312.44 have been met.
4. The site restriction in 30 TAC 312.82 (b)(3) have been met.

This determination has been made under my direction and supervision in accordance with Biosolids Management's system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that these requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

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 - c. Animals are not allowed to graze on the land for thirty days after application.
 - d. The site has a low potential for public exposure. Public access is restricted for at least thirty days after application.



Andy Drennan
Vice President/COO

Note to operator:

Please complete and submit with Discharge Monitoring Report (DMR):

Plant Name (as shown in permit): Harris County MUD 200

TPDES Permit Number: TX0085413

ATTACHMENT R

FEMA FLOOD MAP

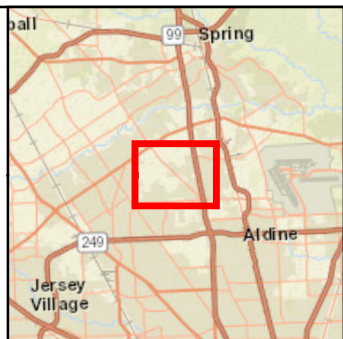
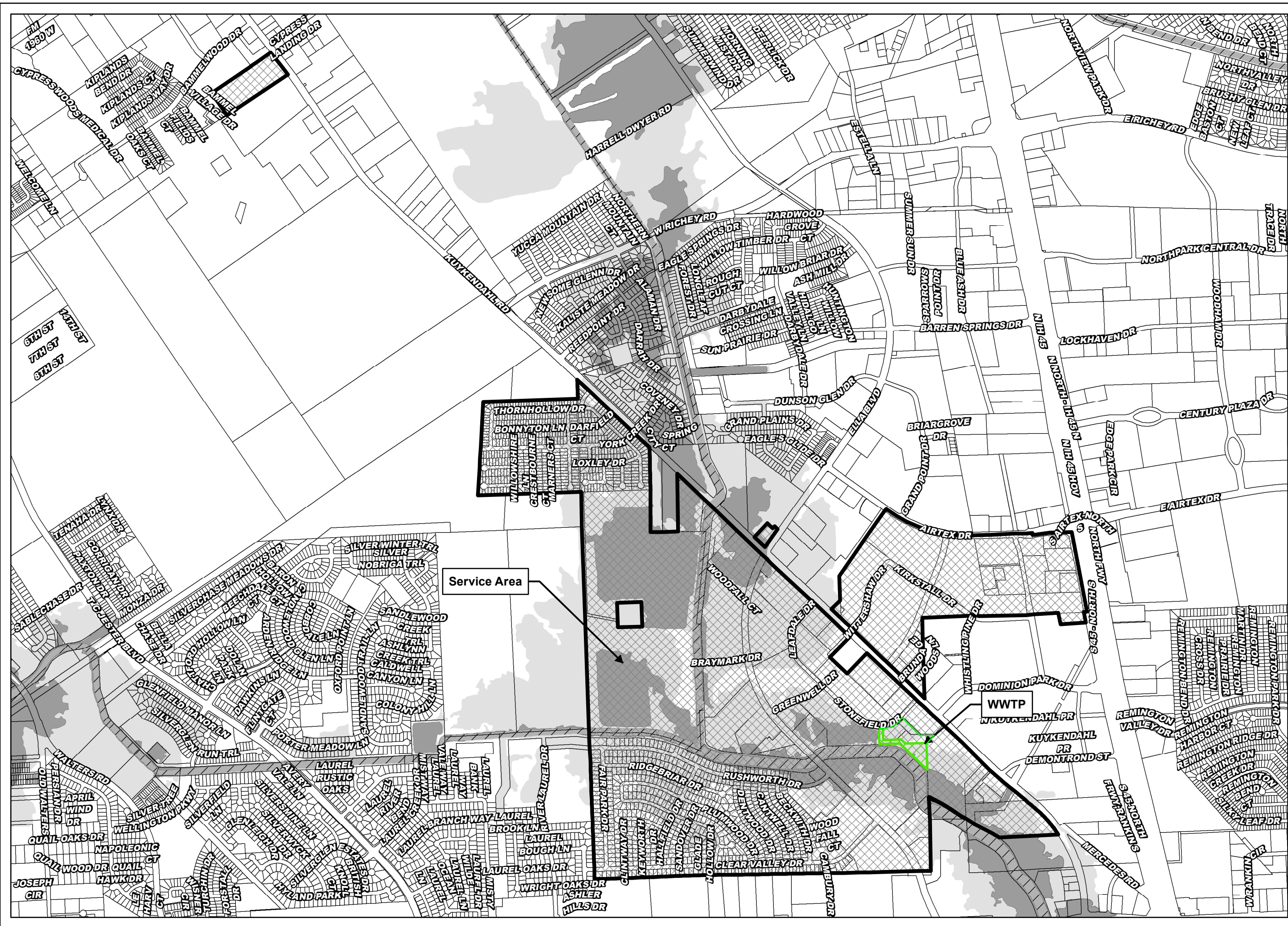
HARRIS COUNTY MUD NO. 200
TPDES RENEWAL WITH MAJOR AMENDMENT

MAY 2024



QUIDDITY

Texas Board of Professional Engineers and Land Surveyors Registration Nos. F-23290 & 10046100
6330 West Loop South, Suite 150 • Bellaire, TX 77401 • 713.777.5337

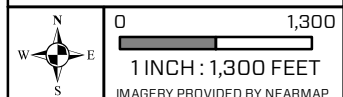


VICINITY MAP
1 INCH = 10 MILES

- LEGEND**
- Plant Boundary
 - Service Area
 - Service Area Boundary
 - Floodway
 - 100-Year Floodzone
 - 500-Year Floodzone
 - HCAD Parcels

FLOODPLAIN MAP

HARRIS COUNTY MUD No. 200
HARRIS COUNTY, TEXAS



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ATTACHMENT S

WINDROSE

**HARRIS COUNTY MUD NO. 200
TPDES RENEWAL WITH MAJOR AMENDMENT**

MAY 2024



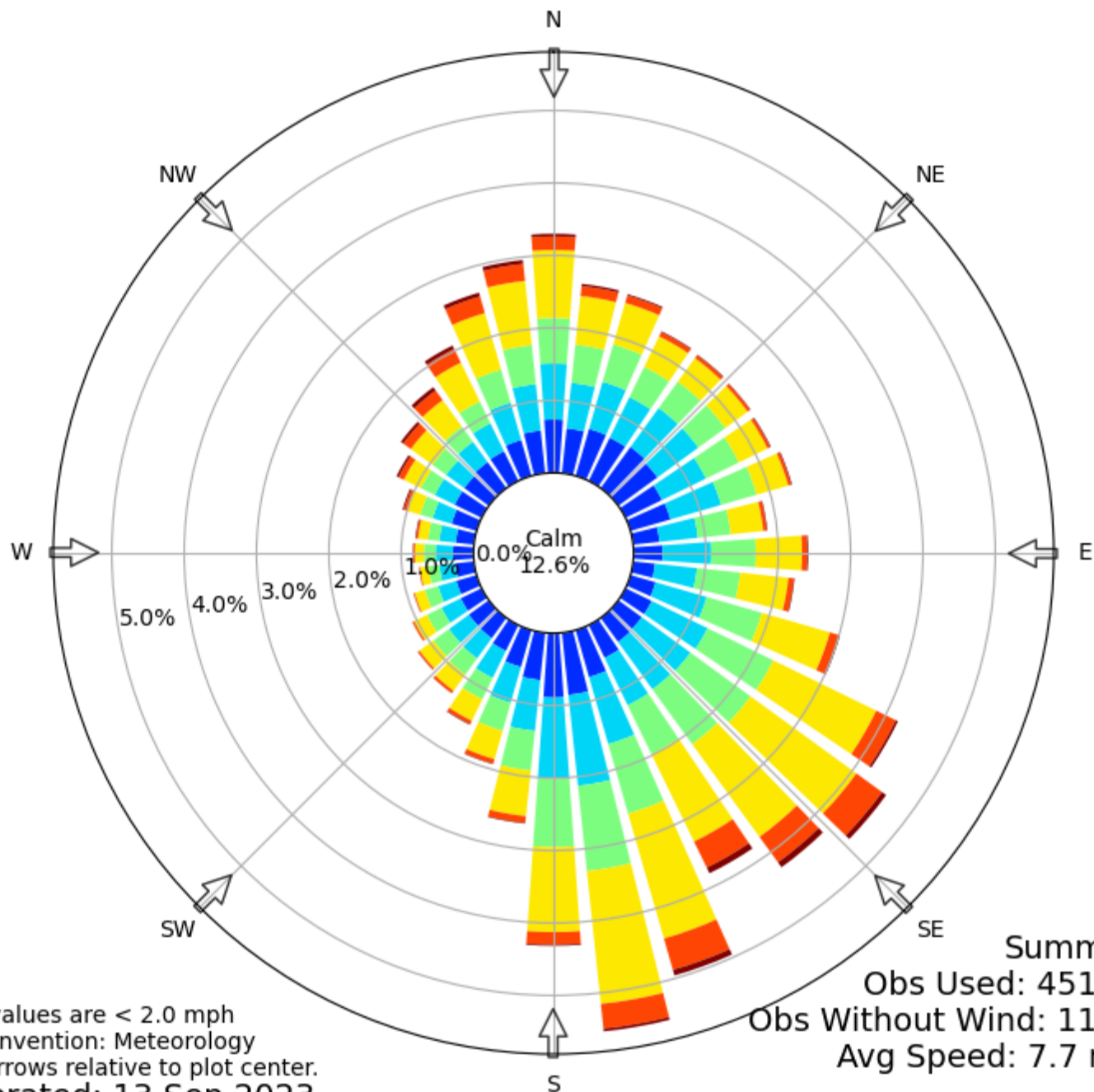
QUIDDITY

Texas Board of Professional Engineers and Land Surveyors Registration Nos. F-23290 & 10046100
6330 West Loop South, Suite 150 • Bellaire, TX 77401 • 713.777.5337

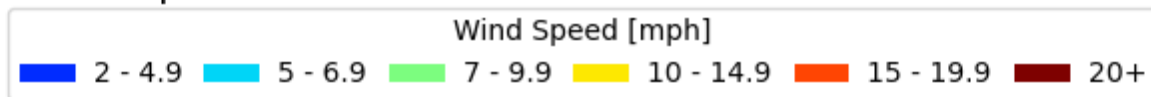


Windrose Plot for [IAH] Houston Intercontinental

Obs Between: 01 Jan 1970 03:00 AM - 13 Sep 2023 02:53 AM America/Chicago



Calm values are < 2.0 mph
Bar Convention: Meteorology
Flow arrows relative to plot center.
Generated: 13 Sep 2023



Leah Whallon

From: Jonathan Nguyen <jnguyen@quiddity.com>
Sent: Friday, July 5, 2024 8:00 AM
To: Leah Whallon
Cc: Cory Tyler PE
Subject: RE: Application to Amend Permit No. WQ0012294001; Harris County Municipal Utility District No. 200
Attachments: HCMUD 200 Affected Landowners Mailing Labels.docx; HCMUD 200 Affected Landowners Map and List 07052024.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Leah,

See attached. Let me know if you have any questions.

Thank you,



Jonathan Nguyen

Permitting Specialist

Email: jnguyen@quiddity.com

T: (512) 685-5156

From: Leah Whallon <Leah.Whallon@Tceq.Texas.Gov>
Sent: Wednesday, July 3, 2024 9:58 AM
To: Jonathan Nguyen <jnguyen@quiddity.com>
Cc: Cory Tyler PE <rtyler@quiddity.com>
Subject: RE: Application to Amend Permit No. WQ0012294001; Harris County Municipal Utility District No. 200

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Thank you, Jonathan.

The updated map and list show properties 4 and 5 owned by the applicant. All contiguous properties need to be included in the applicant's property boundary. There are still a few adjacent properties to the north that are also not included. The map, list, and labels will need to be updated to include this as well. Please let me know if you have any questions or need additional time to revise.

Thank you!



Jonathan Nguyen

Permitting Specialist

Email: jnguyen@quiddity.com

T: (512) 685-5156

From: Leah Whallon <Leah.Whallon@Tceq.Texas.Gov>

Sent: Tuesday, July 2, 2024 12:41 PM

To: Jonathan Nguyen <jnguyen@quiddity.com>

Cc: Cory Tyler PE <rt Tyler@quiddity.com>

Subject: RE: Application to Amend Permit No. WQ0012294001; Harris County Municipal Utility District No. 200

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Jonathan,

I've reviewed the response and there are still a few changes needed on the affected landowner map. Property numbers 3, 4, and 5 are owned by the applicant and must be included in the applicant's property boundary.

Please provide a revised affected landowner map that shows all contiguous properties owned by the applicant as the applicant's property boundaries and labels all properties adjacent to the applicant's property boundaries as the affected landowners. Please also provide a revised cross-referenced landowner list and the landowner list formatted for mailing labels (Avery 5160) in a Microsoft Word document.

Please let me know if you need additional time to make the revisions and I can send the 30 day extension letter. Let me know if you have any questions.

Thanks,



Leah Whallon

Texas Commission on Environmental Quality

Water Quality Division

512-239-0084

leah.whallon@tceq.texas.gov

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

From: Leah Whallon

Sent: Monday, June 24, 2024 4:20 PM

To: Jonathan Nguyen <jnguyen@quiddity.com>

Cc: Cory Tyler PE <rt Tyler@quiddity.com>

Subject: RE: Application to Amend Permit No. WQ0012294001; Harris County Municipal Utility District No. 200

Thank you, Jonathan.

Response received. I will review and let you know if we need anything else. Please let me know if you have any questions.

Thanks,



Leah Whallon

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

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

From: Jonathan Nguyen <jnguyen@quiddity.com>
Sent: Monday, June 24, 2024 1:15 PM
To: Leah Whallon <Leah.Whallon@Tceq.Texas.Gov>
Cc: Cory Tyler PE <rtyler@quiddity.com>
Subject: RE: Application to Amend Permit No. WQ0012294001; Harris County Municipal Utility District No. 200

Good afternoon,

Attached are the following items:

1. Updated affected landowners map and list
2. Updated affected landowners mailing labels
3. Spanish translated NORI

The NORI statement in the NOD is good to go. Please let us know if you have any questions.

Thank you!



Jonathan Nguyen

Permitting Specialist

Email: jnguyen@quiddity.com
T: (512) 685-5156

From: Leah Whallon <Leah.Whallon@Tceq.Texas.Gov>
Sent: Friday, June 14, 2024 12:04 PM
To: Jonathan Nguyen <jnguyen@quiddity.com>
Cc: Michelle A. Troy PE <mtroy@quiddity.com>
Subject: Application to Amend Permit No. WQ0012294001; Harris County Municipal Utility District No. 200

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Good Afternoon,

Please see the attached Notice of Deficiency letter dated June 14, 2024 requesting additional information needed to declare the application administratively complete. Please send the complete response by June 28, 2024.

Please let me know if you have any questions.

Thank you,



Leah Whallon

Texas Commission on Environmental Quality

Water Quality Division

512-239-0084

leah.whallon@tceq.texas.gov

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

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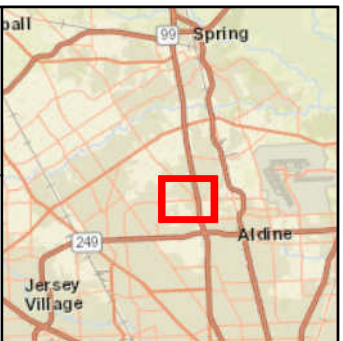
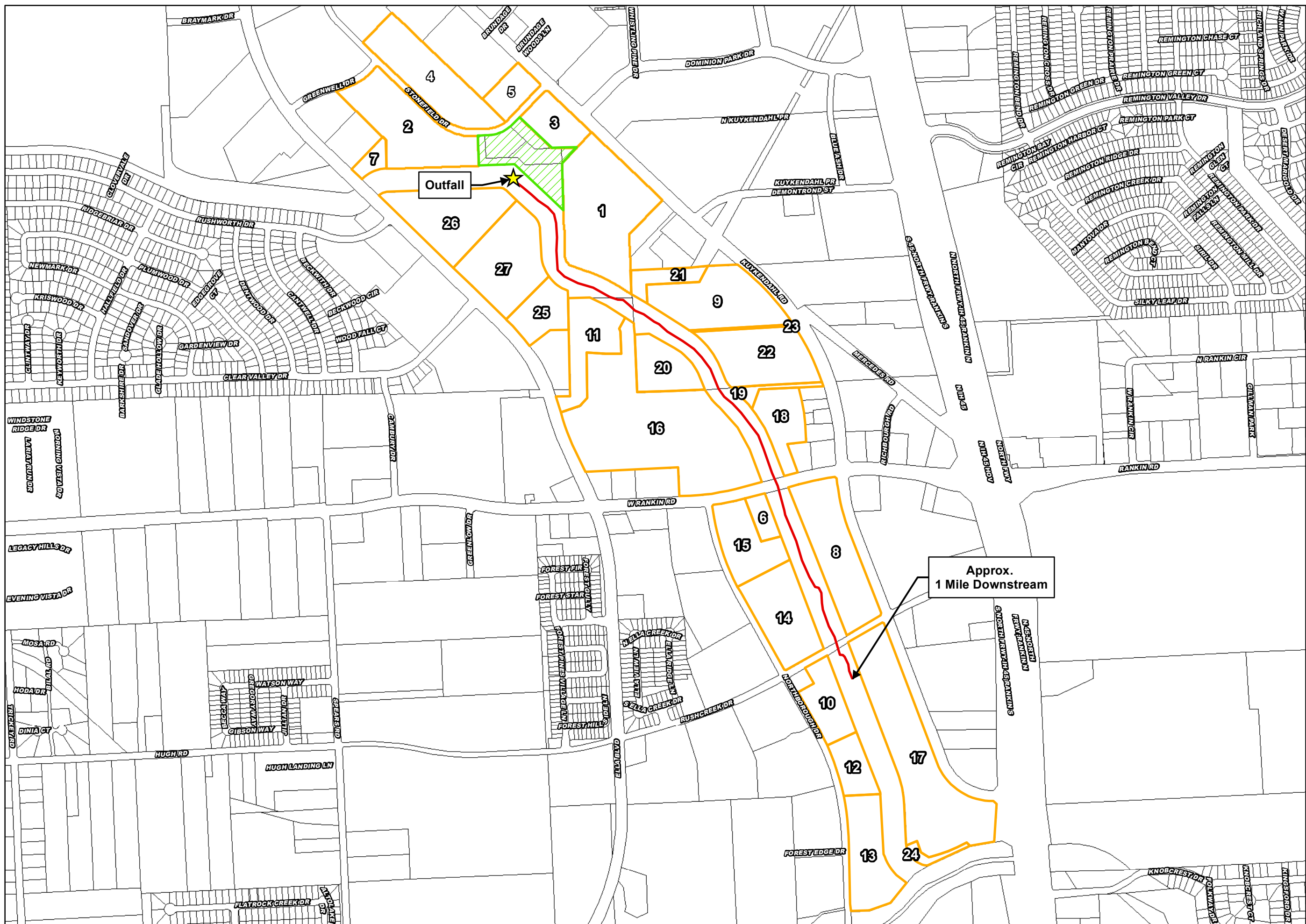
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VICINITY MAP
1 INCH = 10 MILES

LEGEND



— Discharge Route

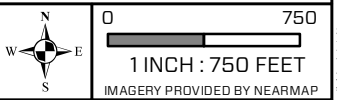
 Affected Landowners

 Applicant Property Boundary

 HCAD Parcels

AFFECTED
LANDOWNERS
MAP

HARRIS COUNTY MUD No. 200
HARRIS COUNTY, TEXAS



Disclaimer: This product is offered for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey and represents only the approximate relative location of property, governmental and/or political boundaries or related facilities to said boundary. No express warranties are made by Quididdy Engineering concerning the accuracy, completeness, reliability, or usability of the information included within this exhibit.



QUIDDITY

Texas Board of Professional Engineers Registration No. F-23290

HCMUD 200 Affected Landowners List

ID	Owner	Mailing Address
1	KUYKENDAHL PROPERTY 1996	4808 GIBSON ST, HOUSTON, TX 77007-5480
2	SIERA INVEST TX INC	7047 HARRISBURG BLVD, HOUSTON, TX 77011-4645
3	MKSN INVESTMENTS LLC	644 MAXEY RD STE C, HOUSTON, TX 77013- 5900
4	HUNTINGTON 13100 LLC	143 MANOR LAKE ESTATES DR, SPRING, TX 77379-3722
5	GRUNDMEYER LIVING TRUST	2464 CYPRESS CREEK PKWY, HOUSTON, TX 77068-3721
6	PATEL GITA	4949 DACOMA ST, HOUSTON, TX 77092-7725
7	LE TRUONG K	7731 HERON LAKES DR, HOUSTON, TX 77064- 1711
8	GREATER GREENSPOINT REDEV AUTHORITY	450 GEARS RD STE 200, HOUSTON, TX 77067- 4513
9	AUGUSTA NORTH HOUSTON LLC	2929 W WAPOOT ST, MERIDIAN, ID 83646
10	CANFIELD LAKES LLC	143 MANOR LAKE ESTATES DR, SPRING, TX 77379-3722
11	ELLA REAL ESTATE HOLDINGS LTD	4299 SAN FELIPE ST STE 115, HOUSTON, TX 77027-2980
12	PINEFOREST 2016 INVESTMENT LLC	143 MANOR LAKE ESTATES DR, SPRING, TX 77379-3722
13	PINEFOREST 2016 INVESTMENT LLC	143 MANOR LAKE ESTATES DR, SPRING, TX 77379-3722
14	SAGOTX INVESTMENT LLC	143 MANOR LAKE ESTATES DR, SPRING, TX 77379-3722
15	AG MEMBER GROUP LLC	6807 VANESSA SPRING LN, SPRING, TX 77389- 1521
16	BENCHMARK ACQUISITIONS LLC	13141 NW FWY, HOUSTON, TX 77040-6307
17	GREATER GREENSPOINT	450 GEARS RD STE 200, HOUSTON, TX 77067
18	RANKIN STORAGE OWNER 18 TX LP	50 ROCKEFELLER PLZ, NEW YORK, NY 10020- 1605
19	NORTHBOROUGH MUD	ADDRESS UNKNOWN
20	PATEL VIJAY N	9431 LOCHFLOA DR, SPRING, TX 77379-5601
21	TEXAS DEPARTMENT OF TRANSPORTATION	PO BOX 1386, HOUSTON, TX 77251-1386
22	YES PREP PUBLIC SCHOOLS INC	5515 S LOOP EAST STE B, HOUSTON, TX 77033- 1603
23	AUGUSTA NORTH HOUSTON LLC	2929 W WAPOOT ST, MERIDIAN, ID 83646-5670
24	CITY OF HOUSTON	PO BOX 1562, HOUSTON, TX 77251-1562

25	ELLA CAPITAL INVESTMENTS LLC	25420 KUYKENDAHL RD STE E300, TOMBALL, TX 77375-3430
26	TIMBERS2020 LLC	143 MANOR LAKE ESTATES DR, SPRING, TX 77379-3722
27	CATHEDRAL OF FAITH BAPTIST CHURCH	PO BOX 692370, HOUSTON, TX 77269-2370

AG MEMBER GROUP LLC
6807 VANESSA SPRING LN
SPRING TX 77389-1521

AUGUSTA NORTH HOUSTON LLC
2929 W WAPOOT ST
MERIDIAN ID 83646

BENCHMARK ACQUISITIONS LLC
13141 NW FWY
HOUSTON TX 77040-6307

CANFIELD LAKES LLC
143 MANOR LAKE ESTATES DR
SPRING TX 77379-3722

CATHEDRAL OF FAITH BAPTIST
CHURCH
PO BOX 692370
HOUSTON TX 77269-2370

CITY OF HOUSTON
PO BOX 1562
HOUSTON TX 77251-1562

ELLA CAPITAL INVESTMENTS LLC
25420 KUYKENDAHL RD STE E300
TOMBALL TX 77375-3430

ELLA REAL ESTATE HOLDINGS LTD
4299 SAN FELIPE ST STE 115
HOUSTON TX 77027-2980

GREATER GREENSPPOINT
450 GEARS RD STE 200
HOUSTON TX 77067

GRUNDMEYER LIVING TRUST
2464 CYPRESS CREEK PKWY
HOUSTON TX 77068-3721

HUNTINGTON 13100 LLC
143 MANOR LAKE ESTATES DR
SPRING TX 77379-3722

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HOUSTON TX 77007-5480

LE TRUONG K
7731 HERON LAKES DR
HOUSTON TX 77064-1711

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644 MAXEY RD STE C
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PATEL GITA
4949 DACOMA ST
HOUSTON TX 77092-7725

PATEL VIJAY N
9431 LOCHFLORA DR
SPRING TX 77379-5601

PINEFOREST 2016 INVESTMENT
LLC
143 MANOR LAKE ESTATES DR
SPRING TX 77379-3722

RANKIN STORAGE OWNER 18 TX
LP
50 ROCKEFELLER PLZ
NEW YORK NY 10020-1605

SAGOTX INVESTMENT LLC
143 MANOR LAKE ESTATES DR
SPRING TX 77379-3722

SIERA INVEST TX INC
7047 HARRISBURG BLVD
HOUSTON TX 77011-4645

TEXAS DEPARTMENT OF
TRANSPORTATION
PO BOX 1386
HOUSTON TX 77251-1386

TIMBERS2020 LLC
143 MANOR LAKE ESTATES DR
SPRING TX 77379-3722

YES PREP PUBLIC SCHOOLS INC
5515 S LOOP EAST STE B
HOUSTON TX 77033-1603

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. WQ00_____

SOLICITUD. Distrito de Servicios Públicos Municipales No. 200 del Condado de Harris, 1300 Post Oak Boulevard, Suite 2400, Houston, Texas 77056, ha solicitado a la Comisión de Calidad Ambiental del Estado de Texas (TCEQ) para modificar el Permiso No. WQ0012294001 (EPA I.D. No. TX0085413) 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 diario de 1,900,000 galones por día. La planta está ubicada 13050 Stonefield Drive, cerca de la ciudad de Houston, en el condado de Harris, Texas 77014. La ruta de descarga es del sitio de la planta a una zanja del Distrito de Control de Inundaciones del Condado de Harris, de allí a Greens Bayou Above Tidal. La TCEQ recibió esta solicitud el 6 de junio de 2024. La solicitud para el permiso estará disponible para leerla y copiarla en Biblioteca sucursal de Aldine, 11331 Airline Drive, Houston, en el condado de Harris, Texas antes de la fecha de publicación de este aviso en el periódico. La solicitud, incluidas todas 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=-95.430404,29.972868&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 not 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 todos los comentarios públicos esenciales, pertinentes, o significativos. **A menos que la solicitud haya sido referida directamente a una audiencia administrativa de lo contencioso, la respuesta a los comentarios y la decisión del Director Ejecutivo sobre la solicitud serán enviados por correo a todos los que presentaron un comentario público y a las personas que están en la lista para recibir avisos sobre esta solicitud. Si se reciben comentarios, el aviso también proveerá instrucciones para pedir una reconsideración de la decisión del Director Ejecutivo y para pedir una audiencia administrativa de lo contencioso.** Una audiencia administrativa de lo contencioso es un procedimiento legal similar a un procedimiento legal civil en un tribunal de distrito del estado.

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

Después del cierre de todos los períodos de comentarios y de petición que aplican, el Director Ejecutivo enviará la solicitud y cualquier petición para reconsideración o para una audiencia de caso impugnado a los Comisionados de la TCEQ para su consideración durante una reunión programada de la Comisión. La Comisión sólo puede conceder una solicitud de una audiencia de caso impugnado sobre los temas que el solicitante haya presentado en sus comentarios oportunos que no fueron

retirados posteriormente. Si se concede una audiencia, el tema de la audiencia estará limitado a cuestiones de hecho en disputa o cuestiones mixtas de hecho y de derecho relacionadas a intereses pertinentes y materiales de calidad del agua que se hayan presentado durante el período de comentarios.

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

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

También se puede obtener más información del Distrito de Servicios Públicos Municipales No. 200 del Condado de Harris en la dirección indicada anteriormente o llamando al Sr. Jonathan Nguyen, Quiddity Engineering, al 512-685-5156.

Fecha de emisión _____ *[Date notice issued]*



TPDES PERMIT NO.
WQ0012294001
*[For TCEQ office use only - EPA I.D.
No. TX0085413]*

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

This is a major amendment with
renewal supersedes and replaces
TPDES Permit No. WQ0012294001
issued on February 10, 2023.

PERMIT TO DISCHARGE WASTES
under provisions of
Section 402 of the Clean Water Act
and Chapter 26 of the Texas Water Code

Harris County Municipal Utility District No. 200

whose mailing address is

1300 Post Oak Boulevard, Suite 2400
Houston, Texas 77056

is authorized to treat and discharge wastes from the Harris County MUD 200 Wastewater
Treatment Facility, SIC Code 4952

located at 13050 Stonefield Drive, in Harris County, Texas 77014

to Harris County Flood Control Drainage Ditch P145-00-00, thence to Greens Bayou Above
Tidal in Segment No. 1016 of the San Jacinto River Basin (see Attachment A.)

only according to effluent limitations, monitoring requirements, and other conditions set forth
in this permit, as well as the rules of the Texas Commission on Environmental Quality (TCEQ),
the laws of the State of Texas, and other orders of the TCEQ. The issuance of this permit does
not grant to the permittee the right to use private or public property for conveyance of
wastewater along the discharge route described in this permit. This includes, but is not limited
to, property belonging to any individual, partnership, corporation, or other entity. Neither does
this permit authorize any invasion of personal rights nor any violation of federal, state, or local
laws or regulations. It is the responsibility of the permittee to acquire property rights as may be
necessary to use the discharge route.

This permit shall expire at midnight, **three years from the date of issuance.**

ISSUED DATE:

For the Commission

INTERIM I EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTSOutfall Number 001

1. During the period beginning upon the date of issuance and lasting through the completion of expansion to the 1.60 million gallons per day (MGD) facility, the permittee is authorized to discharge subject to the following effluent limitations:

The annual average flow of effluent shall not exceed 1.44 million gallons per day (MGD), nor shall the average discharge during any two-hour period (2-hour peak) exceed 4,000 gallons per minute.

Effluent Characteristic	Discharge Limitations				Min. Self-Monitoring Requirements	
	Daily Avg mg/l (lbs/day)	7-day Avg mg/l	Daily Max mg/l	Single Grab mg/l	Report Daily Avg. & Daily Max. Measurement Frequency	Sample Type
Flow, MGD	Report	N/A	Report	N/A	Continuous	Totalizing Meter
Biochemical Oxygen Demand (5-day)	10 (120)	15	25	35	Two/week	Composite
Total Suspended Solids	15 (180)	25	40	60	Two/week	Composite
Ammonia Nitrogen	Report (Report)	N/A	Report	N/A	Two/week	Composite
Total Kjeldahl Nitrogen*	Report (Report)	N/A	Report	N/A	Two/week	Composite
<i>E. coli</i> , colony-forming units or most probable number per 100 ml	63	N/A	200	N/A	One/week	Grab

*See Other Requirement No. 4.

2. The effluent shall contain a total chlorine residual of at least 1.0 mg/l after a detention time of at least 20 minutes (based on peak flow) and shall be monitored daily by grab sample. The permittee shall dechlorinate the chlorinated effluent to less than 0.1 mg/l total chlorine residual and shall monitor total chlorine residual daily by grab sample after the dechlorination process. An equivalent method of disinfection may be substituted only with prior approval of the Executive Director.
3. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored once per week by grab sample.
4. There shall be no discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.
5. Effluent monitoring samples shall be taken at the following location(s): Following the final treatment unit.
6. The effluent shall contain a minimum dissolved oxygen of 4.0 mg/l and shall be monitored twice per week by grab sample.
7. The annual average flow and maximum 2-hour peak flow shall be reported monthly.

INTERIM II EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTSOutfall Number 001

1. During the period beginning upon the completion of expansion to the 1.60 million gallons per day (MGD) facility and lasting through the completion of expansion to the 1.90 MGD facility, the permittee is authorized to discharge subject to the following effluent limitations:

The annual average flow of effluent shall not exceed 1.60 MGD.*

Effluent Characteristic	Discharge Limitations				Min. Self-Monitoring Requirements	
	Daily Avg mg/l (lbs/day)	7-day Avg mg/l	Daily Max mg/l	Single Grab mg/l	Report Daily Avg. & Daily Max. Measurement Frequency	Sample Type
Flow, MGD	Report	N/A	Report	N/A	Continuous	Totalizing Meter
Carbonaceous Biochemical Oxygen Demand (5-day)	10 (133)	15	25	35	Two/week	Composite
Total Suspended Solids	15 (200)	25	40	60	Two/week	Composite
Ammonia Nitrogen	2 (27)	5	10	15	Two/week	Composite
Total Kjeldahl Nitrogen**	Report (Report)	N/A	Report	N/A	Two/week	Composite
<i>E. coli</i> , colony-forming units or most probable number per 100 ml	63	N/A	200	N/A	One/week	Grab

*See Other Requirement No. 10.

**See Other Requirement No. 4.

2. The effluent shall contain a total chlorine residual of at least 1.0 mg/l after a detention time of at least 20 minutes (based on daily average flow) and shall be monitored daily by grab sample. The permittee shall dechlorinate the chlorinated effluent to less than 0.1 mg/l total chlorine residual and shall monitor total chlorine residual daily by grab sample after the dechlorination process. An equivalent method of disinfection may be substituted only with prior approval of the Executive Director.
3. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored once per week by grab sample.
4. There shall be no discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.
5. Effluent monitoring samples shall be taken at the following location(s): Following the final treatment unit.
6. The effluent shall contain a minimum dissolved oxygen of 4.0 mg/l and shall be monitored twice per week by grab sample.
7. The annual average flow and maximum 2-hour peak flow shall be reported monthly.

FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTSOutfall Number 001

1. During the period beginning upon the completion of expansion to the 1.90 million gallons per day (MGD) facility and lasting through the date of expiration, the permittee is authorized to discharge subject to the following effluent limitations:

The annual average flow of effluent shall not exceed 1.90 MGD*

Effluent Characteristic	Discharge Limitations				Min. Self-Monitoring Requirements	
	Daily Avg mg/l (lbs/day)	7-day Avg mg/l	Daily Max mg/l	Single Grab mg/l	Report Daily Avg. & Daily Max. Measurement Frequency	Daily Max. Sample Type
Flow, MGD	Report	N/A	Report	N/A	Continuous	Totalizing Meter
Carbonaceous Biochemical Oxygen Demand (5-day)	10 (158)	15	25	35	Two/week	Composite
Total Suspended Solids	15 (238)	25	40	60	Two/week	Composite
Ammonia Nitrogen	2 (32)	5	10	15	Two/week	Composite
Total Kjeldahl Nitrogen**	Report (Report)	N/A	Report	N/A	Two/week	Composite
<i>E. coli</i> , colony-forming units or most probable number per 100 ml	63	N/A	200	N/A	One/week	Grab

*See Other Requirement No. 10.

**See Other Requirement No. 4.

2. The effluent shall contain a total chlorine residual of at least 1.0 mg/l after a detention time of at least 20 minutes (based on daily average flow) and shall be monitored daily by grab sample. The permittee shall dechlorinate the chlorinated effluent to less than 0.1 mg/l total chlorine residual and shall monitor total chlorine residual daily by grab sample after the dechlorination process. An equivalent method of disinfection may be substituted only with prior approval of the Executive Director.
3. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored once per week by grab sample.
4. There shall be no discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.
5. Effluent monitoring samples shall be taken at the following location(s): Following the final treatment unit.
6. The effluent shall contain a minimum dissolved oxygen of 4.0 mg/l and shall be monitored twice per week by grab sample.
7. The annual average flow and maximum 2-hour peak flow shall be reported monthly.

DEFINITIONS AND STANDARD PERMIT CONDITIONS

As required by Title 30 Texas Administrative Code (TAC) Chapter 305, certain regulations appear as standard conditions in waste discharge permits. 30 TAC § 305.121 - 305.129 (relating to Permit Characteristics and Conditions) as promulgated under the Texas Water Code (TWC) §§ 5.103 and 5.105, and the Texas Health and Safety Code (THSC) §§ 361.017 and 361.024(a), establish the characteristics and standards for waste discharge permits, including sewage sludge, and those sections of 40 Code of Federal Regulations (CFR) Part 122 adopted by reference by the Commission. The following text includes these conditions and incorporates them into this permit. All definitions in TWC § 26.001 and 30 TAC Chapter 305 shall apply to this permit and are incorporated by reference. Some specific definitions of words or phrases used in this permit are as follows:

1. Flow Measurements

- a. Annual average flow - the arithmetic average of all daily flow determinations taken within the preceding 12 consecutive calendar months. The annual average flow determination shall consist of daily flow volume determinations made by a totalizing meter, charted on a chart recorder and limited to major domestic wastewater discharge facilities with one million gallons per day or greater permitted flow.
- b. Daily average flow - the arithmetic average of all determinations of the daily flow within a period of one calendar month. The daily average flow determination shall consist of determinations made on at least four separate days. If instantaneous measurements are used to determine the daily flow, the determination shall be the arithmetic average of all instantaneous measurements taken during that month. Daily average flow determination for intermittent discharges shall consist of a minimum of three flow determinations on days of discharge.
- c. Daily maximum flow - the highest total flow for any 24-hour period in a calendar month.
- d. Instantaneous flow - the measured flow during the minimum time required to interpret the flow measuring device.
- e. 2-hour peak flow (domestic wastewater treatment plants) - the maximum flow sustained for a two-hour period during the period of daily discharge. The average of multiple measurements of instantaneous maximum flow within a two-hour period may be used to calculate the 2-hour peak flow.
- f. Maximum 2-hour peak flow (domestic wastewater treatment plants) - the highest 2-hour peak flow for any 24-hour period in a calendar month.

2. Concentration Measurements

- a. Daily average concentration - the arithmetic average of all effluent samples, composite or grab as required by this permit, within a period of one calendar month, consisting of at least four separate representative measurements.
 - i. For domestic wastewater treatment plants - When four samples are not available in a calendar month, the arithmetic average (weighted by flow) of all values in the previous four consecutive month period consisting of at least four measurements shall be utilized as the daily average concentration.

- ii. For all other wastewater treatment plants - When four samples are not available in a calendar month, the arithmetic average (weighted by flow) of all values taken during the month shall be utilized as the daily average concentration.
- b. 7-day average concentration - the arithmetic average of all effluent samples, composite or grab as required by this permit, within a period of one calendar week, Sunday through Saturday.
- c. Daily maximum concentration - the maximum concentration measured on a single day, by the sample type specified in the permit, within a period of one calendar month.
- d. Daily discharge - the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in terms of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the sampling day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the average measurement of the pollutant over the sampling day.

The daily discharge determination of concentration made using a composite sample shall be the concentration of the composite sample. When grab samples are used, the daily discharge determination of concentration shall be the arithmetic average (weighted by flow value) of all samples collected during that day.

- e. Bacteria concentration (*E. coli* or Enterococci) - Colony Forming Units (CFU) or Most Probable Number (MPN) of bacteria per 100 milliliters effluent. The daily average bacteria concentration is a geometric mean of the values for the effluent samples collected in a calendar month. The geometric mean shall be determined by calculating the n th root of the product of all measurements made in a calendar month, where n equals the number of measurements made; or, computed as the antilogarithm of the arithmetic mean of the logarithms of all measurements made in a calendar month. For any measurement of bacteria equaling zero, a substituted value of one shall be made for input into either computation method. If specified, the 7-day average for bacteria is the geometric mean of the values for all effluent samples collected during a calendar week.
 - f. Daily average loading (lbs/day) - the arithmetic average of all daily discharge loading calculations during a period of one calendar month. These calculations must be made for each day of the month that a parameter is analyzed. The daily discharge, in terms of mass (lbs/day), is calculated as (Flow, MGD x Concentration, mg/l x 8.34).
 - g. Daily maximum loading (lbs/day) - the highest daily discharge, in terms of mass (lbs/day), within a period of one calendar month.
3. Sample Type
- a. Composite sample - For domestic wastewater, a composite sample is a sample made up of a minimum of three effluent portions collected in a continuous 24-hour period or during the period of daily discharge if less than 24 hours, and combined in volumes proportional to flow, and collected at the intervals required by 30 TAC § 319.9 (a). For industrial wastewater, a composite sample is a sample made up of a minimum of three effluent portions collected in a continuous 24-hour period or during the period of daily discharge if less than 24 hours, and combined in volumes proportional to flow, and collected at the intervals required by 30 TAC § 319.9 (b).

- b. Grab sample - an individual sample collected in less than 15 minutes.
- 4. Treatment Facility (facility) - wastewater facilities used in the conveyance, storage, treatment, recycling, reclamation and/or disposal of domestic sewage, industrial wastes, agricultural wastes, recreational wastes, or other wastes including sludge handling or disposal facilities under the jurisdiction of the Commission.
- 5. The term "sewage sludge" is defined as solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in 30 TAC Chapter 312. This includes the solids that have not been classified as hazardous waste separated from wastewater by unit processes.
- 6. The term "biosolids" is defined as sewage sludge that has been tested or processed to meet Class A, Class AB, or Class B pathogen standards in 30 TAC Chapter 312 for beneficial use.
- 7. Bypass - the intentional diversion of a waste stream from any portion of a treatment facility.

MONITORING AND REPORTING REQUIREMENTS

1. Self-Reporting

Monitoring results shall be provided at the intervals specified in the permit. Unless otherwise specified in this permit or otherwise ordered by the Commission, the permittee shall conduct effluent sampling and reporting in accordance with 30 TAC §§ 319.4 - 319.12. Unless otherwise specified, effluent monitoring data shall be submitted each month, to the Enforcement Division (MC 224), by the 20th day of the following month for each discharge which is described by this permit whether or not a discharge is made for that month. Monitoring results must be submitted online using the NetDMR reporting system available through the TCEQ website unless the permittee requests and obtains an electronic reporting waiver. Monitoring results must be signed and certified as required by Monitoring and Reporting Requirements No. 10.

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

2. Test Procedures

- a. Unless otherwise specified in this permit, test procedures for the analysis of pollutants shall comply with procedures specified in 30 TAC §§ 319.11 - 319.12. Measurements, tests, and calculations shall be accurately accomplished in a representative manner.
- b. All laboratory tests submitted to demonstrate compliance with this permit must meet the requirements of 30 TAC § 25, Environmental Testing Laboratory Accreditation and Certification.

3. Records of Results

- a. Monitoring samples and measurements shall be taken at times and in a manner so as to be representative of the monitored activity.

- b. Except for records of monitoring information required by this permit related to the permittee's sewage sludge or biosolids use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR Part 503), monitoring and reporting records, including strip charts and records of calibration and maintenance, copies of all records required by this permit, records of all data used to complete the application for this permit, and the certification required by 40 CFR § 264.73(b)(9) shall be retained at the facility site, or shall be readily available for review by a TCEQ representative for a period of three years from the date of the record or sample, measurement, report, application or certification. This period shall be extended at the request of the Executive Director.
- c. Records of monitoring activities shall include the following:
 - i. date, time and place of sample or measurement;
 - ii. identity of individual who collected the sample or made the measurement.
 - iii. date and time of analysis;
 - iv. identity of the individual and laboratory who performed the analysis;
 - v. the technique or method of analysis; and
 - vi. the results of the analysis or measurement and quality assurance/quality control records.

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

4. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit using approved analytical methods as specified above, all results of such monitoring shall be included in the calculation and reporting of the values submitted on the approved self-report form. Increased frequency of sampling shall be indicated on the self-report form.

5. Calibration of Instruments

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

6. Compliance Schedule Reports

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

Division (MC 224).

7. Noncompliance Notification

- a. In accordance with 30 TAC § 305.125(9) any noncompliance which may endanger human health or safety, or the environment shall be reported by the permittee to the TCEQ. Except as allowed by 30 TAC § 305.132, report of such information shall be provided orally or by facsimile transmission (FAX) to the Regional Office within 24 hours of becoming aware of the noncompliance. A written submission of such information shall also be provided by the permittee to the Regional Office and the Enforcement Division (MC 224) within five working days of becoming aware of the noncompliance. For Publicly Owned Treatment Works (POTWs), effective December 21, 2025, the permittee must submit the written report for unauthorized discharges and unanticipated bypasses that exceed any effluent limit in the permit using the online electronic reporting system available through the TCEQ website unless the permittee requests and obtains an electronic reporting waiver. The written submission shall contain a description of the noncompliance and its cause; the potential danger to human health or safety, or the environment; the period of noncompliance, including exact dates and times; if the noncompliance has not been corrected, the time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance, and to mitigate its adverse effects.
 - b. The following violations shall be reported under Monitoring and Reporting Requirement 7.a.:
 - i. Unauthorized discharges as defined in Permit Condition 2(g).
 - ii. Any unanticipated bypass that exceeds any effluent limitation in the permit.
 - iii. Violation of a permitted maximum daily discharge limitation for pollutants listed specifically in the Other Requirements section of an Industrial TPDES permit.
 - c. In addition to the above, any effluent violation which deviates from the permitted effluent limitation by more than 40% shall be reported by the permittee in writing to the Regional Office and the Enforcement Division (MC 224) within 5 working days of becoming aware of the noncompliance.
 - d. Any noncompliance other than that specified in this section, or any required information not submitted or submitted incorrectly, shall be reported to the Enforcement Division (MC 224) as promptly as possible. For effluent limitation violations, noncompliances shall be reported on the approved self-report form.
8. In accordance with the procedures described in 30 TAC §§ 35.301 - 35.303 (relating to Water Quality Emergency and Temporary Orders) if the permittee knows in advance of the need for a bypass, it shall submit prior notice by applying for such authorization.
9. Changes in Discharges of Toxic Substances

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

- a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant listed at 40 CFR Part 122, Appendix D, Tables II and III (excluding Total Phenols) which is not limited in the permit, if that discharge will exceed the highest of the following “notification levels”:
 - i. One hundred micrograms per liter (100 µg/L);
 - ii. Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
 - iii. Five (5) times the maximum concentration value reported for that pollutant in the permit application; or
 - iv. The level established by the TCEQ.
- b. That any activity has occurred or will occur which would result in any discharge, on a nonroutine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following “notification levels”:
 - i. Five hundred micrograms per liter (500 µg/L);
 - ii. One milligram per liter (1 mg/L) for antimony;
 - iii. Ten (10) times the maximum concentration value reported for that pollutant in the permit application; or
 - iv. The level established by the TCEQ.

10. Signatories to Reports

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

11. All POTWs must provide adequate notice to the Executive Director of the following:

- a. Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to CWA § 301 or § 306 if it were directly discharging those pollutants;
- b. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit; and
- c. For the purpose of this paragraph, adequate notice shall include information on:
 - i. The quality and quantity of effluent introduced into the POTW; and
 - ii. Any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

PERMIT CONDITIONS**1. General**

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

2. Compliance

- a. Acceptance of the permit by the person to whom it is issued constitutes acknowledgment and agreement that such person will comply with all the terms and conditions embodied in the permit, and the rules and other orders of the Commission.
- b. The permittee has a duty to comply with all conditions of the permit. Failure to comply with any permit condition constitutes a violation of the permit and the Texas Water Code or the Texas Health and Safety Code, and is grounds for enforcement action, for permit amendment, revocation, or suspension, or for denial of a permit renewal application or an application for a permit for another facility.
- c. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit.
- d. The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal or other permit violation that has a reasonable likelihood of adversely affecting human health or the environment.
- e. Authorization from the Commission is required before beginning any change in the permitted facility or activity that may result in noncompliance with any permit requirements.
- f. A permit may be amended, suspended and reissued, or revoked for cause in accordance

with 30 TAC §§ 305.62 and 305.66 and TWC§ 7.302. The filing of a request by the permittee for a permit amendment, suspension and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

- g. There shall be no unauthorized discharge of wastewater or any other waste. For the purpose of this permit, an unauthorized discharge is considered to be any discharge of wastewater into or adjacent to water in the state at any location not permitted as an outfall or otherwise defined in the Other Requirements section of this permit.
- h. In accordance with 30 TAC § 305.535(a), the permittee may allow any bypass to occur from a TPDES permitted facility which does not cause permitted effluent limitations to be exceeded or an unauthorized discharge to occur, but only if the bypass is also for essential maintenance to assure efficient operation.
- i. The permittee is subject to administrative, civil, and criminal penalties, as applicable, under TWC §§ 7.051 - 7.075 (relating to Administrative Penalties), 7.101 - 7.111 (relating to Civil Penalties), and 7.141 - 7.202 (relating to Criminal Offenses and Penalties) for violations including, but not limited to, negligently or knowingly violating the federal CWA §§ 301, 302, 306, 307, 308, 318, or 405, or any condition or limitation implementing any sections in a permit issued under the CWA § 402, or any requirement imposed in a pretreatment program approved under the CWA §§ 402 (a)(3) or 402 (b)(8).

3. Inspections and Entry

- a. Inspection and entry shall be allowed as prescribed in the TWC Chapters 26, 27, and 28, and THSC § 361.
- b. The members of the Commission and employees and agents of the Commission are entitled to enter any public or private property at any reasonable time for the purpose of inspecting and investigating conditions relating to the quality of water in the state or the compliance with any rule, regulation, permit or other order of the Commission. Members, employees, or agents of the Commission and Commission contractors are entitled to enter public or private property at any reasonable time to investigate or monitor or, if the responsible party is not responsive or there is an immediate danger to public health or the environment, to remove or remediate a condition related to the quality of water in the state. Members, employees, Commission contractors, or agents acting under this authority who enter private property shall observe the establishment's rules and regulations concerning safety, internal security, and fire protection, and if the property has management in residence, shall notify management or the person then in charge of his presence and shall exhibit proper credentials. If any member, employee, Commission contractor, or agent is refused the right to enter in or on public or private property under this authority, the Executive Director may invoke the remedies authorized in TWC § 7.002. The statement above, that Commission entry shall occur in accordance with an establishment's rules and regulations concerning safety, internal security, and fire protection, is not grounds for denial or restriction of entry to any part of the facility, but merely describes the Commission's duty to observe appropriate rules and regulations during an inspection.

4. Permit Amendment and/or Renewal

- a. The permittee shall give notice to the Executive Director as soon as possible of any planned physical alterations or additions to the permitted facility if such alterations or additions would require a permit amendment or result in a violation of permit requirements. Notice shall also be required under this paragraph when:
 - i. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in accordance with 30 TAC § 305.534 (relating to New Sources and New Dischargers); or
 - ii. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are subject neither to effluent limitations in the permit, nor to notification requirements in Monitoring and Reporting Requirements No. 9; or
 - iii. The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.
- b. Prior to any facility modifications, additions, or expansions that will increase the plant capacity beyond the permitted flow, the permittee must apply for and obtain proper authorization from the Commission before commencing construction.
- c. The permittee must apply for an amendment or renewal at least 180 days prior to expiration of the existing permit in order to continue a permitted activity after the expiration date of the permit. If an application is submitted prior to the expiration date of the permit, the existing permit shall remain in effect until the application is approved, denied, or returned. If the application is returned or denied, authorization to continue such activity shall terminate upon the effective date of the action. If an application is not submitted prior to the expiration date of the permit, the permit shall expire and authorization to continue such activity shall terminate.
- d. Prior to accepting or generating wastes which are not described in the permit application or which would result in a significant change in the quantity or quality of the existing discharge, the permittee must report the proposed changes to the Commission. The permittee must apply for a permit amendment reflecting any necessary changes in permit conditions, including effluent limitations for pollutants not identified and limited by this permit.
- e. In accordance with the TWC § 26.029(b), after a public hearing, notice of which shall be given to the permittee, the Commission may require the permittee, from time to time, for good cause, in accordance with applicable laws, to conform to new or additional conditions.
- f. If any toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under CWA § 307(a) for a toxic pollutant which is present in the discharge and that standard or prohibition is more stringent than any limitation on the pollutant in this permit, this permit shall be modified or revoked and reissued to conform to the toxic effluent standard or prohibition. The permittee shall comply with effluent standards or prohibitions established under CWA § 307(a) for toxic pollutants within the time provided in the

regulations that established those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

5. Permit Transfer

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

6. Relationship to Hazardous Waste Activities

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

7. Relationship to Water Rights

Disposal of treated effluent by any means other than discharge directly to water in the state must be specifically authorized in this permit and may require a permit pursuant to TWC Chapter 11.

8. Property Rights

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

9. Permit Enforceability

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

10. Relationship to Permit Application

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

11. Notice of Bankruptcy

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

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

OPERATIONAL REQUIREMENTS

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

TAC Chapter 21. Failure to pay the fee may result in revocation of this permit under TWC § 7.302(b)(6).

7. Documentation

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

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

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

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

- b. The plans and specifications for domestic sewage collection and treatment works associated with any domestic permit must be approved by the Commission and failure to secure approval before commencing construction of such works or making a discharge is a violation of this permit and each day is an additional violation until approval has been secured.

- c. Permits for domestic wastewater treatment plants are granted subject to the policy of the Commission to encourage the development of area-wide waste collection, treatment, and disposal systems. The Commission reserves the right to amend any domestic wastewater permit in accordance with applicable procedural requirements to require the system covered by this permit to be integrated into an area-wide system, should such be developed; to require the delivery of the wastes authorized to be collected in, treated by or discharged from said system, to such area-wide system; or to amend this permit in any other particular to effectuate the Commission's policy. Such amendments may be made when the changes required are advisable for water quality control purposes and are feasible on the basis of waste treatment technology, engineering, financial, and related considerations existing at the time the changes are required, exclusive of the loss of investment in or revenues from any then existing or proposed waste collection, treatment or disposal system.
9. Domestic wastewater treatment plants shall be operated and maintained by sewage plant operators holding a valid certificate of competency at the required level as defined in 30 TAC Chapter 30.
10. For Publicly Owned Treatment Works (POTWs), the 30-day average (or monthly average) percent removal for BOD and TSS shall not be less than 85%, unless otherwise authorized by this permit.
11. Facilities that generate industrial solid waste as defined in 30 TAC § 335.1 shall comply with these provisions:
 - a. Any solid waste, as defined in 30 TAC § 335.1 (including but not limited to such wastes as garbage, refuse, sludge from a waste treatment, water supply treatment plant or air pollution control facility, discarded materials, discarded materials to be recycled, whether the waste is solid, liquid, or semisolid), generated by the permittee during the management and treatment of wastewater, must be managed in accordance with all applicable provisions of 30 TAC Chapter 335, relating to Industrial Solid Waste Management.
 - b. Industrial wastewater that is being collected, accumulated, stored, or processed before discharge through any final discharge outfall, specified by this permit, is considered to be industrial solid waste until the wastewater passes through the actual point source discharge and must be managed in accordance with all applicable provisions of 30 TAC Chapter 335.
 - c. The permittee shall provide written notification, pursuant to the requirements of 30 TAC § 335.8(b)(1), to the Corrective Action Section (MC 127) of the Remediation Division informing the Commission of any closure activity involving an Industrial Solid Waste Management Unit, at least 90 days prior to conducting such an activity.
 - d. Construction of any industrial solid waste management unit requires the prior written notification of the proposed activity to the Registration and Reporting Section (MC 129) of the Permitting and Registration Support Division. No person shall dispose of industrial solid waste, including sludge or other solids from wastewater treatment processes, prior to fulfilling the deed recordation requirements of 30 TAC § 335.5.
 - e. The term "industrial solid waste management unit" means a landfill, surface impoundment, waste-pile, industrial furnace, incinerator, cement kiln, injection well,

container, drum, salt dome waste containment cavern, or any other structure vessel, appurtenance, or other improvement on land used to manage industrial solid waste.

- f. The permittee shall keep management records for all sludge (or other waste) removed from any wastewater treatment process. These records shall fulfill all applicable requirements of 30 TAC § 335 and must include the following, as it pertains to wastewater treatment and discharge:
 - i. Volume of waste and date(s) generated from treatment process;
 - ii. Volume of waste disposed of on-site or shipped off-site;
 - iii. Date(s) of disposal;
 - iv. Identity of hauler or transporter;
 - v. Location of disposal site; and
 - vi. Method of final disposal.

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

12. For industrial facilities to which the requirements of 30 TAC § 335 do not apply, sludge and solid wastes, including tank cleaning and contaminated solids for disposal, shall be disposed of in accordance with THSC § 361.

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SLUDGE PROVISIONS

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

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

A. General Requirements

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

B. Testing Requirements

1. Sewage sludge or biosolids shall be tested annually in accordance with the method specified in both 40 CFR Part 261, Appendix II and 40 CFR Part 268, Appendix I [Toxicity Characteristic Leaching Procedure (TCLP)] or other method that receives the prior approval of the TCEQ for the contaminants listed in 40 CFR Part 261.24, Table 1. Sewage sludge or biosolids failing this test shall be managed according to RCRA standards for generators of hazardous waste, and the waste's disposition must be in accordance with all applicable requirements for hazardous waste processing, storage, or disposal. Following failure of any TCLP test, the management or disposal of sewage sludge or biosolids at a facility other than an authorized hazardous waste processing, storage, or disposal facility shall be prohibited until such time as the permittee can demonstrate the sewage sludge or biosolids no longer exhibits the hazardous waste toxicity characteristics (as demonstrated by the results of the TCLP tests). A written report shall be provided to both the TCEQ Registration and Reporting Section (MC 129) of the Permitting and Registration Support Division and the Regional Director (MC Region 12) within seven (7) days after failing the TCLP Test.

The report shall contain test results, certification that unauthorized waste management has stopped, and a summary of alternative disposal plans that comply with RCRA standards for the management of hazardous waste. The report shall be addressed to: Director, Permitting and Registration Support Division (MC 129), Texas Commission on Environmental Quality, P.O. Box 13087, Austin, Texas 78711-3087. In addition, the permittee shall prepare an annual report on the results of all sludge toxicity testing. This annual report shall be submitted to the TCEQ Regional Office (MC Region 12) and the Enforcement Division (MC 224) by September 30th of each year. The permittee must submit this annual report using the online electronic reporting system available through the TCEQ website unless the permittee requests and obtains an electronic reporting waiver.

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

TABLE 1

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

* Dry weight basis

3. Pathogen Control

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

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

Alternative 1 - The temperature of the sewage sludge that is used or disposed shall be maintained at or above a specific value for a period of time. See 30 TAC § 312.82(a)(2)(A) for specific information;

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

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

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

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

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

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

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

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

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

criteria.

Alternative 1

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

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

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

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

- i. Prior to use or disposal, all the sewage sludge must have been generated from a

single location, except as provided in paragraph v. below;

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

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

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

viii. Public access to land with a low potential for public exposure shall be restricted for 30 days after application of biosolids.

ix. Land application of biosolids shall be in accordance with the buffer zone requirements found in 30 TAC § 312.44.

4. Vector Attraction Reduction Requirements

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

Alternative 1 - The mass of volatile solids in the sewage sludge shall be reduced by a minimum of 38%.

Alternative 2 - If Alternative 1 cannot be met for an anaerobically digested sludge, demonstration can be made by digesting a portion of the previously digested sludge anaerobically in the laboratory in a bench-scale unit for 40 additional days at a temperature between 30° and 37° Celsius. Volatile solids must be reduced by less than 17% to demonstrate compliance.

Alternative 3 - If Alternative 1 cannot be met for an aerobically digested sludge, demonstration can be made by digesting a portion of the previously digested sludge with percent solids of two percent or less aerobically in the laboratory in a bench-scale unit for 30 additional days at 20° Celsius. Volatile solids must be reduced by less than 15% to demonstrate compliance.

Alternative 4 - The specific oxygen uptake rate (SOUR) for sewage sludge treated in an aerobic process shall be equal to or less than 1.5 milligrams of oxygen per hour per gram of total solids (dry weight basis) at a temperature of 20° Celsius.

Alternative 5 - Sewage sludge shall be treated in an aerobic process for 14 days or longer. During that time, the temperature of the sewage sludge shall be higher than 40° Celsius and the average temperature of the sewage sludge shall be higher than 45° Celsius.

Alternative 6 - The pH of sewage sludge shall be raised to 12 or higher by alkali addition and, without the addition of more alkali shall remain at 12 or higher for two hours and then remain at a pH of 11.5 or higher for an additional 22 hours at the time the sewage sludge is prepared for sale or given away in a bag or other container.

Alternative 7 - The percent solids of sewage sludge that does not contain unstabilized solids generated in a primary wastewater treatment process shall be equal to or greater than 75% based on the moisture content and total solids prior to mixing with other materials. Unstabilized solids are defined as organic materials in sewage sludge that have not been treated in either an aerobic or anaerobic treatment process.

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

Alternative 9 -

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

Alternative 10 -

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

C. Monitoring Requirements

Toxicity Characteristic Leaching Procedure (TCLP) Test	- annually
PCBs	- annually

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

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

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

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

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

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

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

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

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

A. Pollutant Limits

Table 2

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

Table 3

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

*Dry weight basis

B. Pathogen Control

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

C. Management Practices

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

D. Notification Requirements

1. If bulk biosolids are applied to land in a State other than Texas, written notice shall be provided prior to the initial land application to the permitting authority for the State in which the bulk biosolids are proposed to be applied. The notice shall include:
 - a. The location, by street address, and specific latitude and longitude, of each land application site.
 - b. The approximate time period bulk biosolids will be applied to the site.
 - c. The name, address, telephone number, and National Pollutant Discharge Elimination System permit number (if appropriate) for the person who will apply the bulk biosolids.
2. The permittee shall give 180 days prior notice to the Executive Director in care of the Domestic Wastewater Section (MC 148) of the Water Quality Division of any change planned in the biosolids disposal practice.

E. Record Keeping Requirements

The documents will be retained at the facility site and/or shall be readily available for review by a TCEQ representative. The person who prepares bulk sewage sludge or a biosolids material shall develop the following information and shall retain the information at the facility site and/or shall be readily available for review by a TCEQ representative for a

period of five years. If the permittee supplies the sludge to another person who land applies the sludge, the permittee shall notify the land applier of the requirements for record keeping found in 30 TAC § 312.47 for persons who land apply.

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

“I certify, under penalty of law, that the applicable pathogen requirements in 30 TAC § 312.82(a) or (b) and the vector attraction reduction requirements in 30 TAC § 312.83(b) have been met for each site on which bulk biosolids are applied. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the management practices have been met. I am aware that there are significant penalties for false certification including fine and imprisonment.”

6. The recommended agronomic loading rate from the references listed in Section II.C.3. above, as well as the actual agronomic loading rate shall be retained. The person who applies bulk biosolids shall develop the following information and shall retain the information at the facility site and/or shall be readily available for review by a TCEQ representative indefinitely. If the permittee supplies the sludge to another person who land applies the sludge, the permittee shall notify the land applier of the requirements for record keeping found in 30 TAC § 312.47 for persons who land apply:
 - a. A certification statement that all applicable requirements (specifically listed) have been met, and that the permittee understands that there are significant penalties for false certification including fine and imprisonment. See 30 TAC § 312.47(a)(4)(A)(ii) or 30 TAC § 312.47(a)(5)(A)(ii), as applicable, and to the permittee's specific sludge treatment activities.
 - b. The location, by street address, and specific latitude and longitude, of each site on which biosolids are applied.
 - c. The number of acres in each site on which bulk biosolids are applied.
 - d. The date and time biosolids are applied to each site.
 - e. The cumulative amount of each pollutant in pounds/acre listed in Table 2 applied to each site.
 - f. The total amount of biosolids applied to each site in dry tons.

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

F. Reporting Requirements

The permittee shall report annually to the TCEQ Regional Office (MC Region 12) and the Enforcement Division (MC 224), by September 30th of each year the following information. The permittee must submit this annual report using the online electronic reporting system available through the TCEQ website unless the permittee requests and obtains an electronic reporting waiver.

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

16. Amount of sludge or biosolids transported in dry tons/year.
17. The certification statement listed in either 30 TAC § 312.47(a)(4)(A)(ii) or 30 TAC § 312.47(a)(5)(A)(ii) as applicable to the permittee's sludge or biosolids treatment activities, shall be attached to the annual reporting form.
18. When the amount of any pollutant applied to the land exceeds 90% of the cumulative pollutant loading rate for that pollutant, as described in Table 2, the permittee shall report the following information as an attachment to the annual reporting form.
 - a. The location, by street address, and specific latitude and longitude.
 - b. The number of acres in each site on which bulk biosolids are applied.
 - c. The date and time bulk biosolids are applied to each site.
 - d. The cumulative amount of each pollutant (i.e., pounds/acre) listed in Table 2 in the bulk biosolids applied to each site.
 - e. The amount of biosolids (i.e., dry tons) applied to each site.

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

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

- A. The permittee shall handle and dispose of sewage sludge or biosolids in accordance with 30 TAC § 330 and all other applicable state and federal regulations to protect public health and the environment from any reasonably anticipated adverse effects due to any toxic pollutants that may be present. The permittee shall ensure that the sewage sludge meets the requirements in 30 TAC § 330 concerning the quality of the sludge or biosolids disposed in a municipal solid waste landfill.
- B. If the permittee generates sewage sludge and supplies that sewage sludge or biosolids to the owner or operator of a municipal solid waste landfill (MSWLF) for disposal, the permittee shall provide to the owner or operator of the MSWLF appropriate information needed to be in compliance with the provisions of this permit.
- C. The permittee shall give 180 days prior notice to the Executive Director in care of the Domestic Wastewater Section (MC 148) of the Water Quality Division of any change planned in the sewage sludge or biosolids disposal practice.
- D. Sewage sludge or biosolids shall be tested annually in accordance with the method specified in both 40 CFR Part 261, Appendix II and 40 CFR Part 268, Appendix I (Toxicity Characteristic Leaching Procedure) or other method, which receives the prior approval of the TCEQ for contaminants listed in Table 1 of 40 CFR § 261.24. Sewage sludge or biosolids failing this test shall be managed according to RCRA standards for generators of hazardous waste, and the waste's disposition must be in accordance with all applicable requirements for hazardous waste processing, storage, or disposal.

Following failure of any TCLP test, the management or disposal of sewage sludge or biosolids at a facility other than an authorized hazardous waste processing, storage, or disposal facility shall be prohibited until such time as the permittee can demonstrate the sewage sludge or biosolids no longer exhibits the hazardous waste toxicity characteristics (as demonstrated by the results of the TCLP tests). A written report shall be provided to both the TCEQ Registration and Reporting Section (MC 129) of the Permitting and Registration Support Division and the Regional Director (MC Region 12) of the appropriate TCEQ field office within 7 days after failing the TCLP Test.

The report shall contain test results, certification that unauthorized waste management has stopped, and a summary of alternative disposal plans that comply with RCRA standards for the management of hazardous waste. The report shall be addressed to: Director, Permitting and Registration Support Division (MC 129), Texas Commission on Environmental Quality, P. O. Box 13087, Austin, Texas 78711-3087. In addition, the permittee shall prepare an annual report on the results of all sludge toxicity testing. This annual report shall be submitted to the TCEQ Regional Office (MC Region 12) and the Enforcement Division (MC 224) by September 30 of each year.

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

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

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

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

G. Reporting Requirements

The permittee shall report annually to the TCEQ Regional Office (MC Region 12) and the Enforcement Division (MC 224) by September 30th of each year the following information. The permittee must submit this annual report using the online electronic reporting system available through the TCEQ website unless the permittee requests and obtains an electronic reporting waiver.

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

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

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

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

A. General Requirements

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

B. Record Keeping Requirements

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

C. Reporting Requirements

The permittee shall report the following information annually to the TCEQ Regional Office (MC Region 12) and the Enforcement Division (MC 224), by September 30th of each year. The permittee must submit this annual report using the online electronic reporting system available through the TCEQ website unless the permittee requests and obtains an electronic reporting waiver.

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

TCEQ Revision 06/2020

OTHER REQUIREMENTS

1. The permittee shall employ or contract with one or more licensed wastewater treatment facility operators or wastewater system operations companies holding a valid license or registration according to the requirements of 30 TAC Chapter 30, Occupational Licenses and Registrations, and in particular 30 TAC Chapter 30, Subchapter J, Wastewater Operators and Operations Companies.

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

2. The facility is not located in the Coastal Management Program boundary.
3. Chronic toxic criteria apply at the edge of the mixing zone. The mixing zone is defined as 300 feet downstream and 100 feet upstream from the point of discharge.
4. The permittee shall make provisions in the design of these facilities for the addition of effluent filters if future studies of the Houston Ship Channel show filtration to be necessary as an additional waste treatment process.
5. Reporting and monitoring requirements pursuant to 30 TAC §§ 319.1-319.11 for Total Kjeldahl Nitrogen (TKN) are suspended from the effective date of this permit. The Executive Director may request resumption of reporting and monitoring requirements within forty-five (45) days of written notice to the permittee.
6. Prior to the construction of the Interim II and Final phase treatment facilities, the permittee shall submit sufficient evidence of legal restrictions prohibiting residential structures within the part of the buffer zone not owned by the permittee according to 30 TAC § 309.13(e)(3). The evidence of legal restrictions shall be submitted to the Executive Director in care of the TCEQ Domestic Wastewater Section (MC 148). The permittee shall comply with the requirements of 30 TAC § 309.13(a) through (d). See Attachments B and C.
7. In accordance with 30 TAC § 319.9, a permittee that has at least twelve months of uninterrupted compliance with its bacteria limit may notify the commission in writing of its compliance and request a less frequent measurement schedule. To request a less frequent schedule, the permittee shall submit a written request to the TCEQ Domestic Wastewater Section (MC 148) for each phase that includes a different monitoring frequency. The request must contain all of the reported bacteria values (Daily Avg. and Daily Max/Single Grab) for the twelve consecutive months immediately prior to the request. If the Executive Director finds that a less frequent measurement schedule is protective of human health and the environment, the permittee may be given a less frequent measurement schedule. For this permit, one/week may be reduced to two/month in the Interim I, II phases and Final phases. **A violation of any bacteria limit by a facility that has been granted a less frequent measurement schedule will require the permittee to return to the standard frequency schedule and submit written notice to the TCEQ Domestic**

Wastewater Section (MC 148). The permittee may not apply for another reduction in measurement frequency for at least 24 months from the date of the last violation. The Executive Director may establish a more frequent measurement schedule if necessary to protect human health or the environment.

8. Prior to construction of the Interim II and Final phases treatment facilities, the permittee shall submit to the TCEQ Domestic Wastewater Section (MC 148) a summary transmittal letter in accordance with the requirements in 30 TAC § 217.6(d). If requested by the Domestic Wastewater Section, the permittee shall submit plans, specifications, and a final engineering design report which comply with 30 TAC Chapter 217, Design Criteria for Domestic Wastewater Systems. The permittee shall clearly show how the treatment system will meet the effluent limitations required on Pages 2a and 2b of this permit. A copy of the summary transmittal letter shall be available at the plant site for inspection by authorized representatives of the TCEQ.
9. The permittee shall notify the TCEQ Regional Office (MC Region 12) and the Applications Review and Processing Team (MC 148) of the Water Quality Division, as well as the Harris County Pollution Control Services Department, in writing at least forty-five days prior to the completion of the new facility on Notification of Completion Form 20007.
10. This facility is designed for batch discharge. Maximum 2-hour peak flow limits are not included in the permit. The permittee shall operate the disinfection facilities to ensure that the effluent complies with permit limits for bacteria and chlorine residual. This provision does not limit or restrict future inclusion of peak flow limits.

CONTRIBUTING INDUSTRIES AND PRETREATMENT REQUIREMENTS

1. The following pollutants may not be introduced into the treatment facility:
 - a. Pollutants which create a fire or explosion hazard in the publicly owned treatment works (POTW), including, but not limited to, waste streams with a closed-cup flash point of less than 140° Fahrenheit (60° Celsius) using the test methods specified in 40 CFR § 261.21;
 - b. Pollutants which will cause corrosive structural damage to the POTW, but in no case shall there be discharges with a pH lower than 5.0 standard units, unless the works are specifically designed to accommodate such discharges;
 - c. Solid or viscous pollutants in amounts which will cause obstruction to the flow in the POTW, resulting in Interference;
 - d. Any pollutant, including oxygen-demanding pollutants (e.g., biochemical oxygen demand), released in a discharge at a flow rate and/or pollutant concentration which will cause Interference with the POTW;
 - e. Heat in amounts which will inhibit biological activity in the POTW, resulting in Interference, but in no case shall there be heat in such quantities that the temperature at the POTW treatment plant exceeds 104° Fahrenheit (40° Celsius) unless the Executive Director, upon request of the POTW, approves alternate temperature limits;
 - f. Petroleum oil, nonbiodegradable cutting oil, or products of mineral oil origin in amounts that will cause Interference or Pass Through;
 - g. Pollutants which result in the presence of toxic gases, vapors, or fumes within the POTW in a quantity that may cause acute worker health and safety problems; and
 - h. Any trucked or hauled pollutants except at discharge points designated by the POTW.
2. The permittee shall require any indirect discharger to the treatment works to comply with the reporting requirements of Sections 204(b), 307, and 308 of the Clean Water Act, including any requirements established under 40 CFR Part 403 [*rev. Federal Register/ Vol. 70/ No. 198/ Friday, October 14, 2005/ Rules and Regulations, pages 60134-60798*].
3. The permittee shall provide adequate notification to the Executive Director, care of the Domestic Wastewater Section (MC 148) of the Water Quality Division, within 30 days subsequent to the permittee's knowledge of either of the following:
 - a. Any new introduction of pollutants into the treatment works from an indirect discharger which would be subject to Sections 301 and 306 of the Clean Water Act if it were directly discharging those pollutants; and
 - b. Any substantial change in the volume or character of pollutants being introduced into the treatment works by a source introducing pollutants into the treatment works at the time of issuance of the permit.

Any notice shall include information on the quality and quantity of effluent to be introduced into the treatment works and any anticipated impact of the change on the quality or quantity of effluent to be discharged from the POTW.

Revised July 2007

BIOMONITORING REQUIREMENTS**CHRONIC BIOMONITORING REQUIREMENTS: FRESHWATER**

The provisions of this section apply to Outfall 001 for whole effluent toxicity (WET) testing.

1. **Scope, Frequency, and Methodology**

- a. The permittee shall test the effluent for toxicity in accordance with the provisions below. Such testing will determine if an appropriately dilute effluent sample adversely affects the survival, reproduction, or growth of the test organisms.
- b. The permittee shall conduct the following toxicity tests using the test organisms, procedures, and quality assurance requirements specified in this part of this permit and in accordance with "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms," fourth edition (EPA-821-R-02-013) or its most recent update:
 - 1) Chronic static renewal survival and reproduction test using the water flea (*Ceriodaphnia dubia*) (Method 1002.0). This test should be terminated when 60% of the surviving adults in the control produce three broods or at the end of eight days, whichever occurs first. This test shall be conducted once per quarter.
 - 2) Chronic static renewal 7-day larval survival and growth test using the fathead minnow (*Pimephales promelas*) (Method 1000.0). A minimum of five replicates with eight organisms per replicate shall be used in the control and in each dilution. This test shall be conducted once per quarter.

The permittee must perform and report a valid test for each test species during the prescribed reporting period. An invalid test must be repeated during the same reporting period. An invalid test is defined as any test failing to satisfy the test acceptability criteria, procedures, and quality assurance requirements specified in the test methods and permit.

- c. The permittee shall use five effluent dilution concentrations and a control in each toxicity test. These effluent dilution concentrations are 23%, 31%, 41%, 55%, and 73% effluent. The critical dilution, defined as 55% effluent, is the effluent concentration representative of the proportion of effluent in the receiving water during critical low flow or critical mixing conditions.
- d. This permit may be amended to require a WET limit, a chemical-specific effluent limit, a best management practice, or other appropriate actions to address toxicity. The permittee may be required to conduct a toxicity reduction evaluation (TRE) after multiple toxic events.
- e. Should a test fail (i.e., demonstrate significant toxicity), the testing frequency for that test species increases to monthly until three consecutive tests pass (i.e., do not demonstrate significant toxicity), at which time the testing frequency of once per quarter resumes. If three or more failures are demonstrated during the

permit term for one or both test species, a WET limit will be included for that species in the subsequently reissued permit. Any two lethal failures in a three-month period will require the permittee to initiate a TRE (see Part 4. Toxicity Reduction Evaluation).

2. Required Toxicity Testing Conditions

- a. Test Acceptance - The permittee shall repeat any toxicity test, including the control and all effluent dilutions, which fail to meet the following criteria:
 - 1) a control mean survival of 80% or greater;
 - 2) a control mean number of water flea neonates per surviving adult of 15 or greater;
 - 3) a control mean dry weight of surviving fathead minnow larvae of 0.25 mg or greater;
 - 4) a control coefficient of variation percent (CV%) of 40 or less in between replicates for the young of surviving females in the water flea test; and the growth and survival endpoints in the fathead minnow test;
 - 5) a critical dilution CV% of 40 or less for the young of surviving females in the water flea test; and the growth and survival endpoints for the fathead minnow test. However, if statistically significant lethal or nonlethal effects are exhibited at the critical dilution, a CV% greater than 40 shall not invalidate the test;
 - 6) a percent minimum significant difference of 47 or less for water flea reproduction; and
 - 7) a percent minimum significant difference of 30 or less for fathead minnow growth.
- b. Statistical Interpretation
 - 1) For the water flea survival test, the statistical analyses used to determine if there is a significant difference between the control and an effluent dilution shall be the Fisher's exact test as described in the manual referenced in in Part 1.b.
 - 2) For the water flea reproduction test and the fathead minnow larval survival and growth tests, the statistical analyses used to determine if there is a significant difference between the control and an effluent dilution shall be in accordance with the manual referenced in Part 1.b.
 - 3) The permittee is responsible for reviewing test concentration-response relationships to ensure that calculated test-results are interpreted and reported correctly. The document entitled "Method Guidance and Recommendation for Whole Effluent Toxicity (WET) Testing (40 CFR Part 136)" (EPA 821-B-00-004) provides guidance on determining the

validity of test results.

- 4) If significant lethality is demonstrated (that is, there is a statistically significant difference in survival at the critical dilution when compared to the survival in the control), the conditions of test acceptability are met, and the survival of the test organisms are equal to or greater than 80% in the critical dilution and all dilutions below that, then the permittee shall report a survival No Observed Effect Concentration (NOEC) of not less than the critical dilution for the reporting requirements.
- 5) The NOEC is defined as the greatest effluent dilution at which no significant effect is demonstrated. The Lowest Observed Effect Concentration (LOEC) is defined as the lowest effluent dilution at which a significant effect is demonstrated. A significant effect is defined as a statistically significant difference between the survival, reproduction, or growth of the test organism in a specified effluent dilution when compared to the survival, reproduction, or growth of the test organism in the control.
- 6) The use of NOECs and LOECs assumes either a monotonic (continuous) concentration-response relationship or a threshold model of the concentration-response relationship. For any test result that demonstrates a non-monotonic (non-continuous) response, the NOEC should be determined based on the guidance manual referenced in Item 3.
- 7) Pursuant to the responsibility assigned to the permittee in Part 2.b.3), test results that demonstrate a non-monotonic (non-continuous) concentration-response relationship may be submitted, prior to the due date, for technical review. The guidance manual referenced in Item 3 will be used when making a determination of test acceptability.
- 8) TCEQ staff will review test results for consistency with rules, procedures, and permit requirements.

c. Dilution Water

- 1) Dilution water used in the toxicity tests must be the receiving water collected at a point upstream of the discharge point as close as possible to the discharge point but unaffected by the discharge. Where the toxicity tests are conducted on effluent discharges to receiving waters that are classified as intermittent streams, or where the toxicity tests are conducted on effluent discharges where no receiving water is available due to zero flow conditions, the permittee shall:
 - a) substitute a synthetic dilution water that has a pH, hardness, and alkalinity similar to that of the closest downstream perennial water unaffected by the discharge; or
 - b) use the closest downstream perennial water unaffected by the discharge.

- 2) Where the receiving water proves unsatisfactory as a result of pre-existing instream toxicity (i.e. fails to fulfill the test acceptance criteria of Part 2.a.), the permittee may substitute synthetic dilution water for the receiving water in all subsequent tests provided the unacceptable receiving water test met the following stipulations:
 - a) a synthetic lab water control was performed (in addition to the receiving water control) which fulfilled the test acceptance requirements of Part 2.a;
 - b) the test indicating receiving water toxicity was carried out to completion (i.e., 7 days); and
 - c) the permittee submitted all test results indicating receiving water toxicity with the reports and information required in Part 3.
 - 3) The synthetic dilution water shall consist of standard, moderately hard, reconstituted water. Upon approval, the permittee may substitute other appropriate dilution water with chemical and physical characteristics similar to that of the receiving water.
- d. Samples and Composites
- 1) The permittee shall collect a minimum of three composite samples from Outfall 001. The second and third composite samples will be used for the renewal of the dilution concentrations for each toxicity test.
 - 2) The permittee shall collect the composite samples such that the samples are representative of any periodic episode of chlorination, biocide usage, or other potentially toxic substance being discharged on an intermittent basis.
 - 3) The permittee shall initiate the toxicity tests within 36 hours after collection of the last portion of the first composite sample. The holding time for any subsequent composite sample shall not exceed 72 hours. Samples shall be maintained at a temperature of 0-6 degrees Centigrade during collection, shipping, and storage.
 - 4) If Outfall 001 ceases discharging during the collection of effluent samples, the requirements for the minimum number of effluent samples, the minimum number of effluent portions, and the sample holding time are waived during that sampling period. However, the permittee must have collected an effluent composite sample volume sufficient to complete the required toxicity tests with renewal of the effluent. When possible, the effluent samples used for the toxicity tests shall be collected on separate days if the discharge occurs over multiple days. The sample collection duration and the static renewal protocol associated with the abbreviated sample collection must be documented in the full report.
 - 5) The effluent samples shall not be dechlorinated after sample collection.

3. Reporting

All reports, tables, plans, summaries, and related correspondence required in this section shall be submitted to the attention of the Standards Implementation Team (MC 150) of the Water Quality Division.

- a. The permittee shall prepare a full report of the results of all tests conducted in accordance with the manual referenced in Part 1.b. for every valid and invalid toxicity test initiated whether carried to completion or not.
- b. The permittee shall routinely report the results of each biomonitoring test on the Table 1 forms provided with this permit.
 - 1) Annual biomonitoring test results are due on or before January 20th for biomonitoring conducted during the previous 12-month period.
 - 2) Semiannual biomonitoring test results are due on or before July 20th and January 20th for biomonitoring conducted during the previous 6-month period.
 - 3) Quarterly biomonitoring test results are due on or before April 20th, July 20th, October 20th, and January 20th for biomonitoring conducted during the previous calendar quarter.
 - 4) Monthly biomonitoring test results are due on or before the 20th day of the month following sampling.
- c. Enter the following codes for the appropriate parameters for valid tests only:
 - 1) For the water flea, Parameter TLP3B, enter a "1" if the NOEC for survival is less than the critical dilution; otherwise, enter a "0."
 - 2) For the water flea, Parameter TOP3B, report the NOEC for survival.
 - 3) For the water flea, Parameter TXP3B, report the LOEC for survival.
 - 4) For the water flea, Parameter TWP3B, enter a "1" if the NOEC for reproduction is less than the critical dilution; otherwise, enter a "0."
 - 5) For the water flea, Parameter TPP3B, report the NOEC for reproduction.
 - 6) For the water flea, Parameter TYP3B, report the LOEC for reproduction.
 - 7) For the fathead minnow, Parameter TLP6C, enter a "1" if the NOEC for survival is less than the critical dilution; otherwise, enter a "0."
 - 8) For the fathead minnow, Parameter TOP6C, report the NOEC for survival.
 - 9) For the fathead minnow, Parameter TXP6C, report the LOEC for survival.
 - 10) For the fathead minnow, Parameter TWP6C, enter a "1" if the NOEC for

growth is less than the critical dilution; otherwise, enter a "o."

11) For the fathead minnow, Parameter TPP6C, report the NOEC for growth.

12) For the fathead minnow, Parameter TYP6C, report the LOEC for growth.

d. Enter the following codes for retests only:

1) For retest number 1, Parameter 22415, enter a "1" if the NOEC for survival is less than the critical dilution; otherwise, enter a "o."

2) For retest number 2, Parameter 22416, enter a "1" if the NOEC for survival is less than the critical dilution; otherwise, enter a "o."

4. Persistent Toxicity

The requirements of this Part apply only when a test demonstrates a significant effect at the critical dilution. Significant lethality and significant effect were defined in Part 2.b. Significant sublethality is defined as a statistically significant difference in growth/reproduction at the critical dilution when compared to the growth/reproduction in the control.

a. The permittee shall conduct a total of 2 additional tests (retests) for any species that demonstrates a significant effect (lethal or sublethal) at the critical dilution. The two retests shall be conducted monthly during the next two consecutive months. The permittee shall not substitute either of the two retests in lieu of routine toxicity testing. All reports shall be submitted within 20 days of test completion. Test completion is defined as the last day of the test.

b. If the retests are performed due to a demonstration of significant lethality, and one or both of the two retests specified in Part 4.a. demonstrates significant lethality, the permittee shall initiate the TRE requirements as specified in Part 5. The provisions of Part 4.a. are suspended upon completion of the two retests and submittal of the TRE action plan and schedule defined in Part 5.

If neither test demonstrates significant lethality and the permittee is testing under the reduced testing frequency provision of Part 1.e., the permittee shall return to a quarterly testing frequency for that species.

c. If the two retests are performed due to a demonstration of significant sublethality, and one or both of the two retests specified in Part 4.a. demonstrates significant lethality, the permittee shall again perform two retests as stipulated in Part 4.a.

d. If the two retests are performed due to a demonstration of significant sublethality, and neither test demonstrates significant lethality, the permittee shall continue testing at the quarterly frequency.

e. Regardless of whether retesting for lethal or sublethal effects, or a combination of the two, no more than one retest per month is required for a species.

5. Toxicity Reduction Evaluation

- a. Within 45 days of the retest that demonstrates significant lethality, or within 45 days of being so instructed due to multiple toxic events, the permittee shall submit a general outline for initiating a TRE. The outline shall include, but not be limited to, a description of project personnel, a schedule for obtaining consultants (if needed), a discussion of influent and effluent data available for review, a sampling and analytical schedule, and a proposed TRE initiation date.
- b. Within 90 days of the retest that demonstrates significant lethality, or within 90 days of being so instructed due to multiple toxic events, the permittee shall submit a TRE action plan and schedule for conducting a TRE. The plan shall specify the approach and methodology to be used in performing the TRE. A TRE is a step-wise investigation combining toxicity testing with physical and chemical analyses to determine actions necessary to eliminate or reduce effluent toxicity to a level not effecting significant lethality at the critical dilution. The TRE action plan shall describe an approach for the reduction or elimination of lethality for both test species defined in Part 1.b. At a minimum, the TRE action plan shall include the following:
 - 1) Specific Activities - The TRE action plan shall specify the approach the permittee intends to utilize in conducting the TRE, including toxicity characterizations, identifications, confirmations, source evaluations, treatability studies, and alternative approaches. When conducting characterization analyses, the permittee shall perform multiple characterizations and follow the procedures specified in the document entitled "Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I" (EPA/600/6-91/005F) or alternate procedures. The permittee shall perform multiple identifications and follow the methods specified in the documents entitled "Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity" (EPA/600/R-92/080) and "Methods for Aquatic Toxicity Identification Evaluations: Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity" (EPA/600/R-92/081). All characterization, identification, and confirmation tests shall be conducted in an orderly and logical progression;
 - 2) Sampling Plan - The TRE action plan should describe sampling locations, methods, holding times, chain of custody, and preservation techniques. The effluent sample volume collected for all tests shall be adequate to perform the toxicity characterization/identification/confirmation procedures and chemical-specific analyses when the toxicity tests show significant lethality. Where the permittee has identified or suspects a specific pollutant and source of effluent toxicity, the permittee shall conduct, concurrent with toxicity testing, chemical-specific analyses for the identified and suspected pollutant and source of effluent toxicity;
 - 3) Quality Assurance Plan - The TRE action plan should address record keeping and data evaluation, calibration and standardization, baseline tests, system blanks, controls, duplicates, spikes, toxicity persistence in

the samples, randomization, reference toxicant control charts, and mechanisms to detect artifactual toxicity; and

- 4) Project Organization - The TRE action plan should describe the project staff, project manager, consulting engineering services (where applicable), consulting analytical and toxicological services, etc.
- c. Within 30 days of submittal of the TRE action plan and schedule, the permittee shall implement the TRE.
- d. The permittee shall submit quarterly TRE activities reports concerning the progress of the TRE. The quarterly reports are due on or before April 20th, July 20th, October 20th, and January 20th. The report shall detail information regarding the TRE activities including:
- 1) results and interpretation of any chemical-specific analyses for the identified and suspected pollutant performed during the quarter;
 - 2) results and interpretation of any characterization, identification, and confirmation tests performed during the quarter;
 - 3) any data and substantiating documentation which identifies the pollutant(s) and source of effluent toxicity;
 - 4) results of any studies/evaluations concerning the treatability of the facility's effluent toxicity;
 - 5) any data that identifies effluent toxicity control mechanisms that will reduce effluent toxicity to the level necessary to meet no significant lethality at the critical dilution; and
 - 6) any changes to the initial TRE plan and schedule that are believed necessary as a result of the TRE findings.
- e. During the TRE, the permittee shall perform, at a minimum, quarterly testing using the more sensitive species. Testing for the less sensitive species shall continue at the frequency specified in Part 1.b.
- f. If the effluent ceases to effect significant lethality, i.e., there is a cessation of lethality, the permittee may end the TRE. A cessation of lethality is defined as no significant lethality for a period of 12 consecutive months with at least monthly testing. At the end of the 12 months, the permittee shall submit a statement of intent to cease the TRE and may then resume the testing frequency specified in Part 1.b.

This provision accommodates situations where operational errors and upsets, spills, or sampling errors triggered the TRE, in contrast to a situation where a single toxicant or group of toxicants cause lethality. This provision does not apply as a result of corrective actions taken by the permittee. Corrective actions are defined as proactive efforts that eliminate or reduce effluent toxicity. These include, but are not limited to, source reduction or elimination, improved

housekeeping, changes in chemical usage, and modifications of influent streams and effluent treatment.

The permittee may only apply this cessation of lethality provision once. If the effluent again demonstrates significant lethality to the same species, the permit will be amended to add a WET limit with a compliance period, if appropriate. However, prior to the effective date of the WET limit, the permittee may apply for a permit amendment removing and replacing the WET limit with an alternate toxicity control measure by identifying and confirming the toxicant and an appropriate control measure.

- g. The permittee shall complete the TRE and submit a final report on the TRE activities no later than 28 months from the last test day of the retest that confirmed significant lethal effects at the critical dilution. The permittee may petition the Executive Director (in writing) for an extension of the 28-month limit. However, to warrant an extension the permittee must have demonstrated due diligence in its pursuit of the toxicity identification evaluation/TRE and must prove that circumstances beyond its control stalled the toxicity identification evaluation/TRE. The report shall provide information pertaining to the specific control mechanism selected that will, when implemented, result in the reduction of effluent toxicity to no significant lethality at the critical dilution. The report shall also provide a specific corrective action schedule for implementing the selected control mechanism.
- h. Based on the results of the TRE and proposed corrective actions, this permit may be amended to modify the biomonitoring requirements, where necessary, require a compliance schedule for implementation of corrective actions, specify a WET limit, specify a best management practice, and specify a chemical-specific limit.
- i. Copies of any and all required TRE plans and reports shall also be submitted to the U.S. EPA Region 6 office, 6WQ-PO.

TABLE 1 (SHEET 1 OF 4)

BIOMONITORING REPORTING

CERIODAPHNIA DUBIA SURVIVAL AND REPRODUCTION

Dates and Times Date Time Date Time
 Composites No. 1 FROM: _____ TO: _____
 Collected No. 2 FROM: _____ TO: _____
 No. 3 FROM: _____ TO: _____

Test initiated: _____ am/pm _____ date

Dilution water used: _____ Receiving water _____ Synthetic Dilution water

NUMBER OF YOUNG PRODUCED PER ADULT AT END OF TEST

REP	Percent effluent					
	0%	23%	31%	41%	55%	73%
A						
B						
C						
D						
E						
F						
G						
H						
I						
J						
Survival Mean						
Total Mean						
CV%*						
PMSD						

*Coefficient of Variation = standard deviation x 100/mean (calculation based on young of the surviving adults)

Designate males (M), and dead females (D), along with number of neonates (x) released prior to death.

TABLE 1 (SHEET 2 OF 4)

CERIODAPHNIA DUBIA SURVIVAL AND REPRODUCTION TEST

1. Dunnett's Procedure or Steel's Many-One Rank Test or Wilcoxon Rank Sum Test (with Bonferroni adjustment) or t-test (with Bonferroni adjustment) as appropriate:

Is the mean number of young produced per adult significantly less than the number of young per adult in the control for the % effluent corresponding to significant nonlethal effects?

CRITICAL DILUTION (55%): _____ YES _____ NO

PERCENT SURVIVAL

Time of Reading	Percent effluent					
	0%	23%	31%	41%	55%	73%
24h						
48h						
End of Test						

2. Fisher's Exact Test:

Is the mean survival at test end significantly less than the control survival for the % effluent corresponding to lethality?

CRITICAL DILUTION (55%): _____ YES _____ NO

3. Enter percent effluent corresponding to each NOEC\LOEC below:

a.) NOEC survival = _____ % effluent

b.) LOEC survival = _____ % effluent

c.) NOEC reproduction = _____ % effluent

d.) LOEC reproduction = _____ % effluent

TABLE 1 (SHEET 3 OF 4)

BIOMONITORING REPORTING

FATHEAD MINNOW LARVAE GROWTH AND SURVIVAL

Dates and Times No. 1 FROM: _____ Date Time TO: _____ Date Time
 Composites
 Collected No. 2 FROM: _____ TO: _____
 No. 3 FROM: _____ TO: _____

Test initiated: _____ am/pm _____ date

Dilution water used: _____ Receiving water _____ Synthetic dilution water

FATHEAD MINNOW GROWTH DATA

Effluent Concentration	Average Dry Weight in replicate chambers					Mean Dry Weight	CV%*
	A	B	C	D	E		
0%							
23%							
31%							
41%							
55%							
73%							
PMSD							

* Coefficient of Variation = standard deviation x 100/mean

- Dunnett's Procedure or Steel's Many-One Rank Test or Wilcoxon Rank Sum Test (with Bonferroni adjustment) or t-test (with Bonferroni adjustment) as appropriate:

Is the mean dry weight (growth) at 7 days significantly less than the control's dry weight (growth) for the % effluent corresponding to significant nonlethal effects?

CRITICAL DILUTION (55%): _____ YES _____ NO

TABLE 1 (SHEET 4 OF 4)
BIOMONITORING REPORTING
FATHEAD MINNOW GROWTH AND SURVIVAL TEST
FATHEAD MINNOW SURVIVAL DATA

Effluent Concentration	Percent Survival in replicate chambers					Mean percent survival			CV%*
	A	B	C	D	E	24h	48h	7 day	
0%									
23%									
31%									
41%									
55%									
73%									

* Coefficient of Variation = standard deviation x 100/mean

2. Dunnett's Procedure or Steel's Many-One Rank Test or Wilcoxon Rank Sum Test (with Bonferroni adjustment) or t-test (with Bonferroni adjustment) as appropriate:

Is the mean survival at 7 days significantly less than the control survival for the % effluent corresponding to lethality?

CRITICAL DILUTION (55%): _____ YES _____ NO

3. Enter percent effluent corresponding to each NOEC\LOEC below:

a.) NOEC survival = _____ % effluent

b.) LOEC survival = _____ % effluent

c.) NOEC growth = _____ % effluent

d.) LOEC growth = _____ % effluent

24-HOUR ACUTE BIOMONITORING REQUIREMENTS: FRESHWATER

The provisions of this section apply to Outfall 001 for whole effluent toxicity (WET) testing.

1. Scope, Frequency, and Methodology

- a. The permittee shall test the effluent for lethality in accordance with the provisions in this section. Such testing will determine compliance with Texas Surface Water Quality Standard 30 TAC § 307.6(e)(2)(B), which requires greater than 50% survival of the appropriate test organisms in 100% effluent for a 24-hour period.
- b. The toxicity tests specified shall be conducted once per six months. The permittee shall conduct the following toxicity tests using the test organisms, procedures, and quality assurance requirements specified in this section of the permit and in accordance with "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms," fifth edition (EPA-821-R-02-012) or its most recent update:
 - 1) Acute 24-hour static toxicity test using the water flea (*Daphnia pulex* or *Ceriodaphnia dubia*). A minimum of five replicates with eight organisms per replicate shall be used in the control and each dilution.
 - 2) Acute 24-hour static toxicity test using the fathead minnow (*Pimephales promelas*). A minimum of five replicates with eight organisms per replicate shall be used in the control and each dilution.

A valid test result must be submitted for each reporting period. The permittee must report, and then repeat, an invalid test during the same reporting period. The repeat test shall include the control and the 100% effluent dilution and use the appropriate number of organisms and replicates, as specified above. An invalid test is defined as any test failing to satisfy the test acceptability criteria, procedures, and quality assurance requirements specified in the test methods and permit.

- c. In addition to an appropriate control, a 100% effluent concentration shall be used in the toxicity tests. The control and dilution water shall consist of standard, synthetic, moderately hard, reconstituted water.
 - d. This permit may be amended to require a WET limit, a best management practice, a chemical-specific limit, or other appropriate actions to address toxicity. The permittee may be required to conduct a toxicity reduction evaluation (TRE) after multiple toxic events.
2. Required Toxicity Testing Conditions
- a. Test Acceptance - The permittee shall repeat any toxicity test, including the control, if the control fails to meet a mean survival equal to or greater than 90%.
 - b. Dilution Water - In accordance with Part 1.c., the control and dilution water shall consist of standard, synthetic, moderately hard, reconstituted water.

c. Samples and Composites

- 1) The permittee shall collect one composite sample from Outfall 001.
- 2) The permittee shall collect the composite sample such that the sample is representative of any periodic episode of chlorination, biocide usage, or other potentially toxic substance being discharged.
- 3) The permittee shall initiate the toxicity tests within 36 hours after collection of the last portion of the composite sample. The sample shall be maintained at a temperature of 0-6 degrees Centigrade during collection, shipping, and storage.
- 4) If Outfall 001 ceases discharging during the collection of the effluent composite sample, the requirements for the minimum number of effluent portions are waived. However, the permittee must have collected a composite sample volume sufficient for completion of the required test. The abbreviated sample collection, duration, and methodology must be documented in the full report.
- 5) The effluent sample shall not be dechlorinated after sample collection.

3. Reporting

All reports, tables, plans, summaries, and related correspondence required in this section shall be submitted to the attention of the Standards Implementation Team (MC 150) of the Water Quality Division.

- a. The permittee shall prepare a full report of the results of all tests conducted in accordance with the manual referenced in Part 1.b. for every valid and invalid toxicity test initiated.
- b. The permittee shall routinely report the results of each biomonitoring test on the Table 2 forms provided with this permit.
 - 1) Semiannual biomonitoring test results are due on or before July 20th and January 20th for biomonitoring conducted during the previous 6-month period.
 - 2) Quarterly biomonitoring test results are due on or before April 20th, July 20th, and October 20th, and January 20th for biomonitoring conducted during the previous calendar quarter.
- c. Enter the following codes for the appropriate parameters for valid tests only:
 - 1) For the water flea, Parameter TIE3D, enter a "0" if the mean survival at 24 hours is greater than 50% in the 100% effluent dilution; if the mean survival is less than or equal to 50%, enter a "1."
 - 2) For the fathead minnow, Parameter TIE6C, enter a "0" if the mean

survival at 24 hours is greater than 50% in the 100% effluent dilution; if the mean survival is less than or equal to 50%, enter a "1."

d. Enter the following codes for retests only:

- 1) For retest number 1, Parameter 22415, enter a "0" if the mean survival at 24 hours is greater than 50% in the 100% effluent dilution; if the mean survival is less than or equal to 50%, enter a "1."
- 2) For retest number 2, Parameter 22416, enter a "0" if the mean survival at 24 hours is greater than 50% in the 100% effluent dilution; if the mean survival is less than or equal to 50%, enter a "1."

4. Persistent Mortality

The requirements of this part apply when a toxicity test demonstrates significant lethality, which is defined as a mean mortality of 50% or greater of organisms exposed to the 100% effluent concentration for 24 hours.

- a. The permittee shall conduct 2 additional tests (retests) for each species that demonstrates significant lethality. The two retests shall be conducted once per week for 2 weeks. Five effluent dilution concentrations in addition to an appropriate control shall be used in the retests. These effluent concentrations are 6%, 13%, 25%, 50% and 100% effluent. The first retest shall be conducted within 15 days of the laboratory determination of significant lethality. All test results shall be submitted within 20 days of test completion of the second retest. Test completion is defined as the 24th hour.
- b. If one or both of the two retests specified in Part 4.a. demonstrates significant lethality, the permittee shall initiate the TRE requirements as specified in Part 5.

5. Toxicity Reduction Evaluation

- a. Within 45 days of the retest that demonstrates significant lethality, the permittee shall submit a general outline for initiating a TRE. The outline shall include, but not be limited to, a description of project personnel, a schedule for obtaining consultants (if needed), a discussion of influent and effluent data available for review, a sampling and analytical schedule, and a proposed TRE initiation date.
- b. Within 90 days of the retest that demonstrates significant lethality, the permittee shall submit a TRE action plan and schedule for conducting a TRE. The plan shall specify the approach and methodology to be used in performing the TRE. A TRE is a step-wise investigation combining toxicity testing with physical and chemical analyses to determine actions necessary to eliminate or reduce effluent toxicity to a level not effecting significant lethality at the critical dilution. The TRE action plan shall lead to the successful elimination of significant lethality for both test species defined in Part 1.b. At a minimum, the TRE action plan shall include the following:
 - 1) Specific Activities - The TRE action plan shall specify the approach the permittee intends to utilize in conducting the TRE, including toxicity

characterizations, identifications, confirmations, source evaluations, treatability studies, and alternative approaches. When conducting characterization analyses, the permittee shall perform multiple characterizations and follow the procedures specified in the document entitled "Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures" (EPA/600/6-91/003) or alternate procedures. The permittee shall perform multiple identifications and follow the methods specified in the documents entitled "Methods for Aquatic Toxicity Identification Evaluations: Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity" (EPA/600/R-92/080) and "Methods for Aquatic Toxicity Identification Evaluations: Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity" (EPA/600/R-92/081). All characterization, identification, and confirmation tests shall be conducted in an orderly and logical progression;

- 2) Sampling Plan - The TRE action plan should describe sampling locations, methods, holding times, chain of custody, and preservation techniques. The effluent sample volume collected for all tests shall be adequate to perform the toxicity characterization/identification/confirmation procedures and chemical-specific analyses when the toxicity tests show significant lethality. Where the permittee has identified or suspects specific pollutant and source of effluent toxicity, the permittee shall conduct, concurrent with toxicity testing, chemical-specific analyses for the identified and suspected pollutant and source of effluent toxicity;
 - 3) Quality Assurance Plan - The TRE action plan should address record keeping and data evaluation, calibration and standardization, baseline tests, system blanks, controls, duplicates, spikes, toxicity persistence in the samples, randomization, reference toxicant control charts, and mechanisms to detect artifactual toxicity; and
 - 4) Project Organization - The TRE Action Plan should describe the project staff, project manager, consulting engineering services (where applicable), consulting analytical and toxicological services, etc.
- c. Within 30 days of submittal of the TRE action plan and schedule, the permittee shall implement the TRE.
- d. The permittee shall submit quarterly TRE activities reports concerning the progress of the TRE. The quarterly TRE activities reports are due on or before April 20th, July 20th, October 20th, and January 20th. The report shall detail information regarding the TRE activities including:
- 1) results and interpretation of any chemical-specific analyses for the identified and suspected pollutant performed during the quarter;
 - 2) results and interpretation of any characterization, identification, and confirmation tests performed during the quarter;
 - 3) any data and substantiating documentation that identifies the pollutant

- and source of effluent toxicity;
 - 4) results of any studies/evaluations concerning the treatability of the facility's effluent toxicity;
 - 5) any data that identifies effluent toxicity control mechanisms that will reduce effluent toxicity to the level necessary to eliminate significant lethality; and
 - 6) any changes to the initial TRE plan and schedule that are believed necessary as a result of the TRE findings.
- e. During the TRE, the permittee shall perform, at a minimum, quarterly testing using the more sensitive species. Testing for the less sensitive species shall continue at the frequency specified in Part 1.b.
- f. If the effluent ceases to effect significant lethality, i.e., there is a cessation of lethality, the permittee may end the TRE. A cessation of lethality is defined as no significant lethality for a period of 12 consecutive weeks with at least weekly testing. At the end of the 12 weeks, the permittee shall submit a statement of intent to cease the TRE and may then resume the testing frequency specified in Part 1.b.

This provision accommodates situations where operational errors and upsets, spills, or sampling errors triggered the TRE, in contrast to a situation where a single toxicant or group of toxicants cause lethality. This provision does not apply as a result of corrective actions taken by the permittee. Corrective actions are defined as proactive efforts that eliminate or reduce effluent toxicity. These include, but are not limited to, source reduction or elimination, improved housekeeping, changes in chemical usage, and modifications of influent streams and effluent treatment.

The permittee may only apply this cessation of lethality provision once. If the effluent again demonstrates significant lethality to the same species, the permit will be amended to add a WET limit with a compliance period, if appropriate. However, prior to the effective date of the WET limit, the permittee may apply for a permit amendment removing and replacing the WET limit with an alternate toxicity control measure by identifying and confirming the toxicant and an appropriate control measure.

- g. The permittee shall complete the TRE and submit a final report on the TRE activities no later than 18 months from the last test day of the retest that demonstrates significant lethality. The permittee may petition the Executive Director (in writing) for an extension of the 18-month limit. However, to warrant an extension the permittee must have demonstrated due diligence in its pursuit of the toxicity identification evaluation/TRE and must prove that circumstances beyond its control stalled the toxicity identification evaluation/TRE. The report shall specify the control mechanism that will, when implemented, reduce effluent toxicity as specified in Part 5.h. The report shall also specify a corrective action schedule for implementing the selected control mechanism.

- h. Within 3 years of the last day of the test confirming toxicity, the permittee shall comply with 30 TAC § 307.6(e)(2)(B), which requires greater than 50% survival of the test organism in 100% effluent at the end of 24-hours. The permittee may petition the Executive Director (in writing) for an extension of the 3-year limit. However, to warrant an extension the permittee must have demonstrated due diligence in its pursuit of the toxicity identification evaluation/TRE and must prove that circumstances beyond its control stalled the toxicity identification evaluation/TRE.

The permittee may be exempted from complying with 30 TAC § 307.6(e)(2)(B) upon proving that toxicity is caused by an excess, imbalance, or deficiency of dissolved salts. This exemption excludes instances where individually toxic components (e.g., metals) form a salt compound. Following the exemption, this permit may be amended to include an ion-adjustment protocol, alternate species testing, or single species testing.

- i. Based upon the results of the TRE and proposed corrective actions, this permit may be amended to modify the biomonitoring requirements where necessary, require a compliance schedule for implementation of corrective actions, specify a WET limit, specify a best management practice, and specify a chemical-specific limit.
- j. Copies of any and all required TRE plans and reports shall also be submitted to the U.S. EPA Region 6 office, 6WQ-PO.

TABLE 2 (SHEET 1 OF 2)

WATER FLEA SURVIVAL

GENERAL INFORMATION

	Time	Date
Composite Sample Collected		
Test Initiated		

PERCENT SURVIVAL

Time	Rep	Percent effluent					
		0%	6%	13%	25%	50%	100%
24h	A						
	B						
	C						
	D						
	E						
	MEAN						

Enter percent effluent corresponding to the LC₅₀ below:

24 hour LC₅₀ = _____% effluent

TABLE 2 (SHEET 2 OF 2)
FATHEAD MINNOW SURVIVAL

GENERAL INFORMATION

	Time	Date
Composite Sample Collected		
Test Initiated		

PERCENT SURVIVAL

Time	Rep	Percent effluent					
		0%	6%	13%	25%	50%	100%
24h	A						
	B						
	C						
	D						
	E						
	MEAN						

Enter percent effluent corresponding to the LC₅₀ below:

24 hour LC₅₀ = _____% effluent

FACT SHEET AND EXECUTIVE DIRECTOR'S PRELIMINARY DECISION

For draft Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0012294001, EPA I.D. No. TX0085413, to discharge to water in the state.

Issuing Office: Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087

Applicant: Harris County Municipal Utility District No. 200
1300 Post Oak Boulevard, Suite 2400
Houston, Texas 77056

Prepared By: Sonia Bhuiya
Domestic Permits Team
Domestic Wastewater Section (MC 148)
Water Quality Division
(512) 239-1205

Date: November 7, 2025

Permit Action: Major Amendment with Renewal

1. EXECUTIVE DIRECTOR RECOMMENDATION

The Executive Director has made a preliminary decision that this permit, if issued, meets all statutory and regulatory requirements. The draft permit includes an expiration date of **three years from the date of issuance**.

2. APPLICANT ACTIVITY

The applicant has applied to the Texas Commission on Environmental Quality (TCEQ) for an amendment of the existing permit to authorize an increase in the discharge of treated domestic wastewater from an annual average flow not to exceed 1.44 million gallons per day (MGD) to an annual average flow not to exceed 1.90 MGD and the addition of an Interim II phase at an annual average flow not to exceed 1.60 MGD and relocation of the outfall approximately 140 feet upstream. The existing wastewater treatment facility serves Harris County Municipal Utility District No. 200.

3. FACILITY AND DISCHARGE LOCATION

The plant site is located at 13050 Stonefield Drive, in Harris County, Texas 77014.

Outfall Location (Old):

Outfall Number	Latitude	Longitude
001	29.972612 N	95.431053 W

Outfall Location(New):

Outfall Number	Latitude	Longitude
001	29.972861 N	95.431394 W

The treated effluent is discharged to Harris County Flood Control Drainage Ditch (HCFCD) P145-00-00, thence to Greens Bayou Above Tidal in Segment No. 1016 of the San Jacinto River Basin. The unclassified receiving water use is limited aquatic life use for HCFCD P145-00-00. The designated uses for Segment No. 1016 are primary contact recreation and limited aquatic life use.

4. TREATMENT PROCESS DESCRIPTION AND SEWAGE SLUDGE DISPOSAL

The Harris County MUD 200 The HCMUD No. 200 Wastewater Treatment Facility consists of two trains: one is an activated sludge process plant operated in the complete mix single stage nitrification mode and the other is a fixed-film biological growth process. The activated sludge treatment units include in the Interim I an aeration basin, a final clarifier, aerobic sludge digester, a chlorine contact chamber, and dechlorination chamber. The fixed-film treatment units include fine screens, seven shafts of rotating biological contactors, final clarifier, aerobic sludge digester, a chlorine contact chamber, and a dechlorination chamber common to both trains. Treatment units in the Interim II phase will include an on-site lift station, an elevated headworks with a mechanical fine screen and mechanical coarse and manual bar screen backups, four sequencing batch reactor process basins, a disinfection basin (chlorine mixing chamber, two chlorine contact channels, and dechlorination mixing chamber), two aerobic digesters, and a mechanical dewatering unit. The existing activated sludge treatment train will be abandoned in place. The existing fixed film biological growth basin and chlorine contact basin will be abandoned in place. The existing fixed film biological growth aerobic digester will remain in service and the existing secondary clarifier will be converted to an aerobic digester. The existing dewatering system will remain in service. The Treatment units in the Final phase will include the same process as Interim II Phase with an additional proposed SBR basin will be constructed to operate in parallel with the existing four SBR basins. The abandoned-in-place activated sludge treatment train will be converted to an aerobic digester. The facility is in the Interim I phase.

Sludge generated from the treatment facility is hauled by a registered transporter and disposed of at a TCEQ-authorized land application site, Carl Miller Farms 4, Permit No.WQ0004448000, in Waller County. The draft permit also authorizes the disposal of sludge at a TCEQ-authorized land application site, co-disposal landfill, wastewater treatment facility, or facility that further processes sludge.

5. INDUSTRIAL WASTE CONTRIBUTION

The draft permit includes pretreatment requirements that are appropriate for a facility of this size and complexity. The Harris County MUD 200 WWTP does not appear to receive significant industrial wastewater contributions. Based on the information provided by the permittee in the most recent TPDES permit application, the TCEQ determined that there are no significant industrial wastewater contributions currently being discharged to the permittee's POTW.

6. SUMMARY OF SELF-REPORTED EFFLUENT ANALYSES

The following is a summary of the applicant's effluent monitoring data for the period May 2019 through May 2025. The average of Daily Average value is computed by the averaging of all 30-day average values for the reporting period for each parameter: flow, five-day biochemical oxygen demand (BOD₅), total suspended solids (TSS), ammonia nitrogen (NH₃-N), and Total Kjeldahl Nitrogen (TKN). The average of Daily Average value for *Escherichia coli* (*E. coli*) in colony-forming units (CFU) or most probable number (MPN) per 100 ml is calculated via geometric mean.

<u>Parameter</u>	<u>Average of Daily Avg</u>
Flow, MGD	0.96
CBOD ₅ , mg/l	5.0
TSS, mg/l	3.9
NH ₃ -N, mg/l	3.8
<i>E. coli</i> , CFU or MPN per 100 ml	2.0

7. DRAFT PERMIT CONDITIONS AND MONITORING REQUIREMENTS

The effluent limitations and monitoring requirements for those parameters that are limited in the draft permit are as follows:

A. INTERIM I PHASE EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The daily average annual average flow of effluent shall not exceed 1.44 MGD, nor shall the average discharge during any two-hour period (2-hour peak) exceed 4,000 gallons per minute.

<u>Parameter</u>	<u>30-Day Average</u>		<u>7-Day Average</u>	<u>Daily Maximum</u>
	<u>mg/l</u>	<u>lbs/day</u>	<u>mg/l</u>	<u>mg/l</u>
BOD ₅	10	120	15	25
TSS	15	180	25	40
NH ₃ -N	Report	Report	N/A	Report
TKN	Report	Report	N/A	Report
DO (minimum)	4.0	N/A	N/A	N/A
<i>E. coli</i> , CFU or MPN per 100 ml	63	N/A	N/A	200

The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored once per week by grab sample. There shall be no discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.

The effluent shall contain a total chlorine residual of at least 1.0 mg/l after a detention time of at least 20 minutes (based on peak flow) and shall be monitored daily by grab sample. The permittee shall dechlorinate the chlorinated effluent to less than 0.1 mg/l total chlorine residual and shall monitor total chlorine residual daily by grab sample after the dechlorination process. An equivalent method of disinfection may be substituted only with prior approval of

the Executive Director.

<u>Parameter</u>	<u>Monitoring Requirement</u>
Flow, MGD	Continuous
BOD ₅	Two/week
TSS	Two/week
NH ₃ -N	Two/week
TKN	Two/week
DO	Two/week
<i>E. coli</i>	One/week

B. INTERIM II PHASE EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The daily average annual average flow of effluent shall not exceed 1.60 MGD.

<u>Parameter</u>	<u>30-Day Average</u>		<u>7-Day Average</u>	<u>Daily Maximum</u>
	<u>mg/l</u>	<u>lbs/day</u>	<u>mg/l</u>	<u>mg/l</u>
CBOD ₅	10	133	15	25
TSS	15	200	25	40
NH ₃ -N	2	27	5	10
TKN	Report	Report	N/A	Report
DO (minimum)	4.0	N/A	N/A	N/A
<i>E. coli</i> , CFU or MPN per 100 ml	63	N/A	N/A	200

The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored once per week by grab sample. There shall be no discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.

The effluent shall contain a total chlorine residual of at least 1.0 mg/l after a detention time of at least 20 minutes (based on daily average flow) and shall be monitored daily by grab sample. The permittee shall dechlorinate the chlorinated effluent to less than 0.1 mg/l total chlorine residual and shall monitor total chlorine residual daily by grab sample after the dechlorination process. An equivalent method of disinfection may be substituted only with prior approval of the Executive Director.

<u>Parameter</u>	<u>Monitoring Requirement</u>
Flow, MGD	Continuous
CBOD ₅	Two/week
TSS	Two/week
NH ₃ -N	Two/week
TKN	Two/week
DO	Two/week
<i>E. coli</i>	One/week

C. FINAL PHASE EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The annual average flow of effluent shall not exceed 1.9 MGD.

<u>Parameter</u>	<u>30-Day Average</u>		<u>7-Day Average</u>	<u>Daily Maximum</u>
	<u>mg/l</u>	<u>lbs/day</u>	<u>mg/l</u>	<u>mg/l</u>
CBOD ₅	10	158	15	25
TSS	15	238	25	40
NH ₃ -N	2	32	5	10
TKN	Report	Report	N/A	Report
DO (minimum)	4.0	N/A	N/A	N/A
<i>E. coli</i> , CFU or MPN/100 ml	63	N/A	N/A	200

The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored once per week by grab sample. There shall be no discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.

The effluent shall contain a total chlorine residual of at least 1.0 mg/l after a detention time of at least 20 minutes (based on daily average) and shall be monitored daily by grab sample. The permittee shall dechlorinate the chlorinated effluent to less than 0.1 mg/l total chlorine residual and shall monitor total chlorine residual daily by grab sample after the dechlorination process. An equivalent method of disinfection may be substituted only with prior approval of the Executive Director.

<u>Parameter</u>	<u>Monitoring Requirement</u>
Flow, MGD	Continuous
CBOD ₅	Two/week
TSS	Two/week
NH ₃ -N	Two/week
TKN	Two/week
DO	Two/week
<i>E. coli</i>	One/week

D. SEWAGE SLUDGE REQUIREMENTS

The draft permit includes Sludge Provisions according to the requirements of 30 TAC Chapter 312, Sludge Use, Disposal, and Transportation. Sludge generated from the treatment facility is hauled by a registered transporter and disposed of at a TCEQ-authorized land application site, Carl Miller Farms 4, Permit No. WQ0004448000, in Waller County. The draft permit also authorizes the disposal of sludge at a TCEQ-authorized land application site, co-disposal landfill, wastewater treatment facility, or facility that further processes sludge.

E. PRETREATMENT REQUIREMENTS

Permit requirements for pretreatment are based on TPDES regulations contained in 30 TAC Chapter 305, which references 40 Code of Federal Regulations (CFR) Part 403, "General Pretreatment Regulations for Existing and New Sources of

Pollution" [rev. Federal Register/ Vol. 70/ No. 198/ Friday, October 14, 2005/ Rules and Regulations, pages 60134-60798]. The permit includes specific requirements that establish responsibilities of local government, industry, and the public to implement the standards to control pollutants which pass through or interfere with treatment processes in publicly owned treatment works or which may contaminate the sewage sludge. This permit has appropriate pretreatment language for a facility of this size and complexity.

F. WHOLE EFFLUENT TOXICITY (BIOMONITORING) REQUIREMENTS

- (1) The draft permit includes chronic freshwater biomonitoring requirements as follows. The permit requires five dilutions in addition to the control (0% effluent) to be used in the toxicity tests. These additional effluent concentrations shall be 23%, 31%, 41%, 55%, and 73% and 55%. The low-flow effluent concentration (critical dilution) is defined as 55% effluent. The critical dilution is in accordance with the "Aquatic Life Criteria" section of the "Water Quality Based Effluent Limitations/Conditions" section.
 - (a) Chronic static renewal survival and reproduction test using the water flea (*Ceriodaphnia dubia*). The frequency of the testing is once per quarter for at least the first year of testing, after which the permittee may apply for a testing frequency reduction.
 - (b) Chronic static renewal 7-day larval survival and growth test using the fathead minnow (*Pimephales promelas*). The frequency of the testing is once per quarter for at least the first year of testing, after which the permittee may apply for a testing frequency reduction.
- (2) The draft permit includes the following minimum 24-hour acute freshwater biomonitoring requirements at a frequency of once per quarter:
 - (a) Acute 24-hour static toxicity test using the water flea (*Daphnia pulex* or *Ceriodaphnia dubia*).
 - (b) Acute 24-hour static toxicity test using the fathead minnow (*Pimephales promelas*).

G. SUMMARY OF CHANGES FROM APPLICATION

None.

H. SUMMARY OF CHANGES FROM EXISTING PERMIT

The Standard Permit Conditions, Sludge Provisions, Other Requirements, and Biomonitoring sections of the draft permit have been updated.

Other Requirements No. 6, 8, 9, and 10 have been added to the draft permit based on the addition of the Interim II and Final phases.

Attachments A, B, and C have been added to the draft permit for the Outfall locations and Buffer Zone Maps.

With the two failures by the water flea, and one failure by the fathead minnow, a determination of no RP was made. WET limits are not required. A three-year permit will be issued in accordance with the reasonable potential determination per 40 CFR §122.44(d)(1)(ii).

Permittee has applied for a major amendment to authorize an increase in the discharge of treated domestic wastewater from an annual average flow not to exceed 1.44 MGD to an annual average flow not to exceed 1.90 MGD and the addition of an Interim II phase at an annual average flow not to exceed 1.60 MGD and relocation of the outfall approximately 140 feet upstream.

For Publicly Owned Treatment Works (POTWs), effective December 21, 2025, the permittee must submit the written report for unauthorized discharges and unanticipated bypasses that exceed any effluent limit in the permit using the online electronic reporting system available through the TCEQ website unless the permittee requests and obtains an electronic reporting waiver.

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

8. DRAFT PERMIT RATIONALE

A. TECHNOLOGY-BASED EFFLUENT LIMITATIONS/CONDITIONS

Regulations promulgated in Title 40 of the CFR require that technology-based limitations be placed in wastewater discharge permits based on effluent limitations guidelines, where applicable, or on best professional judgment (BPJ) in the absence of guidelines.

Effluent limitations for maximum and minimum pH are in accordance with 40 CFR § 133.102(c) and 30 TAC § 309.1(b).

B. WATER QUALITY SUMMARY AND COASTAL MANAGEMENT PLAN

(1) WATER QUALITY SUMMARY

The treated effluent is discharged to HCFCDD P145-00-00, thence to Greens Bayou Above Tidal in Segment No. 1016 of the San Jacinto River Basin. The unclassified receiving water use is limited aquatic life use for HCFCDD P145-00-00. The designated uses for Segment No. 1016 are primary contact recreation and limited aquatic life use. The effluent limitations in the draft permit will maintain and protect the existing instream uses. In accordance with 30 Texas Administrative Code § 307.5 and the TCEQ's *Procedures to Implement the Texas Surface Water Quality Standards* (June 2010), an antidegradation review of the receiving waters was performed. A Tier 1 antidegradation review has preliminarily determined that existing water quality uses will not be

impaired by this permit action. Numerical and narrative criteria to protect existing uses will be maintained. A Tier 2 review is not required since no exceptional, high, or intermediate aquatic life use water bodies have been identified in the discharge route. Existing uses will be maintained and protected. The preliminary determination can be reexamined and may be modified if new information is received. All determinations are preliminary and subject to additional review and/or revisions.

The discharge from this permit action is not expected to have an effect on any federal endangered or threatened aquatic or aquatic-dependent species or proposed species or their critical habitat. This determination is based on the United States Fish and Wildlife Service's (USFWS's) biological opinion on the State of Texas authorization of the TPDES (September 14, 1998; October 21, 1998, update). To make this determination for TPDES permits, TCEQ and EPA only considered aquatic or aquatic-dependent species occurring in watersheds of critical concern or high priority as listed in Appendix A of the USFWS biological opinion. The determination is subject to reevaluation due to subsequent updates or amendments to the biological opinion. The permit does not require EPA review with respect to the presence of endangered or threatened species.

Segment No. 1016 is not currently listed on the State's inventory of impaired and threatened waters (the 2022 Clean Water Act Section 303(d) list).

The pollutant analysis of treated effluent provided by the permittee in the application indicated 422mg/l total dissolved solids (TDS), 29.5 mg/l sulfate, and 71.6 mg/l chloride present in the effluent. The segment criteria for Segment No. 1016 are 10 mg/l for TDS, 10 mg/l for sulfate, and 43 mg/l for chlorides. Based on dissolved solids screening, no additional limits or monitoring requirements are needed for total dissolved solids, chloride, or sulfate.

The Total Maximum Daily Load (TMDL) project *Fourteen Total Maximum Daily Loads for Nickel in the Houston Ship Channel System* (TMDL Project No.1) has been withdrawn and is no longer applicable.

Eight Total Maximum Daily Loads for Indicator Bacteria in Greens Bayou Above Tidal and Tributaries (TMDL Project No. 72B) has been approved for this segment.

On June 2, 2010, the TCEQ adopted *Eight Total Maximum Daily Loads for Indicator Bacteria in Greens Bayou Above Tidal and Tributaries*. The EPA approved the TMDL on August 12, 2010. The TMDL addresses elevated levels of bacteria in multiple segments and assessment units of these bayous and their tributaries. The waste load allocation (WLA) for wastewater treatment facilities was established as the permitted flow for each facility multiplied by one-half the geometric mean criterion for bacteria. Future growth from existing or new permitted sources is not limited by these TMDLs as long as the sources do not exceed the limits of

one-half the bacteria geometric mean criterion for *E. coli*. To ensure that effluent limitations for this discharge are consistent with the WLAs provided in the TMDL, a concentration based effluent limitation for *E. coli* of 63 CFU or MPN per 100 ml will be continued in the draft permit.

Monitoring and reporting of total Kjeldahl nitrogen (TKN) was an original requirement of WLE-1 (*Waste Load Evaluation for the Houston Ship Channel System in the San Jacinto River Basin*, 1984). WLE-1 has since been superseded by WLE-1R, and with deterministic modeling now used to set effluent limits for all dischargers, reporting of TKN was suspended.

The effluent limitations and conditions in the draft permit comply with EPA-approved portions of the 2018 Texas Surface Water Quality Standards (TSWQS), 30 TAC §§ 307.1 - 307.10, effective March 1, 2018; 2014 TSWQS, effective March 6, 2014; 2010 TSWQS, effective July 22, 2010; and 2000 TSWQS, effective July 26, 2000.

(2) CONVENTIONAL PARAMETERS

Effluent limitations for the conventional effluent parameters (i.e., Five-Day Biochemical Oxygen Demand or Five-Day Carbonaceous Biochemical Oxygen Demand, Ammonia Nitrogen, etc.) are based on stream standards and waste load allocations for water quality-limited streams as established in the TSWQS and the State of Texas Water Quality Management Plan (WQMP).

The effluent limits recommended above have been reviewed for consistency with the State of Texas Water Quality Management Plan (WQMP). The proposed limits are not contained in the approved WQMP. However, these limits will be included in the next WQMP update.

The effluent limitations in the draft permit meet the requirements for secondary treatment and the requirements for disinfection according to 30 TAC Chapter 309, Subchapter A: Effluent Limitations.

(3) COASTAL MANAGEMENT PLAN

The facility is not located in the Coastal Management Program boundary.

C. WATER QUALITY-BASED EFFLUENT LIMITATIONS/CONDITIONS

(1) GENERAL COMMENTS

The Texas Surface Water Quality Standards (30 TAC Chapter 307) state that surface waters will not be toxic to man, or to terrestrial or aquatic life. The methodology outlined in the *Procedures to Implement the Texas Surface Water Quality Standards* (IP) (June 2010) is designed to ensure compliance with 30 TAC Chapter 307. Specifically, the methodology is designed to ensure that no source will be allowed to discharge any wastewater that: (1) results in instream aquatic toxicity; (2) causes a violation of an applicable narrative or numerical state water quality

standard; (3) results in the endangerment of a drinking water supply; or
(4) results in aquatic bioaccumulation that threatens human health.

(2) AQUATIC LIFE CRITERIA

(a) SCREENING

Water quality-based effluent limitations are calculated from freshwater aquatic life criteria found in Table 1 of the Texas Surface Water Quality Standards (30 TAC Chapter 307).

Acute freshwater criteria are applied at the edge of the zone of initial dilution (ZID), and chronic freshwater criteria are applied at the edge of the aquatic life mixing zone. The ZID for this discharge is defined as 20 feet upstream and 60 feet downstream from the point where the discharge enters Greens Bayou Above Tidal. The aquatic life mixing zone for this discharge is defined as 100 feet upstream and 300 feet downstream from the point where the discharge enters Greens Bayou Above Tidal.

TCEQ uses the mass balance equation to estimate dilutions at the edges of the ZID and aquatic life mixing zone during critical conditions. The estimated dilution at the edge of the aquatic life mixing zone is calculated using the permitted flow of 1.9 MGD and the 7-day, 2-year (7Q2) flow of 2.41 cfs for Greens Bayou Above Tidal. The estimated dilution at the edge of the ZID is calculated using the permitted flow of 1.9 MGD and 25% of the 7Q2 flow. The following critical effluent percentages are being used:

Acute Effluent %:	82.99%	Chronic Effluent %:	54.95%
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Waste load allocations (WLAs) are calculated using the above estimated effluent percentages, criteria outlined in the Texas Surface Water Quality Standards, and partitioning coefficients for metals (when appropriate and designated in the implementation procedures). The WLA is the end-of-pipe effluent concentration that can be discharged when, after mixing in the receiving stream, instream numerical criteria will not be exceeded. From the WLA, a long-term average (LTA) is calculated using a log normal probability distribution, a given coefficient of variation (0.6), and a 90th percentile confidence level. The LTA is the long-term average effluent concentration for which the WLA will never be exceeded using a selected percentile confidence level. The lower of the two LTAs (acute and chronic) is used to calculate a daily average and daily maximum effluent limitation for the protection of aquatic life using the same statistical considerations with the 99th percentile confidence level and a standard number of monthly effluent samples collected (12). Assumptions used in deriving the effluent limitations include segment values for hardness, chlorides, pH, and total suspended solids (TSS) according to the segment-specific values contained in the TCEQ guidance document *Procedures to Implement the Texas Surface Water Quality Standards*. The segment values are 40 mg/l for hardness (as calcium carbonate), 74 mg/l for chlorides, 7.3 standard units for pH, and 2 mg/l for TSS. For additional

details on the calculation of water quality-based effluent limitations, refer to the TCEQ guidance document.

TCEQ practice for determining significant potential is to compare the reported analytical data against percentages of the calculated daily average water quality-based effluent limitation. Permit limitations are required when analytical data reported in the application exceeds 85% of the calculated daily average water quality-based effluent limitation. Monitoring and reporting is required when analytical data reported in the application exceeds 70% of the calculated daily average water quality-based effluent limitation. See Attachment A of this Fact Sheet.

(b) PERMIT ACTION

Analytical data reported in the application was screened against calculated water quality-based effluent limitations for the protection of aquatic life. Reported analytical data does not exceed 70% of the calculated daily average water quality-based effluent limitations for aquatic life protection.

(3) AQUATIC ORGANISM BIOACCUMULATION CRITERIA

(a) SCREENING

Water quality-based effluent limitations for the protection of human health are calculated using criteria for the consumption of freshwater fish tissue found in Table 2 of the Texas Surface Water Quality Standards (30 TAC Chapter 307). Freshwater fish tissue bioaccumulation criteria are applied at the edge of the human health mixing zone. The human health mixing zone for this discharge is identical to the aquatic life mixing zone. TCEQ uses the mass balance equation to estimate dilution at the edge of the human health mixing zone during average flow conditions. The estimated dilution at the edge of the human health mixing zone is calculated using the permitted flow of 1.9 MGD and the harmonic mean flow of 3.70 cfs for Greens Bayou Above Tidal. The following critical effluent percentage is being used:

Human Health Effluent %: 44.27%

Water quality-based effluent limitations for human health protection against the consumption of fish tissue are calculated using the same procedure as outlined for calculation of water quality-based effluent limitations for aquatic life protection. A 99th percentile confidence level in the long-term average calculation is used with only one long-term average value being calculated.

Significant potential is again determined by comparing reported analytical data against 70% and 85% of the calculated daily average water quality-based effluent limitation. See Attachment A of this Fact Sheet.

(b) PERMIT ACTION

Reported analytical data does not exceed 70% of the calculated daily average water quality-based effluent limitation for human health protection.

(4) DRINKING WATER SUPPLY PROTECTION

(a) SCREENING

Water Quality Segment No. 1016, which receives the discharge from this facility, is not designated as a public water supply. Screening reported analytical data of the effluent against water quality-based effluent limitations calculated for the protection of a drinking water supply is not applicable.

(b) PERMIT ACTION

None.

(5) WHOLE EFFLUENT TOXICITY (BIOMONITORING) CRITERIA

(a) SCREENING

TCEQ has determined that there may be pollutants present in the effluent that may have the potential to cause toxic conditions in the receiving stream. Whole effluent biomonitoring is the most direct measure of potential toxicity that incorporates the effects of synergism of effluent components and receiving stream water quality characteristics. Biomonitoring of the effluent is, therefore, required as a condition of this permit to assess potential toxicity.

The existing permit includes chronic freshwater biomonitoring requirements. A summary of the biomonitoring testing for the facility indicates that in the past three years, the permittee has performed twenty one chronic tests, with one demonstration of significant toxicity by the fathead minnow (i.e., one failure), and two demonstrations of significant toxicity by the water flea (i.e., two failures).

A reasonable potential (RP) determination was performed in accordance with 40 CFR § 122.44(d)(1)(ii) to determine whether the discharge will reasonably be expected to cause or contribute to an exceedance of a state water quality standard or criterion within that standard. Each test species is evaluated separately. The RP determination is based on representative data from the previous three years of chronic WET testing. This determination was performed in accordance with the methodology outlined in the TCEQ letter to the EPA dated December 28, 2015, and approved by the EPA in a letter dated December 28, 2015.

With the two failures by the water flea, and one failure by the fathead minnow, a determination of no RP was made. WET limits are not required. A three-year permit will be issued in

accordance with the methodology referenced above.

(b) PERMIT ACTION

The test species are appropriate to measure the toxicity of the effluent consistent with the requirements of the State water quality standards. The biomonitoring frequency has been established to reflect the likelihood of ambient toxicity and to provide data representative of the toxic potential of the facility's discharge. This permit may be reopened to require effluent limits, additional testing, and/or other appropriate actions to address toxicity if biomonitoring data show actual or potential ambient toxicity to be the result of the permittee's discharge to the receiving stream or water body.

(6) WHOLE EFFLUENT TOXICITY CRITERIA (24-HOUR ACUTE)

(a) SCREENING

The existing permit includes 24-hour acute freshwater biomonitoring language. A summary of the biomonitoring testing for the facility indicates that in the past three years, the permittee has performed twelve 24-hour acute tests, with zero demonstrations of significant lethality (i.e., zero failures).

(b) PERMIT ACTION

The draft permit includes 24-hour 100% acute biomonitoring tests for the life of the permit.

9. WATER QUALITY VARIANCE REQUESTS

No variance requests have been received.

10. PROCEDURES FOR FINAL DECISION

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

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

application.

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

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

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

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

For additional information about this application, contact Sonia Bhuiya at (512) 239-1205.

11. ADMINISTRATIVE RECORD

The following items were considered in developing the draft permit:

A. PERMIT(S)

TPDES Permit No. WQ0012294001 issued on February 10, 2023.

B. APPLICATION

Application received on June 6, 2024, and additional information received on July 8, 2024.

C. MEMORANDA

Interoffice Memoranda from the Water Quality Assessment Section of the TCEQ Water Quality Division. Interoffice Memorandum from the Pretreatment Team of the TCEQ Water Quality Division.

D. MISCELLANEOUS

Federal Clean Water Act § 402; Texas Water Code § 26.027; 30 TAC Chapters 30, 305, 309, 312, and 319; Commission policies; and U.S. Environmental Protection Agency guidelines.

Texas Surface Water Quality Standards, 30 TAC §§ 307.1 - 307.10.

Procedures to Implement the Texas Surface Water Quality Standards (IP), Texas Commission on Environmental Quality, June 2010, as approved by the U.S. Environmental Protection Agency, and the IP, January 2003, for portions of the 2010 IP not approved by the U.S. Environmental Protection Agency.

Texas 2022 Clean Water Act Section 303(d) List, Texas Commission on Environmental Quality, June 1, 2022; approved by the U.S. Environmental Protection Agency on July 7, 2022.

Texas Natural Resource Conservation Commission, Guidance Document for Establishing Monitoring Frequencies for Domestic and Industrial Wastewater Discharge Permits, Document No. 98-001.000-OWR-WQ, May 1998.

Eight Total Maximum Daily Loads for Indicator Bacteria in Greens Bayou Above Tidal and Tributaries (TMDL Project 72B)

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Attachment A: Calculated Water Quality Based Effluent Limitations

TEXTTOX MENU #3 - PERENNIAL STREAM OR RIVER

The water quality-based effluent limitations developed below are calculated using:

Table 1, 2014 Texas Surface Water Quality Standards (30 TAC 307) for Freshwater Aquatic Life

Table 2, 2018 Texas Surface Water Quality Standards for Human Health

"Procedures to Implement the Texas Surface Water Quality Standards," TCEQ, June 2010

PERMIT INFORMATION

Permittee Name:	Harris County Municipal Utility District No. 200
TPDES Permit No.:	WQ0012294001
Outfall No.:	001
Prepared by:	Sonia Bhuiya
Date:	July 30, 2025

DISCHARGE INFORMATION

Receiving Waterbody:	Greens Bayou Above Tidal
Segment No.:	1016
TSS (mg/L):	2
pH (Standard Units):	7.3
Hardness (mg/L as CaCO ₃):	40
Chloride (mg/L):	74
Effluent Flow for Aquatic Life (MGD):	1.9
Critical Low Flow [7Q2] (cfs):	2.41
% Effluent for Chronic Aquatic Life (Mixing Zone):	54.95
% Effluent for Acute Aquatic Life (ZID):	82.99
Effluent Flow for Human Health (MGD):	1.9
Harmonic Mean Flow (cfs):	3.7
% Effluent for Human Health:	44.27
Human Health Criterion (select: PWS, FISH, or INC)	FISH

CALCULATE DISSOLVED FRACTION (AND ENTER WATER EFFECT RATIO IF APPLICABLE):

<i>Stream/River Metal</i>	<i>Intercept (b)</i>	<i>Slope (m)</i>	<i>Partition Coefficient (Kp)</i>	<i>Dissolved Fraction (Cd/Ct)</i>	<i>Source</i>	<i>Water Effect Ratio (WER)</i>	<i>Source</i>
Aluminum	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Arsenic	5.68	-0.73	288567.96	0.634		1.00	Assumed
			1819014.2				
Cadmium	6.60	-1.13	7	0.216		1.00	Assumed
			1737969.3				
Chromium (total)	6.52	-0.93	1	0.223		1.00	Assumed
			1737969.3				
Chromium (trivalent)	6.52	-0.93	1	0.223		1.00	Assumed
Chromium (hexavalent)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Copper	6.02	-0.74	626957.07	0.444		1.00	Assumed
			1618735.9				
Lead	6.45	-0.80	2	0.236		1.00	Assumed
Mercury	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Nickel	5.69	-0.57	329923.24	0.602		1.00	Assumed
Selenium	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
			1174732.8				
Silver	6.38	-1.03	3	0.299		1.00	Assumed
Zinc	6.10	-0.70	774959.49	0.392		1.00	Assumed

AQUATIC LIFE

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CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

<i>Parameter</i>	<i>FW Acute Criterion (µg/L)</i>	<i>FW Chronic Criterion (µg/L)</i>	<i>WLA_a (µg/L)</i>	<i>WLA_c (µg/L)</i>	<i>LTA_a (µg/L)</i>	<i>LTA_c (µg/L)</i>	<i>Daily Avg. (µg/L)</i>	<i>Daily Max. (µg/L)</i>
Aldrin	3.0	N/A	3.61	N/A	2.07	N/A	3.04	6.44
Aluminum	991	N/A	1194	N/A	684	N/A	1005	2127
Arsenic	340	150	646	431	370	331	487	1030
Cadmium	3.5	0.130	19.7	1.10	11.3	0.845	1.24	2.62
Carbaryl	2.0	N/A	2.41	N/A	1.38	N/A	2.02	4.29
Chlordane	2.4	0.004	2.89	0.00728	1.66	0.00561	0.00823	0.0174
Chlorpyrifos	0.083	0.041	0.100	0.0746	0.0573	0.0575	0.0842	0.178
Chromium (trivalent)	269	35	1451	285	831	219	322	682
Chromium (hexavalent)	15.7	10.6	18.9	19.3	10.8	14.9	15.9	33.7
Copper	6.0	4.3	16.3	17.8	9.32	13.7	13.7	28.9
Cyanide (free)	45.8	10.7	55.2	19.5	31.6	15.0	22.0	46.6
4,4'-DDT	1.1	0.001	1.33	0.00182	0.759	0.00140	0.00205	0.00435
Demeton	N/A	0.1	N/A	0.182	N/A	0.140	0.205	0.435
Diazinon	0.17	0.17	0.205	0.309	0.117	0.238	0.172	0.365
Dicofol [Kelthane]	59.3	19.8	71.5	36.0	40.9	27.7	40.7	86.2
Dieldrin	0.24	0.002	0.289	0.00364	0.166	0.00280	0.00411	0.00871
Diuron	210	70	253	127	145	98.1	144	305
Endosulfan I (<i>alpha</i>)	0.22	0.056	0.265	0.102	0.152	0.0785	0.115	0.244
Endosulfan II (<i>beta</i>)	0.22	0.056	0.265	0.102	0.152	0.0785	0.115	0.244
Endosulfan sulfate	0.22	0.056	0.265	0.102	0.152	0.0785	0.115	0.244
Endrin	0.086	0.002	0.104	0.00364	0.0594	0.00280	0.00411	0.00871
Guthion [Azinphos Methyl]	N/A	0.01	N/A	0.0182	N/A	0.0140	0.0205	0.0435
Heptachlor	0.52	0.004	0.627	0.00728	0.359	0.00561	0.00823	0.0174
Hexachlorocyclohexane (<i>gamma</i>) [Lindane]	1.126	0.08	1.36	0.146	0.777	0.112	0.164	0.348
Lead	24	0.92	120	7.07	68.8	5.44	7.99	16.9
Malathion	N/A	0.01	N/A	0.0182	N/A	0.0140	0.0205	0.0435
Mercury	2.4	1.3	2.89	2.37	1.66	1.82	2.43	5.15
Methoxychlor	N/A	0.03	N/A	0.0546	N/A	0.0420	0.0617	0.130
Mirex	N/A	0.001	N/A	0.00182	N/A	0.00140	0.00205	0.00435
Nickel	216	24.0	431	72.4	247	55.7	81.9	173
Nonylphenol	28	6.6	33.7	12.0	19.3	9.25	13.5	28.7
Parathion (ethyl)	0.065	0.013	0.0783	0.0237	0.0449	0.0182	0.0267	0.0566
Pentachlorophenol	11.8	9.0	14.2	16.5	8.14	12.7	11.9	25.3
Phenanthrene	30	30	36.1	54.6	20.7	42.0	30.4	64.4
Polychlorinated Biphenyls [PCBs]	2.0	0.014	2.41	0.0255	1.38	0.0196	0.0288	0.0610
Selenium	20	5	24.1	9.10	13.8	7.01	10.2	21.7
Silver	0.8	N/A	20.2	N/A	11.6	N/A	17.0	36.0
Toxaphene	0.78	0.0002	0.940	0.000364	0.539	0.000280	0.000411	0.00087
Tributyltin [TBT]	0.13	0.024	0.157	0.0437	0.0898	0.0336	0.0494	0.104
2,4,5 Trichlorophenol	136	64	164	116	93.9	89.7	131	278
Zinc	54	54	166	252	94.9	194	139	295

HUMAN HEALTH

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

<i>Parameter</i>	<i>Water and Fish Criterion (µg/L)</i>	<i>Fish Only Criterion (µg/L)</i>	<i>Incidental Fish Criterion (µg/L)</i>	<i>WLA_h (µg/L)</i>	<i>LTA_h (µg/L)</i>	<i>Daily Avg. (µg/L)</i>	<i>Daily Max. (µg/L)</i>
Acrylonitrile	1.0	115	1150	260	242	355	751
Aldrin	1.146E-05	1.147E-05	1.147E-04	0.000025	0.0000241	0.000035	0.000074

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Anthracene	1109	1317	13170	2975	2766	4066	8603
Antimony	6	1071	10710	2419	2250	3306	6996
Arsenic	10	N/A	N/A	N/A	N/A	N/A	N/A
Barium	2000	N/A	N/A	N/A	N/A	N/A	N/A
Benzene	5	581	5810	1312	1220	1793	3795
Benzidine	0.0015	0.107	1.07	0.242	0.225	0.330	0.698
Benzo(a)anthracene	0.024	0.025	0.25	0.0565	0.0525	0.0771	0.163
Benzo(a)pyrene	0.0025	0.0025	0.025	0.00565	0.00525	0.00771	0.0163
Bis(chloromethyl)ether	0.0024	0.2745	2.745	0.620	0.577	0.847	1.79
Bis(2-chloroethyl)ether	0.60	42.83	428.3	96.7	90.0	132	279
Bis(2-ethylhexyl) phthalate [Di(2-ethylhexyl) phthalate]	6	7.55	75.5	17.1	15.9	23.3	49.3
Bromodichloromethane [Dichlorobromomethane]	10.2	275	2750	621	578	849	1796
Bromoform [Tribromomethane]	66.9	1060	10600	2394	2227	3273	6924
Cadmium	5	N/A	N/A	N/A	N/A	N/A	N/A
Carbon Tetrachloride	4.5	46	460	104	96.6	142	300
Chlordane	0.0025	0.0025	0.025	0.00565	0.00525	0.00771	0.0163
Chlorobenzene	100	2737	27370	6182	5749	8451	17879
Chlorodibromomethane [Dibromochloromethane]	7.5	183	1830	413	384	565	1195
Chloroform [Trichloromethane]	70	7697	76970	17385	16168	23766	50281
Chromium (hexavalent)	62	502	5020	1134	1054	1550	3279
Chrysene	2.45	2.52	25.2	5.69	5.29	7.78	16.4
Cresols [Methylphenols]	1041	9301	93010	21007	19537	28719	60759
Cyanide (free)	200	N/A	N/A	N/A	N/A	N/A	N/A
4,4'-DDD	0.002	0.002	0.02	0.00452	0.00420	0.00617	0.0130
4,4'-DDE	0.00013	0.00013	0.0013	0.000294	0.000273	0.000401	0.000849
4,4'-DDT	0.0004	0.0004	0.004	0.000903	0.000840	0.00123	0.00261
2,4'-D	70	N/A	N/A	N/A	N/A	N/A	N/A
Danitol [Fenpropathrin]	262	473	4730	1068	994	1460	3089
1,2-Dibromoethane [Ethylene Dibromide]	0.17	4.24	42.4	9.58	8.91	13.0	27.6
<i>m</i> -Dichlorobenzene [1,3-Dichlorobenzene]	322	595	5950	1344	1250	1837	3886
<i>o</i> -Dichlorobenzene [1,2-Dichlorobenzene]	600	3299	32990	7451	6930	10186	21551
<i>p</i> -Dichlorobenzene [1,4-Dichlorobenzene]	75	N/A	N/A	N/A	N/A	N/A	N/A
3,3'-Dichlorobenzidine	0.79	2.24	22.4	5.06	4.71	6.91	14.6
1,2-Dichloroethane	5	364	3640	822	765	1123	2377
1,1-Dichloroethylene [1,1-Dichloroethene]	7	55114	551140	124482	115768	170179	360038
Dichloromethane [Methylene Chloride]	5	13333	133330	30114	28006	41169	87099
1,2-Dichloropropane	5	259	2590	585	544	799	1691
1,3-Dichloropropene [1,3-Dichloropropylene]	2.8	119	1190	269	250	367	777
Dicofol [Kelthane]	0.30	0.30	3	0.678	0.630	0.926	1.95
				0.000045		0.000061	
Dieldrin	2.0E-05	2.0E-05	2.0E-04	2	0.0000420	7	0.000130
2,4-Dimethylphenol	444	8436	84360	19054	17720	26048	55109
Di- <i>n</i> -Butyl Phthalate	88.9	92.4	924	209	194	285	603
Dioxins/Furans [TCDD Equivalents]	7.80E-08	7.97E-08	7.97E-07	1.80E-07	1.67E-07	2.46E-07	5.20E-07
Endrin	0.02	0.02	0.2	0.0452	0.0420	0.0617	0.130
Epichlorohydrin	53.5	2013	20130	4547	4228	6215	13150
Ethylbenzene	700	1867	18670	4217	3922	5764	12196
				3794486		5187443	10974794
Ethylene Glycol	46744	1.68E+07	1.68E+08	9	35288728	0	4
Fluoride	4000	N/A	N/A	N/A	N/A	N/A	N/A
Heptachlor	8.0E-05	0.0001	0.001	0.000226	0.000210	0.000308	0.000653
Heptachlor Epoxide	0.00029	0.00029	0.0029	0.000655	0.000609	0.000895	0.00189
Hexachlorobenzene	0.00068	0.00068	0.0068	0.00154	0.00143	0.00209	0.00444
Hexachlorobutadiene	0.21	0.22	2.2	0.497	0.462	0.679	1.43
Hexachlorocyclohexane (<i>alpha</i>)	0.0078	0.0084	0.084	0.0190	0.0176	0.0259	0.0548

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Hexachlorocyclohexane (<i>beta</i>)	0.15	0.26	2.6	0.587	0.546	0.802	1.69
Hexachlorocyclohexane (<i>gamma</i>) [Lindane]	0.2	0.341	3.41	0.770	0.716	1.05	2.22
Hexachlorocyclopentadiene	10.7	11.6	116	26.2	24.4	35.8	75.7
Hexachloroethane	1.84	2.33	23.3	5.26	4.89	7.19	15.2
Hexachlorophene	2.05	2.90	29	6.55	6.09	8.95	18.9
4,4'-Isopropylidenediphenol	1092	15982	159820	36097	33571	49348	104404
Lead	1.15	3.83	38.3	36.7	34.1	50.1	106
Mercury	0.0122	0.0122	0.122	0.0276	0.0256	0.0376	0.0796
Methoxychlor	2.92	3.0	30	6.78	6.30	9.26	19.5
Methyl Ethyl Ketone	13865	9.92E+05	9.92E+06	2240554	2083715	3063061	6480354
Methyl <i>tert</i> -butyl ether [MTBE]	15	10482	104820	23675	22018	32365	68474
Nickel	332	1140	11400	4274	3975	5842	12361
Nitrate-Nitrogen (as Total Nitrogen)	10000	N/A	N/A	N/A	N/A	N/A	N/A
Nitrobenzene	45.7	1873	18730	4230	3934	5783	12235
N-Nitrosodiethylamine	0.0037	2.1	21	4.74	4.41	6.48	13.7
N-Nitroso-di- <i>n</i> -Butylamine	0.119	4.2	42	9.49	8.82	12.9	27.4
Pentachlorobenzene	0.348	0.355	3.55	0.802	0.746	1.09	2.31
Pentachlorophenol	0.22	0.29	2.9	0.655	0.609	0.895	1.89
Polychlorinated Biphenyls [PCBs]	6.4E-04	6.4E-04	6.40E-03	0.00145	0.00134	0.00197	0.00418
Pyridine	23	947	9470	2139	1989	2924	6186
Selenium	50	N/A	N/A	N/A	N/A	N/A	N/A
1,2,4,5-Tetrachlorobenzene	0.23	0.24	2.4	0.542	0.504	0.741	1.56
1,1,2,2-Tetrachloroethane	1.64	26.35	263.5	59.5	55.3	81.3	172
Tetrachloroethylene [Tetrachloroethylene]	5	280	2800	632	588	864	1829
Thallium	0.12	0.23	2.3	0.519	0.483	0.710	1.50
Toluene	1000	N/A	N/A	N/A	N/A	N/A	N/A
Toxaphene	0.011	0.011	0.11	0.0248	0.0231	0.0339	0.0718
2,4,5-TP [Silvex]	50	369	3690	833	775	1139	2410
1,1,1-Trichloroethane	200	784354	7843540	1771560	1647551	2421899	5123883
1,1,2-Trichloroethane	5	166	1660	375	349	512	1084
Trichloroethylene [Trichloroethene]	5	71.9	719	162	151	222	469
2,4,5-Trichlorophenol	1039	1867	18670	4217	3922	5764	12196
TTHM [Sum of Total Trihalomethanes]	80	N/A	N/A	N/A	N/A	N/A	N/A
Vinyl Chloride	0.23	16.5	165	37.3	34.7	50.9	107

CALCULATE 70% AND 85% OF DAILY AVERAGE EFFLUENT LIMITATIONS:

Aquatic Life	70% of Daily Avg.	85% of Daily Avg.
Parameter	(µg/L)	(µg/L)
Aldrin	2.13	2.58
Aluminum	704	854
Arsenic	341	414
Cadmium	0.869	1.05
Carbaryl	1.42	1.72
Chlordane	0.00576	0.00700
Chlorpyrifos	0.0589	0.0716
Chromium (trivalent)	225	274
Chromium (hexavalent)	11.1	13.5
Copper	9.59	11.6
Cyanide (free)	15.4	18.7
4,4'-DDT	0.00144	0.00175
Demeton	0.144	0.175
Diazinon	0.120	0.146
Dicofol [Kelthane]	28.5	34.6

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Dieldrin	0.00288	0.00350
Diuron	100	122
Endosulfan I (<i>alpha</i>)	0.0807	0.0980
Endosulfan II (<i>beta</i>)	0.0807	0.0980
Endosulfan sulfate	0.0807	0.0980
Endrin	0.00288	0.00350
Guthion [Azinphos Methyl]	0.0144	0.0175
Heptachlor	0.00576	0.00700
Hexachlorocyclohexane (<i>gamma</i>) [Lindane]	0.115	0.140
Lead	5.59	6.79
Malathion	0.0144	0.0175
Mercury	1.70	2.07
Methoxychlor	0.0432	0.0525
Mirex	0.00144	0.00175
Nickel	57.3	69.6
Nonylphenol	9.51	11.5
Parathion (ethyl)	0.0187	0.0227
Pentachlorophenol	8.37	10.1
Phenanthrene	21.3	25.8
Polychlorinated Biphenyls [PCBs]	0.0201	0.0245
Selenium	7.20	8.75
Silver	11.9	14.4
Toxaphene	0.000288	0.000350
Tributyltin [TBT]	0.0346	0.0420
2,4,5 Trichlorophenol	92.2	112
Zinc	97.6	118

	70% of Daily Avg.	85% of Daily Avg.
Human Health		
Parameter	(µg/L)	(µg/L)
Acrylonitrile	248	301
	0.000024	0.000030
Aldrin	7	1
Anthracene	2846	3456
Antimony	2314	2810
Arsenic	N/A	N/A
Barium	N/A	N/A
Benzene	1255	1524
Benzydine	0.231	0.280
Benzo(a)anthracene	0.0540	0.0656
Benzo(a)pyrene	0.00540	0.00656
Bis(chloromethyl)ether	0.593	0.720
Bis(2-chloroethyl)ether	92.5	112
Bis(2-ethylhexyl) phthalate [Di(2-ethylhexyl) phthalate]	16.3	19.8
Bromodichloromethane [Dichlorobromomethane]	594	721
Bromoform [Tribromomethane]	2291	2782
Cadmium	N/A	N/A
Carbon Tetrachloride	99.4	120
Chlordane	0.00540	0.00656
Chlorobenzene	5915	7183
Chlorodibromomethane [Dibromochloromethane]	395	480
Chloroform [Trichloromethane]	16636	20201
Chromium (hexavalent)	1085	1317
Chrysene	5.44	6.61

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Cresols [Methylphenols]	20103	24411
Cyanide (free)	N/A	N/A
4,4'-DDD	0.00432	0.00524
4,4'-DDE	0.000280	0.000341
4,4'-DDT	0.000864	0.00104
2,4'-D	N/A	N/A
Danitol [Fenprothrin]	1022	1241
1,2-Dibromoethane [Ethylene Dibromide]	9.16	11.1
<i>m</i> -Dichlorobenzene [1,3-Dichlorobenzene]	1286	1561
<i>o</i> -Dichlorobenzene [1,2-Dichlorobenzene]	7130	8658
<i>p</i> -Dichlorobenzene [1,4-Dichlorobenzene]	N/A	N/A
3,3'-Dichlorobenzidine	4.84	5.87
1,2-Dichloroethane	786	955
1,1-Dichloroethylene [1,1-Dichloroethene]	119125	144652
Dichloromethane [Methylene Chloride]	28818	34993
1,2-Dichloropropane	559	679
1,3-Dichloropropene [1,3-Dichloropropylene]	257	312
Dicofol [Kelthane]	0.648	0.787
	0.000043	0.000052
Dieldrin	2	4
2,4-Dimethylphenol	18233	22141
Di- <i>n</i> -Butyl Phthalate	199	242
Dioxins/Furans [TCDD Equivalents]	1.72E-07	2.09E-07
Endrin	0.0432	0.0524
Epichlorohydrin	4350	5283
Ethylbenzene	4035	4900
	3631210	4409326
Ethylene Glycol	1	5
Fluoride	N/A	N/A
Heptachlor	0.000216	0.000262
Heptachlor Epoxide	0.000626	0.000761
Hexachlorobenzene	0.00146	0.00178
Hexachlorobutadiene	0.475	0.577
Hexachlorocyclohexane (<i>alpha</i>)	0.0181	0.0220
Hexachlorocyclohexane (<i>beta</i>)	0.561	0.682
Hexachlorocyclohexane (<i>gamma</i>) [Lindane]	0.737	0.894
Hexachlorocyclopentadiene	25.0	30.4
Hexachloroethane	5.03	6.11
Hexachlorophene	6.26	7.61
4,4'-Isopropylidenediphenol	34544	41946
Lead	35.0	42.5
Mercury	0.0263	0.0320
Methoxychlor	6.48	7.87
Methyl Ethyl Ketone	2144143	2603602
Methyl <i>tert</i> -butyl ether [MTBE]	22656	27511
Nickel	4089	4966
Nitrate-Nitrogen (as Total Nitrogen)	N/A	N/A
Nitrobenzene	4048	4915
N-Nitrosodiethylamine	4.53	5.51
N-Nitroso-di- <i>n</i> -Butylamine	9.07	11.0
Pentachlorobenzene	0.767	0.931
Pentachlorophenol	0.626	0.761
Polychlorinated Biphenyls [PCBs]	0.00138	0.00167
Pyridine	2046	2485
Selenium	N/A	N/A
1,2,4,5-Tetrachlorobenzene	0.518	0.629

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1,1,2,2-Tetrachloroethane	56.9	69.1
Tetrachloroethylene [Tetrachloroethylene]	605	734
Thallium	0.497	0.603
Toluene	N/A	N/A
Toxaphene	0.0237	0.0288
2,4,5-TP [Silvex]	797	968
1,1,1-Trichloroethane	1695329	2058614
1,1,2-Trichloroethane	358	435
Trichloroethylene [Trichloroethene]	155	188
2,4,5-Trichlorophenol	4035	4900
TTHM [Sum of Total Trihalomethanes]	N/A	N/A
Vinyl Chloride	35.6	43.3