

#### This file contains the following documents:

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



#### Este archivo contiene los siguientes documentos:

- 1. Resumen en lenguaje sencillo (PLS, por sus siglas en inglés) de la actividad propuesta
  - Inglés
  - Idioma alternativo (español)
- 2. Primer aviso (NORI, el Aviso de Recepción de Solicitud e Intención de Obtener un Permiso)
  - Inglés
  - Idioma alternativo (español)
- 3. Solicitud original

# TCEQ

#### TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

## PLAIN LANGUAGE SUMMARY FOR TPDES OR TLAP PERMIT APPLICATIONS

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

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

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

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

#### ENGLISH TEMPLATE FOR TPDES or TLAP NEW/RENEWAL/AMENDMENT APPLICATIONS Enter 'INDUSTRIAL' or 'DOMESTIC' here WASTEWATER/STORMWATER

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

C & R Water Supply, Inc. (CN 600581672) operates the Emerson Estates Wastewater Treatment Plant (RN 102763208), an activated sludge process with nitrification operated in the complete mix mode. The facility is located at approximately 4,235 feet southeast of the intersection of Crockett Martin Road and Highway 105, in Conroe, Montgomery County, Texas 77306. This application is for a major amendment with renewal application to discharge a daily average flow of 995,000 gallons per day of treated domestic wastewater..

Discharges from the facility are expected to contain five-day carbonaceous biochemical oxygen demand (CBOD<sub>5</sub>), total suspended solids (TSS), ammonia nitrogen (NH<sub>3</sub>-N), and *Escherichia coli*. Additional potential pollutants are included in the Domestic Technical Report 1.0, Section 7. Pollutant Analysis of Treated Effluent in the permit application package. Domestic wastewater will be treated by an activated sludge process plant and the treatment units will include a screening facility, aeration basins, final clarifiers, sludge digesters, chlorine contact chamber and dichlorination chamber.

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

#### AGUAS RESIDUALES Introduzca 'INDUSTRIALES' o 'DOMÉSTICAS' aquí /AGUAS PLUVIALES

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

C & R Water Supply, Inc. (CN 600581672) opera la Planta de Tratamiento de Aguas Residuales de Emerson Estates (RN 102763208), un proceso de lodos activados con nitrificación operado en el modo de mezcla completa. La instalación está ubicada en aproximadamente 4235 pies al sureste de la intersección de Camino de Crockett Martin y Autopista 105, en Conroe, Condado de Montgomery, Texas 77306. Esta solicitud es para una enmienda importante con renovacion aplicación para descargar a un flujo promedio diario de 995,000 galones por día de aguas residuales domésticas tratadas.

Se espera que las descargas de la instalación contengan demanda bioquímica de oxígeno carbonoso de cinco días ( $CBOD_5$ ), solidos totalmente suspendidos (TSS), nitrógeno amoniacal ( $NH_e$ -N), y *Escherichia coli*. Los contaminantes potenciales adicionales se incluyen en el Informe Técnico Domésticas 1.0, Seccion 7 Análisis de Contaminantes de Efluente Tratado en el paquete de solicitud de permisos.. Las aguas residuales domésticas. está tratado por una planta de proceso de lodos activados y las unidades de tratamiento incluirán una pantalla de barras, balsas de aireación, clarificadores finales, digestores de lodos, cámaras de contacto de cloro y cuenca de declaración.

#### **INSTRUCTIONS**

- 1. Enter the name of applicant in this section. The applicant name should match the name associated with the customer number.
- 2. Enter the Customer Number in this section. Each Individual or Organization is issued a unique 11-digit identification number called a CN (e.g. CN123456789).
- 3. Choose "operates" in this section for existing facility applications or choose "proposes to operate" for new facility applications.
- 4. Enter the name of the facility in this section. The facility name should match the name associated with the regulated entity number.
- 5. Enter the Regulated Entity number in this section. Each site location is issued a unique 11-digit identification number called an RN (e.g. RN123456789).
- 6. Choose the appropriate article (a or an) to complete the sentence.
- 7. Enter a description of the facility in this section. For example: steam electric generating facility, nitrogenous fertilizer manufacturing facility, etc.
- 8. Choose "is" for an existing facility or "will be" for a new facility.
- 9. Enter the location of the facility in this section.
- 10. Enter the City nearest the facility in this section.
- 11. Enter the County nearest the facility in this section.
- 12. Enter the zip code for the facility address in this section.
- 13. Enter a summary of the application request in this section. For example: renewal to discharge 25,000 gallons per day of treated domestic wastewater, new application to discharge process wastewater and stormwater on an intermittent and flow-variable basis, or major amendment to reduce monitoring frequency for pH, etc. If more than one outfall is included in the application, provide applicable information for each individual outfall.
- 14. List all pollutants expected in the discharge from this facility in this section. If applicable, refer to the pollutants from any federal numeric effluent limitations that apply to your facility.
- 15. Enter the discharge types from your facility in this section (e.g., stormwater, process wastewater, once through cooling water, etc.)
- 16. Choose the appropriate verb tense to complete the sentence.
- 17. Enter a description of the wastewater treatment used at your facility. Include a description of each process, starting with initial treatment and finishing with the outfall/point of disposal. Use additional lines for individual discharge types if necessary.

Questions or comments concerning this form may be directed to the Water Quality Division's Application Review and Processing Team by email at <a href="https://www.wevenue.com/worden.com/w

#### **Example**

#### **Individual Industrial Wastewater Application**

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

ABC Corporation (CN600000000) operates the Starr Power Station (RN10000000000), a two-unit gas-fired electric generating facility. Unit 1 has a generating capacity of 393 megawatts (MWs) and Unit 2 has a generating capacity of 528 MWs. The facility is located at 1356 Starr Street, near the City of Austin, Travis County, Texas 78753.

This application is for a renewal to discharge 870,000,000 gallons per day of once through cooling water, auxiliary cooling water, and also authorizes the following waste streams monitored inside the facility (internal outfalls) before it is mixed with the other wastewaters authorized for discharge via main Outfall 001, referred to as "previously monitored effluents" (low-volume wastewater, metal-cleaning waste, and stormwater (from diked oil storage area yards and storm drains)) via Outfall 001. Low-volume waste sources, metal-cleaning waste, and stormwater drains on a continuous and flow-variable basis via internal Outfall 101.

The discharge of once through cooling water via Outfall 001 and low-volume waste and metal-cleaning waste via Outfall 101 from this facility is subject to federal effluent limitation guidelines at 40 CFR Part 423. The pollutants expected from these discharges based on 40 CFR Part 423 are: free available chlorine, total residual chlorine, total suspended solids, oil and grease, total iron, total copper, and pH. Temperature is also expected from these discharges. Additional potential pollutants are included in the Industrial Wastewater Application Technical Report, Worksheet 2.0.

Cooling water and boiler make-up water are supplied by Lake Starr Reservoir. The City of Austin municipal water plant (CN600000000, PWS 00000) supplies the facility's potable water and serves as an alternate source of boiler make-up water. Water from the Lake Starr Reservoir is withdrawn at the intake structure and treated with sodium hypochlorite to prevent biofouling and sodium bromide as a chlorine enhancer to improve efficacy and then passed through condensers and auxiliary equipment on a once-through basis to cool equipment and condense exhaust steam.

Low-volume wastewater from blowdown of boiler Units 1 and 2 and metal-cleaning wastes receive no treatment prior to discharge via Outfall 101. Plant floor and equipment drains and stormwater runoff from diked oil storage areas, yards, and storm drains are routed through an oil and water separator prior to discharge via Outfall 101. Domestic wastewater, blowdown, and backwash water from the service water filter, clarifier, and sand filter are routed to the Starr Creek Domestic Sewage Treatment Plant, TPDES Permit No. WQ0010000001, for treatment and disposal. Metal-cleaning waste from equipment cleaning is generally disposed of off-site.

#### **TEXAS COMMISSION ON ENVIRONMENTAL QUALITY**



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

#### PERMIT NO. WQ0014285001

APPLICATION. C & R Water Supply Inc., P.O. Box 187, Willis, Texas 77378, has applied to the Texas Commission on Environmental Quality (TCEQ) to amend Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0014285001 (EPA I.D. No. TX0124281) to authorize an increase in the discharge of treated wastewater to a volume not to exceed a daily average flow of 995,000. The domestic wastewater facility is located approximately 4,235 feet southeast of the intersection of Crockett-Martin Road and State Highway 105, in the city of Conroe, in Montogomery County, Texas 77306. The discharge route is from the plant site to a series of ditches, thence Milam Branch, thence to West Fork Spring Branch, thence to Spring Branch, thence to Caney Creek. TCEQ received this application on August 2, 2024. The permit application will be available for viewing and copying at R.F. Meador Public Library, reference desk, 709 West Montgomery Street, Willis, 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=-95.308888,30.325277&level=18

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

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 countywide 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 <a href="www.tceq.texas.gov/goto/cid">www.tceq.texas.gov/goto/cid</a>. 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 <a href="https://www14.tceq.texas.gov/epic/eComment/">https://www14.tceq.texas.gov/epic/eComment/</a>, 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 <a href="www.tceq.texas.gov/goto/pep">www.tceq.texas.gov/goto/pep</a>. Si desea información en Español, puede llamar al 1-800-687-4040.

Further information may also be obtained from C & R Water Supply Inc. at the address stated above or by calling Ms. Shelley Young, P.E., WaterEngineers, Inc., at 281-373-0500.

Issuance Date: September 18, 2024

#### Comisión de Calidad Ambiental del Estado de Texas



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

#### **PERMISO NO. WQ0014285001**

**SOLICITUD.** C & R Water Supply, Inc., P.O. Box 187, Willis, Tejas 77378, ha solicitado a la Comisión de Calidad Ambiental del Estado de Texas (TCEQ) para el propuesto Permiso No. WQ0014285001 (EPA I.D. No. TX0124281) del Sistema de Eliminación de Descargas de Contaminantes de Texas (TPDES) para autorizar un aumento en el descarga de aguas residuales tratadas en un volumen que no sobrepasa un flujo promedio diario de 995,000 galones por día. La instalación de aguas residuales domésticas está ubicada aproximadamente a 4,235 pies al sureste de la intersección de Crockett-Martin Road y State Highway 105, en la ciudad de Conroe, en el condado de Montogomery, Texas 77306. La ruta de descarga es del sitio de la planta a a serie de acequias; de ahí a tributario sin nombre; de ahí a Milam Branch; de ahí a West Fork Spring Branch; de ahí a Spring Branch; de ahí a Caney Creek. TCEQ recibió esta solicitud el 2 de agosto de 2024. La solicitud para el permiso está disponible para leerla y copiarla en Biblioteca Sucursal de R. F. Meador, 702 Calle Montgomery Oeste, Willis, Tejas 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/pendingpermits/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=-95.308888,30.325277&level=18

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

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

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

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

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

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

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

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

solicitudes en un condado especifico. Si desea que se agrega su nombre en una de las listas designe cual lista(s) y envia por correo su pedido a la Oficina del Secretario Principal de la TCEQ.

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

También se puede obtener información adicional del C & R Water Supply, Inc. a la dirección indicada arriba o llamando a Ms. Shelley Young, P.E., Water Engineers, Inc., al 281-373-0500.

Fecha de emisión 18 de septiembre de 2024

#### WATER & WASTEWATER TREATMENT CONSULTANTS

17230 HUFFMEISTER ROAD, SUITE A~CYPRESS, TEXAS 77429-1643 Tel: 281-373-0500 FAX: 281-373-1113

#### Overnight by UPS

July 31, 2024

Executive Director Water Quality Applications Team (MC 148) Texas Commission on Environmental Quality 12100 Park 35 Circle Austin, Texas 78753

Re: C & R Water Supply, Inc.

Application for Major Amendment with Renewal to TPDES Permit No. WQ0014285001 Emerson Estates Wastewater Treatment Plant

Dear Sir:

Enclosed please find the original and four copies of the Application for a Major Amendment with Renewal to Texas Pollution Discharge Elimination System Permit No. WQ0014285001 for the Emerson Estates Wastewater Treatment Plant.

Please contact Shelley Young, P.E. at 281-373-0500 or at <u>syoung@waterengineers.com</u> if there are any questions related to the material presented in the application.

Sincerely,

WATERENGINEERS, INC.

Shelley Young, P.E.

Encl: As noted

## APPLICATION FOR A MAJOR AMENDMENT WITH RENEWAL TO TEXAS POLLUTION DISCHARGE ELIMINATION SYSTEM PERMIT NO. WQ0014285001

#### **FOR**

### EMERSON ESTATES WASTEWATER TREATMENT PLANT

C & R WATER SUPPLY, INC. P.O. BOX 187 WILLIS, TEXAS 77378

PREPARED BY:

#### WATERENGINEERS, INC.

WATER & WASTEWATER TREATMENT CONSULTANTS 17230 HUFFMEISTER ROAD, SUITE A, CYPRESS, TEXAS 77429 Tel: 281-373-0500 FAX: 281-373-1113

## APPLICATION FOR A MAJOR AMENDMENT WITH RENEWALTO TEXAS POLLUTION DISCHARGE ELIMINATION SYSTEM

#### PERMIT NO. WQ0014285001

#### FOR EMERSON ESTATES

#### WASTEWATER TREATMENT PLANT

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## S COMMISSION OF THE PROPERTY O

#### TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

## DOMESTIC WASTEWATER PERMIT APPLICATION CHECKLIST

#### Complete and submit this checklist with the application.

APPLICANT NAME: <u>C & R Water Supply</u>, <u>Inc.</u>

PERMIT NUMBER (If new, leave blank): WQ00 WQ0014285001

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

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

For TCEQ Use Only		
Segment Number	County	
Expiration Date	Region	
Permit Number		

## S COMMISSION OF THE PROPERTY O

#### TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

## DOMESTIC WASTEWATER PERMIT APPLICATION ADMINISTRATIVE REPORT 1.0

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

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

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

Flow	New/Major Amendment	Renewal
<0.05 MGD	\$350.00 □	\$315.00 □
≥0.05 but <0.10 MGD	\$550.00 □	\$515.00 □
≥0.10 but <0.25 MGD	\$850.00 □	\$815.00 □
≥0.25 but <0.50 MGD	\$1,250.00 <sup>[]</sup>	\$1,215.00 □
≥0.50 but <1.0 MGD	<b>\$1,650.00</b> ⊠	\$1,615.00 <b>□</b>
≥1.0 MGD	\$2,050.00 □	\$2,015.00

Minor Amendment (for any flow) \$150.00 □

Pavment I	nformation
-----------	------------

Mailed Check/Money Order Number: 1377

Check/Money Order Amount: \$1,650.00

Name Printed on Check: WaterEngineers, Inc.

EPAY Voucher Number: Click to enter text.

Copy of Payment Voucher enclosed? Yes □

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

a.	Che	ck the box next to the appropriate authorization type.
		Publicly-Owned Domestic Wastewater
	$\boxtimes$	Privately-Owned Domestic Wastewater
		Conventional Wastewater Treatment
b.	Che	ck the box next to the appropriate facility status.
	$\boxtimes$	Active   Inactive

c.	Che	eck the box next to the appropriate permit ty	pe.				
	$\boxtimes$	TPDES Permit					
		TLAP					
		TPDES Permit with TLAP component					
		Subsurface Area Drip Dispersal System (SAI	ODS)				
d.	Che	eck the box next to the appropriate application	n typ	e			
		New					
	$\boxtimes$	Major Amendment with Renewal		Minor Amendment with Renewal			
		Major Amendment without Renewal		Minor Amendment <u>without</u> Renewal			
		Renewal without changes		Minor Modification of permit			
e.		amendments or modifications, describe the nge phases	propo	osed changes: <u>Increase final capacity and</u>			
f.	For	existing permits:					
	Peri	mit Number: WQ00 <u>14285001</u>					
	EPA	I.D. (TPDES only): TX <u>0124281</u>					
	Exp	iration Date: May 16, 2027					
Se	ctio	on 3. Facility Owner (Applicant) (Instructions Page 26)	and	Co-Applicant Information			
A.	The	owner of the facility must apply for the pe	ermit.				
	Wha	at is the Legal Name of the entity (applicant)	apply	ing for this permit?			
	<u>C &amp;</u>	R Water Supply, Inc.					
	(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 <a href="http://www15.tceq.texas.gov/crpub/">http://www15.tceq.texas.gov/crpub/</a>						
	(	CN: <u>600581672</u>					
		at is the name and title of the person signing cutive official meeting signatory requirement					
	]	Prefix: Mr. Last Name,	First	Name: <u>Pawalowski, Michael</u>			
	-	Title: Owner Credential:	Click	to enter text.			
В.		<b>applicant information.</b> Complete this section pply as a co-permittee.	only	if another person or entity is required			

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

N/A

(The legal name must be spelled exactly as filed with the TX SOS, with the County, or in the

legal documents forming the entity.)

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

CN: Click to enter text.

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: Click to enter text.

Last Name, First Name: Click to enter text.

Title: Click to enter text.

Credential: Click to enter text.

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

#### C. Core Data Form

Complete the Core Data Form for each customer and include as an attachment. If the customer type selected on the Core Data Form is **Individual**, complete **Attachment 1** of Administrative Report 1.0. <u>ADMIN.03</u>

#### 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: Ms.

Last Name, First Name: Young, Shelley

Title: Engineer

Credential: P.E.

Organization Name: WaterEngineers, Inc.

- S

Mailing Address: 17230 Huffmeister Road, Suite A City, State, Zip Code: Cypress, TX 77429

Phone No.: 281-373-0500

E-mail Address: syoung@waterengineers.com

Check one or both:

□ Technical Contact

**B.** 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: Click to enter text.

Mailing Address: Click to enter text.

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

Phone No.: Click to enter text.

E-mail Address: Click to enter text.

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: Pawalowski, Michael

Title: Owner

Credential: Click to enter text.

Organization Name: C & R Water Supply, Inc.

Mailing Address: P.O. Box 187

City, State, Zip Code: Willis, TX 77378

Phone No.: <u>936-856-4199</u> E-mail Address: <u>mike@crwater.online</u>

B. Prefix: Mr. Last Name, First Name: Guice, Steven

Title: <u>Chief Operator</u> Credential: Click to enter text.

Organization Name: C & R Water Supply, Inc.

Mailing Address: P.O. Box 187 City, State, Zip Code: Willis, TX 77378

Phone No.: <u>936-520-2757</u> E-mail Address: <u>steve@crwater.online</u>

#### 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: Pawalowski, Michael

Title: Owner Credential: Click to enter text.

Organization Name: C & R Water Supply, Inc.

Mailing Address: P.O. Box 187 City, State, Zip Code: Willis, TX 77378

Phone No.: 936-856-4199 E-mail Address: mike@crwater.online

#### 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: Pawalowski, Michael

Title: Owner Credential: Click to enter text.

Organization Name: <u>C & R Water Supply, Inc.</u>

Mailing Address: P.O. Box 187 City, State, Zip Code: Willis, TX 77378

Phone No.: 936-856-4199 E-mail Address: mike@crwater.online

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

#### A. Individual Publishing the Notices

Prefix: Ms. Last Name, First Name: Young, Shelley

Title: Engineer Credential: P.E.

Organization Name: WaterEngineers, Inc.

Mailing Address: 17230 Huffmeister Road, Suite A City, State, Zip Code: Cypress, TX 77429

Phone No.: 281-373-0500 E-mail Address: syoung@waterengineers.com

В.		ethod fo ckage	or Receiving	g Not	ice of Receipt and Intent to Obtain a Water Quality Permit			
	In	dicate b	y a check m	ark t	he preferred method for receiving the first notice and instructions			
	$\boxtimes$	E-mai	il Address					
		Fax						
		Regul	ar Mail					
C.	Co	ntact p	ermit to be	liste	d in the Notices			
	Pro	efix: <u>Ms</u> .			Last Name, First Name: Young, Shelley			
	Tit	le: <u>Engi</u>	neer		Credential: <u>P.E.</u>			
	Or	ganizat	ion Name: <u>W</u>	/aterl	Engineers, Inc.			
	Ma	iling Ac	ddress: <u>1723</u> 0	) Huf	ffmeister Road, Suite A City, State, Zip Code: Cypress, TX 77429			
	Ph	one No.	281-373-050	00	E-mail Address: syoung@waterengineers.com			
D.	Pu	blic Vie	wing Inform	natio	on			
	-	_	ity or outfall ist be provid		cated in more than one county, a public viewing place for each			
	Pu	blic buil	lding name:	<u>R. F.</u>	Meador Branch Library			
	Location within the building: Reference Desk							
	Physical Address of Building: 709 W. Montgomery Street							
	Cit	y: Willis	s, TX 77378		County: Montgomery			
	Co	ntact (L	ast Name, Fi	irst N	Name): <u>Michelle Kovacs</u>			
	Ph	one No.:	936-522-27	<u>50</u> Ex	xt.: Click to enter text.			
E.	Bil	ingual I	Notice Requ	irem	ents			
	ed for new, major amendment, minor amendment or minor l 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.				program required by the Texas Education Code at the elementary st to the facility or proposed facility?			
			Yes		No			
		If <b>no</b> , p	oublication o	f an	alternative language notice is not required; <b>skip to</b> Section 9			
	2.				ttend either the elementary school or the middle school enrolled ir ogram at that school?			
		$\boxtimes$	Yes		No			

	3.	Do the locatio	students at n?	these	e school	s attend	a bilingua	ıl educa	ation prog	gram a	t another
			Yes	$\boxtimes$	No						
	4.		the school b out of this i							gram l	out the school has
			Yes	$\boxtimes$	No						
	5.		inswer is <b>yes</b> ed. Which lan								tive language are
F.	Pla	in Lang	guage Summ	ary T	T <b>empla</b> t	te					
	Co	mplete	the Plain Lar	ıguag	e Sumn	nary (TC	EQ Form 2	0972)	and inclu	de as a	an attachment.
	At	tachme	nt: <u>ADMIN.o</u>	4							
G.	Pu	blic Inv	olvement Pl	an Fo	orm						
	Со	mplete	the Public In	volve	ment P	lan Forn	ı (TCEQ Fo	rm 209	960) for e	ach ap	plication for a
			it or major a								
	At	tachmei	nt: <u>ADMIN.o</u>	5							
Ca		0	D 1 - 4	1 .				LON	т С		/T
<b>Se</b>	CUI	on 9.	Regulat Page 29		entity	and Pe	ermitted	Site	Inform	ation	(Instructions
A.			is currently 1 <b>N</b> <u>102763208</u>		ated by	TCEQ, p	rovide the	Regula	ated Entit	y Num	ber (RN) issued to
			TCEQ's Cen currently reg				//www15.t	ceq.tex	as.gov/ci	rpub/	to determine if
B.	Na	me of p	roject or site	e (the	name k	nown by	the comr	nunity	where lo	cated):	
	<u>Em</u>	erson Es	states WWTF								
C.	Ow	ner of t	reatment fac	cility:	<u>C &amp; R V</u>	Vater Sup	ply, Inc.				
	Ow	nership	of Facility:		Public	$\boxtimes$	Private		Both		Federal
D.	Ow	ner of l	and where tr	reatm	ent fac	ility is o	r will be:				
	Pre	fix: Clic	k to enter te	ext.	La	ast Name	e, First Nar	ne: Cli	ck to ente	er text.	
	Tit	le: Click	to enter tex	t.	C	redentia	l: Click to	enter t	ext.		
	Org	ganizati	on Name: <u>C </u>	& R W	ater Su	oply, Inc.					
	Ma	iling Ad	dress: <u>P.O. B</u>	ox 18	Z		City, State	, Zip C	ode: <u>Willi</u>	s, TX 7	7378
	Pho	one No.:	936-856-419	9	I	E-mail A	ddress: <u>mil</u>	ke@crw	ater.online	<u>e</u>	
			owner is not or deed reco						or co-ap	plican	t, attach a lease
		Attachi	ment: Click t	o ent	er text.						

	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: Click to ente	er text.
	Mailing Address: Click to enter to	ext. City, State, Zip Code: Click to enter text.
	Phone No.: Click to enter text.	E-mail Address: Click to enter text.
	If the landowner is not the same agreement or deed recorded ease	person as the facility owner or co-applicant, attach a lease ement. See instructions.
	Attachment: Click to enter te	xt.
F.	Owner sewage sludge disposal si property owned or controlled by	te (if authorization is requested for sludge disposal on the applicant)::
	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: Click to ente	er text.
	Mailing Address: Click to enter to	ext. City, State, Zip Code: Click to enter text.
	Phone No.: Click to enter text.	E-mail Address: Click to enter text.
	If the landowner is not the same agreement or deed recorded ease	person as the facility owner or co-applicant, attach a lease ement. See instructions.
	Attachment: Click to enter te	xt.
0	.' 10 EDDEC D' 1	T ( .1 /T1 D 01)
Se	ction 10. TPDES Discharg	ge Information (Instructions Page 31)
		ge Information (Instructions Page 31) ity location in the existing permit accurate?
	Is the wastewater treatment facil  ☑ Yes □ No  If no, or a new permit application	
	Is the wastewater treatment facil  ☑ Yes □ No	ity location in the existing permit accurate?
A.	Is the wastewater treatment facil  ✓ Yes □ No  If <b>no, or a new permit application</b> Click to enter text.	ity location in the existing permit accurate?
A.	Is the wastewater treatment facil  ✓ Yes □ No  If <b>no, or a new permit application</b> Click to enter text.	ity location in the existing permit accurate?  on, please give an accurate description:
A.	Is the wastewater treatment facility  Yes □ No  If no, or a new permit application Click to enter text.  Are the point(s) of discharge and  Yes □ No  If no, or a new or amendment perpoint of discharge and the discharge	ity location in the existing permit accurate?  on, please give an accurate description:
A.	Is the wastewater treatment facility  Yes □ No  If no, or a new permit application Click to enter text.  Are the point(s) of discharge and  □ Yes □ No  If no, or a new or amendment perpoint of discharge and the discharge and th	ity location in the existing permit accurate?  on, please give an accurate description:  the discharge route(s) in the existing permit correct?  ermit application, provide an accurate description of the
A.	Is the wastewater treatment facility  Yes □ No  If no, or a new permit application Click to enter text.  Are the point(s) of discharge and  Yes □ No  If no, or a new or amendment perpoint of discharge and the discharge	ity location in the existing permit accurate?  on, please give an accurate description:  the discharge route(s) in the existing permit correct?  ermit application, provide an accurate description of the
A.	Is the wastewater treatment facilial Yes □ No  If no, or a new permit application Click to enter text.  Are the point(s) of discharge and □ Yes □ No  If no, or a new or amendment perpoint of discharge and the discharge TAC Chapter 307:  Click to enter text.	ity location in the existing permit accurate?  on, please give an accurate description:  the discharge route(s) in the existing permit correct?  ermit application, provide an accurate description of the arge route to the nearest classified segment as defined in 30
A.	Is the wastewater treatment facility  Yes □ No  If no, or a new permit application Click to enter text.  Are the point(s) of discharge and  □ Yes □ No  If no, or a new or amendment perpoint of discharge and the discharge and th	on, please give an accurate description:  the discharge route(s) in the existing permit correct?  ermit application, provide an accurate description of the arge route to the nearest classified segment as defined in 30
A.	Is the wastewater treatment facility  Yes □ No  If no, or a new permit application  Click to enter text.  Are the point(s) of discharge and  Yes □ No  If no, or a new or amendment perpoint of discharge and the	the discharge route(s) in the existing permit correct?  ermit application, provide an accurate description of the arge route to the nearest classified segment as defined in 30 // are located: Montgomery discharge to a city, county, or state highway right-of-way, or
A.	Is the wastewater treatment facility  Yes □ No  If no, or a new permit application Click to enter text.  Are the point(s) of discharge and □ Yes □ No  If no, or a new or amendment perpoint of discharge and the	the discharge route(s) in the existing permit correct?  ermit application, provide an accurate description of the arge route to the nearest classified segment as defined in 30 // are located: Montgomery discharge to a city, county, or state highway right-of-way, or

E. Owner of effluent disposal site:

	If <b>yes</b> , indicate by a check mark if:					
	☐ Authorization granted ☐ Authorization pending					
	For <b>new and amendment</b> applications, provide copies of letters that show proof of contact and the approval letter upon receipt.					
	Attachment: Click to enter text.					
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: Click to enter text.					
Se	ection 11. TLAP Disposal Information (Instructions Page 32)					
	<del>-</del>					
A.	For TLAPs, is the location of the effluent disposal site in the existing permit accurate?					
	☐ Yes ☐ No					
	If <b>no, or a new or amendment permit application</b> , provide an accurate description of the disposal site location:					
	Click to enter text.					
B.	City nearest the disposal site: Click to enter text.					
C.	County in which the disposal site is located: Click to enter text.					
D.	For <b>TLAPs</b> , describe the routing of effluent from the treatment facility to the disposal site:					
	Click to enter text.					
E.	For <b>TLAPs</b> , please identify the nearest watercourse to the disposal site to which rainfall runoff might flow if not contained: Click to enter text.					
Se	ction 12. Miscellaneous Information (Instructions Page 32)					
	Is the facility located on or does the treated effluent cross American Indian Land?					
	□ Yes ⊠ No					
В.	If the existing permit contains an onsite sludge disposal authorization, is the location of the sewage sludge disposal site in the existing permit accurate?					
	□ Yes □ No ⊠ Not Applicable					
	If No, or if a new onsite sludge disposal authorization is being requested in this permit application, provide an accurate location description of the sewage sludge disposal site.					
	Click to enter text.					

C.	Did any person formerly employed by the TCEQ represent your company and get paid for service regarding this application?			
		Yes	$\boxtimes$	No
				on formerly employed by the TCEQ who represented your company and regarding the application: Click to enter text.
D.	Do you	owe an	y fees	to the TCEQ?
		Yes	$\boxtimes$	No
	If yes,	provide	the fo	ollowing information:
	Acc	ount nu	mber:	Click to enter text.
	Am	ount pas	st due	: Click to enter text.
E.	Do you	owe any	y pena	alties to the TCEQ?
		Yes	$\boxtimes$	No
	If yes,	please p	rovid	e the following information:
	Enf	orcemen	t orde	er number: Click to enter text.
	Am	ount pas	st due	: Click to enter text.
Se	ction	13. At	ttach	nments (Instructions Page 33)
Inc	licate w	hich atta	achme	ents are included with the Administrative Report. Check all that apply:
		-		deed recorded easement, if the land where the treatment facility is ent disposal site are not owned by the applicant or co-applicant.
$\boxtimes$	Origir	nal full-s	ize US	GGS Topographic Map with the following information:
		Treatme Labeled Highligh Onsite so Effluent New and I mile ra 3 miles o	nt fac point ted di ewage dispo futur dius i	roperty boundary ility boundary of discharge for each discharge point (TPDES only) ischarge route for each discharge point (TPDES only) e sludge disposal site (if applicable) isal site boundaries (TLAP only) re construction (if applicable) information stream information (TPDES only)
	• /	All pond	.S.	

☐ Attachment 1 for Individuals as co-applicants

Other Attachments. Please specify: <u>Attachment ADMIN.02-Proof of Payment, ADMIN.03-Core Data Form, ADMIN.04-Plain Language Summary, ADMIN.05-Public Involvement Plan, ADMIN.06-Affected Landowners Map & Table, ADMIN.07-Photographs, ADMIN.08-Buffer Zone Map and ADMIN.09-SPIF</u>

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

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

Permit Number: <u>WQ0014285001</u>
Applicant: <u>C & R Water Supply, Inc.</u>

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): Michael Pawalowski				
Signatory title: Owner				
Signature:				
(Use blue ink)				
Subscribed and Sworn to before me by the said <u>Michael Pawalowski</u>				
on this 16th day of July, 2024.				
1) AL				
on this 16th day of July, 2024.				

County. Texas

JENNIFER R. MITRICK Notary Public, State of Texas Comm. Expires 06-30-2028 Notary ID 126010225

[SEAL]

## DOMESTIC WASTEWATER PERMIT APPLICATION ADMINISTRATIVE REPORT 1.0

The following information is required for new and amendment applications.

A.

В.

C.

D.

E.

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

		mark that the landowners map or drawing, with scale, includes the ion, as applicable:
$\boxtimes$	The applicant	s property boundaries
	The facility sit	e boundaries within the applicant's property boundaries
$\boxtimes$		he buffer zone falls into adjacent properties and the property boundaries ners located within the buffer zone
	the applicatio	poundaries of all landowners surrounding the applicant's property (Note: if n is a major amendment for a lignite mine, the map must include the adaries of all landowners adjacent to the new facility (ponds).)
	The point(s) or downstream	f discharge and highlighted discharge route(s) clearly shown for one mile
		ooundaries of the landowners located on both sides of the discharge route ream mile downstream of the point of discharge
		ooundaries of the landowners along the watercourse for a one-half mile ne point of discharge if the point of discharge is into a lake, bay, estuary, tides
		s of the effluent disposal site (for example, irrigation area or subsurface ) and all evaporation/holding ponds within the applicant's property
	The property b	oundaries of all landowners surrounding the effluent disposal site
	for beneficial	s of the sludge land application site (for land application of sewage sludge use) and the property boundaries of landowners surrounding the operty boundaries where the sewage sludge land application site is located
	applicant's pr	oundaries of landowners within one-half mile in all directions from the operty boundaries where the sewage sludge disposal site (for example, e disposal site or sludge monofill) is located
⊠ addı	-	heck mark that a separate list with the landowners' names and mailing erenced to the landowner's map has been provided.
Indi	cate by a check	mark in which format the landowners list is submitted:
	☑ USB Drive	□ Four sets of labels
	ride the source raisal District	of the landowners' names and mailing addresses: Montgomery County
	equired by <i>Tex</i> application?	as Water Code § 5.115, is any permanent school fund land affected by
Ē	□ Yes ⊠	No

	If <b>y</b>	es, provide the location and foreseeable impacts and effects this application has on the d(s):
		ck to enter text.
Se	ectio	on 2. Original Photographs (Instructions Page 38)
Pr	ovide	e original ground level photographs. Indicate with checkmarks that the following ation is provided.
	$\boxtimes$	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
	/	
Se	ectio	on 3. Buffer Zone Map (Instructions Page 38)
A.	info	Fer zone map. Provide a buffer zone map on $8.5 \times 11$ -inch paper with all of the following rmation. The applicant's property line and the buffer zone line may be distinguished by ag dashes or symbols and appropriate labels.
	•	The required buffer zone; and
В.		Fer zone compliance method. Indicate how the buffer zone requirements will be met. ck all that apply.
		☑ Ownership
	[	☐ Restrictive easement
	[	Nuisance odor control
	[	□ Variance
C.		uitable site characteristics. Does the facility comply with the requirements regarding uitable 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:** <u>ADMIN.09</u>



#### 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): <u>0.300</u> 2-Hr Peak Flow (MGD): <u>1.20</u>

Estimated construction start date: <u>existing</u>
Estimated waste disposal start date: <u>existing</u>

#### **B.** Interim II Phase

Design Flow (MGD): <u>0.495</u> 2-Hr Peak Flow (MGD): 1.98

Estimated construction start date: 3/2025
Estimated waste disposal start date: 9/2025

#### C. Final Phase

Design Flow (MGD): <u>0.995</u> 2-Hr Peak Flow (MGD): <u>3.98</u>

Estimated construction start date: 3/2028
Estimated waste disposal start date: 3/2029

#### **D. Current Operating Phase**

Provide the startup date of the facility: early 2000's

#### 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**.

Phase I (current) Flow is split to two plants and goes to the aeration basins, thence to the clarifiers, thence to the chlorine contact chambers for disinfection and discharge. Sludge from the bottom of the clarifiers is returned to either the aeration basins or wasted to the digesters. In phase II, the outer ring of Plant I will be converted to all aeration capacity and new digesters will be added. Flow will be split to two plants and go to the aeration basins, thence to the clarifiers, thence to one chlorine contact chamber for disinfection and discharge. Sludge from the bottom of the clarifiers will be returned to either the aeration basins or wasted to the digesters. In Phase III, an additional plant will be added. Flow will be split to three plants and go to the aeration basins, thence to the clarifiers, thence to one chlorine contact chamber for disinfection and discharge. Sludge from the bottom of the clarifiers will be returned to either the aeration basins or wasted to the digesters.

#### **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 TECH.01		

#### C. Process Flow Diagram

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

**Attachment: TECH.02** 

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

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

Latitude: 30.321367

• Longitude: -95.304575

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: TECH.03

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

Emerson Estates residential subdivision, Crockett Trace residential subdivision, Kellyn Oaks residential subdivision, Crocket Reserve residential subdivision, Crockett Martin Estates residential subdivision, Marie Village residential subdivision, proposed Crockett Meadows residential subdivision, proposed Baron Village residential subdivision. Other as of yet unnamed residential subdivisions will be added.

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**

<b>Collection System Name</b>	Owner Name	Owner Type	Population Served
Emerson Estates	C & R Water Supply, Inc.	Privately Owned	~6,000 for all
Crockett Trace	66 66	Privately Owned	
Kellyn Oaks	44 66	Privately Owned	
Crockett Reserve	ии	Privately Owned	
Crockett Martin Estates			
Marie Village	u u		
Crockett meadows			
Baron Village	"		
			I.

#### **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				
<b>If yes</b> , does the existing permit contain a phase that has not been constructed <b>within fiv years</b> of being authorized by the TCEQ?	v <b>e</b>			
□ Yes □ No				
If yes, provide a detailed discussion regarding the continued need for the unbuilt phase. Failure to provide sufficient justification may result in the Executive Director recommending denial of the unbuilt phase or phases.				

Click	to enter text.
Secti	ion 5. Closure Plans (Instructions Page 45)
	any treatment units been taken out of service permanently, or will any units be taken 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.
Click	to enter text.
Secti	on 6. Permit Specific Requirements (Instructions Page 45)
	oplicants with an existing permit, check the Other Requirements or Special sions of the permit.
A. Su	mmary transmittal
	ve plans and specifications been approved for the existing facilities and each proposed ase?
	⊠ Yes □ No
If x	ves provide the date(s) of approval for each phase; submitted 7/22/2024

Provide information, including dates, on any actions taken to meet a requirement or

provision pertaining to the submission of a summary transmittal letter. Provide a copy of

TCEQ-10054 (04/02/2024) Domestic Wastewater Permit Application Technical Report

an approval letter from the TCEQ, if applicable.

	Click to enter text.					
В.	Buffer zones					
	Have the buffer zone requirements been met?					
	⊠ Yes □ No					
	Provide information below, including dates, on any actions taken to meet the conditions of the buffer zone. If available, provide any new documentation relevant to maintaining the buffer zones.					
	Click to enter text.					
C.	Other actions required by the current permit					
	Does the <i>Other Requirements</i> or <i>Special Provisions</i> 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 <i>Other Requirement</i> or <i>Special Provision</i> .					
	Other requirements 7-11 were added when C & R Water Supply, Inc. was considering accepting sludge from other facilities. C & R Water Supply never engaged in accepting sludge from other facilities and has no plans to start.					
D	Grit and grease treatment					
٠.	1. Acceptance of grit and grease waste					
	Does the facility have a grit and/or grease processing facility onsite that treats and decants or accepts transported loads of grit and grease waste that are discharged directly to the wastewater treatment plant prior to any treatment?					
	□ Yes ⊠ No					
	If No, stop here and continue with Subsection E. Stormwater Management.					
	2. Grit and grease processing					

Describe below how the grit and grease waste is treated at the facility. In your description, include how and where the grit and grease is introduced to the treatment

		works and how it is separated or processed. Provide a flow diagram showing how grit and grease is processed at the facility.
		Click to enter text.
	3.	Grit disposal
		Does the facility have a Municipal Solid Waste (MSW) registration or permit for grit disposal?
		□ Yes □ No
		If No, contact the TCEQ Municipal Solid Waste team at 512-239-2335. Note: A registration or permit is required for grit disposal. Grit shall not be combined with treatment plant sludge. See the instruction booklet for additional information on grit disposal requirements and restrictions.
		Describe the method of grit disposal.
		Click to enter text.
	4.	Grease and decanted liquid disposal
		Note: A registration or permit is required for grease disposal. Grease shall not be combined with treatment plant sludge. For more information, contact the TCEQ Municipal Solid Waste team at 512-239-2335.
		Describe how the decant and grease are treated and disposed of after grit separation.
		Click to enter text.
E.	Sto	ormwater 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?

	160 23 110
	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
	<b>If yes</b> , please provide MSGP Authorization Number and skip to Subsection F, Other Wastes Received:
	TXR05 Click to enter text. or TXRNE Click to enter text.
	If no, do you intend to seek coverage under TXR050000?
	□ Yes □ No
3.	Conditional exclusion
	Alternatively, do you intend to apply for a conditional exclusion from permitting based TXR050000 (Multi Sector General Permit) Part II B.2 or TXR050000 (Multi Sector General Permit) Part V, Sector T 3(b)?
	□ Yes □ No
	If yes, please explain below then proceed to Subsection F, Other Wastes Received:
	Click to enter text.
4.	Existing coverage in individual permit
	Is your stormwater discharge currently permitted through this individual TPDES or TLAP permit?
	□ Yes □ No
	<b>If yes</b> , provide a description of stormwater runoff management practices at the site that are authorized in the wastewater permit then skip to Subsection F, Other Wastes Received.
	Click to enter text.
<b>5.</b>	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.

		Click to enter text.
		Note: If there is a potential to discharge any stormwater to surface water in the state as the result of any storm event, then permit coverage is required under the MSGP or an individual discharge permit. This requirement applies to all areas of facilities with treatment plants or systems that treat, store, recycle, or reclaim domestic sewage, wastewater or sewage sludge (including dedicated lands for sewage sludge disposal located within the onsite property boundaries) that meet the applicability criteria of above. You have the option of obtaining coverage under the MSGP for direct discharges, (recommended), or obtaining coverage under this individual permit.
	6.	Request for coverage in individual permit
		Are you requesting coverage of stormwater discharges associated with your treatment plant under this individual permit?
		□ Yes □ No
		If yes, provide a description of stormwater runoff management practices at the site for which you are requesting authorization in this individual wastewater permit and describe whether you intend to comingle this discharge with your treated effluent or discharge it via a separate dedicated stormwater outfall. Please also indicate if you intend to divert stormwater to the treatment plant headworks and indirectly discharge it to water in the state.
		Click to enter text.
		Note: Direct stormwater discharges to waters in the state authorized through this
		individual permit will require the development and implementation of a stormwater pollution prevention plan (SWPPP) and will be subject to additional monitoring and
		reporting requirements. Indirect discharges of stormwater via headworks recycling will
		require compliance with all individual permit requirements including 2-hour peak flow limitations. All stormwater discharge authorization requests will require additional
		information during the technical review of your application.
F.	Dis	scharges to the Lake Houston Watershed
	Do	es the facility discharge in the Lake Houston watershed?
		⊠ Yes □ No
		ves, attach a Sewage Sludge Solids Management Plan. See Example 5 in the instructions. CH.04

## 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?

	If yes, attach sewage sludge solids management plan. See Example 5 of instructions.							
	In addition, provide the date the plant started or is anticipated to start accepting sludge, an estimate of monthly sludge acceptance (gallons or millions of gallons), an							
	estimate of the BOD <sub>5</sub> concentration of the sludge, and the design BOD <sub>5</sub> concentration of the influent from the collection system. Also note if this information has or has not changed since the last permit action.							
	Click to enter text.							
	Note: Permits that accept sludge from other wastewater treatment plants may be required to have influent flow and organic loading monitoring.							
2.	Acceptance of septic waste							
	Is the facility accepting or will it accept septic waste?							
	□ Yes ⊠ No							
	If yes, does the facility have a Type V processing unit?							
	□ Yes □ No							
	If yes, does the unit have a Municipal Solid Waste permit?							
	□ Yes □ No							
	If yes to any of the above, provide the date the plant started or is anticipated to start accepting septic waste, an estimate of monthly septic waste acceptance (gallons or millions of gallons), an estimate of the $BOD_5$ concentration of the septic waste, and the							
	design BOD <sub>5</sub> concentration of the influent from the collection system. Also note if this information has or has not changed since the last permit action.							
	Click to enter text.							
	Note: Permits that accept sludge from other wastewater treatment plants may be							
	required to have influent flow and organic loading monitoring.							
3.	Acceptance of other wastes (not including septic, grease, grit, or RCRA, CERCLA or as discharged by IUs listed in Worksheet 6)							
	Is or will the facility accept wastes that are not domestic in nature excluding the categories listed above?							
	□ Yes ⊠ No							
	If yes, provide the date that the plant started accepting the waste, an estimate how much waste is accepted on a monthly basis (gallons or millions of gallons), a description of the entities generating the waste, and any distinguishing chemical or							

3.

Yes 🛛 No

other physical characteristic of the waste. Also note if this information has or has not changed since the last permit action.

Click to enter text.	

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

Is the facility in operation?

⊠ Yes □ No

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

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

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

Pollutant	Average Conc.	Max Conc.	No. of Samples	Sample Type	Sample Date/Time
CBOD <sub>5</sub> , mg/l	3.5	3.5	1	grab	6/20/24 @ 06:40
Total Suspended Solids, mg/l	16.5	16.5	1	grab	6/20/24 @ 06:40
Ammonia Nitrogen, mg/l	<0.1	<0.1	1	grab	6/20/24 @ 06:40
Nitrate Nitrogen, mg/l	25.9	25.9	1	grab	6/20/24 @ 06:40
Total Kjeldahl Nitrogen, mg/l	3.1	3.1	1	grab	6/20/24 @ 06:40
Sulfate, mg/l	44.2	44.2	1	grab	6/20/24 @ 06:40
Chloride, mg/l	96.8	96.8	1	grab	6/20/24 @ 06:40
Total Phosphorus, mg/l	6.34	6.34	1	grab	6/20/24 @ 06:40
pH, standard units	7.5	7.5	1	grab	6/20/24 @ 06:40
Dissolved Oxygen*, mg/l	6.7	6.7	1	grab	6/20/24 @ 06:40
Chlorine Residual, mg/l	3.0	3.0	1	grab	6/20/24 @ 06:40
E.coli (CFU/100ml) freshwater	<1	<1	1	grab	6/20/24 @ 06:40
Entercocci (CFU/100ml) saltwater	N/A				
Total Dissolved Solids, mg/l	690		1	grab	6/20/24 @ 06:40
Electrical Conductivity, µmohs/cm, †	958		1	grab	6/20/24 @ 06:40

Oil & Grease, mg/l	N/A			
Alkalinity (CaCO <sub>3</sub> )*, mg/l	152	1	grab	6/20/24 @ 06:40

<sup>\*</sup>TPDES permits only †TLAP permits only

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

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

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

Facility Operator Name: Steve Guice

Facility Operator's License Classification and Level: C

Facility Operator's License Number: WW0058424

A. WWTP's Biosolids Management Facility Type

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

# 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.

CIIC	en un chat appris dec motractions i
	Aerobic Digestion
	Air Drying (or sludge drying beds
	Lower Temperature Composting
	Lime Stabilization
40	Higher Temperature Composting

	Heat Drying
	Thermophilic Aerobic Digestion
	Beta Ray Irradiation
	Gamma Ray Irradiation
	Pasteurization
	Preliminary Operation (e.g. grinding, de-gritting, blending)
$\boxtimes$	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: Click to enter text.

## C. Biosolids Management

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

## **Biosolids Management**

Management Practice	Handler or Preparer Type	Bulk or Bag Container	Amount (dry metric tons)	Pathogen Reduction Options	Vector Attraction Reduction Option
Disposal in Landfill	On-Site Owner or Operator	Bulk		Domestic Septage: pH	Option 5: Aerobic process for 14 days at >40C
Other	Choose an item.	Choose an item.		Choose an item.	Choose an item.
Choose an item.	Choose an item.	Choose an item.		Choose an item.	Choose an item.

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

### D. Disposal site

Disposal site name: <u>Landfill: New Earth Inc. and Security Recycling & Disposal Facility; Other WWTP-Richey Road MUD WWTP</u>

TCEQ permit or registration number: 42037, 1752B, WQ0011154001, respectively

County where disposal site is located: Montgomery, San Jacinto, Harris, respectively

### E. Transportation method

Method of transportation (truck, train, pipe, other): Truck Name of the hauler: C & R Water Supply and Magna-Flow Hauler registration number: 23162 and 21484, respectively 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? П 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  $\boxtimes$ No Marketing and Distribution of sludge Yes  $\boxtimes$ No Sludge Surface Disposal or Sludge Monofill 15 Yes  $\boxtimes$ No Temporary storage in sludge lagoons Yes X 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  $\square$ 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: Click to enter text.

• USDA Natural Resources Conservation Service Soil Map:

Attachment: Click to enter text.

Federal Emergency Management Map:

Attachment: Click to enter text.

• Site map:

Attachment: Click to enter text.

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

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

Attachment: Click 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:

Click to enter text.			

### **B.** Temporary storage information

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

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

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

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

Phosphorus, mg/kg: Click to enter text.

Potassium, mg/kg: Click to enter text.

pH, standard units: Click to enter text.

Ammonia Nitrogen mg/kg: Click to enter text.

Arsenic: Click to enter text.

Cadmium: Click to enter text.

Chromium: Click to enter text.

Lead: Click to enter text.  Mercury: Click to enter text.  Molybdenum: Click to enter text.  Nickel: Click to enter text.  Selenium: Click to enter text.  Zinc: Click to enter text.  Total PCBs: Click to enter text.  Total PCBs: Click to enter text.  Provide the following information:  Volume and frequency of sludge to the lagoon(s): Click to enter text.  Total dry tons stored in the lagoons(s) per 365-day period: Click to enter text.  Total dry tons stored in the lagoons(s) over the life of the unit: Click to enter text.  C. Liner information  Does the active/proposed sludge lagoon(s) have a liner with a maximum hydraulic conductivity of 1x10° cm/sec?  Yes No  If yes, describe the liner below. Please note that a liner is required.  Click to enter text.  D. Site development plan  Provide a detailed description of the methods used to deposit sludge in the lagoon(s):  Click to enter text.		Copper: Click to enter text.
Molybdenum: Click to enter text.  Nickel: Click to enter text.  Selenium: Click to enter text.  Zinc: Click to enter text.  Total PCBs: Click to enter text.  Provide the following information:  Volume and frequency of sludge to the lagoon(s): Click to enter text.  Total dry tons stored in the lagoons(s) per 365-day period: Click to enter text.  Total dry tons stored in the lagoons(s) over the life of the unit: Click to enter text.  C. Liner information  Does the active/proposed sludge lagoon(s) have a liner with a maximum hydraulic conductivity of 1x10° cm/sec?  Yes No  If yes, describe the liner below. Please note that a liner is required.  Click to enter text.  D. Site development plan  Provide a detailed description of the methods used to deposit sludge in the lagoon(s):		Lead: Click to enter text.
Nickel: Click to enter text.  Selenium: Click to enter text.  Zinc: Click to enter text.  Total PCBs: Click to enter text.  Provide the following information:  Volume and frequency of sludge to the lagoon(s): Click to enter text.  Total dry tons stored in the lagoons(s) per 365-day period: Click to enter text.  Total dry tons stored in the lagoons(s) over the life of the unit: Click to enter text.  C. Liner information  Does the active/proposed sludge lagoon(s) have a liner with a maximum hydraulic conductivity of 1x10-7 cm/sec?  Yes No  If yes, describe the liner below. Please note that a liner is required.  Click to enter text.  D. Site development plan  Provide a detailed description of the methods used to deposit sludge in the lagoon(s):		Mercury: Click to enter text.
Selenium: Click to enter text.  Zinc: Click to enter text.  Total PCBs: Click to enter text.  Provide the following information:  Volume and frequency of sludge to the lagoon(s): Click to enter text.  Total dry tons stored in the lagoons(s) per 365-day period: Click to enter text.  Total dry tons stored in the lagoons(s) over the life of the unit: Click to enter text.  C. Liner information  Does the active/proposed sludge lagoon(s) have a liner with a maximum hydraulic conductivity of 1x107 cm/sec?  Yes No  If yes, describe the liner below. Please note that a liner is required.  Click to enter text.  D. Site development plan  Provide a detailed description of the methods used to deposit sludge in the lagoon(s):		Molybdenum: Click to enter text.
Zinc: Click to enter text.  Total PCBs: Click to enter text.  Provide the following information:  Volume and frequency of sludge to the lagoon(s): Click to enter text.  Total dry tons stored in the lagoons(s) per 365-day period: Click to enter text.  Total dry tons stored in the lagoons(s) over the life of the unit: Click to enter text.  C. Liner information  Does the active/proposed sludge lagoon(s) have a liner with a maximum hydraulic conductivity of 1x10 <sup>-7</sup> cm/sec?  Yes No  If yes, describe the liner below. Please note that a liner is required.  Click to enter text.  D. Site development plan  Provide a detailed description of the methods used to deposit sludge in the lagoon(s):		Nickel: Click to enter text.
Total PCBs: Click to enter text.  Provide the following information:  Volume and frequency of sludge to the lagoon(s): Click to enter text.  Total dry tons stored in the lagoons(s) per 365-day period: Click to enter text.  Total dry tons stored in the lagoons(s) over the life of the unit: Click to enter text.  C. Liner information  Does the active/proposed sludge lagoon(s) have a liner with a maximum hydraulic conductivity of 1x10 <sup>-7</sup> cm/sec?  Yes No  If yes, describe the liner below. Please note that a liner is required.  Click to enter text.  D. Site development plan  Provide a detailed description of the methods used to deposit sludge in the lagoon(s):		Selenium: Click to enter text.
Provide the following information:  Volume and frequency of sludge to the lagoon(s): Click to enter text.  Total dry tons stored in the lagoons(s) per 365-day period: Click to enter text.  Total dry tons stored in the lagoons(s) over the life of the unit: Click to enter text.  C. Liner information  Does the active/proposed sludge lagoon(s) have a liner with a maximum hydraulic conductivity of 1x10 <sup>-7</sup> cm/sec?  Yes No  If yes, describe the liner below. Please note that a liner is required.  Click to enter text.  D. Site development plan  Provide a detailed description of the methods used to deposit sludge in the lagoon(s):		Zinc: Click to enter text.
Volume and frequency of sludge to the lagoon(s): Click to enter text.  Total dry tons stored in the lagoons(s) per 365-day period: Click to enter text.  Total dry tons stored in the lagoons(s) over the life of the unit: Click to enter text.  C. Liner information  Does the active/proposed sludge lagoon(s) have a liner with a maximum hydraulic conductivity of 1x10-7 cm/sec?  Yes No  If yes, describe the liner below. Please note that a liner is required.  Click to enter text.  D. Site development plan  Provide a detailed description of the methods used to deposit sludge in the lagoon(s):		Total PCBs: Click to enter text.
Total dry tons stored in the lagoons(s) per 365-day period: Click to enter text.  Total dry tons stored in the lagoons(s) over the life of the unit: Click to enter text.  C. Liner information  Does the active/proposed sludge lagoon(s) have a liner with a maximum hydraulic conductivity of 1x10 <sup>-7</sup> cm/sec?  Yes No  If yes, describe the liner below. Please note that a liner is required.  Click to enter text.  D. Site development plan  Provide a detailed description of the methods used to deposit sludge in the lagoon(s):		Provide the following information:
Total dry tons stored in the lagoons(s) over the life of the unit: Click to enter text.  C. Liner information  Does the active/proposed sludge lagoon(s) have a liner with a maximum hydraulic conductivity of 1x10-7 cm/sec?  Yes No  If yes, describe the liner below. Please note that a liner is required.  Click to enter text.  D. Site development plan  Provide a detailed description of the methods used to deposit sludge in the lagoon(s):		Volume and frequency of sludge to the lagoon(s): Click to enter text.
C. Liner information  Does the active/proposed sludge lagoon(s) have a liner with a maximum hydraulic conductivity of 1x10 <sup>-7</sup> cm/sec?  Yes No  If yes, describe the liner below. Please note that a liner is required.  Click to enter text.  D. Site development plan  Provide a detailed description of the methods used to deposit sludge in the lagoon(s):		Total dry tons stored in the lagoons(s) per 365-day period: Click to enter text.
Does the active/proposed sludge lagoon(s) have a liner with a maximum hydraulic conductivity of 1x10 <sup>7</sup> cm/sec?  Yes No  If yes, describe the liner below. Please note that a liner is required.  Click to enter text.  D. Site development plan  Provide a detailed description of the methods used to deposit sludge in the lagoon(s):		Total dry tons stored in the lagoons(s) over the life of the unit: Click to enter text.
Does the active/proposed sludge lagoon(s) have a liner with a maximum hydraulic conductivity of 1x10 <sup>7</sup> cm/sec?  Yes No If yes, describe the liner below. Please note that a liner is required.  Click to enter text.  D. Site development plan  Provide a detailed description of the methods used to deposit sludge in the lagoon(s):	C.	Liner information
If yes, describe the liner below. Please note that a liner is required.  Click to enter text.  D. Site development plan  Provide a detailed description of the methods used to deposit sludge in the lagoon(s):	-	Does the active/proposed sludge lagoon(s) have a liner with a maximum hydraulic
Click to enter text.  D. Site development plan  Provide a detailed description of the methods used to deposit sludge in the lagoon(s):		□ Yes □ No
D. Site development plan  Provide a detailed description of the methods used to deposit sludge in the lagoon(s):		If yes, describe the liner below. Please note that a liner is required.
Provide a detailed description of the methods used to deposit sludge in the lagoon(s):		Click to enter text.
Provide a detailed description of the methods used to deposit sludge in the lagoon(s):		
Provide a detailed description of the methods used to deposit sludge in the lagoon(s):		
Provide a detailed description of the methods used to deposit sludge in the lagoon(s):		
Provide a detailed description of the methods used to deposit sludge in the lagoon(s):		
	D.	Site development plan
Click to enter text.		Provide a detailed description of the methods used to deposit sludge in the lagoon(s):
		Click to enter text.
Attach the following documents to the application.		Attach the following documents to the application.

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

Attachment: Click to enter text.

• Copy of the closure plan

**Attachment**: Click to enter text.

• Copy of deed recordation for the site

Attachment: Click to enter text.

 Size of the sludge lagoon(s) in surface acres and capacity in cubic feet and gallons Attachment: Click to enter text. Description of the method of controlling infiltration of groundwater and surface water from entering the site Attachment: Click to enter text. Procedures to prevent the occurrence of nuisance conditions Attachment: Click to enter text. E. Groundwater monitoring Is groundwater monitoring currently conducted at this site, or are any wells available for groundwater monitoring, or are groundwater monitoring data otherwise available for the sludge lagoon(s)? Yes □ No If groundwater monitoring data are available, provide a copy. Provide a profile of soil types encountered down to the groundwater table and the depth to the shallowest groundwater as a separate attachment. Attachment: Click to enter text. Section 12. Authorizations/Compliance/Enforcement (Instructions Page 55) A. Additional authorizations Does the permittee have additional authorizations for this facility, such as reuse authorization, sludge permit, etc? 8 Yes 🖾 No If yes, provide the TCEQ authorization number and description of the authorization: Click to enter text. **B.** Permittee enforcement status Is the permittee currently under enforcement for this facility? Yes 🖾 Is the permittee required to meet an implementation schedule for compliance or

enforcement?

Yes 🛛

No

	<b>If yes</b> to either question, provide a brief summary of the enforcement, the implementation schedule, and the current status:
C	lick to enter text.
Se	ection 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: Click to enter text.

## 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:
  - o periodically inspected by the TCEQ; or
  - o located in another state and is accredited or inspected by that state; or
  - o performing work for another company with a unit located in the same site; or
  - o 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: Michael Pawalowski

Title: Owner

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

## 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)

	Α.	<b>Justification</b>	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.

Permittee is quickly approaching the maximum capacity allowed in the current permit. Many of the subdivisions served are still growing and developers of new subdivisions have reached out to C & R Water Supply for service. Increasing capacity is the only option.

## B. Regionalization of facilities

For additional guidance, please review <u>TCEQ's Regionalization Policy for Wastewater</u> Treatment<sup>1</sup>.

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

## 1. Municipally incorporated areas

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

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

Yes	$\boxtimes$	No	Not Applicable

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

If yes, attach correspondence from the city.

**Attachment:** Click to enter text.

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

Attachment: Click to enter text.

## 2. Utility CCN areas

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

	Yes	$\boxtimes$	No	
ليا	162		INO	

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

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

Attachment: Click to enter text.

## 3. Nearby WWTPs or collection systems

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

⊠ Yes □ No

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

Attachment: TECH.07

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

Attachment: Click to enter text.

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

Attachment: Click to enter text.

## Section 2. Proposed Organic Loading (Instructions Page 59)

Is	this	facility	in	operation?
----	------	----------	----	------------

⊠ Yes □ No

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

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

## A. Current organic loading

Facility Design Flow (flow being requested in application): <u>0.995</u>

Average Influent Organic Strength or BOD<sub>5</sub> Concentration in mg/l: 300

Average Influent Loading (lbs/day = total average flow X average BOD<sub>5</sub> conc. X 8.34):  $\underline{2,490}$ 

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

	TCEQ Design Criteria
ı	

## B. Proposed organic loading

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

Table 1.1(1) - Design Organic Loading

Source	Total Average Flow (MGD)	Influent BOD5 Concentration (mg/l)
Municipality		
Subdivision	0.300 / 0.495 / 0.995	300 / 300 / 300
Trailer park - transient		
Mobile home park		
School with cafeteria and showers		
School with cafeteria, no showers		
Recreational park, overnight use		
Recreational park, day use		
Office building or factory		
Motel		
Restaurant		
Hospital		
Nursing home		
Other		
TOTAL FLOW from all sources	0.300 / 0.495 / 0.995	
AVERAGE BOD <sub>5</sub> from all sources		300 / 300 / 300

## 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: 3

Total Phosphorus, mg/l: N/A

Dissolved Oxygen, mg/l: 4

Other: E. Coli, MPN/100 ml: 63

B.	Interim II Phase Design Effluent Quality
	Biochemical Oxygen Demand (5-day), mg/l: 10
	Total Suspended Solids, mg/l: <u>15</u>
	Ammonia Nitrogen, mg/l: 3
	Total Phosphorus, mg/l: <u>N/A</u>
	Dissolved Oxygen, mg/l: 4
	Other: E. Coli, MPN/100 ml: 63
C.	Final Phase Design Effluent Quality
	Biochemical Oxygen Demand (5-day), mg/l: <u>10</u>
	Total Suspended Solids, mg/l: <u>15</u>
	Ammonia Nitrogen, mg/l: 3
	Total Phosphorus, mg/l: <u>N/A</u>
	Dissolved Oxygen, mg/l: 4
	Other: E. Coli, MPN/100 ml: 63
D.	Disinfection Method
	Identify the proposed method of disinfection.
	Dechlorination process: Sulfur Dioxide
	□ Ultraviolet Light: Click to enter text. seconds contact time at peak flow
	□ Other: Click to enter text.
Sa	ction 4. Design Calculations (Instructions Page 59)
	· · · · · · · · · · · · · · · · · · ·
	tach design calculations and plant features for each proposed phase. Example 4 of the structions includes sample design calculations and plant features.
	Attachment: TECH.01
-	
Se	ction 5. Facility Site (Instructions Page 60)
A.	100-year floodplain
	Will the proposed facilities be located <u>above</u> the 100-year frequency flood level?
	⊠ Yes □ No
	<b>If no</b> , describe measures used to protect the facility during a flood event. Include a site map showing the location of the treatment plant within the 100-year frequency flood level. If applicable, provide the size and types of protective structures.
	Click to enter text.

Trovide the s	source(s) used to determine 100-year frequency flood plain.
FEMA Flood	d Map 48339C0425G
For a new or	expansion of a facility, will a wetland or part of a wetland be filled?
□ Yes	⊠ No
<b>If yes</b> , has th	ne applicant applied for a US Corps of Engineers 404 Dredge and Fill Permit?
□ Yes	□ No
<b>If yes</b> , provid	de the permit number: <u>Click to enter text.</u>
	e the approximate date you anticipate submitting your application to the to enter text.
B. Wind rose	
Attach a win	d rose: <u>TECH.o3</u>
Section 6.	Permit Authorization for Sewage Sludge Disposal
	(Instructions Page 60)
A. Beneficial us	se authorization
	esting to include authorization to land apply sewage sludge for beneficial us located adjacent to the wastewater treatment facility under the wastewater
□ Yes	⊠ No
	the completed <b>Application for Permit for Beneficial Land Use of Sewage Q Form No. 10451)</b> : Click to enter text.
B. Sludge proce	essing authorization
	sludge processing, storage or disposal options that will be conducted at the reatment facility:
☐ Sludg	ge Composting
☐ Mark	eting and Distribution of sludge
☐ Sludg	ge Surface Disposal or Sludge Monofill
Wastewater 1	above, sludge options are selected, attach the completed Domestic Permit Application: Sewage Sludge Technical Report (TCEQ Form No. to enter text.
Section 7.	Sewage Sludge Solids Management Plan (Instructions Page

## 61)

Attach a solids management plan to the application.

**Attachment: TECH.04** 

B.

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

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

The following information is required for all TPDES permit applications.

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 <b>no</b> , proceed it Section 2. <b>If yes</b> , provide the following:					
Owner of the drinking water supply: Click to enter text.					
Distance and direction to the intake: <u>Click to enter text.</u>					
Attach a USGS map that identifies the location of the intake.					
Attachment: Click to enter text.					
Section 2. Discharge into Tidally Affected Waters (Instructions Page 64)					
Does the facility discharge into tidally affected waters?					
□ Yes ⊠ No					
L 168 M NO					
If <b>no</b> , proceed to Section 3. <b>If yes</b> , complete the remainder of this section. If no, proceed to Section 3.					
If <b>no</b> , proceed to Section 3. <b>If yes</b> , complete the remainder of this section. If no, proceed to					
If <b>no</b> , proceed to Section 3. <b>If yes</b> , complete the remainder of this section. If no, proceed to Section 3.					
If <b>no</b> , proceed to Section 3. <b>If yes</b> , complete the remainder of this section. If no, proceed to Section 3. <b>A. Receiving water outfall</b>					
<ul><li>If no, proceed to Section 3. If yes, complete the remainder of this section. If no, proceed to Section 3.</li><li>A. Receiving water outfall Width of the receiving water at the outfall, in feet: Click to enter text.</li></ul>					

### C. Sea grasses

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

□ Yes □ No

Click to enter text.

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

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

Click to ente	er text.				

## Section 3. Classified Segments (Instructions Page 64) Is the discharge directly into (or within 300 feet of) a classified segment? Yes $\boxtimes$ 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: series of unnamed ditches 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 $\boxtimes$ 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.

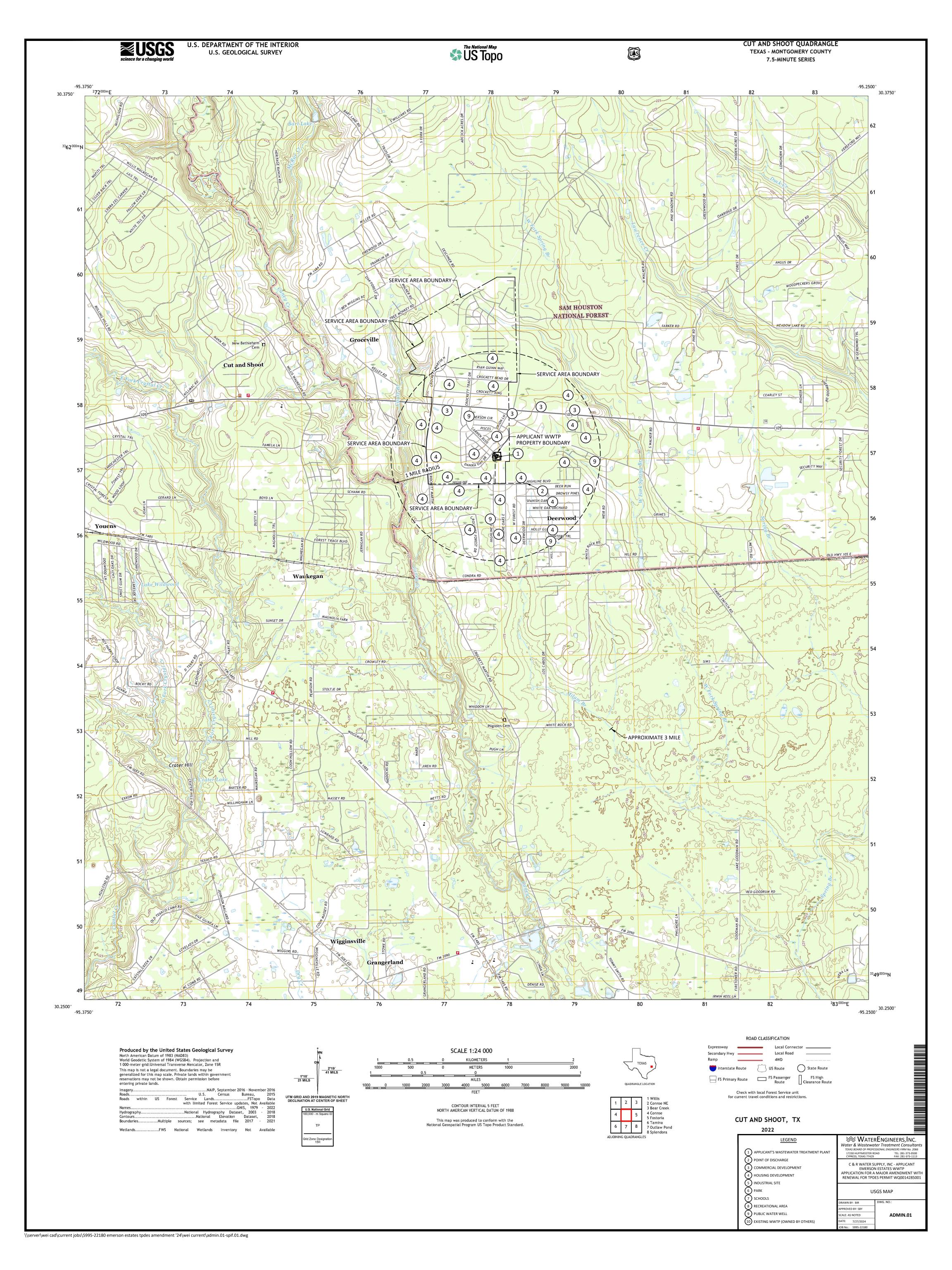
C.	C. Downstream perennial confluences							
		e names of all perennial streams th stream of the discharge point.	at joi	n the receiving water within three miles				
	Milan	n Branch						
D.	Down	stream characteristics		,				
	Do the receiving water characteristics change within three miles downstream of the discharge (e.g., natural or man-made dams, ponds, reservoirs, etc.)?							
		Yes ⊠ No						
	If yes,	discuss how.						
	Click	to enter text.						
E.	Norma	al dry weather characteristics						
	Provid	e general observations of the water	body	during normal dry weather conditions.				
		itch that the effluent discharges to woul eather conditions.	d be o	dry, if not for the effluent, during normal				
	Date a	nd time of observation: 7/16/2024 (	a 101	TE.				
		the water body influenced by stormw						
		Yes 🛛 No	utt1	tunon during observations:				
	-							
Se	ction	5. General Characteristic Page 66)	s of	the Waterbody (Instructions				
Λ	Unctro	am influences						
Λ.	_		a of t	he discharge or proposed discharge site				
		iced by any of the following? Check						
		Oil field activities		Urban runoff				
		Upstream discharges		Agricultural runoff				
		Septic tanks		Other(s), specify: Click to enter text.				

### B. Waterbody uses Observed or evidences of the following uses. Check all that apply. Livestock watering Contact recreation Irrigation withdrawal Non-contact recreation Fishing **Navigation** Domestic water supply Industrial water supply Park activities X Other(s), specify: unknown 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 X 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

## ATTACHMENT ADMIN.01 USGS Topographic Map

(Reference Administrative Report 1.0, Page 10, Question 13)



## **ATTACHMENT ADMIN.02**

## **Proof of Payment**

(Reference Administrative Report 1.0, Page 10, Question 13)

## **ATTACHMENT ADMIN.03**

## **Core Data Form**

(Reference Administrative Report 1.0, Page 4, Section 3C)



## **TCEQ Core Data Form**

TCEQ Use Only

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

	<u>S</u>	E	<u>C'</u>	ľ	K	U	N		Ge	nei	ral	lni	or	rma	tion
--	----------	---	-----------	---	---	---	---	--	----	-----	-----	-----	----	-----	------

1. Reason for Submission (If other is checked please describe in space provided.)  New Permit, Registration or Authorization (Core Data Form should be submitted with the program application.)							
Renewal (Core Data Form should be submitted with the renewal form)  Other Major amendment with renewal form	wal						
2 Customer Defended Number (if insued)							
CN 600581672  Follow this link to search for CN or RN numbers in Central Registry**  Central Registry**  S. Regulated Entity Reference Number (If Issued)  RN 102763208							
ECTION II: Customer Information							
4. General Customer Information 5. Effective Date for Customer Information Updates (mm/dd/yyyy)							
<ul> <li>□ New Customer</li> <li>□ Update to Customer Information</li> <li>□ Change in Regulated Entity Owner</li> </ul>	rship						
The Customer Name submitted here may be updated automatically based on what is current and active wi	ith 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:							
C & R Water Supply, Inc.							
7. TX SOS/CPA Filing Number 8. TX State Tax ID (11 digits) 9. Federal Tax ID (9 digits) 10. DUNS Number (i	10. DUNS Number (if applicable)						
0147789400 32000488141							
11. Type of Customer:							
Government:   City County Federal State Other  Sole Proprietorship  Other:	Other:						
12. Number of Employees       13. Independently Owned and Operated?         ☑ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 and higher       ☐ Yes ☐ No							
14. Customer Role (Proposed or Actual) – as it relates to the Regulated Entity listed on this form. Please check one of the following:							
☑Owner ☑ Operator ☐ Owner & Operator							
Occupational Licensee Responsible Party Voluntary Cleanup Applicant Other:							
P.O. Box 187							
15. Mailing Address:							
City Willis State TX ZIP 77378 ZIP+4							
16. Country Mailing Information (if outside USA)  17. E-Mail Address (if applicable)							
mike@crwater.online							
18. Telephone Number 19. Extension or Code 20. Fax Number (if applicable)	20. Fax Number (if applicable)						
( 936 ) 856-4199	( ) -						
ECTION III: Regulated Entity Information							
21. General Regulated Entity Information (If 'New Regulated Entity" is selected below this form should be accompanied by a permit app	plication						
New Regulated Entity Update to Regulated Entity Name Update to Regulated Entity Information							
The Regulated Entity Name submitted may be updated  in order to meet TCEQ Agency Data Standards (ren of organizational endings such as Inc, LP, or LLC.)	noval						
22. Regulated Entity Name (Enter name of the site where the regulated action is taking place.)							
Emerson Estates Wastewater Treatment Plant							

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23. Street Address of													
the Regulated Entity:													
(No PO Boxes)	City	City Conroe			State	TX	ζ	ZIP	77	306		ZIP + 4	
24. County	Mor	Montgomery											<u> </u>
		Ent	er Physical L	.ocatio	on Descriptio	n if no	stree	t addres	s is pro	vided.			
25. Description to Physical Location:			-		st of Crock exas 7730		<b>Iarti</b> r	n Road	l and 2	400' sout	h of	Highw	ay 105 in
26. Nearest City									Stat	е		Nea	arest ZIP Code
Conroe									TX			77	304
27. Latitude (N) In De	cimal:		30.32520	6			28. Lo	ongitud	e (W)	W) In Decimal:		95.308997	
Degrees	Minutes	3		Seco	nds		Degree	s		Minutes			Seconds
30		1	9		30.74			95			18		32.39
29. Primary SIC Code (4	l digits)	30. 8	Secondary S	C Coc	de (4 digits)		Primar 6 digits)	y NAIC	S Code		Secor 6 digits		ICS Code
4952					221					1	o digito	4	
33. What is the Primary	Busines	s of tl	his entity?	(Do not	repeat the SIC or			tion.)					
Providing sewer ut								,					
	-11	P.O. Box 187											
34. Mailing													
Address:	Cit	City Conroe			State T			TX ZIP		77378		ZIP + 4	
35. E-Mail Addres	s:							mike@crwater.online					
36. Telep	hone Nun	nber			37. Extension	on or C	ode			38. Fax Nur	nber	(if applic	able)
( 936 )	856-4911								(	)	4		
<b>39. TCEQ Programs and I</b> llorm. See the Core Data Form	D Number	rs Che s for a	eck all Program dditional guidar	s and v	vrite in the perm	its/regis	stration	numbers	s that will b	oe affected by	y the u	pdates su	omitted on this
☐ Dam Safety	☐ Dist	tricts			Edwards Aquife	ır		] Emissi	ons Invent	ory Air	☐ In	dustrial Ha	azardous Waste
Municipal Solid Waste	Nev	v Sour	ce Review Air		OSSF			Petrole	um Storag	je Tank	☐ P'	WS	
Sludge	☐ Stor	rm Wa	tor	l	Title V Air			Tires				sed Oil	
	3101	IIII VVa	lei		Title v Air		╬	] 11168				seu Oli	
☐ Voluntary Cleanup	⊠ Was	ste Wa	nter		☐ Wastewater Agriculture			Water	Rights		Other:		
	WQ00	)1428	35001										
SECTION IV: Pro										Ni.			
40. Name: Shelley							41. Ti	itle:	Const	ılting En	gine	er	
42. Telephone Number	43.	Ext./C	ode 4	14. Fax	x Number		45.	E-Mail A	Address				
(281) 373-0500	281 ) 373-0500			281	<b>)</b> 373-1113					ngineers	.con	1	
SECTION V: Aut	horize	d Si	gnature				-						
6. By my signature below ignature authority to submi	, I certify,	to the	best of my k	nowle ntity sp	dge, that the in	formation II,	tion pr Field	ovided i 6 and/o	n this for r as requi	m is true an	d con	nplete, an	d that I have D numbers

identified in field 39.

Company:	WaterEngineers, Inc.	Job Title:	Consulting	Engineer	
Name(In Print):	Shelley Young			Phone:	(281) 373-0500
Signature:	Sheller young			Date:	7/22/2024

## **ATTACHMENT ADMIN.04**

## **Plain Language Summary**

(Reference Administrative Report 1.0, Page 7, Section 8F)

## TCEQ

## TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

## PLAIN LANGUAGE SUMMARY FOR TPDES OR TLAP PERMIT APPLICATIONS

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

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

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

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

## ENGLISH TEMPLATE FOR TPDES or TLAP NEW/RENEWAL/AMENDMENT APPLICATIONS Enter 'INDUSTRIAL' or 'DOMESTIC' here WASTEWATER/STORMWATER

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

C & R Water Supply, Inc. (CN 600581672) operates the Emerson Estates Wastewater Treatment Plant (RN 102763208), an activated sludge process with nitrification operated in the complete mix mode. The facility is located at approximately 3,600 feet east of Crockett Martin Road and 2,400 feet south of Highway 105, in Conroe, Montgomery County, Texas 77306. This application is for a major amendment with renewal application to discharge a daily average flow of 995,000 gallons per day of treated domestic wastewater..

Discharges from the facility are expected to contain five-day carbonaceous biochemical oxygen demand (CBOD<sub>5</sub>), total suspended solids (TSS), ammonia nitrogen (NH<sub>3</sub>-N), and *Escherichia coli*. Additional potential pollutants are included in the Domestic Technical Report 1.0, Section 7. Pollutant Analysis of Treated Effluent in the permit application package. Domestic wastewater will be treated by an activated sludge process plant and the treatment units will include a screening facility, aeration basins, final clarifiers, sludge digesters, chlorine contact chamber and dichlorination chamber.

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

## AGUAS RESIDUALES Introduzca 'INDUSTRIALES' o 'DOMÉSTICAS' aquí /AGUAS PLUVIALES

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

C & R Water Supply, Inc. (CN 600581672) opera la Planta de Tratamiento de Aguas Residuales de Emerson Estates (RN 102763208), un proceso de lodos activados con nitrificación operado en el modo de mezcla completa. La instalación está ubicada en aproximadamente 3600 pies al este de Camino de Crockett Martin y 2400 pies al sur de Autopista 105, en Conroe, Condado de Montgomery, Texas 77306. Esta solicitud es para una enmienda importante con renovacion aplicación para descargar a un flujo promedio diario de 995,000 galones por día de aguas residuales domésticas tratadas.

Se espera que las descargas de la instalación contengan demanda bioquímica de oxígeno carbonoso de cinco días ( $CBOD_5$ ), solidos totalmente suspendidos (TSS), nitrógeno amoniacal ( $NH_e$ -N), y *Escherichia coli*. Los contaminantes potenciales adicionales se incluyen en el Informe Técnico Domésticas 1.0, Seccion 7 Análisis de Contaminantes de Efluente Tratado en el paquete de solicitud de permisos.. Las aguas residuales domésticas. está tratado por una planta de proceso de lodos activados y las unidades de tratamiento incluirán una pantalla de barras, balsas de aireación, clarificadores finales, digestores de lodos, cámaras de contacto de cloro y cuenca de declaración.

## **ATTACHMENT ADMIN.05**

## **Public Involvement Plan**

(Reference Administrative Report 1.0, Page 7, Section 8G)

WQ0014285001 C & R Water Supply, Inc. Emerson Estates WWTP



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, <u>and</u>
Located within any of the following geographical locations:
<ul> <li>Austin</li> <li>Dallas</li> <li>Fort Worth</li> <li>Houston</li> <li>San Antonio</li> <li>West Texas</li> <li>Texas Panhandle</li> <li>Along the Texas/Mexico Border</li> <li>Other geographical locations should be decided on a case-by-case basis</li> </ul>
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 <b>brief</b> explanation.
The area affected by this permit action is not environmentally highly sensitive and, to the best of my knowledge, not been part of any other contested permit action.

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.

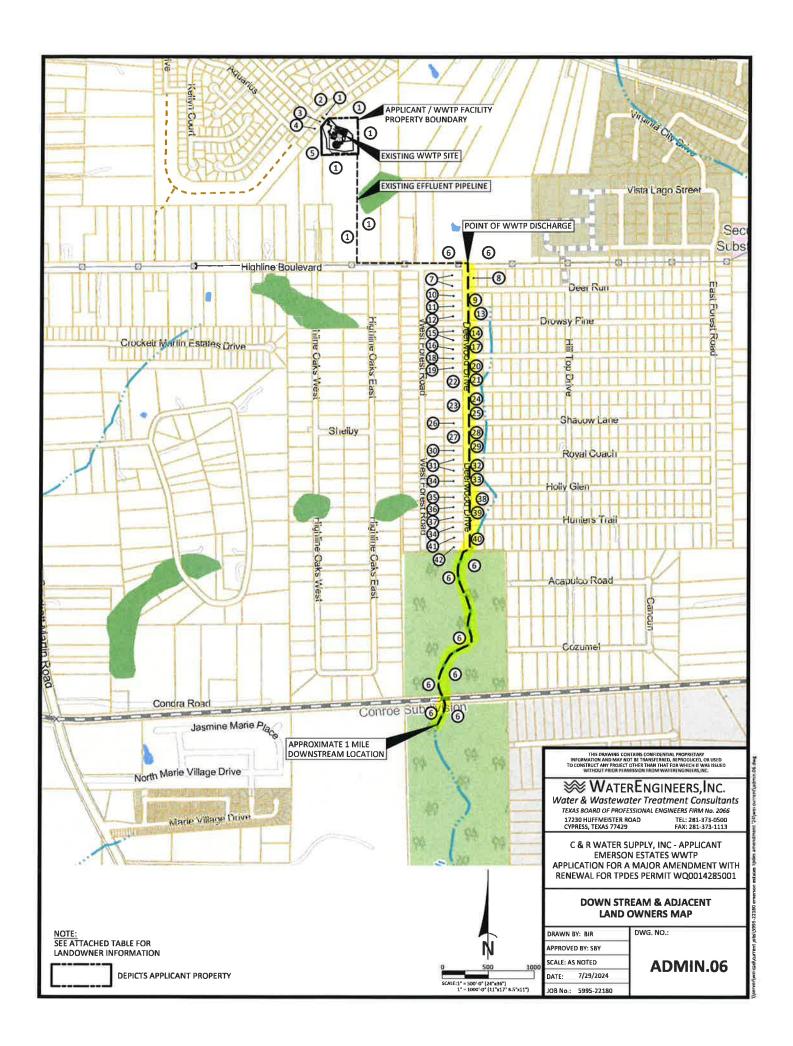
Section 5. Community and Demographic Information
Community information can be found using EPA's EJ Screen, U.S. Census Bureau information, or generally available demographic tools.
Information gathered in this section can assist with the determination of whether alternative
language notice is necessary. 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
(a) For cupital income for population field 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
(c) constantly units, or constant droups
(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)

TCEQ-20960 (02-09-2023) Page 4 of 4

## ATTACHMENT ADMIN.06 Affected Landowners Map and Table

(Reference Administrative Report 1.1, Page 12, Section 1A&B)



### TABLE "ADMIN.06"

### C & R Water Supply, Inc. **Emerson Estates Wastewater Treatment Plant**

# Adjacent & Downstream Land Ownership Table Source: Montgomery County Appraisal District

Tract No.	Title Owner & Address
(See Attachment "ADMIN.04" Map)	
	SUGARCREEK BUILDERS LLC
1	P O BOX 1824
	MONTGOMERY TX 77356-1824
	EMERSON ESTATES
2	3828 W DAVIS ST #308-420
	CONROE TX 77304
	ASHLEY FIELDS
3	16585 E EMERSON CIR
	CONROE TX 77306
	DANIELA IBANEZ
4	16589 S EMERSON CIR
	CONROE TX 77306
	WILLIAM & JO ANN COWLEY
5	16851 HIGHLINE BLVD
	CONROE TX 77306
	VON SCHMIDT LAND & CATTLE LLC
6	185 CEDAR POINT DR
	LIVINGSTON TX 77351
	RAFAEL SILVA
7	17156 HIGHLINE BLVD
•	CONROE TX 77306
	ELLIZAR ALDAVE
8	17189 DEER RUN
-	CONROE TX 77306
	ISAIS & MARIA GARCIA
9	2096 N 1 <sup>ST</sup> ST
•	CONROE TX 77301
	MANUEL RODRIGUEZ
10	4042 DEERWOOD
	CONROE TX 77306
	JUDITH MARTINEZ
11	4218 DEERWOOD
**	CONROE TX 77306
	MARIA BARRIENTOS
12	17435 DROWSY PINES
12	CONROE TX 77306
	CONTOL IA 11500

-	
	E ALVAREZ & FRANCISCO RAMIREZ
13	17213 DROWSY PINES
	CONROE TX 77306
	JOSE & CLAUDIA VELAZQUEZ
14	17190 DROWSY PINES
	CONROE TX 77306
	HILDA YADO
15	17155 DROWSY PINE
	CONROE TX 77306
	MARTA ALCARAZ
16	12544 CANYON HILL
	WILLIS TX 77318
	ILIANA AVILA
17	17199 SPANISH OAK
	CONROE TX 77306
	ALBERTO & TEOFILA PASTRANA
18	5114 DEERWOOD
10	CONROE TX 77306
	JONATHAN & EUDOSIA PORRAS
19	5342 DEERWOOD
19	CONROE TX 77306
20	EZEQUIEL & ROSA LIZARDO
20	17198 SPANISH OAK
	CONROE TX 77306
21	CRISTOBAL & YOANA SANCHEZ
21	17365 COZUMEL
	CONROE TX 77306
22	HIPOLITO BARRAZA
22	5526 DEERWOOD
	CONROE TX 77306
	JUAN @ BLANCA DE GADO
23	17451 WHITE OAK ORCHARD
	CONROE TX 77306
	EMMANUEL & ARACELY ROMAN
24	18151 DEER GLEN WEST
	CONROE TX 77302
	LUIS VILLANUEVA
25	17197 SHADOW LN
	CONROE TX 77306
	JUAN & CHRISTINA VALDEZ
26	4225 E FOREST RD
	CONROE TX 77306
	ARACELI RAMIREZ
27	2433 CROCKETT MARTIN RD
	CONROE TX 77306
	MARTA SANTOS
28	1735 TABOR ST
	HOUSTON TX 77009

	HILLO DA 7
20	JULIO PAZ
29	987 ARBOR CROSSING
	CONROE TX 77303
20	LINO & MARIA RODRIGUEZ
30	5898 DEERWOOD
	CONROE TX 77306
	HOWARD COUVILLON
31	5934 DEERWOOD
	CONROE TX 77306
	JOSE FIGUEROA
32	2625 SAGEDALE
	CONROE TX 77301
	LUIS MARTINEZ
33	17197 HOLLY GLEN
	CONROE TX 77306
	ROSA DEL SORTO
34	6722 DEERWOOD
	CONROE TX 77306
	JAVIER SALINAS
35	17160 HOLLY GLEN
	CONROE TX 77306
	DIANA SALINAS
36	17160 HOLLY GLEN
	CONROE TX 77306
	CARLOS & MARIA SORTO
37	6730 DEERWOOD
	CONROE TX 77306
	JULIAN RODRIGUEZ
38	7233 JEWELL AVE
30	FORT WORTH TX 76112
	EVA VARGAS & DEPHNE JUAREZ
39	1438 SHORECREST DR
	GARLAND TX 75040
	THE FOREST CORP
40	206A S LOOP 336 W 352
40	CONROE TX 77304
41	MARIA MEDINA
41	6798 DEERWOOD
	CONROE TX 77306
10	ANTONIO BARRERA
42	1510 S FRAZIER
	CONROE TX 77301

### TABLE "ADMIN.06"

# C & R Water Supply, Inc. Emerson Estates Wastewater Treatment Plant

### Adjacent & Downstream Land Ownership Table

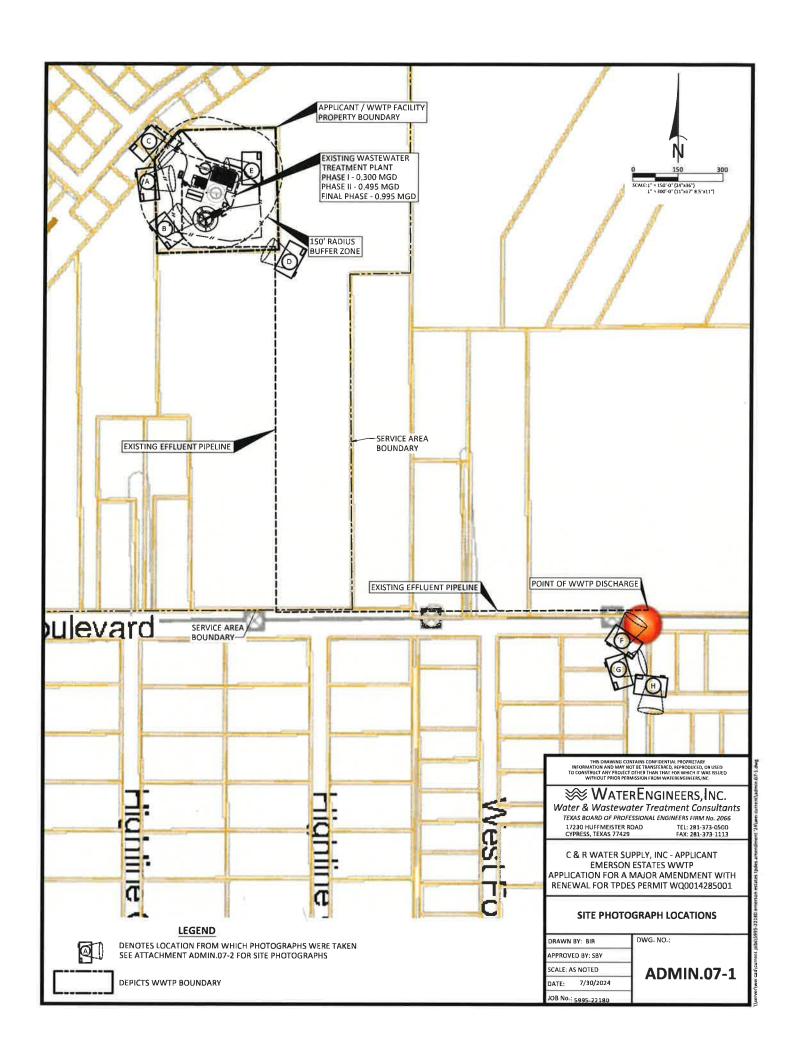
Source: Montgomery County Appraisal District

Tract No.	Title Owner & Address
(See Attachment "ADMIN.06" Map)	
	SUGARCREEK BUILDERS LLC
1	P O BOX 1824
	MONTGOMERY TX 77356-1824
	EMERSON ESTATES
2	3828 W DAVIS ST #308-420
	CONROE TX 77304
	ASHLEY FIELDS
3	16585 E EMERSON CIR
	CONROE TX 77306
	DANIELA IBANEZ
4	16589 S EMERSON CIR
	CONROE TX 77306
	WILLIAM & JO ANN COWLEY
5	16851 HIGHLINE BLVD
	CONROE TX 77306
	VON SCHMIDT LAND & CATTLE LLC
6	185 CEDAR POINT DR
	LIVINGSTON TX 77351
	RAFAEL SILVA
7	17156 HIGHLINE BLVD
	CONROE TX 77306
	ELLIZAR ALDAVE
8	17189 DEER RUN
	CONROE TX 77306
	ISAIS & MARIA GARCIA
9	2096 N 1 <sup>ST</sup> ST
	CONROE TX 77301
	MANUEL RODRIGUEZ
10	4042 DEERWOOD
	CONROE TX 77306
	JUDITH MARTINEZ
11	4218 DEERWOOD
	CONROE TX 77306
	MARIA BARRIENTOS
12	17435 DROWSY PINES
	CONROE TX 77306

# **ATTACHMENT ADMIN.07**

# **Photographs**

(Reference Administrative Report 1.1, Page 13, Section 2)



#### WASTEWATER TREATMENT PLANT 2 CHLORINATION TANKS (FOREGROUND) CLARIFIER (BACKGROUND)





### WASTEWATER TREATMENT PLANT 1 CONCENTRIC CIRCLE PLANT (FOREGROUND) WASTEWATER TREATMENT PLANT 2 CL2 TANKS (BACKGROUND)





\*\* SEE ADMIN.07-1 FOR LOCATION IN WHICH PHOTOGRAPHS WERE TAKEN

INFORMATION AND MAY NOT BE TRANSFERRED, REPRODUCED, OR USED TO CONSTRUCT ANY PROJECT OF THE THAN THAT FOR WHICH IT WAS ISSUE WHICH IT WAS ISSUED.

### **WATER ENGINEERS, INC.**

Water & Wastewater Treatment Consultants
TEXAS BOARD OF PROFESSIONAL ENGINEERS FIRM No. 2066

TEXAS BOARD OF PROFESSIONAL ENGINEERS FIRM No., 2066 17230 HUFFMEISTER ROAD TEL: 281-373-0500 CYPRESS, TEXAS 77429 FAX: 281-373-1113

C & R WATER SUPPLY, INC - APPLICANT EMERSON ESTATES WWTP APPLICATION FOR A MAJOR AMENDMENT WITH RENEWAL FOR TPDES PERMIT WQ0014285001

#### SITE PHOTOGRAPHS

DRAWN 8Y: BIR

APPROVED BY: SBY

SCALE: AS NOTED

DATE: 7/30/2024

JOB No.: 5995-22180

DWG. NO.:

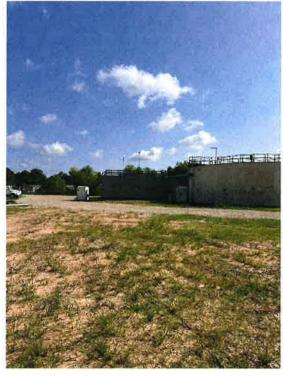
### WASTEWATER TREATMENT PLANT 2 CLARIFIER & CL2 TANKS (FOREGROUND) AERATION & DIGESTION TANKS (BACKGROUND)





### PROPOSED FINAL PHASE PLANT SITE ADDITION





THIS DRAWING CONTAINS CONFIDENTIAL PROPRIETARY
INFORMATION AND MAY NOT BE TRANSFERRED, REPRODUCED, OR USED
CONSTRUCT ANY PROJECT OTHER THAN THAT FOR WHICH IT WAS ISSUED
WITHOUT PROPRIETATION FROM WAITELING WILLES, INC.

### **WATER ENGINEERS, INC.**

Water & Wastewater Treatment Consultants TEMAS BOARD OF PROFESSIONAL ENGINEERS FIRM No. 2066 17230 HUFFMEISTER ROAD TEL: 281-373-0500 CYPRESS, TEXAS 77429 FAX: 281-373-1113

C & R WATER SUPPLY, INC - APPLICANT EMERSON ESTATES WWTP APPLICATION FOR A MAJOR AMENDMENT WITH RENEWAL FOR TPDES PERMIT WQ0014285001

### SITE PHOTOGRAPHS

DRAWN BY: BIR

APPROVED BY: SBY

SCALE: AS NOTED

DATE: 7/30/2024

JOB No.: 5995-22180

DWG. NO.:

### **TOP VIEW OF WASTEWATER TREATMENT PLANT 2**





### POINT OF DISCHARGE





### ₩ WATERENGINEERS,INC.

Water & Wastewater Treatment Consultants
TEXAS BOARD OF PROFESSIONAL ENGINEERS FIRM No., 2066
17230 HUFFMEISTER ROAD TEL: 281-373-0500
CYPRESS, TEXAS 77429 FAX: 281-373-1113

C & R WATER SUPPLY, INC - APPLICANT EMERSON ESTATES WWTP APPLICATION FOR A MAJOR AMENDMENT WITH RENEWAL FOR TPDES PERMIT WQ0014285001

### SITE PHOTOGRAPHS

	DRAWN BY: BIR		
	APPROVED BY: SBY		
1	SCALE: AS NOTED		
ı	DATE:	7/30/2024	
1	JOB No::	5995-22180	

DWG. NO.:

### **IMMEDIATELY DOWNSTREAM OF POINT OF DISCHARGE**





100' DOWNSTREAM OF POINT OF DISCHARGE





THIS CHAWING CONTAINS CONTIDENTIAL PROPAILTARY
INFORMATION AND MAY NOT BE TRANSFERRED, REPRODUCED, OR USED
TO CONSTRUCT ANY PROJECT OTHER THAN THAT FOR WHICH IT WAS ISSUED
WITHOUT PRIOR PERMISSION FROM WATERINGINFRS INC.

### ₩ WATER ENGINEERS, INC.

Water & Wastewater Treatment Consultants TEXAS BOARD OF PROFESSIONAL ENGINEERS FIRM No. 2066

17230 HUFFMEISTER ROAD T CYPRESS, TEXAS 77429 F.

TEL: 281-373-0500 FAX: 281-373-1113

C & R WATER SUPPLY, INC - APPLICANT EMERSON ESTATES WWTP APPLICATION FOR A MAIOR AMENDMENT WITH RENEWAL FOR TPDES PERMIT WQ0014285001

#### SITE PHOTOGRAPHS

DRAWN BY: BIR

APPROVED BY: SBY

SCALE: AS NOTED

DATE: 7/30/2024

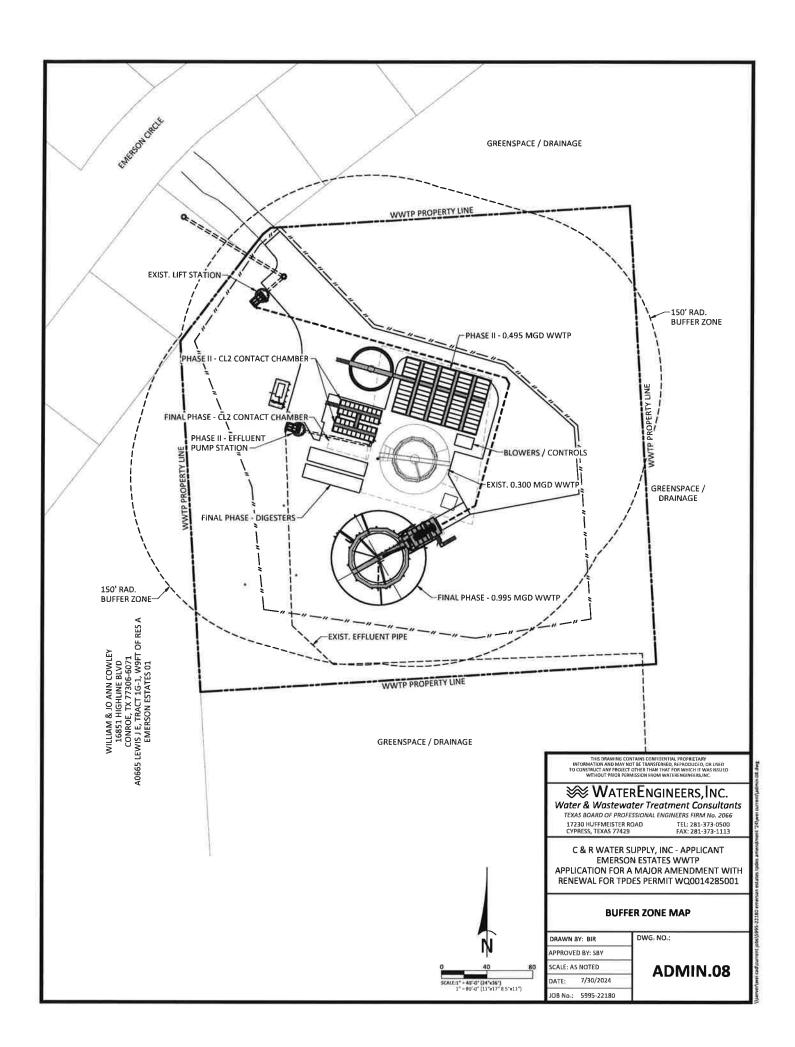
JOB No.: 5995-22180

DWG. NO.:

# **ATTACHMENT ADMIN.08**

# **Buffer Zone Map**

(Reference Administrative Report 1.1, Page 13, Section eA)



# ATTACHMENT ADMIN.09 Supplemental Permit Information Form and USGS Map

(Reference Administrative Report Page 14)

# TEXAS COMMISSION ON ENVIRONMENTAL QUALITY SUPPLEMENTAL PERMIT INFORMATION FORM (SPIF)

# FOR AGENCIES REVIEWING DOMESTIC OR INDUSTRIAL TPDES WASTEWATER PERMIT APPLICATIONS

TCEQ USE ONLY:	
Application type:RenewalMajor An	nendment Minor Amendment New
County:	
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 application	<u>is only.</u> (Instructions, Page 53)
	EQ will mail a copy to each agency as required by not completely addressed or further information formation before issuing the permit. Address
Do not refer to your response to any item in tattachment for this form separately from the A application will not be declared administratively completed in its entirety including all attachme may be directed to the Water Quality Division's email at WO-ARPTeam@tceq.texas.gov or by ph	dministrative Report of the application. The y complete without this SPIF form being nts. Questions or comments concerning this form Application Review and Processing Team by
The following applies to all applications:	
<ol> <li>Permittee: C &amp; R Water Supply, Inc.</li> </ol>	
Permit No. WQ00 <u>14285001</u>	EPA ID No. TX <u>0124281</u>
Address of the project (or a location descrip and county):	tion that includes street/highway, city/vicinity,
Approximately 2,000 feet east of Crockett-l Highway 105, in Montgomery County, Texa	

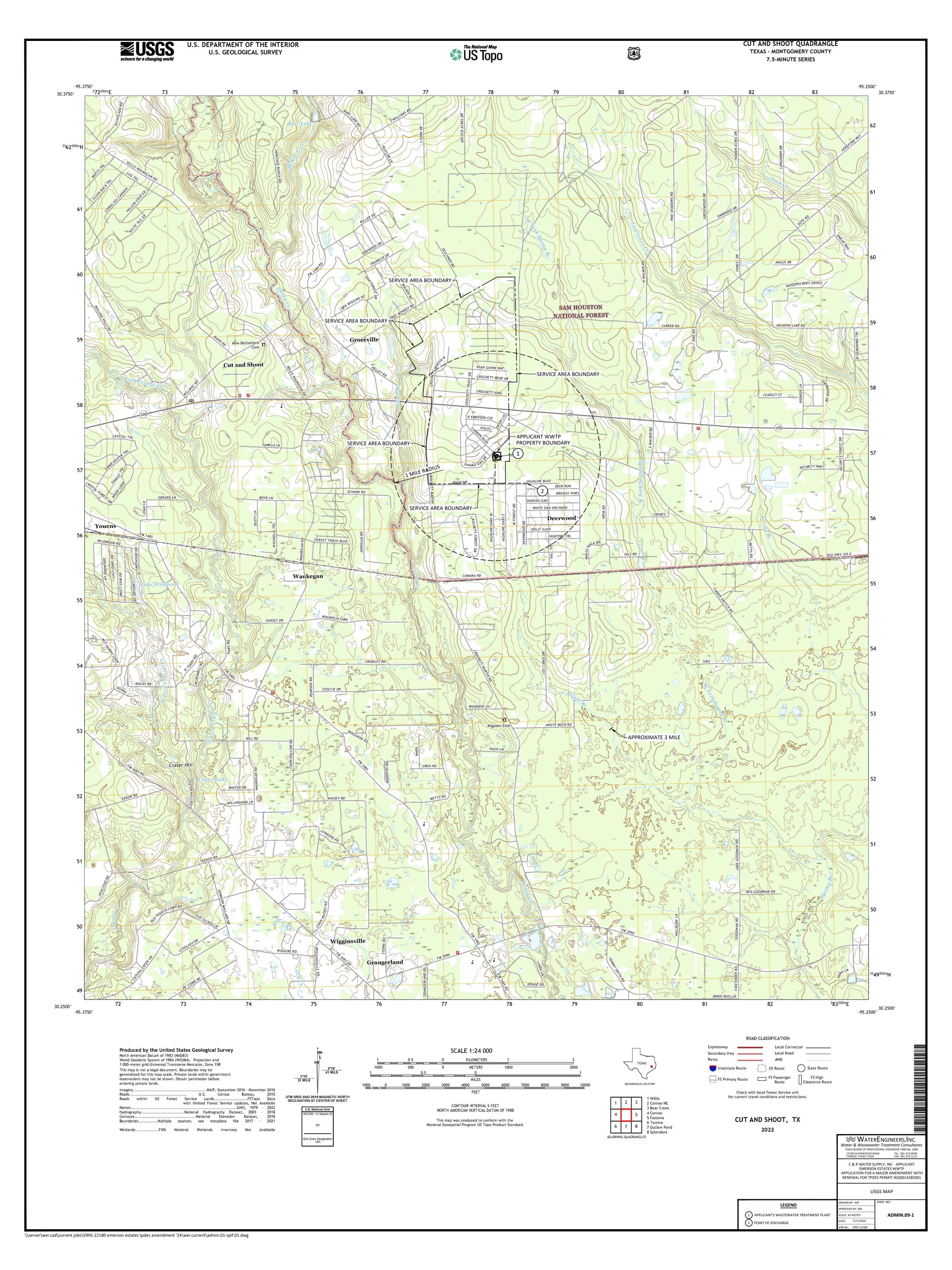
Provide the name, address, phone and fax number of an individual that can be contacted to answer specific questions about the property.
Prefix (Mr., Ms., Miss): Ms.
First and Last Name: Shelley Young
Credential (P.E, P.G., Ph.D., etc.): <u>P.E.</u>
Title: Engineer
Mailing Address: 17230 Huffmeister Road, Suite A
City, State, Zip Code: Cypress, TX 77429
Phone No.: <u>281-373-0500</u> Ext.: Click here to enter text. Fax No.: <u>281-373-1113</u>
E-mail Address: syoung@waterengineers.com
List the county in which the facility is located: Montgomery
If the property is publicly owned and the owner is different than the permittee/applicant,
please list the owner of the property.  N/A
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.
From the plant site to a series of ditches, thence to Milam Branch, thence to West Fork
Spring Branch, thence to Spring Branch, thence to Caney Creek in Segment No. 1010 of the San Jacinto River Basin.
San Jacinto River Basin.
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

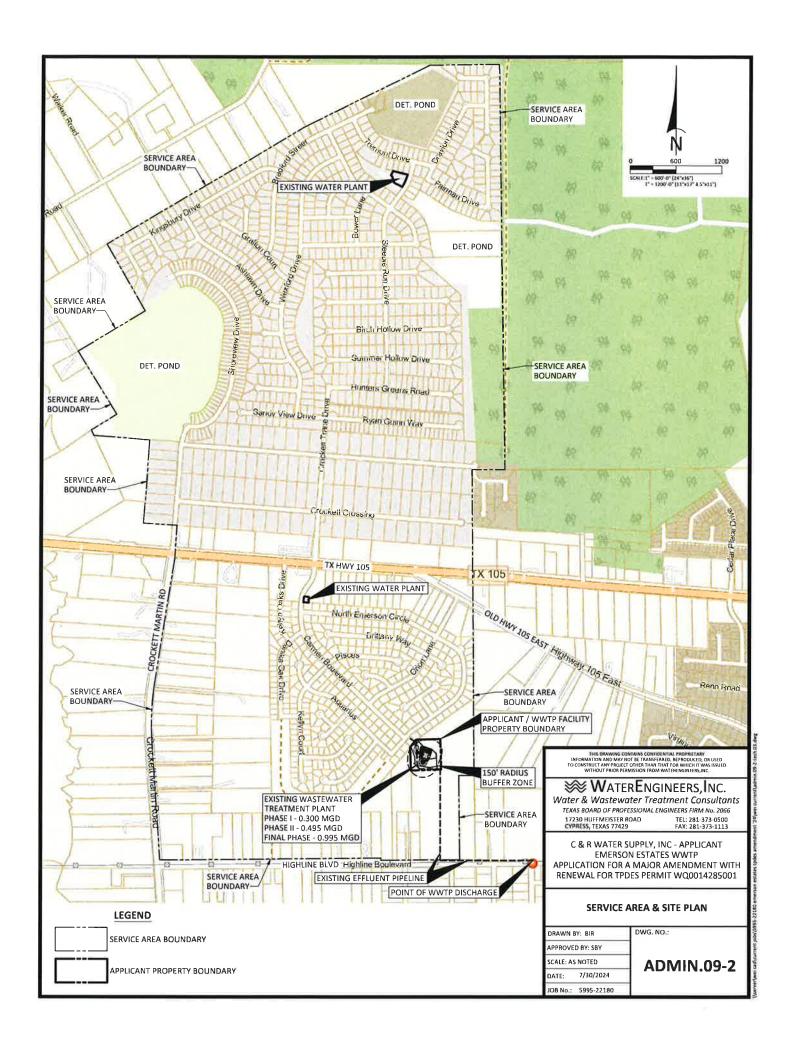
3.

4.

5.

	☐ Disturbance of vegetation or wetlands
1.	List proposed construction impact (surface acres to be impacted, depth of excavation, sealing of caves, or other karst features):
	The plant site encompasses approximately 3.6 acres. No significant excavation is expected.  No significant disturbances are expected.
2.	Describe existing disturbances, vegetation, and land use:
	Land is currently a wastewater treatment plant.
	E FOLLOWING ITEMS APPLY ONLY TO APPLICATIONS FOR NEW TPDES PERMITS AND MAJOR ENDMENTS TO TPDES PERMITS
3.	List construction dates of all buildings and structures on the property:
	See No. 2 above
4.	Provide a brief history of the property, and name of the architect/builder, if known.
	See No. 2 above





# ATTACHMENT TECH.01 Design & Loading Criteria Table, List of Treatment Units, Narrative of How Expansion Will Occur And Design Features for Reliability

(Reference Technical Report Page 2, Question 2b And Page 22, Question 4)

# ATTACHMENT TECH.01-01 DESIGN & LOADING CRITERIA EMERSON WASTEWATER TREATMENT PLANT PHASE I PLANT 1 - 200,000 GPD @ Qp = 4.0Q ONLY TREATING 150,000 GPD

Parameter		Parameter	
INFLUENT CONDITIONS		Clarifier	
Average Daily Flow, mgd	0.150	Allow OFR @ Qp, gpd/sf	1200
Ratio Average/Peak Flow	4.00	Reg'd Diameter, ft	25.23
Peak 2-Hour Flow, gpm	417	Actual Diameter, ft	38.00
BOD, mg/l	300	Side Water Depth, ft	15.00
BOD, lb/day	375	Net Basin Area sq ft	1,134
		Total Volume, cu ft	17,012
INFLUENT PUMPING		Avg. SOR, gpd/sq ft	132
Total Number of Pumps	3	Peak SOR, gpd/sq ft	529
Pump Capacity, gpm	208	Avg. Detention, hr	20.36
Firm Capacity, gpm	417	Peak Detention, hr	5.09
1 37.51		RAS Flow (400 gpd/ SF) gpm	315
TREATMENT UNIT DIMENSIONS		( 31 , 31	
Tank Wall Height, ft	16.5	DISINFECTION	
Inner Tank Inside Diameter, ft	38	Net Area, sq ft	139
Inner Tank Outside Diameter, ft	38.25	Total Volume, cu ft	1,864
Outer Tank Inside Diameter, ft	61	Peak Flow Detention, min	33.5
Outer Tank Outside Diameter, ft	61.25	Chlorine Dose, mg/l	8
Selector Zone Angle, degrees	0	Avg Feed Rate, lb/day	10
Aeration Zone Angle, degrees	195	Peak Feed Rate, lb/day	40
Chlorine Contact Angle, degrees	28	Air Supply @10 scfm/1000 cu ft, cfm	19
Digester Zone Angle, degrees	137	capp., @ 10 com 10 co ca 1., cm	
Selector Basin depth, ft	0	DECHLORINATION -Not Used	
Aeration Zone Depth, ft	15	Net Basin Area, sq ft	12
Chlorine Contact Zone Depth, ft	13.4	Total Volume, cu ft	0
Aerobic Digester Zone Depth, ft	15	Peak Flow Detention, sec	Ö
Dechlorination Zone Depth, ft	.0	Avg SO2 Dose, mg/l	
ACTIVATED SLUDGE		Avg Feed Rate, lb/day	4 5
Selector Basin-Not Used		Peak Feed Rate, lb/day	20
Actual Surface Area, cu ft		Air Supply @20 scfm/1000 cu ft, cfm	0
Total Volume, cu ft	0	7.11 Guppiy @20 301111 1000 du 11, 01111	ŭ
Detention, Hrs (based on Q)	0.00	AEROBIC DIGESTION	
Air Supply, scfm/1000 cu ft	20	Net Area, sq ft	681
Required Air Supply, scfm	0	Total Volume, cu ft	10,208.5
Aeration Basin (1)	Ū	Loading, cu ft/# BOD	27.2
Actual Surface Area, sq ft	969	Air Supply, scfm @ 25 scfm/1000 cu ft	255
Total Volume Basin, cu ft	14,530	All Supply, Schill & 25 Schill 1000 cu it	200
Detention, Hrs (based on Q)	17.39	AIR BLOWERS	
Aeration Basin Volume, cu ft	14,530	Selector Basin Air Supply, scfm	0
BOD Loading, lb BOD/1000 cu ft	25.83	Aeration Basin Supply, scfm	177
O2 Reg'd @ 2.2 # O2/# BOD	826	Aerobic Dig. Supply, scfm	255
AOR/SOR Coefficient	0.45	R.S. Airlift Air, scfm	233 47
Diffuser SOR O2 Eff., %	23.8%	Skimmer Airlift, scfm	10
Process Air Reg'd, scfm	23.6 % 140	Chlorine Basin Air, scfm	19
Temperature Adjustment to 30 F	1.27	DeChlor Basin Air, schii	0
Adjusted Air Flow Rate @ 30 F	1.27	Total Air Supply Req'd, scfm	508
Adjusted All Flow Nate @ 30 F	11.1	No. of Blowers, scfm	200
		Capacity, scfm	1600
l			
		Firm Capacity, scfm Blower Pressure, psig	3,200 7.46

# TECH.01-01- PROCESS CALCULATIONS DESIGN & LOADING CRITERIA EMERSON WASTEWATER TREATMENT PLANT PHASE I - 225,000 GPD @ Qp = 4.0Q ONLY TREATING 150,000 GPD

PLANT 2-REFURBISH EXISTING STEEL PACKAGE PLANT + ADDITIONAL BASINS

Parameter   Parame	Phase 1
INFLUENT CONDITIONS Average Daily Flow, gpd	450.00
Ratio Average/Peak Flow	150,000
Peak 2-Hour Flow, gpd	600.000
Peak 2-Hour Flow, gpm	417
BOD, mg/l	300
BOD, lb/day	375
ACTIVATED SLUDGE PROCESS	
AERATION (AEROBIC) BASINS	
Aeration Length Provided, ft (2 Existing + 1 New + 32-feet of 4th Tank each @ 48 long)	176
Aeration Basin Width Provided, ft	12
SWD at Avg Daily Flow, ft	11,17
Total Aeration Volume, cu ft	23,59
BOD Load, #/1000 cu ft	15.9
Detention time, hrs	28.2
O2 Req'd @ 2.2 # O2/lb BOD, #/day	826
Correction Factor (Fine Bubble)	0.45
Air Diffuser Eff., % Process Air Flow Rate, scfm	17,7%
Mixing Air @ 20 scfm/1000 cu ft	417
Selected Air Supply Rate, scfm	472
Temperature Correction Factor for 30 deg F	1.27
Temperature Corrected Air Flow Rate, scfm	598
No, diffusers (84-inch perf membrane tubes)	48
Air Flow per Diffuser, scfm	12.5
Air Supply, scfm/1000 cf	25
R.S. Airlift Air, scfm	47
Skimmer Airlift Air, scfm	
CLARIFIER (Existing)	
Selected Clarifier Diameter, ft	38
Clarifier Wall Height, ft	12.00
Side Water Depth @ Qavg, ft	8.00
Total Area sq ft	1,134
Total Volume, cu ft	9,073
Total Volume, gallons	67,865
Avg. SOR, gpd/sq ft	132
Peak SOR, gpd/sq ft	529
Avg. Detention, hr	10,86
Peak Detention, hr	2.71
Max Qr @ 400 gpd/sf, gpm	315
Max Qr @ 400 gpd/sf, gpd  Max Qp + Qr, gpd	453,646
CHLORINE CONTACT BASIN	1,053,646
Length, ft	36.00
Width, ft	12.00
Surface Area, sq ft	432.00
Existing Max SWD, ft	8.33
Actual Volume, cu ft	3599
Actual Detention @ Qp, minutes	64.6
Air Supply Required @ 10 scfm/1000 cu ft	36
AEROBIC DIGESTION/SLUDGE HOLDING	
Existing Length, ft (Remainder of Tank 4 (16 feet) + Tank 5)	64
Existing Width, ft	12
Existing SWD, ft	11.17
Volume Provided, cu ft	8,579
Volume Provided, gallons	64,168
Loading, cu ft/# BOD	22.9
Air Supply Rate, scfm/1000 cu ft	30
Total Air Supply, cfm	257
Air Flow per Diffuser, scfm	20
Minimum No. of diffusers  AIR BLOWERS	13
	505
Aeration Basin Air Supply, sofm	598 257
Aerobic Digester Air Supply, sofm	
Chlorine Basin Air Supply, scfm Return Sludge Airlift Air Supply, scfm	36
	5
Skimmer Airlift Air Supply, scfm  Required Air Supply, cfm	944
No. of Blowers	344
Capacity, scfm	472

Design Loading-phase 1 New Addition-0 150 mgd 7/22/2024 10:46 AM

# ATTACHMENT TECH.01-02 DESIGN & LOADING CRITERIA

### **EMERSON WASTEWATER TREATMENT PLANT**

### PLANT 1 - PHASE II - 270,000 GPD @ Qp = 4.0Q ADDITION FOR A TOTAL FLOW OF 495,000 GPD

Parameter		Parameter	
INFLUENT CONDITIONS		Clarifier	
Average Daily Flow, mgd	0.270	Allow OFR @ Qp, gpd/sf	1200
Ratio Average/Peak Flow	4.00	Reg'd Diameter, ft	33.85
Peak 2-Hour Flow, gpm	750	Actual Diameter, ft	38.00
BOD, mg/l	300	Side Water Depth, ft	15.00
BOD, lb/day	676	Net Basin Area sq ft	1,134
•		Total Volume, cu ft	17,012
INFLUENT PUMPING		Avg. SOR, gpd/sq ft	238
Total Number of Pumps	3	Peak SOR, gpd/sq ft	952
Pump Capacity, gpm	375	Avg. Detention, hr	11.31
Firm Capacity, gpm	750	Peak Detention, hr	2.83
		RAS Flow (400 gpd/ SF) gpm	315
TREATMENT UNIT DIMENSIONS			
Tank Wall Height, ft	16.5	DISINFECTION	
Inner Tank Inside Diameter, ft	38	Net Area, sq ft (1-36'L x 12'W basin)	432
Inner Tank Outside Diameter, ft	38.25	Total Volume, cu ft	3,599
Outer Tank Inside Diameter, ft	61	Peak Flow Detention, min	35.9
Outer Tank Outside Diameter, ft	61.25	Chlorine Dose, mg/l	8
Selector Zone Angle, degrees	0	Avg Feed Rate, lb/day	18
Aeration Zone Angle, degrees	360	Peak Feed Rate, lb/day	72
Chlorine Contact Angle, degrees	0	Air Supply @10 scfm/1000 cu ft, cfm	36
Digester Zone Angle, degrees	Ö	7.11 Gappiy @ 10 domin 1000 da 11, dimi	00
Selector Basin depth, ft	Ö	DECHLORINATION - not used	
Aeration Zone Depth, ft	15	Net Basin Area, sq ft	0
Chlorine Contact Zone Depth, ft	8.33	Total Volume, cu ft	0
Aerobic Digester Zone Depth, ft	10.5	Peak Flow Detention, min	0.0
Acrobio Digester Zone Depart, it	10.0	Avg SO2 Dose, mg/l	4
ACTIVATED SLUDGE		Avg Feed Rate, lb/day	9
Selector Basin-Not Used		Peak Feed Rate, lb/day	36
Actual Surface Area, cu ft		Air Supply @20 scfm/1000 cu ft, cfm	0
Total Volume, cu ft	0	7.11 Oupply @20 001117 1000 00 11, 01111	Ü
Detention, Hrs (based on Q)	0.00	AEROBIC DIGESTION	
Air Supply, scfm/1000 cu ft	20	Net Area, sq ft (2-52'L x 12'W basins)	1248.0
Required Air Supply, scfm	0	Total Volume, cu ft	13,104.0
Aeration Basin (1)	J	Loading, cu ft/# BOD	19.4
Actual Surface Area, sq ft	1,788	Air Supply, scfm @ 25 scfm/1000 cu ft	328
Total Volume Basin, cu ft	26,825	7 th Supply, Sollin to 20 Sollin 1000 Ca It	020
Detention, Hrs (based on Q)	17.84	AIR BLOWERS	
Aeration Basin Volume, cu ft	26,825	Selector Basin Air Supply, scfm	0
BOD Loading, lb BOD/1000 cu ft	25.18	Aeration Basin Supply, scfm	319
O2 Req'd @ 2.2 # O2/# BOD	1,486	Aerobic Dig. Supply, scfm	328
AOR/SOR Coefficient	0.45	R.S. Airlift Air, scfm	47
Diffuser SOR O2 Eff., %	23.8%	Skimmer Airlift, scfm	10
Process Air Reg'd, scfm	25.070	Chlorine Basin Air, scfm	36
Temperature Adjustment to 30 F	1.27	DeChlor Basin Air, scfm	0
Adjusted Air Flow Rate @ 30 F	319	Total Air Supply Reg'd, scfm	740
Adjusted All Flow Nate (2 30 F	313	No. of Blowers, scfm	3
		Capacity, scfm	1600
		Firm Capacity, scfm	3,200
		Blower Pressure, psig	3,200 7.46
		blower i lessure, psig	7.40

# TECH.01-02- PROCESS CALCULATIONS DESIGN & LOADING CRITERIA EMERSON WASTEWATER TREATMENT PLANT PHASE II - 225,000 GPD @ Qp = 4.0Q

### PLANT 2 - REFURBISH EXISTING STEEL PACKAGE PLANT + ADDITIONAL BASINS

PLANT 2 - REFURBISH EXISTING STEEL PACKAGE PLANT + ADDITIONA	L BASINS
Parameter	Phase 1
INFLUENT CONDITIONS	
Average Daily Flow, gpd	225,000
Ratio Average/Peak Flow	4,00
Peak 2-Hour Flow, gpd Peak 2-Hour Flow, gpm	900,000
BOD, mg/l	625 300
BOD, lb/day	563
ACTIVATED SLUDGE PROCESS	300
AERATION (AEROBIC) BASINS	
Aeration Length Provided, ft (2 Existing + 1 New + 32-feet of 4th Tank each @ 48 long)	176
Aeration Basin Width Provided, ft	12
SWD at Avg Daily Flow, ft	11,17
Total Aeration Volume, cu ft	23,591
BOD Load, #/1000 cu ft	23.9
Detention time, hrs O2 Req'd @ 2.2 # O2/lb BOD, #/day	18.8
Correction Factor (Fine Bubble)	0.45
Air Diffuser Eff., %	17.7%
Process Air Flow Rate, scfm	625
Mixing Air @ 20 scfm/1000 cu ft	472
Selected Air Supply Rate, scfm	625
Temperature Correction Factor for 30 deg F	1.27
Temperature Corrected Air Flow Rate, scfm	793
No. diffusers (84-inch perf membrane tubes)	48
Air Flow per Diffuser, scfm	16.5
Air Supply, scfm/1000 cf  R.S. Airlift Air, scfm	34
Skimmer Airlift Air, scfm	47
CLARIFIER (Existing)	
Selected Clarifier Diameter, ft	38
Clarifier Wall Height, ft	12.00
Side Water Depth @ Qavg, ft	8.00
Total Area sq ft	1,134
Total Volume, cu ft	9,073
Total Volume, gallons	67,865
Avg. SOR, gpd/sq ft	198
Peak SOR, gpd/sq ft	794
Avg. Detention, hr	7.24
Peak Detention, hr	1.81
Max Qr @ 400 gpd/sf, gpm	315
Max Qr @ 400 gpd/sf, gpd  Max Qp + Qr, gpd	453,646 1,353,646
CHLORINE CONTACT BASIN	1,000,040
Length, ft	36.00
Width, ft	12.00
Surface Area, sq ft	432.00
Existing Max SWD, ft	8.33
Actual Volume, cu ft	3599
Actual Detention @ Qp, minutes	43.1
Air Supply Required @ 10 scfm/1000 cu ft	36
AEROBIC DIGESTION/SLUDGE HOLDING	
Existing Length, ft (Remainder of Tank 4 (16 feet) + Tank 5)	64
Existing Width, ft Existing SWD, ft	12
Volume Provided, cu ft	11.17 8,579
Volume Provided, cd tt  Volume Provided, gallons	64,168
Loading, cu ft/# BOD	15.2
Air Supply Rate, scfm/1000 cu ft	30
Total Air Supply, cfm	257
Air Flow per Diffuser, scfm	20
Minimum No. of diffusers	13
AIR BLOWERS	
Aeration Basin Air Supply, scfm	793
Aerobic Digester Air Supply, scfm	257
Chlorine Basin Air Supply, scfm Return Sludge Airlift Air Supply, scfm	36 47
Skimmer Airlift Air Supply, scfm	5
Required Air Supply, cfm	1,138
No. of Blowers	3
Capacity, scfm	569
Blower Op Pressure, psi	5.8
- In the second	

# ATTACHMENT TECH.01-03 DESIGN & LOADING CRITERIA

### **EMERSON WASTEWATER TREATMENT PLANT**

# PLANT 1 - FINAL PHASE - 340,000 GPD @ $\mathrm{Qp}$ = 4.0Q ADDITION FOR A TOTAL FLOW OF 995,000 GPD

Parameter		Parameter	
INFLUENT CONDITIONS		Clarifier	
Average Daily Flow, mgd	0.340	Allow OFR @ Qp, gpd/sf	1200
Ratio Average/Peak Flow	4.00	Req'd Diameter, ft	37.99
Peak 2-Hour Flow, gpm	944	Actual Diameter, ft	38.00
BOD, mg/l	300	Side Water Depth, ft	15.00
BOD, lb/day	851	Net Basin Area sq ft	1,134
•		Total Volume, cu ft	17,012
INFLUENT PUMPING		Avg. SOR, gpd/sq ft	300
Total Number of Pumps	3	Peak SOR, gpd/sq ft	1,199
Pump Capacity, gpm	472	Avg. Detention, hr	8.98
Firm Capacity, gpm	944	Peak Detention, hr	2.25
1 77 51	= 1.	RAS Flow (400 gpd/ SF) gpm	315
TREATMENT UNIT DIMENSIONS		in to Field (100 gpair or / gpiii	010
Tank Wall Height, ft	16.5	DISINFECTION	
Inner Tank Inside Diameter, ft	38	Net Area, sq ft (1-36'L x 12'W basin)	432
Inner Tank Outside Diameter, ft	38.25	Total Volume, cu ft	3,599
Outer Tank Inside Diameter, ft	61	Peak Flow Detention, min	28.5
Outer Tank Outside Diameter, ft	61.25	Chlorine Dose, mg/l	8
Selector Zone Angle, degrees	01.23	Avg Feed Rate, lb/day	23
Aeration Zone Angle, degrees	360	Peak Feed Rate, lb/day	91
Chlorine Contact Angle, degrees		Air Supply @10 scfm/1000 cu ft, cfm	36
Digester Zone Angle, degrees	0	All Supply @ 10 Scilli/1000 cu it, cilli	30
	0	DECLU ORINATION - not wood	
Selector Basin depth, ft	0	DECHLORINATION - not used	
Aeration Zone Depth, ft	15	Net Basin Area, sq ft	0
Chlorine Contact Zone Depth, ft	8.33	Total Volume, cu ft	0
Aerobic Digester Zone Depth, ft	10.5	Peak Flow Detention, min	0.0
ACTIVATED OLLIDOF		Avg SO2 Dose, mg/l	4
ACTIVATED SLUDGE		Avg Feed Rate, lb/day	11
Selector Basin-Not Used		Peak Feed Rate, lb/day	45
Actual Surface Area, cu ft	_	Air Supply @20 scfm/1000 cu ft, cfm	0
Total Volume, cu ft	0		
Detention, Hrs (based on Q)	0.00	AEROBIC DIGESTION	
Air Supply, scfm/1000 cu ft	20	Net Area, sq ft (2-52'L x 12'W basins)	1248.0
Required Air Supply, scfm	0	Total Volume, cu ft	13,104.0
Aeration Basin (1)		Loading, cu ft/# BOD	15.4
Actual Surface Area, sq ft	1,788	Air Supply, scfm @ 25 scfm/1000 cu ft	328
Total Volume Basin, cu ft	<mark>26,825</mark>		
Detention, Hrs (based on Q)	14.16	AIR BLOWERS	
Aeration Basin Volume, cu ft	26,825	Selector Basin Air Supply, scfm	0
BOD Loading, lb BOD/1000 cu ft	31.71	Aeration Basin Supply, scfm	401
O2 Req'd @ 2.2 # O2/# BOD	1,871	Aerobic Dig. Supply, scfm	328
AOR/SOR Coefficient	0.45	R.S. Airlift Air, scfm	47
Diffuser SOR O2 Eff., %	23.8%	Skimmer Airlift, scfm	10
Process Air Reg'd, scfm	317	Chlorine Basin Air, scfm	36
Temperature Adjustment to 30 F	1.27	DeChlor Basin Air, scfm	0
Adjusted Air Flow Rate @ 30 F	401	Total Air Supply Req'd, scfm	822
Jacobs F. M. F. Mario (a) 00 F	701	No. of Blowers, scfm	3
		Capacity, scfm	1600
		Firm Capacity, scfm	3,200
		Blower Pressure, psig	7.46
		blower riessure, psig	7.40

# TECH.01-03- PROCESS CALCULATIONS DESIGN & LOADING CRITERIA EMERSON WASTEWATER TREATMENT PLANT FINAL PHASE - 225,000 GPD @ Qp = 4.0Q

### PLANT 2 - REFURBISH EXISTING STEEL PACKAGE PLANT + ADDITIONAL BASINS

COD TOTAL	EL OWLOT	005 000 CDD
FUR IUIAL	FLUW UF	995.000 GPD

Parameter	Phase 1
INFLUENT CONDITIONS  Average Daily Flow, gpd	225,000
Ratio Average/Peak Flow	4.00
Peak 2-Hour Flow, gpd	900,000
Peak 2-Hour Flow, gpm	625
BOD, mg/l	300
BOD, lb/day ACTIVATED SLUDGE PROCESS	563
AERATION (AEROBIC) BASINS	
Aeration Length Provided, ft (2 Existing + 1 New + 32-feet of 4th Tank each @ 48 long)	176
Aeration Basin Width Provided, ft	12
SWD at Avg Daily Flow, ft	11.17
Total Aeration Volume, cu ft	23,591
BOD Load, #/1000 cu ft  Detention time, hrs	23.9
O2 Req'd @ 2,2 # O2/lb BOD, #/day	18.8
Correction Factor (Fine Bubble)	0.45
Air Diffuser Eff., %	17.7%
Process Air Flow Rate, scfm	625
Mixing Air @ 20 scfm/1000 cu ft	472
Selected Air Supply Rate, scfm	625
Temperature Correction Factor for 30 deg F	1,27
Temperature Corrected Air Flow Rate, scfm  No. diffusers (84-inch perf membrane tubes)	793
Air Flow per Diffuser, scfm	16.5
Air Supply, scfm/1000 cf	34
R.S. Airlift Air, scfm	47
Skimmer Airlift Air, scfm	5
CLARIFIER (Existing)	
Selected Clarifier Diameter, ft	38
Clarifier Wall Height, ft	12.00
Side Water Depth @ Qavg, ft Total Area sq ft	8,00 1,134
Total Volume, cu ft	9,073
Total Volume, gallons	67,865
Avg. SOR, gpd/sq ft	198
Peak SOR, gpd/sq ft	794
Avg. Detention, hr	7.24
Peak Detention, hr	1.81
Max Qr @ 400 gpd/sf, gpm  Max Qr @ 400 gpd/sf, gpd	315 453,646
Max Qp + Qr, gpd	1,353,646
CHLORINE CONTACT BASIN	7,000,010
Length, ft	36.00
Width, ft	12.00
Surface Area, sq ft	432.00
Existing Max SWD, ft	8.33
Actual Volume, cu ft Actual Detention @ Qp, minutes	3599 43.1
Air Supply Required @ 10 scfm/1000 cu ft	36
AEROBIC DIGESTION/SLUDGE HOLDING	
Existing Length, ft (Remainder of Tank 4 (16 feet) + Tank 5)	64
Existing Width, ft	12
Existing SWD, ft	11,17
Volume Provided, cu ft	8,579
Volume Provided, gallons Loading, cu ft/# BOD	64,168
Air Supply Rate, scfm/1000 cu ft	15.2
Total Air Supply, cfm	257
Air Flow per Diffuser, scfm	20
Minimum No. of diffusers	13
AIR BLOWERS	
Aeration Basin Air Supply, scfm	793
Aerobic Digester Air Supply, sofm	257
Chlorine Basin Air Supply, scfm Return Sludge Airlift Air Supply, scfm	36 47
Skimmer Airlift Air Supply, scfm	5
Required Air Supply, cfm	1,138
No. of Blowers	3
Capacity, scfm	569
Blower Op Pressure, psi	5.8

# ATTACHMENT TECH.01-03 DESIGN & LOADING CRITERIA

### EMERSON WASTEWATER TREATMENT PLANT

# PLANT 3 - PHASE III - 430,000 GPD @ Qp = 4.0Q ADDITION FOR A TOTAL FLOW OF 995,000 GPD

Parameter		Parameter	
INFLUENT CONDITIONS		Clarifier	,
Average Daily Flow, mgd	0.430	Allow OFR @ Qp, gpd/sf	1200
Ratio Average/Peak Flow	4.00	Req'd Diameter, ft	42.72
Peak 2-Hour Flow, gpm	1194	Actual Diameter, ft	43.00
BOD, mg/l	300	Side Water Depth, ft	15.00
BOD, lb/day	1,076	Net Basin Area sq ft	1,452
		Total Volume, cu ft	21,783
INFLUENT PUMPING		Avg. SOR, gpd/sq ft	296
Total Number of Pumps	3	Peak SOR, gpd/sq ft	1,184
Pump Capacity, gpm	597	Avg. Detention, hr	9.09
Firm Capacity, gpm	1194	Peak Detention, hr	2.27
		RAS Flow (400 gpd/ SF) gpm	403
TREATMENT UNIT DIMENSIONS		, ,,,,,	
Tank Wall Height, ft	16.5	DISINFECTION-for all phases=0.995 mgd	
Inner Tank Inside Diameter, ft	43	Net Area, sq ft	1,284
Inner Tank Outside Diameter, ft	43.25	Total Volume, cu ft	10,696
Outer Tank Inside Diameter, ft	82	Peak Flow Detention, min	28.9
Outer Tank Outside Diameter, ft	82.25	Chlorine Dose, mg/l	8
Selector Zone Angle, degrees	0	Avg Feed Rate, lb/day	29
Aeration Zone Angle, degrees	225	Peak Feed Rate, lb/day	115
Chlorine Contact Angle, degrees	0	Air Supply @10 scfm/1000 cu ft, cfm	107
Digester Zone Angle, degrees	135		
Selector Basin depth, ft	0	DECHLORINATION	
Aeration Zone Depth, ft	15	Net Basin Area, sq ft	12
Chlorine Contact Zone Depth, ft	8.33	Total Volume, cu ft	54
Aerobic Digester Zone Depth, ft	15	Peak Flow Detention, sec	20
Dechlorination Zone Depth, ft	4.5	Avg SO2 Dose, mg/l	4
ACTIVATED SLUDGE		Avg Feed Rate, lb/day	14
Selector Basin-Not Used		Peak Feed Rate, lb/day	57
Actual Surface Area, cu ft		Air Supply @20 scfm/1000 cu ft, cfm	1
Total Volume, cu ft	0	, , , , , , , , , , , , , , , , , , ,	
Detention, Hrs (based on Q)	0.00	AEROBIC DIGESTION	
Air Supply, scfm/1000 cu ft	20	Net Area, sq ft	1435.8
Required Air Supply, scfm	0	Total Volume, cu ft	21,537.1
Aeration Basin (1)	_	Loading, cu ft/# BOD	20.0
Actual Surface Area, sq ft	2,393	Air Supply, scfm @ 25 scfm/1000 cu ft	538
Total Volume Basin, cu ft	35,895	т т стрру, ст.	
Detention, Hrs (based on Q)	14.99	AIR BLOWERS	
Aeration Basin Volume, cu ft	35,895	Selector Basin Air Supply, scfm	0
BOD Loading, lb BOD/1000 cu ft	29.97	Aeration Basin Supply, scfm	508
O2 Req'd @ 2.2 # O2/# BOD	2,367	Aerobic Dig. Supply, scfm	538
AOR/SOR Coefficient	0.45	R.S. Airlift Air, scfm	61
Diffuser SOR O2 Eff., %	23.8%	Skimmer Airlift, scfm	10
Process Air Reg'd, scfm	400	Chlorine Basin Air, scfm	107
Temperature Adjustment to 30 F	1.27	DeChlor Basin Air, scfm	1
Adjusted Air Flow Rate @ 30 F	508	Total Air Supply Req'd, scfm	1224
,		No. of Blowers, scfm	3
		Capacity, scfm	1600
		Firm Capacity, scfm	3,200
		Blower Pressure, psig	7.46

### TREATMENT UNITS

TREATMENT	NUMBER	
UNIT TYPE	OF UNITS	$(L \times W \times D)$
PHASE I – 0.300 MGD Plant 1 Aeration	1	969 sq. ft. x 15' SWD
Clarifier	1	38' diam. X 15' SWD
Chlorine Contact	1	139 sq. ft. x 13.4' SWD
Digester	1	681 sq. ft. x 15' SWD
Plant 2		
Aeration	3	48' L x 12' W x 11.17' SWD
Aeration	1	32' L x 12' W x 11.17' SWD
Clarifier	1	38' diam. X 8' SWD
Chlorine Contact	1	36' L x 12' W x 8.33' SWD
Digester Digester	1	48' L x 12' W x 11.17' SWD 16' L x 12' W x 11.17' SWD
Digester	I	10 L X 12 W X 11.17 SWD
<u>PHASE II – 0.495 MGD</u>		
Plant 1		
Aeration	1	1,788 sq. ft. x 15' SWD
Clarifier	1	38' diam. X 15' SWD
Digester	2	52' L x 12' W x 10.5' SWD
Plant 2		
Aeration	3	48' L x 12' W x 11.17' SWD
Aeration	1	32' L x 12' W x 11.17' SWD
Clarifier	1	38' diam. X 8' SWD
Digester	1	48' L x 12' W x 11.17' SWD
Digester	1	16' L x 12' W x 11.17' SWD
Chlorination together	2	36' L x 12' W x 8.33' SWD
PHASE III – 0.995 MGD		
Plant 1		
Aeration	1	1,788 sq. ft. x 15' SWD
Clarifier	1	38' diam. X 15' SWD
Digester	2	52' L x 12' W x 10.5' SWD
Plant 2		
Aeration	3	48' L x 12' W x 11.17' SWD
Aeration	1	32' L x 12' W x 11.17' SWD
Clarifier	1	38' diam. X 8' SWD
Digester	1	48' L x 12' W x 11.17' SWD
Digester	1	16' L x 12' W x 11.17' SWD

Plant 3		
Aeration	1	2,393 sq. ft. x 15' SWD
Clarifier	1	43' diam. X 15' SWD
Digester	1	1,436 sq. ft. x 15' SWD
Chlorination together	2	36' L x 12' W x 8.33' SWD
	1	35' L x 12' W x 8.33' SWD
Dechlorination together	1	1' L x 12' W x 4.5' SWD

### EMERSON ESTATES WASTEWATER TEATMENT PLANT

### **EXPANSION NARRATIVE**

This narrative is intended to explain the various phases and how the phases will be achieved in this major amendment application. The current TPDES permit allows a final phase flow of 0.300 mgd with a 3Q-2-hour peak. It is assumed that because a major amendment is being requested, and new construction will occur, that the 2-hour peak will now be 4Q.

In this major amendment application, Phase I will be the current 0.300 mgd, and will be achieved by the facilities currently on the ground. These facilities include a 16.5' side water depth concentric circle plant with a 61' diameter outer ring, an inner 38' diameter clarifier, 195° of aeration, 137° of digestion, and 28° of chlorination. The Phase I facilities also include an additional 38' diameter (12' side water depth) clarifier, 4 rectangular aeration basins (3 that are 48' L x 12' W x 11.17' SWD and 1 that is 32' L x 12' W x 11.17' L), 2 rectangular digestion basins (1 that is 48' L x 12' W x 11.17' SWD and 1 that is 16' L x 12' W x 10.5' SWD), and 1 rectangular chlorine contact basin that is 36' L x 12' W x 8.33' SWD. These facilities have a total capacity of 0.425 mgd, so there is more than enough capacity for the current 0.300 mgd phase.

The requested flow for Phase II is 0.495 mgd. In this phase the digestion and chlorination volume in the Phase I concentric circle plant will be converted to additional aeration capacity. Two 52' L x 12' W x 10.5' SWD rectangular basins will be added for digestion. An additional 36' L x 12' W x 8.33' SWD basin will be added to the Phase I existing chlorination basin and all effluent will be disinfected together. This configuration will have a total capacity of 0.565 mgd, more than enough for the 0.495 mgd being requested.

The requested flow for Phase III is 0.995 mgd. In this phase the 0.565 mgd capacity of the facilities on the ground will be realized, as well as adding an additional 0.430 mgd concentric circle plant having an outer ring of 82' and an inner 43' clarifier. Additional chlorination tankage will be added to disinfect the total flow, as well as facilities for dechlorination of the total flow.

### DESIGN FEATURES FOR RELIABILITY

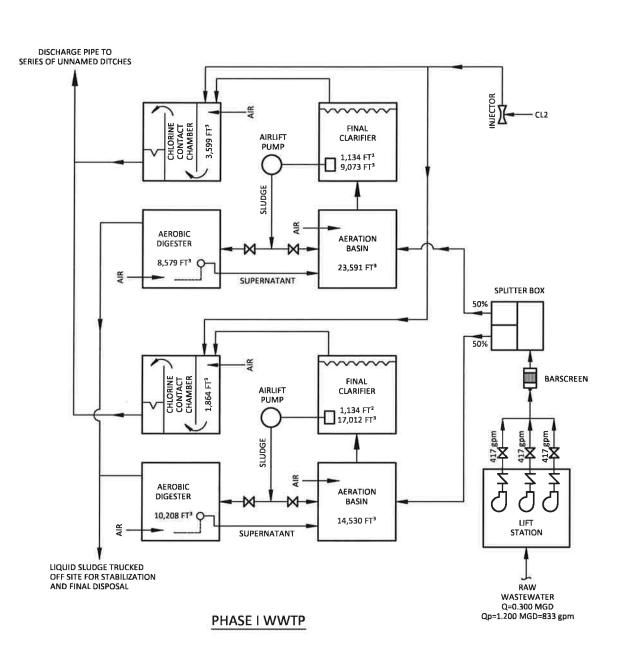
The Emerson Estates Wastewater Treatment Plant facilities are and will be designed to provide a high degree of mechanical reliability consistent with TCEQ Design Criteria. The following describe design features that will be incorporated at the facilities to prevent bypassing or overflows of untreated wastewater:

- A. No infiltration/inflow is anticipated in the new collection systems since they will be new and not subject to the effects of age and deterioration at this time. As infiltration/inflow is experienced in the older collection systems, programs for locating and repairing the problems will be implemented.
- B. The electrical service that serves the Emerson Estates WWTP is reliable with most outages lasting less than 2-4 hours. However, C & R Water Supply, Inc. has a generator on-site to operate necessary plant components during extended outages.
- C. C & R Water Supply, Inc. either stocks spare units or has easy accessibility to all mechanical units, such as influent pumps, blowers and chemical feed pumps in the event a piece of equipment is out of service for repairs.
- D. Plant units will be maintained per TCEQ standards and repaired as quickly as possible should failure occur.
- E. The facilities include an auto-dialer that will call the operator in case of power outages, blower malfunctions, lift station malfunctions or high-water alarm situations.

### **ATTACHMENT TECH.02**

# **Process Flow Diagram**

(Reference Technical Report Page 2, Question 2c)



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### **WATER ENGINEERS, INC.**

Water & Wastewater Treatment Consultants

TEXAS BOARD OF PROFESSIONAL ENGINEERS FIRM No. 2066 17230 HUFFMEISTER ROAD CYPRESS, TEXAS 77429

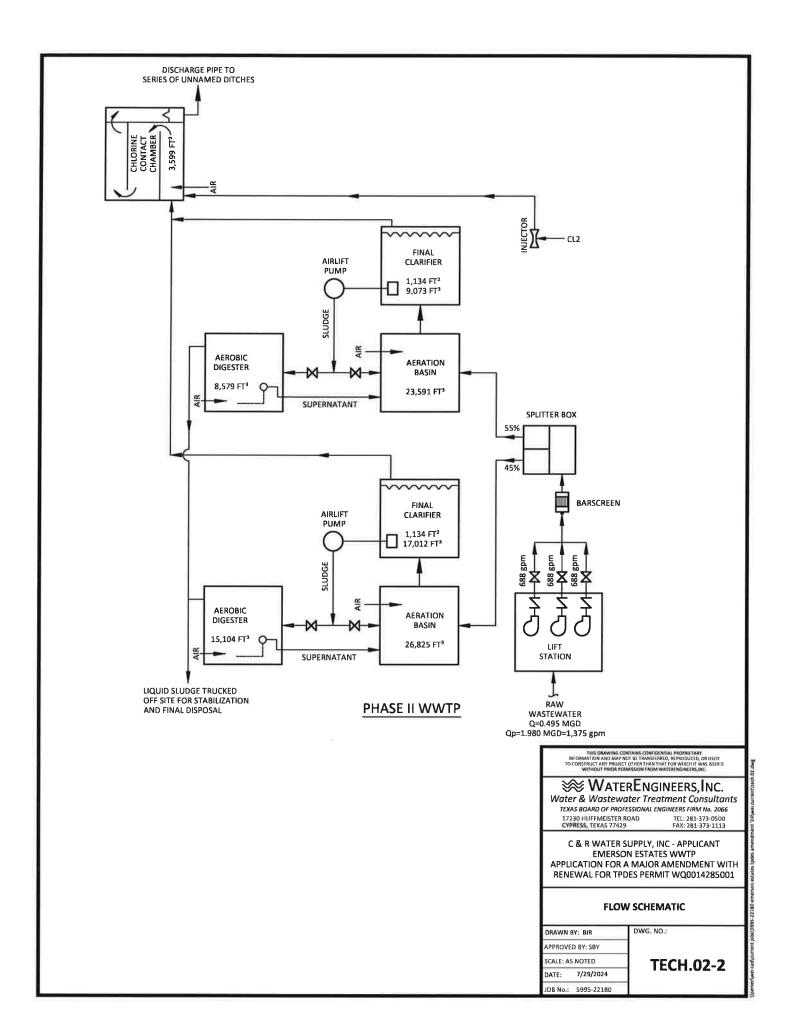
TEL: 281-373-0500 FAX: 281-373-1113

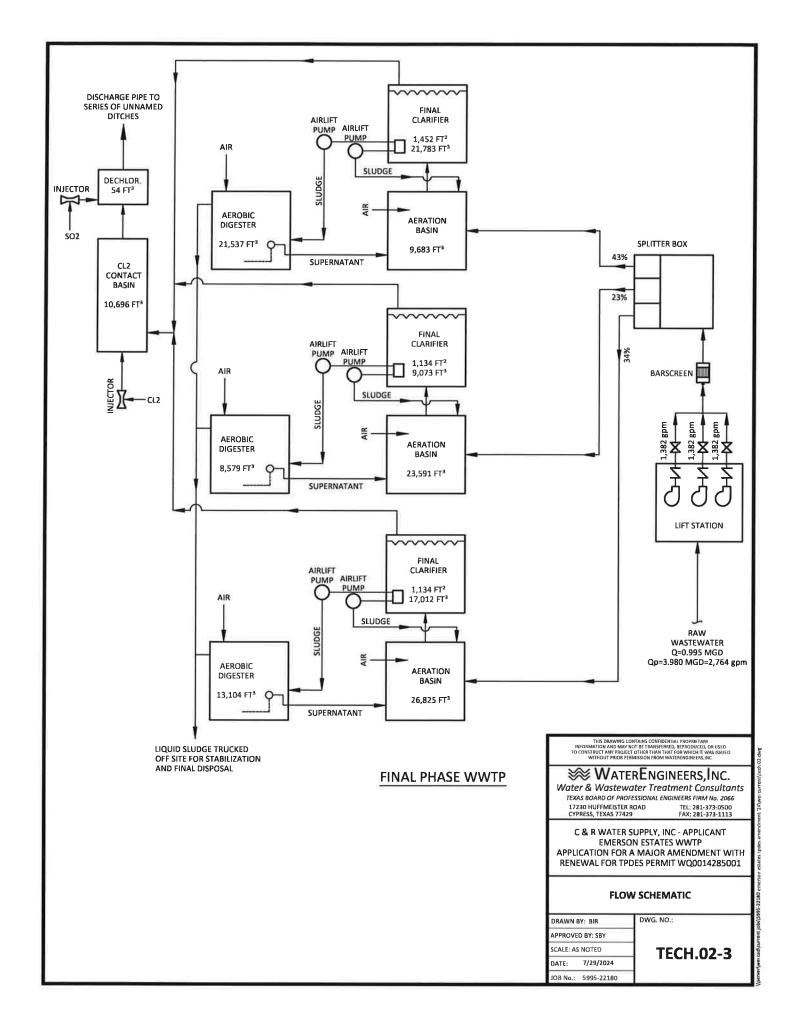
C & R WATER SUPPLY, INC - APPLICANT EMERSON ESTATES WWTP APPLICATION FOR A MAJOR AMENDMENT WITH RENEWAL FOR TPDES PERMIT WQ0014285001

#### **FLOW SCHEMATIC**

DWG. NO.: DRAWN BY: BIR APPROVED BY: SBY SCALE: AS NOTED DATE: 7/29/2024 JOB No.: 5995-22180

**TECH.02-1** 





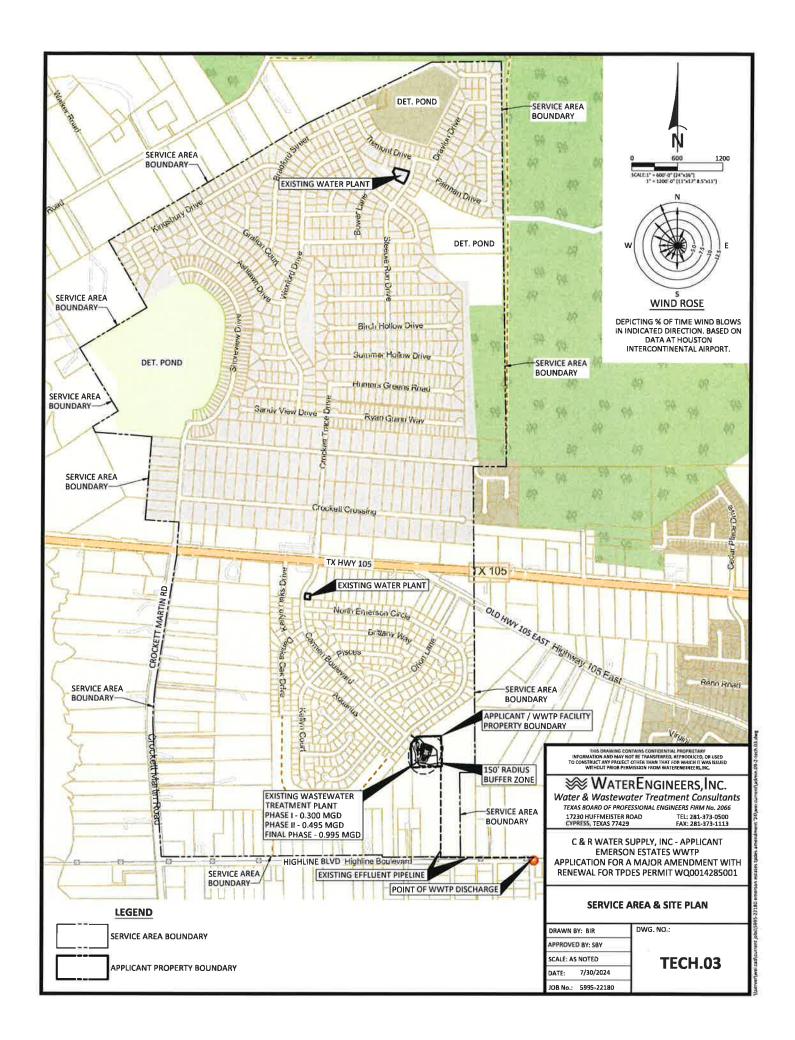
# **ATTACHMENT TECH.03**

# **Site Drawing**

(Reference Technical Report Page 2, Question 3)

(Including Wind Rose)

(Reference Technical Report Page 23, Question 7)



### **ATTACHMENT TECH.04**

### Solids Management Plan

(Reference Technical Report Page 8, Question 6F And Page 23, Question 5B)

### ATTACHMENT TECH.04 SLUDGE MANAGEMENT PLAN

### 1. Type of Wastewater Treatment Process Used

The Emerson Estates Wastewater Treatment Plant (WWTP) uses the activated sludge with nitrification process. Solids analyses have been made based upon a spreadsheet calculation set up using sludge kinetic calculations developed by Dr. Ross McKinney and published in <u>Notes on Activated Sludge</u>, 1971, by Brian L. Goodman. Table TECH.04-01, TECH.04-02 and TECH.04-03 show the process design and sludge generation calculations for the design flows of 300,000 gpd, 495,000 gpd and 995,000 gpd.

### 2. Dimensions and Capacities

In Phase I (current phase) the treatment facilities utilize two plants. Plant 1 is a concentric circle plant having a digester volume of 10,208.5 cu ft., a surface area of 681 sq. ft. and a side water depth of 15 ft., providing a total design flow loading of 27.2 cu. ft./lb BOD. Plant 2 has two rectangular tanks having a volume of 8,579 cu. ft., a surface area of 768 sq. ft. and a 11.17 ft. side water depth, providing design flow loading of 22.9 cu. ft./lb BOD. In Phase II, Plant 1 will be converted to all aeration. Two 52' L x 12' W x 10.5' SWD rectangular basins will be provided for digestion. These basins will have a total volume of 13,104 cu. ft., surface area of 1,248 sq. ft and 10.5 ft. SWD, providing design flow loading of 19.4 cu. ft./lb BOD. Plant 2 has two rectangular tanks having a volume of 8,579 cu. ft., a surface area of 768 sq. ft. and a 11.17 ft. side water depth, providing design flow loading of 15.2 cu. ft./lb BOD. In the Final Phase a new 0.430 mgd concentric circle plant having aeration and digestion capacity will be added to the Phase II facilities. The new digester will have a volume of 21,537 cu. ft., surface area 1, 435.8 sq. ft and a 15 ft. SWD, providing a design flow loading for the addition of 20 cu. ft./lb. BOD.

### 3. Sludge Generation Calculations

Sludge generation calculations showing the amount of solids generated at 100%, 75%, 50% and 25% of design flow are included in Attachments TECH.04. These are the solids that must be wasted from the activated sludge process and that must be stabilized in the aerobic digester. The results are summarized in the following table:

Phase	Solids @	Solids @	Solids @	Solids @
	100% Qavg,	75% Qavg,	50% Qavg,	25% Qavg,
	lb/day	lb/day	lb/day	lb/day
Phase I Plant 1 Plant 2 Total	256	192	128	64
	<u>322</u>	<u>242</u>	<u>161</u>	<u>81</u>
	578	434	289	145
Phase II Plant 1 Plant 2 Total	461	346	231	115
	<u>485</u>	<u>363</u>	<u>242</u>	121
	546	709	473	236

Phase III         580           Plant 1         484           Plant 2         734           Plant 3         1,798	435	290	145
	363	242	121
	<u>551</u>	<u>367</u>	<u>184</u>
	1,349	899	450

### 4. Operating Range of Mixed Liquor Suspended Solids

The calculations that predict the mixed liquor suspended solids in the activated sludge process are located in the following table:

	Predicted @ 100%			d Solids 6 Flow	1	ed Solids 50%		d Solids 6 Flow
	sludge		sludge		sludge		sludge	
	age,	MLSS	age,	MLSS	age,	MLSS	age,	MLSS
	days	mg/l	days	mg/l	days	mg/l	days	mg/l
Phase I								
Plant 1	12	3,508	16	3,510	24	3,511	48	3,513
Plant 2	16	3,604	21	3,548	32	3,606	64	3,606
Phase II								
Plant 1	12.5	3,563	16.5	3,529	25	3,566	50	3,568
Plant 2	10.5	3,546	14	3,547	21	3,548	42	3,550
Phase III								
Plant 1	10	3,588	13.5	3,635	20	3,592	40	3,594
Plant 2	10.5	3,546	14	3,547	21	3,548	42	3,550
Plant 3	10.5	3,561	14	3,563	21	3,565	42	3,567

### 5. Solids Removal Procedures

The removal of waste activated sludge from the activated sludge process is achieved by wasting sludge from the bottom of the clarifier into the aerobic digester using the waste sludge airlift pump. In order to thicken solids prior to putting them into the digester, the air lift is turned off for approximately one hour prior to wasting. Periodically (two to three times a week) the air supply to the aerobic digester is shut off, allowing solids to settle to the bottom of the digester. Then the supernatant liquor is decanted with an adjustable decant airlift pump and returned to the aeration basin. After a sufficient period of digestion and/or the digester is full, sludge is removed from the digester by a vacuum truck by hooking the truck hose to the piping connection and opening the shut off valve.

### 6. Quantity of Solids to Be Removed and Solids Removal Schedule

The quantity of solids to be removed at the various plant loadings are presented in the following table. These quantities shown in the tabulation are *monthly* quantities based upon an influent BOD of 300 mg/l and TSS of 200 mg/l. If the strength of the influent wastewater varies significantly, solids removal quantities will be different.

	Predicted @ 100%		Predicted Solids @ 75% Flow		1	ed Solids 50%	l	Predicted Solids @ 25% Flow	
	% solids	Gal/ month	% solids	Gal/ month	% solids	Gal/ month	% solids	Gal/ month	
Phase I									
Plant 1	2.0	36,428	2.0	27,331	2.0	18,227	2.0	9,117	
Plant 2	2.0	49,084	2.0	36,819	2.0	24,551	2.0	12,278	
Total		85,512		64,150		42,778		21,395	
Phase II									
Plant 1	2.0	66,239	2.0	49,699	2.0	33,143	2.0	16,578	
Plant 2	2.0	73,598	2.0	55,213	2.0	36,819	2.0	18,414	
Total		139,837		104,912		69,962		34,992	
Phase III									
Plant 1	2.0	83,378	2.0	62,559	2.0	41,727	2.0	20,873	
Plant 2	2.0	73,598	2.0	55,213	2.0	36,819	2.0	18,414	
Plant 3	2.0	104,816	2.0	78,646	2.0	52,453	2.0	26,238	
Total		261,783		196,418		130,999		65,525	

### 7. Identification of Disposal Site

The disposal of sludge from the WWTP is contracted to sludge management and disposal contractor, Magna-Flow Environmental., who transports liquid sludge from the digester to other wastewater treatment facilities for further processing. Sludge is also trucked to a sludge dewatering facility owned by applicant. Sludge cake is either transported to New Earth Inc. or Security Recycling & Disposal for disposal. Solids documentation is assured by measuring the volume of each sludge withdrawal and measuring the sludge solids concentrations. All required data is included in the annual sludge report to the TCEQ.

# ATTACHMENT TECH.04-01A PROCESS DESIGN AND SLUDGE GENERATION CALCULATIONS CONCENTRIC CIRCULAR PLANT 1 EMERSON WASTEWATER TREATMENT PLANT

INFLUENT CONDITIONS				
Design Flow Rate, mgd 0.150		Aeration Vol, cu	ft	14,530
Infl. BOD, mg/l 300		Clarifier Diameter	ft (each)	38
Infl. TSS, mg/l 200		Clarifier Side Wall	Depth, ft	15
Infl. VSS, mg/l 160		Clarifier Surface A	rea, sq ft (total)	1,134
BOD Loading, lb/day 375		Clarifier Volume, o		17,012
BOD Load, #/1000 cu ft 25.87		Temperature, de	, ,	20
		•		
Actual Plant Loading, %	100%	75.0%	50%	25.0%
Actual Flow Rate, mgd	0.150	0.113	0.075	0.038
BOD Loading, #/Day	375	281	188	94
Ret. Sludge Rate, gpd/sq ft	400	400	400	400
Ret. Sludge Flow, mgd	0.45	0.45	0.45	0.45
t = Aeration Time, days	0.725	0.966	1.449	2.898
ts = Sludge Age, Days	12.0	16.0	24.0	48.0
Km = BOD Removal Metabolic Facto	360	360	360	360
Ks = Synthesis Factor	250	250	250	250
Ke = Endogenous Metabolism Facto	0.20	0.15	0.10	0.05
F = Effl Soluble BOD	1.15	0.86	0.57	0.29
Ma = Active Mass	1,011	1,012	1,013	1,014
Me = Endogenous Mass	582	583	583	584
Mi = Inert Organic Mass	927	927	927	927
Mii = Inert Inorganic Mass	987	988	988	988
Mt = Total Mass, mg/l	3,508	3,510	3,511	3,513
Total Mass in Aeration Basin, lb	3,180	3,181	3,183	3,184
Lb BOD/Lb MLSS/Day	0.118	0.088	0.059	0.029
Effl TSS, mg/l	7	7	7	7
Effl BOD, mg/l	2	2	2	2
Sludge Accumulation, lb/day	265	199	133	66
TSS Lost In Effluent, Ib/day	9	7	4	2
Waste Sludge, lb/day	256	192	128	64
Return Sludge Conc, mg/l	4,668	4,380	4,092	3,803
Waste Sludge Conc, mg/l	10,000	10,000	10,000	10,000
Waste Sludge Flow, gpd	3,072	2,305	1,537	769
	,	,	,	
AEROBIC DIGESTER	40.000			
Volume, cu ft	10,208			
Design Loading, cu ft/lb BOD	27.20	36.27	54.40	108.80
Incoming Sludge Conc, mg/l	10,000	10,000	10,000	10,000
Thick Sludge Conc, mg/l	20,000	20,000	20,000	20,000
Detention, Days	49.71	66.25	99.33	198.56
Infl Total Solids, lb/day	256	192	128	64
Infl Active Mass, lb/day	74	55	37	19
Effl Active Mass, lb/Day	7	5	3	2
Active Mass Red., lb/day	54	40	27	13
Digester Effl Solids, lb/day	203	152	101	51
Sludge Disposed, lb/mg	1,350	1,351	1,351	1,352
Sludge Disposed, tons/mg	0.68	0.68	0.68	0.68
Sludge Hauled, gal/day	1,214	911	608	304
Sludge Hauled, gal/month	36,428	27,331	18,227	9,117

# TECH.04-01 EMERSON WASTEWATER TREATMENT PLANT PROCESS DESIGN AND SLUDGE GENERATION CALCULATIONS-225,000 GPD PLANT 2-REFURBISH EXISTING STEEL PACKAGE PLANT + ADDITIONAL BASINS

INFLUENT CONDITIONS					
Design Flow Rate, mgd	0.150		Aeration	Vol, cu ft	23,591
Infl. BOD, mg/l	300			iameter, ft	38
Infl. TSS, mg/l	300			ide Wall Depth, ft	8.00
Infl. VSS, mg/l	240			urface Area, sq ft	
BOD Loading, lb/day	375			olume, cu ft	9,073
BOD Load, #/1000 cu ft	15.95			ture, deg C	20
			,	, <b>.g</b> -	
Actual Plant Loading, %		100%	75.0%	50%	25.0%
Actual Flow Rate, mgd		0.150	0.113	0.075	0.038
BOD Loading, #/Day		375	281	188	94
Ret. Sludge Rate, gpd/sq ft		400	400	400	400
Ret. Sludge Flow, mgd		0.45	0.45	0.45	0.45
t = Aeration Time, days		1.176	1.569	2,353	4,706
ts = Sludge Age, Days		16.0	21.00	32.0	64.0
Km = BOD Removal Metabolic	Factor	360	360	360	360
Ks = Synthesis Factor		250	250	250	250
Ke = Endogenous Metabolism	Factor	0.15	0.11	0.08	0.04
F = Effl Soluble BOD		0.71	0.53	0.35	0.18
Ma = Active Mass		831	819	832	833
Me = Endogenous Mass		479	472	479	480
Mi = Inert Organic Mass		1,142	1,125	1,142	1,142
Mii = Inert Inorganic Mass		1,151	1,133	1,151	1,151
Mt = Total Mass, mg/l		3,604	3,548	3,606	3,606
Total Mass in Aeration Basin, II	b	5,304	5,222	5,306	5,307
Lb BOD/Lb MLSS/Day		0.071	0.054	0.035	0.018
EffI TSS, mg/l		7	7	7	7
Effl BOD, mg/l		2	2	1	1
Sludge Assumulation Ib/day		221	240	100	93
Sludge Accumulation, lb/day		331 9	249 7	166 5	83 2
TSS Lost In Effluent, Ib/day		322	242	161	81
Waste Sludge, lb/day		4,795	4,428	4,202	3,905
Return Sludge Conc, mg/l					
Waste Sludge Conc, mg/l Waste Sludge Flow, gpd		10,000	10,000	10,000	10,000 967
waste Sludge Flow, gpd		3,867	2,902	1,934	907
AEROBIC DIGESTER					
Volume, cu ft		8,579			
Design Loading, cu ft/lb BOD		22.86	30.48	45.72	91.43
Incoming Sludge Conc, mg/l		10,000	10,000	10,000	10,000
Thick Sludge Conc, mg/l		20,000	20,000	20,000	20,000
Detention, Days		33.19	44.23	66.35	132.67
Infl Total Solids, lb/day		322	242	161	81
Infl Active Mass, Ib/day		74	56	37	19
Effl Active Mass, lb/Day		12	9	6	3
Active Mass Red., lb/day		50	37	25	12
Digester Effl Solids, lb/day		273	205	137	68
Sludge Disposed, lb/mg		1,819	1,820	1,820	1,820
Sludge Disposed, tons/mg		0.91	0.91	0.91	0.91
Sludge Hauled, gal/day		1,636	1,227	818	409
Sludge Hauled, gal/month		49,084	36,819	24,551	12,278

# ATTACHMENT TECH.04-02 PROCESS DESIGN AND SLUDGE GENERATION CALCULATIONS CONCENTRIC CIRCULAR DESIGN EMERSON WASTEWATER TREATMENT PLANT

Design Flow Rate, mgd         0.270         Aeration Vol, cu ft         26,825           Infl. BOD, mg/l         300         Clarifier Diameter, ft (each)         38           Infl. YSS, mg/l         200         Clarifier Surface Area, sq ft (total)         15           BOD Loading, Ib/day         676         Clarifier Volume, cu ft (total)         1,7,012           BOD Loading, #/1000 cu ft         25.22         Temperature, deg C         20           Actual Plant Loading, %         100%         75.0%         50%         25.0%           Actual Plow Rate, mgd         0.270         0.203         0.135         0.068           BOD Loading, #/Day         676         507         338         169           Ret. Sludge Rate, gpd/sq ft         400         400         400         400           Ret. Sludge Flow, mgd         0.45         0.45         0.45         0.45         0.45           Km = BOD Removal Metabolic Factc         360         360         380         380         380           Km = Synthesis Factor         250         250         250         250         250           K = Endogenous Metabolism Facto         0.19         0.15         0.10         0.05         1.28           F = Efff Solibulbe BOD	INFLUENT CONDITIONS					
Infl. BOD, mg/  200   Clarifier Side Wall Depth, ft   15   Infl. YSS, mg/l   160   Clarifier Surface Area, sq ft (total)   1,134   BOD Loading, Ib/day   676   Clarifier Surface Area, sq ft (total)   17,012   BOD Load, #/1000 cu ft   25.22   Temperature, deg C   20   Actual Plant Loading, %   100%   75.0%   50%   25.0%   Actual Flow Rate, mgd   0.270   0.203   0.135   0.068   BOD Loading, #/Day   676   507   338   169   Ret. Sludge Flow, mgd   0.45   0			Aeration Vol,	cu ft	26,825	
Infl. TSS, mg/l   200	Infl. BOD, mg/l 300					
Infl. VSS, mg/l   160   BOD Loading, lb/day   676   BOD Loading, lb/day   676   BOD Loading, lb/day   676   BOD Loading, lb/day   676   Clarifier Volume, cu ft (total)   17,012   Temperature, deg C   20   Actual Plant Loading, %   100%   75.0%   50%   25.0%   Actual Flow Rate, mgd   0.270   0.203   0.135   0.068   BOD Loading, #/Day   676   507   338   169   Ret. Sludge Rate, gpd/sq ft   400	Infl. TSS, mg/l 200		Clarifier Side V	Vall Depth, ft	15	
BOD Loading, Ib/day   676   BOD Load, #1000 cu ft   25.22   Temperature, deg C   20				• •	1,134	
BOD Load, #/1000 ou ft   25.22   Temperature, deg C   20					-	
Actual Plant Loading, %         100%         75.0%         50%         25.0%           Actual Flow Rate, mgd         0.270         0.203         0.135         0.068           BOD Loading, #/Day         676         507         338         169           Ret. Sludge Flow, mgd         0.45 </td <td>•</td> <td></td> <td></td> <td></td> <td></td> <td></td>	•					
Actual Flow Rate, mgd	•		•	J		
BOD Loading, #/Day         676         507         338         169           Ret. Sludge Rate, gpd/sq ft         400         400         400         400           Ret. Sludge Flow, mgd         0.45         0.10         0.05         0.00         Km = Sludge Age, Days         12.5         16.5         25.0         250         260         268         40         40         40         40         40         40         40         40         40         40	Actual Plant Loading, %	100%	75.0%	50%	25.0%	
Ret. Sludge Rate, gpd/sq ft         400         400         400         400           Ret. Sludge Flow, mgd         0.45         0.56         0.28         0.25         0.50         260         20         20         28         4         40         40	Actual Flow Rate, mgd	0.270	0.203	0.135	0.068	
Ret. Sludge Flow, mgd	BOD Loading, #/Day	676	507	338	169	
t = Aeration Time, days ts = Sludge Age, Days ts = Sludge Conc, mg/l Days to Hand Age, Days to Hand Age, Days to Hand Age, Days the Hand Age, Days the Hand Sludge Conc, mg/l Detention, Days Infl Total Solids, Ib/day 15	Ret. Sludge Rate, gpd/sq ft	400	400	400	400	
ts = Sludge Age, Days         12.5         16.5         25.0         50.0           Km = BOD Removal Metabolic Factor         360         360         360         360           Ks = Synthesis Factor         250         250         250         250           Ke = Endogenous Metabolism Facto         0.19         0.15         0.10         0.05           F = Effl Soluble BOD         1.12         0.84         0.56         0.28           Ma = Active Mass         1,027         1,017         1,029         1,030           Me = Endogenous Mass         591         586         593         593           Mi = Inert Organic Mass         942         933         942         942           Mii = Inert Inorganic Mass         1,003         993         1,003         1,003           Mt = Total Mass, mg/l         3,563         3,529         3,566         3,568           Total Mass in Aeration Basin, lb         5,962         5,966         5,968         5,971           L b BOD/Lb MLSS/Day         0.113         0.086         0.057         0.028           Effl TSS, mg/l         7         7         7         7         7           Effl BOD, mg/l         2         2         2         2<	Ret. Sludge Flow, mgd	0.45	0.45	0.45	0.45	
Km = BOD Removal Metabolic Factt         360         360         360         360           Ks = Synthesis Factor         250         250         250         250           Ke = Endogenous Metabolism Facto         0.19         0.15         0.10         0.05           F = Effl Soluble BOD         1.12         0.84         0.56         0.28           Ma = Active Mass         1,027         1,017         1,029         1,030           Me = Endogenous Mass         591         586         593         593           Mi = Inert Organic Mass         1,003         993         1,003         1,003           Mi = Inert Inorganic Mass         1,003         993         1,003         1,003           Mt = Total Mass, mg/l         3,563         3,529         3,566         3,568           Total Mass in Aeration Basin, lb         5,962         5,966         5,968         5,971           Lb BOD/Lb MLSS/Day         0.113         0.086         0.057         0.028           Effl TSS, mg/l         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7	t = Aeration Time, days	0.743	0.991	1.486	2.973	
Ks = Synthesis Factor         250         250         250         250           Ke = Endogenous Metabolism Facto         0.19         0.15         0.10         0.05           F = Efff Soluble BOD         1.12         0.84         0.56         0.28           Ma = Active Mass         1,027         1,017         1,029         1,030           Me = Endogenous Mass         591         586         593         593           Mi = Inert Organic Mass         942         933         942         942           Mii = Inert Inorganic Mass         1,003         993         1,003         1,003           Mt = Total Mass, mg/l         3,563         3,529         3,566         3,568           Total Mass in Aeration Basin, lb         5,962         5,906         5,968         5,971           Lb BOD/Lb MLSS/Day         0.113         0.086         0.057         0.028           Effl TSS, mg/l         7         7         7         7         7           Effl TSS, mg/l         2         2         2         2         2         2         2           Sludge Accumulation, lb/day         477         358         239         119         119         15         8         4	ts = Sludge Age, Days	12.5	16.5	25.0	50.0	
Ke = Endogenous Metabolism Facto         0.19         0.15         0.10         0.05           F = Efff Soluble BOD         1.12         0.84         0.56         0.28           Ma = Active Mass         1,027         1,017         1,029         1,030           Me = Endogenous Mass         591         586         593         593           Mi = Inert Organic Mass         942         933         942         942           Mii = Inert Inorganic Mass         1,003         993         1,003         1,003           Mt = Total Mass, mg/l         3,563         3,529         3,566         3,568           Total Mass in Aeration Basin, lb         5,962         5,906         5,968         5,971           Lb BOD/Lb MLSS/Day         0.113         0.086         0.057         0.028           Efff TSS, mg/l         7         7         7         7         7           Efff BOD, mg/l         2         2         2         2         2           Sludge Accumulation, lb/day         477         358         239         119           TSS Lost In Effluent, lb/day         461         346         231         115           Return Sludge Conc, mg/l         10,000         10,000         1	Km = BOD Removal Metabolic Factor	360	360	360	360	
F = Effl Soluble BOD         1.12         0.84         0.56         0.28           Ma = Active Mass         1,027         1,017         1,029         1,030           Me = Endogenous Mass         591         586         593         593           Mi = Inert Organic Mass         942         933         942         942           Mii = Inert Inorganic Mass         1,003         993         1,003         1,003           Mt = Total Mass, mg/l         3,563         3,529         3,566         3,568           Total Mass in Aeration Basin, lb         5,962         5,906         5,968         5,971           Lb BOD/Lb MLSS/Day         0.113         0.086         0.057         0.028           Efff TSS, mg/l         7	Ks = Synthesis Factor	250	250	250	250	
Ma = Active Mass         1,027         1,017         1,029         1,030           Me = Endogenous Mass         591         586         593         593           Mi = Inert Organic Mass         942         933         942         942           Mii = Inert Inorganic Mass         1,003         993         1,003         1,003           Mt = Total Mass, mg/l         3,563         3,529         3,566         3,568           Total Mass in Aeration Basin, lb         5,962         5,906         5,968         5,971           Lb BOD/Lb MLSS/Day         0.113         0.086         0.057         0.028           Effl TSS, mg/l         7         7         7         7           Effl BOD, mg/l         2         2         2         2         2           Sludge Accumulation, lb/day         477         358         239         119           TSS Lost In Effluent, lb/day         46         12         8         4           Waste Sludge, lb/day         461         346         231         115           Return Sludge Conc, mg/l         10,000         10,000         10,000         10,000           Waste Sludge Flow, gpd         5,527         4,149         2,766         1,384	Ke = Endogenous Metabolism Facto	0.19	0.15	0.10	0.05	
Me = Endogenous Mass         591         586         593         593           Mi = Inert Organic Mass         942         933         942         942           Mii = Inert Inorganic Mass         1,003         993         1,003         1,003           Mt = Total Mass, mg/l         3,563         3,529         3,566         3,568           Total Mass in Aeration Basin, lb         5,962         5,906         5,968         5,971           Lb BOD/Lb MLSS/Day         0.113         0.086         0.057         0.028           Efff TSS, mg/l         7         7         7         7         7           Effl BOD, mg/l         2         2         2         2         2         2           Sludge Accumulation, lb/day         477         358         239         119         TSS Lost In Effluent, lb/day         16         12         8         4           Waste Sludge floway         461         346         231         115         Return Sludge Conc, mg/l         5,684         5,104         4,628         4,099           Waste Sludge Flow, gpd         5,527         4,149         2,766         1,384           AEROBIC DIGESTER         Volume, cu ft         13,104 <td< td=""><td>F = Effl Soluble BOD</td><td>1.12</td><td></td><td>0.56</td><td>0.28</td><td></td></td<>	F = Effl Soluble BOD	1.12		0.56	0.28	
Mil = Inert Organic Mass         942         933         942         942           Mil = Inert Inorganic Mass         1,003         993         1,003         1,003           Mt = Total Mass, mg/l         3,563         3,529         3,566         3,568           Total Mass in Aeration Basin, lb         5,962         5,906         5,968         5,971           Lb BOD/Lb MLSS/Day         0.113         0.086         0.057         0.028           Efff TSS, mg/l         7         7         7         7         7         7           Efff BOD, mg/l         2         2         2         2         2         2         2           Sludge Accumulation, lb/day         477         358         239         119         TSS Lost In Effluent, lb/day         46         12         8         4           Waste Sludge, lb/day         461         346         231         115         Return Sludge Conc, mg/l         5,684         5,104         4,628         4,099           Waste Sludge Flow, gpd         5,527         4,149         2,766         1,384           AEROBIC DIGESTER           Volume, cu ft         13,104           Design Loading, cu ft/lb BOD         19.40         25.86	Ma = Active Mass	1,027	1,017	1,029	1,030	
Mii = Inert Inorganic Mass         1,003         993         1,003         1,003           Mt = Total Mass, mg/l         3,563         3,529         3,566         3,568           Total Mass in Aeration Basin, lb         5,962         5,906         5,968         5,971           Lb BOD/Lb MLSS/Day         0.113         0.086         0.057         0.028           Efff TSS, mg/l         7	Me = Endogenous Mass					
Mt = Total Mass, mg/l         3,563         3,529         3,566         3,568           Total Mass in Aeration Basin, lb         5,962         5,906         5,968         5,971           Lb BOD/Lb MLSS/Day         0.113         0.086         0.057         0.028           Effl TSS, mg/l         7         7         7         7         7           Effl BOD, mg/l         2         2         2         2         2         2         2           Sludge Accumulation, lb/day         477         358         239         119         119         TSS Lost In Effluent, lb/day         16         12         8         4         4         Waste Sludge, lb/day         461         346         231         115         Return Sludge Conc, mg/l         5,684         5,104         4,628         4,099         Waste Sludge Conc, mg/l         10,000         <	•					
Total Mass in Aeration Basin, Ib         5,962         5,906         5,968         5,971           Lb BOD/Lb MLSS/Day         0.113         0.086         0.057         0.028           Efff TSS, mg/l         7         7         7         7           Effl BOD, mg/l         2         2         2         2           Sludge Accumulation, Ib/day         477         358         239         119           TSS Lost In Effluent, Ib/day         16         12         8         4           Waste Sludge, Ib/day         461         346         231         115           Return Sludge Conc, mg/l         5,684         5,104         4,628         4,099           Waste Sludge Conc, mg/l         10,000         10,000         10,000         10,000           Waste Sludge Flow, gpd         5,527         4,149         2,766         1,384           AEROBIC DIGESTER           Volume, cu ft         13,104           Design Loading, cu ft/lb BOD         19,40         25.86         38.80         77.59           Incoming Sludge Conc, mg/l         10,000         10,000         10,000         10,000           Thick Sludge Conc, mg/l         20,000         20,000         20,000	<del>-</del>			·		
Lb BOD/Lb MLSS/Day	The state of the s		•			
Effl TSS, mg/l         7         7         7         7           Effl BOD, mg/l         2         2         2         2         2           Sludge Accumulation, lb/day         477         358         239         119           TSS Lost In Effluent, lb/day         16         12         8         4           Waste Sludge, lb/day         461         346         231         115           Return Sludge Conc, mg/l         5,684         5,104         4,628         4,099           Waste Sludge Conc, mg/l         10,000         10,000         10,000         10,000         10,000           Waste Sludge Flow, gpd         5,527         4,149         2,766         1,384           AEROBIC DIGESTER         Volume, cu ft         13,104         10,000         1						
Effl BOD, mg/l         2         2         2         2           Sludge Accumulation, lb/day         477         358         239         119           TSS Lost In Effluent, lb/day         16         12         8         4           Waste Sludge, lb/day         461         346         231         115           Return Sludge Conc, mg/l         5,684         5,104         4,628         4,099           Waste Sludge Conc, mg/l         10,000         10,000         10,000         10,000         10,000           Waste Sludge Flow, gpd         5,527         4,149         2,766         1,384    AEROBIC DIGESTER  Volume, cu ft  Design Loading, cu ft/lb BOD  19.40  25.86  38.80  77.59  Incoming Sludge Conc, mg/l  10,000  10,000  10,000  10,000  10,000  10,000  10,000  10,000  10,000  20,000  20,000  20,000  20,000  20,000  20,000  20,000  Detention, Days  35.47  47.25  70.87  141.68  Infl Total Solids, lb/day  461  346  231  115  Infl Active Mass, lb/Day  133  100  67  33  Effl Active Mass, lb/Day  17  13  9  4  Active Mass Red., lb/day  93  70  46  23  Digester Effl Solids, lb/day  368  276  184  92  Sludge Disposed, lb/mg  1,364  1,365  1,366  Sludge Disposed, tons/mg  0.68  0.68  Sludge Hauled, gal/day  2,208  1,657  1,105  553	•	0.113	0.086	0.057	0.028	
Sludge Accumulation, lb/day	=					
TSS Lost In Effluent, Ib/day         16         12         8         4           Waste Sludge, Ib/day         461         346         231         115           Return Sludge Conc, mg/l         5,684         5,104         4,628         4,099           Waste Sludge Conc, mg/l         10,000         10,000         10,000         10,000           Waste Sludge Flow, gpd         5,527         4,149         2,766         1,384           AEROBIC DIGESTER           Volume, cu ft         13,104           Design Loading, cu ft/lb BOD         19.40         25.86         38.80         77.59           Incoming Sludge Conc, mg/l         10,000         10,000         10,000         10,000           Thick Sludge Conc, mg/l         20,000         20,000         20,000         20,000           Detention, Days         35.47         47.25         70.87         141.68           Infl Total Solids, Ib/day         461         346         231         115           Infl Active Mass, Ib/Day         13         100         67         33           Effl Active Mass, Ib/Day         17         13         9         4           Active Mass Red., Ib/day         368         276	Effl BOD, mg/l	2	2	2	2	
TSS Lost In Effluent, Ib/day         16         12         8         4           Waste Sludge, Ib/day         461         346         231         115           Return Sludge Conc, mg/l         5,684         5,104         4,628         4,099           Waste Sludge Conc, mg/l         10,000         10,000         10,000         10,000           Waste Sludge Flow, gpd         5,527         4,149         2,766         1,384           AEROBIC DIGESTER           Volume, cu ft         13,104           Design Loading, cu ft/lb BOD         19.40         25.86         38.80         77.59           Incoming Sludge Conc, mg/l         10,000         10,000         10,000         10,000           Thick Sludge Conc, mg/l         20,000         20,000         20,000         20,000           Detention, Days         35.47         47.25         70.87         141.68           Infl Total Solids, Ib/day         461         346         231         115           Infl Active Mass, Ib/Day         13         100         67         33           Effl Active Mass, Ib/Day         17         13         9         4           Active Mass Red., Ib/day         368         276	Sludge Accumulation, lb/day	477	358	239	119	
Waste Sludge, lb/day         461         346         231         115           Return Sludge Conc, mg/l         5,684         5,104         4,628         4,099           Waste Sludge Conc, mg/l         10,000         10,000         10,000         10,000           Waste Sludge Flow, gpd         5,527         4,149         2,766         1,384           AEROBIC DIGESTER           Volume, cu ft         13,104           Design Loading, cu ft/lb BOD         19.40         25.86         38.80         77.59           Incoming Sludge Conc, mg/l         10,000         10,000         10,000         10,000           Thick Sludge Conc, mg/l         20,000         20,000         20,000         20,000           Detention, Days         35.47         47.25         70.87         141.68           Infl Total Solids, lb/day         461         346         231         115           Infl Active Mass, lb/day         133         100         67         33           Effl Active Mass, lb/day         17         13         9         4           Active Mass Red., lb/day         93         70         46         23           Digester Effl Solids, lb/day         368         276         <		16	12	8	4	
Return Sludge Conc, mg/l         5,684         5,104         4,628         4,099           Waste Sludge Conc, mg/l         10,000         10,000         10,000         10,000           Waste Sludge Flow, gpd         5,527         4,149         2,766         1,384           AEROBIC DIGESTER           Volume, cu ft         13,104           Design Loading, cu ft/lb BOD         19.40         25.86         38.80         77.59           Incoming Sludge Conc, mg/l         10,000         10,000         10,000         10,000           Thick Sludge Conc, mg/l         20,000         20,000         20,000         20,000           Detention, Days         35.47         47.25         70.87         141.68           Infl Total Solids, Ib/day         461         346         231         115           Infl Active Mass, Ib/Day         133         100         67         33           Effl Active Mass, Ib/day         93         70         46         23           Digester Effl Solids, Ib/day         368         276         184         92           Sludge Disposed, Ib/mg         1,364         1,365         1,365         1,366           Sludge Hauled, gal/day         2,208         1,6	· · · · · · · · · · · · · · · · · · ·	461	346	231	115	
Waste Sludge Conc, mg/l         10,000         10,000         10,000         10,000           Waste Sludge Flow, gpd         5,527         4,149         2,766         1,384           AEROBIC DIGESTER         Volume, cu ft         13,104           Design Loading, cu ft/lb BOD         19.40         25.86         38.80         77.59           Incoming Sludge Conc, mg/l         10,000         10,000         10,000         10,000           Thick Sludge Conc, mg/l         20,000         20,000         20,000         20,000           Detention, Days         35.47         47.25         70.87         141.68           Infl Total Solids, Ib/day         461         346         231         115           Infl Active Mass, Ib/Day         133         100         67         33           Effl Active Mass, Ib/Day         17         13         9         4           Active Mass Red., Ib/day         93         70         46         23           Digester Effl Solids, Ib/day         368         276         184         92           Sludge Disposed, Ib/mg         1,364         1,365         1,365         1,366           Sludge Hauled, gal/day         2,208         1,657         1,105		5,684	5,104	4,628	4,099	
AEROBIC DIGESTER  Volume, cu ft  Design Loading, cu ft/lb BOD  Incoming Sludge Conc, mg/l  Incoming Sludge Conc, mg/l  Detention, Days  Infl Total Solids, lb/day  Infl Active Mass, lb/Day  Active Mass Red., lb/day  Digester Effl Solids, lb/day  Sludge Disposed, lb/mg  Sludge Disposed, tons/mg  Output  13,104  10,000  10,000  10,000  10,000  10,000  20,000		10,000	· ·	10,000	10,000	
Volume, cu ft         13,104           Design Loading, cu ft/lb BOD         19.40         25.86         38.80         77.59           Incoming Sludge Conc, mg/l         10,000         10,000         10,000         10,000           Thick Sludge Conc, mg/l         20,000         20,000         20,000         20,000           Detention, Days         35.47         47.25         70.87         141.68           Infl Total Solids, lb/day         461         346         231         115           Infl Active Mass, lb/day         133         100         67         33           Effl Active Mass, lb/Day         17         13         9         4           Active Mass Red., lb/day         93         70         46         23           Digester Effl Solids, lb/day         368         276         184         92           Sludge Disposed, lb/mg         1,364         1,365         1,365         1,366           Sludge Disposed, tons/mg         0.68         0.68         0.68         0.68           Sludge Hauled, gal/day         2,208         1,657         1,105         553		5,527	· · · · · · · · · · · · · · · · · · ·	· ·		
Volume, cu ft         13,104           Design Loading, cu ft/lb BOD         19.40         25.86         38.80         77.59           Incoming Sludge Conc, mg/l         10,000         10,000         10,000         10,000           Thick Sludge Conc, mg/l         20,000         20,000         20,000         20,000           Detention, Days         35.47         47.25         70.87         141.68           Infl Total Solids, lb/day         461         346         231         115           Infl Active Mass, lb/day         133         100         67         33           Effl Active Mass, lb/Day         17         13         9         4           Active Mass Red., lb/day         93         70         46         23           Digester Effl Solids, lb/day         368         276         184         92           Sludge Disposed, lb/mg         1,364         1,365         1,365         1,366           Sludge Disposed, tons/mg         0.68         0.68         0.68         0.68           Sludge Hauled, gal/day         2,208         1,657         1,105         553						
Design Loading, cu ft/lb BOD         19.40         25.86         38.80         77.59           Incoming Sludge Conc, mg/l         10,000         10,000         10,000         10,000         10,000           Thick Sludge Conc, mg/l         20,000         20,000         20,000         20,000         20,000           Detention, Days         35.47         47.25         70.87         141.68           Infl Total Solids, lb/day         461         346         231         115           Infl Active Mass, lb/day         133         100         67         33           Effl Active Mass, lb/Day         17         13         9         4           Active Mass Red., lb/day         93         70         46         23           Digester Effl Solids, lb/day         368         276         184         92           Sludge Disposed, lb/mg         1,364         1,365         1,365         1,366           Sludge Disposed, tons/mg         0.68         0.68         0.68         0.68           Sludge Hauled, gal/day         2,208         1,657         1,105         553		40.404				
Incoming Sludge Conc, mg/l       10,000       10,000       10,000       10,000         Thick Sludge Conc, mg/l       20,000       20,000       20,000       20,000         Detention, Days       35.47       47.25       70.87       141.68         Infl Total Solids, lb/day       461       346       231       115         Infl Active Mass, lb/day       133       100       67       33         Effl Active Mass, lb/Day       17       13       9       4         Active Mass Red., lb/day       93       70       46       23         Digester Effl Solids, lb/day       368       276       184       92         Sludge Disposed, lb/mg       1,364       1,365       1,365       1,366         Sludge Disposed, tons/mg       0.68       0.68       0.68       0.68         Sludge Hauled, gal/day       2,208       1,657       1,105       553		-	05.00	00.00	77.50	
Thick Sludge Conc, mg/l       20,000       20,000       20,000       20,000         Detention, Days       35.47       47.25       70.87       141.68         Infl Total Solids, lb/day       461       346       231       115         Infl Active Mass, lb/day       133       100       67       33         Effl Active Mass, lb/Day       17       13       9       4         Active Mass Red., lb/day       93       70       46       23         Digester Effl Solids, lb/day       368       276       184       92         Sludge Disposed, lb/mg       1,364       1,365       1,365       1,366         Sludge Disposed, tons/mg       0.68       0.68       0.68       0.68         Sludge Hauled, gal/day       2,208       1,657       1,105       553						
Detention, Days       35.47       47.25       70.87       141.68         Infl Total Solids, lb/day       461       346       231       115         Infl Active Mass, lb/day       133       100       67       33         Effl Active Mass, lb/Day       17       13       9       4         Active Mass Red., lb/day       93       70       46       23         Digester Effl Solids, lb/day       368       276       184       92         Sludge Disposed, lb/mg       1,364       1,365       1,365       1,366         Sludge Disposed, tons/mg       0.68       0.68       0.68       0.68         Sludge Hauled, gal/day       2,208       1,657       1,105       553	<del>_</del>			•		
Infl Total Solids, lb/day       461       346       231       115         Infl Active Mass, lb/day       133       100       67       33         Effl Active Mass, lb/Day       17       13       9       4         Active Mass Red., lb/day       93       70       46       23         Digester Effl Solids, lb/day       368       276       184       92         Sludge Disposed, lb/mg       1,364       1,365       1,365       1,366         Sludge Disposed, tons/mg       0.68       0.68       0.68       0.68         Sludge Hauled, gal/day       2,208       1,657       1,105       553				· ·		
Infl Active Mass, lb/day       133       100       67       33         Effl Active Mass, lb/Day       17       13       9       4         Active Mass Red., lb/day       93       70       46       23         Digester Effl Solids, lb/day       368       276       184       92         Sludge Disposed, lb/mg       1,364       1,365       1,365       1,366         Sludge Disposed, tons/mg       0.68       0.68       0.68       0.68         Sludge Hauled, gal/day       2,208       1,657       1,105       553						
Effl Active Mass, Ib/Day       17       13       9       4         Active Mass Red., Ib/day       93       70       46       23         Digester Effl Solids, Ib/day       368       276       184       92         Sludge Disposed, Ib/mg       1,364       1,365       1,365       1,366         Sludge Disposed, tons/mg       0.68       0.68       0.68       0.68         Sludge Hauled, gal/day       2,208       1,657       1,105       553						
Active Mass Red., lb/day       93       70       46       23         Digester Effl Solids, lb/day       368       276       184       92         Sludge Disposed, lb/mg       1,364       1,365       1,365       1,366         Sludge Disposed, tons/mg       0.68       0.68       0.68       0.68         Sludge Hauled, gal/day       2,208       1,657       1,105       553						
Digester Effl Solids, lb/day       368       276       184       92         Sludge Disposed, lb/mg       1,364       1,365       1,365       1,366         Sludge Disposed, tons/mg       0.68       0.68       0.68       0.68         Sludge Hauled, gal/day       2,208       1,657       1,105       553						
Sludge Disposed, lb/mg       1,364       1,365       1,365       1,366         Sludge Disposed, tons/mg       0.68       0.68       0.68       0.68         Sludge Hauled, gal/day       2,208       1,657       1,105       553						
Sludge Disposed, tons/mg         0.68         0.68         0.68         0.68           Sludge Hauled, gal/day         2,208         1,657         1,105         553	•					
Sludge Hauled, gal/day 2,208 1,657 1,105 553						
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Siduye Hadied, yai/1101titi 00,239 49,099 33,143 10,578	•		· ·			
	Siduge Hadied, gai/month	00,239	49,099	JJ, 143	10,376	

# TECH.04-02 EMERSON WASTEWATER TREATMENT PLANT PROCESS DESIGN AND SLUDGE GENERATION CALCULATIONS-225,000 GPD PLANT 2 - REFURBISH EXISTING STEEL PACKAGE PLANT + ADDITIONAL BASINS

INFLUENT CONDITIONS					
Design Flow Rate, mgd	0.225		Aeration	Vol, cu ft	23,591
Infl. BOD, mg/l	300			Diameter, ft	38
Infl. TSS, mg/l	300		Clarifier S	ide Wall Depth, f	8.00
Infl. VSS, mg/l	240			Surface Area, sq ft	
BOD Loading, lb/day	563			olume, cu ft	9,073
BOD Load, #/1000 cu ft	23.90			ture, deg C	20
202 2004, 1000 00 11	20.00		10	o, aog o	
Actual Plant Loading, %		100%	75.0%	50%	25.0%
Actual Flow Rate, mgd		0.225	0.169	0.113	0.056
BOD Loading, #/Day		563	422	281	141
Ret. Sludge Rate, gpd/sq ft		400	400	400	400
Ret. Sludge Flow, mgd		0.45	0.45	0.45	0.45
t = Aeration Time, days		0.784	1.046	1.569	3,137
ts = Sludge Age, Days		10.5	14.00	21.0	42.0
Km = BOD Removal Metabolic	Factor	360	360	360	360
Ks = Synthesis Factor		250	250	250	250
Ke = Endogenous Metabolism	Factor	0.23	0.17	0.11	0.06
F = Effl Soluble BOD		1.06	0.79	0.53	0.27
Ma = Active Mass		817	818	819	820
Me = Endogenous Mass		471	471	472	472
Mi = Inert Organic Mass		1,125	1,125	1,125	1,125
Mii = Inert Inorganic Mass		1,133	1,133	1,133	1,133
Mt = Total Mass, mg/l		3,546	3,547	3,548	3,550
Total Mass in Aeration Basin,	lb	5,218	5,220	5,222	5,224
Lb BOD/Lb MLSS/Day		0.108	0.081	0.054	0.027
Effl TSS, mg/l		7	7	7	7
Effl BOD, mg/l		2	2	2	1
Sludge Accumulation, lb/day		497	373	249	124
TSS Lost In Effluent, lb/day		13	10	7	3
Waste Sludge, lb/day		484	363	242	121
Return Sludge Conc, mg/l		5,305	4,867	4,428	3,990
Waste Sludge Conc, mg/l		10,000	10,000	10,000	10,000
Waste Sludge Flow, gpd		5,800	4,351	2,902	1,451
AEROBIC DIGESTER					
Volume, cu ft		8,579			
Design Loading, cu ft/lb BOD		15.24	20.32	30.48	60.95
Incoming Sludge Conc, mg/l		10,000	10,000	10,000	10,000
Thick Sludge Conc, mg/l		20,000	20,000	20,000	20,000
Detention, Days		22.13	29.49	44.23	88.42
Infl Total Solids, lb/day		484	363	242	121
Infl Active Mass, lb/day		112	84	56	28
Effl Active Mass, lb/Day		18	14	9	5
Active Mass Red., lb/day		74	56	37	19
Digester Effl Solids, lb/day		409	307	205	102
Sludge Disposed, lb/mg		1,819	1,819	1,820	1,820
Sludge Disposed, tons/mg		0.91	0.91	0.91	0.91
Sludge Hauled, gal/day		2,453	1,840	1,227	614
Sludge Hauled, gal/month		73,598	55,213	36,819	18,414
orange madica, gairmond		. 5,555	55,215	00,013	דו דייטו

# ATTACHMENT TECH.04-03 PROCESS DESIGN AND SLUDGE GENERATION CALCULATIONS PLANT 1 - CONCENTRIC CIRCULAR DESIGN EMERSON WASTEWATER TREATMENT PLANT

IN	FLUENT CONDITIONS						
	sign Flow Rate, mgd	0.340		Aeration \	/ol, cu ft	26,825	
Inf	il. BOD, mg/l	300		Clarifier Di	iameter, ft (each)	38	
Inf	l. TSS, mg/l	200		Clarifier Si	de Wall Depth, ft	15	
	l. VSS, mg/l	160			urface Area, sq ft (total)	1,134	
	DD Loading, lb/day	851			olume, cu ft (total)	17,012	
	DD Load, #/1000 cu ft	31.75			ure, deg C	20	
				-			
Ac	tual Plant Loading, %		100%	75.0%	50%	25.0%	
Ac	tual Flow Rate, mgd		0.340	0.255	0.170	0.085	
BC	DD Loading, #/Day		851	638	425	213	
Re	t. Sludge Rate, gpd/sq ft		400	400	400	400	
	t. Sludge Flow, mgd		0.45	0.45	0.45	0.45	
	Aeration Time, days		0.590	0.787	1.180	2.361	
	= Sludge Age, Days		10.0	13.5	20.0	40.0	
	n = BOD Removal Metaboli	c Factc	360	360	360	360	
	= Synthesis Factor		250	250	250	250	
	= Endogenous Metabolisn	n Facto	0.24	0.18	0.12	0.06	
	Effl Soluble BOD		1.41	1.06	0.70	0.35	
	a = Active Mass		1,033	1,048	1,036	1,037	
	e = Endogenous Mass		595	603	597	597	
	= Inert Organic Mass		949	961	949	949	
	= Inert Inorganic Mass		1,010	1,023	1,010	1,011	
	= Total Mass, mg/l		3,588	3,635	3,592	3,594	
	tal Mass in Aeration Basin,	lb	6,004	6,082	6,011	6,014	
	BOD/Lb MLSS/Day		0.142	0.105	0.071	0.035	
	TSS, mg/l		7	7	7	7	
Επ	il BOD, mg/l		3	2	2	2	
Slu	idge Accumulation, lb/day		600	451	301	150	
	S Lost In Effluent, lb/day		20	15	10	5	
	aste Sludge, lb/day		580	435	290	145	
	turn Sludge Conc, mg/l		6,277	5,678	4,938	4,267	
	aste Sludge Conc, mg/l		10,000	10,000	10,000	10,000	
	aste Sludge Flow, gpd		6,955	5,217	3,481	1,742	
	ROBIC DIGESTER		10.101				
	lume, cu ft		13,104	00.54	2004		
	sign Loading, cu ft/lb BOD		15.40	20.54	30.81	61.62	
	coming Sludge Conc, mg/l		10,000	10,000	10,000	10,000	
	ick Sludge Conc, mg/l		20,000	20,000	20,000	20,000	
	tention, Days		28.19	37.58	56.31	112.55	
	Total Solids, lb/day		580	435	290	145	
	Active Mass, lb/day		167	125	84	42	
	l Active Mass, lb/Day		22 116	16	11 59	5 20	
	tive Mass Red., lb/day		464	87 348	58 232	29 116	
_	gester Effl Solids, lb/day		464 1,363	348 1,364	232 1,365	116 1,365	
	idge Disposed, lb/mg		0.68	0.68	1,365 0.68	0.68	
	idge Disposed, tons/mg idge Hauled, gal/day		2,779	2,085	1,391	696	
	idge Hauled, gal/day idge Hauled, gal/month		83,378	62,559	41,727	20,873	
Sit	iago Haulea, gal/IIIOIIIII		55,570	02,009	71,121	20,013	

## TECH.04-03 EMERSON WASTEWATER TREATMENT PLANT PROCESS DESIGN AND SLUDGE GENERATION CALCULATIONS-225,000 GPD PLANT 2 - REFURBISH EXISTING STEEL PACKAGE PLANT + ADDITIONAL BASINS

INFLUENT CONDITIONS				
Design Flow Rate, mgd 0	.225	Aeration	Vol, cu ft	23,591
Infl. BOD, mg/l	300		Diameter, ft	38
Infl. TSS, mg/l	300		Side Wall Depth, ft	8.00
Infl. VSS, mg/l	240		Surface Area, sq ft	
BOD Loading, lb/day	563		olume, cu ft	9,073
	3.90		ture, deg C	20
202 2044, 11/1000 04 11	3.55	rompora	taro, dog o	
Actual Plant Loading, %	100%	75.0%	50%	25.0%
Actual Flow Rate, mgd	0.225	0.169	0.113	0.056
BOD Loading, #/Day	563	422	281	141
Ret. Sludge Rate, gpd/sq ft	400	400	400	400
Ret. Sludge Flow, mgd	0.45	0.45	0.45	0.45
t = Aeration Time, days	0.784	1.046	1.569	3.137
ts = Sludge Age, Days	10.5	14.00	21.0	42.0
Km = BOD Removal Metabolic Fac	tor 360	360	360	360
Ks = Synthesis Factor	250	250	250	250
Ke = Endogenous Metabolism Fac	tor 0.23	0.17	0.11	0.06
F = Effl Soluble BOD	1.06	0.79	0.53	0.27
Ma = Active Mass	817	818	819	820
Me = Endogenous Mass	471	471	472	472
Mi = Inert Organic Mass	1,125	1,125	1,125	1,125
Mii = Inert Inorganic Mass	1,133	1,133	1,133	1,133
Mt = Total Mass, mg/l	3,546	3,547	3,548	3,550
Total Mass in Aeration Basin, Ib	5,218	5,220	5,222	5,224
Lb BOD/Lb MLSS/Day	0.108	0.081	0.054	0.027
Effl TSS, mg/l	7	7	7	7
Effl BOD, mg/l	2	2	2	1
Sludge Accumulation, lb/day	497	373	249	124
TSS Lost In Effluent, lb/day	13	10	7	3
Waste Sludge, lb/day	484	363	242	121
Return Sludge Conc, mg/l	5,305	4,867	4,428	3,990
Waste Sludge Conc, mg/l	10,000	10,000	10,000	10,000
Waste Sludge Flow, gpd	5,800	4,351	2,902	1,451
, , , , , , , , , , , , , , , , , , ,	2,222	.,,	_,,,,_	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
AEROBIC DIGESTER				
Volume, cu ft	8,579			
Design Loading, cu ft/lb BOD	15.24	20.32	30.48	60.95
Incoming Sludge Conc, mg/l	10,000	10,000	10,000	10,000
Thick Sludge Conc, mg/l	20,000	20,000	20,000	20,000
Detention, Days	22.13	29.49	44.23	88.42
Infl Total Solids, Ib/day	484	363	242	121
Infl Active Mass, lb/day	112	84	56	28
Effl Active Mass, lb/Day	18	14	9	5
Active Mass Red., lb/day	74	56	37	19
Digester Effl Solids, lb/day	409	307	205	102
Sludge Disposed, lb/mg	1,819	1,819	1,820	1,820
Sludge Disposed, tons/mg	0.91	0.91	0.91	0.91
Sludge Hauled, gal/day	2,453	1,840	1,227	614
Sludge Hauled, gal/month	73,598	55,213	36,819	18,414

# ATTACHMENT TECH.04-03 PROCESS DESIGN AND SLUDGE GENERATION CALCULATIONS CONCENTRIC CIRCULAR CONCRETE WALL DESIGN EMERSON WASTEWATER TREATMENT PLANT

INFLUENT CONDITIONS			
Design Flow Rate, mgd 0.4300		Aeration Vol, cu ft	35,895
Infl. BOD, mg/l 300		Clarifier Diameter, ft (each)	43
Infl. TSS, mg/l 200		Clarifier Side Wall Depth, ft	15
Infl. VSS, mg/l		Clarifier Surface Area, sq ft (total)	1,452
BOD Loading, lb/day 1,076		Clarifier Volume, cu ft (total)	21,783
BOD Load, #/1000 cu ft 30.01		Temperature, deg C	20
,			
Actual Plant Loading, %	100%	75.0% 50%	25.0%
Actual Flow Rate, mgd	0.430	0.323 0.215	0.108
BOD Loading, #/Day	1076	807 538	269
Ret. Sludge Rate, gpd/sq ft	400	400 400	400
Ret. Sludge Flow, mgd	0.58	0.58 0.58	0.58
t = Aeration Time, days	0.624	0.833 1.249	2.498
ts = Sludge Age, Days	10.5	14.0 21.0	42.0
Km = BOD Removal Metabolic Facto	360	360 360	360
Ks = Synthesis Factor	250	250 250	250
Ke = Endogenous Metabolism Facto	0.23	0.17 0.11	0.06
F = Effl Soluble BOD	1.33	1.00 0.67	0.33
Ma = Active Mass	1,026	1,027 1,028	1,029
Me = Endogenous Mass	591	592 592	593
Mi = Inert Organic Mass	942	942 942	942
Mii = Inert Inorganic Mass	1,002	1,003 1,003	1,003
Mt = Total Mass, mg/l	3,561	3,563 3,565	3,567
Total Mass in Aeration Basin, lb	7,974	7,978 7,982	7,987
Lb BOD/Lb MLSS/Day	0.135	0.101 0.067	0.034
Effl TSS, mg/l	7	7 7	7
Effl BOD, mg/l	3	2 2	2
Sludge Accumulation, lb/day	759	570 380	190
TSS Lost In Effluent, lb/day	26	19 13	6
Waste Sludge, lb/day	734	551 367	184
Return Sludge Conc, mg/l	6,197	5,541 4,884	4,227
Waste Sludge Conc, mg/l	10,000	10,000 10,000	10,000
Waste Sludge Flow, gpd	8,799	6,603 4,404	2,203
AEROBIC DIGESTER			
Volume, cu ft	21,537		
Design Loading, cu ft/lb BOD	20.02	26.69 40.04	80.07
Incoming Sludge Conc, mg/l	10,000	10,000 10,000	10,000
Thick Sludge Conc, mg/l	20,000	20,000 20,000	20,000
Detention, Days	36.62	48.79 73.15	146.22
Infl Total Solids, lb/day	734	551 367	184
Infl Active Mass, lb/day	211	159 106	53
Effl Active Mass, lb/Day	23	17 11	6
Active Mass Red., lb/day	151	113 76	38
Digester Effl Solids, lb/day	583	437 292	146
Sludge Disposed, lb/mg	1,355	1,356 1,356	1,357
Sludge Disposed, tons/mg	0.68	0.68 0.68	0.68
Sludge Hauled, gal/day	3,494	2,622 1,748	875
Sludge Hauled, gal/month	104,816	78,646 52,453	26,238
		•	

# ATTACHMENT TECH.05 Pollutant Analysis of Treated Effluent

(Reference Technical Report Page 10, Section 7)



Emerson Estates C & R Water Supply P.O. Box 187 Willis, TX 77378

### P.O. Box 1089 Coldspring Tx 77331 Website: eastexlabs.com Email: eastexlab@eastex.net Tel: 936 653 3249



### LABORATORY ANALYTICAL REPORT

Project: Emerson Estates Permit Renewal

Sample Site: Sample Type: Sample Matrix:	Short Permit Renewal Grab Water		Sample Numb			Sai	llector: mpled: ceived:	DMP 06/20/2024 06/20/2024	6:40 14:25
Client Matrix:	Water								
Analyte	Result	Reporting Limit	Units	Neloc Status	Batch	Analyzed	Analyst	Method	Notes
Chlorine	3	0.1	mg/L	N	B4F4086	06/20/2024 06:4	0 DMP	SM 4500 Cl F	
DO	6.7		mg/L	N	B4F4086	06/20/2024 06:4	0 DMP	SM 4500 O G	
pH	7.5		std unit	N	B4F4086	06/20/2024 06:4	0 DMP	SM 4500 H + B	
Alkalinity	152	20.0	mg CaCO3/L	A	B4F4895	06/25/2024 16:1	8 KRH	SM 2320 B	
Ammonia as N	<0.1	0.1	mg/L	Α	B4F4114	06/21/2024 16:5	9 AED	SM 4500 NH3 G	
CBOD 5	3.5	2.0	mg/L	Α	B4F4192	06/21/2024 07:2	9 MJP	SM 5210 B	1, 1;
Chloride	96.8	5.0	mg/L	Α	B4F4179	06/21/2024 16:4	0 OCR	EPA 300.0	
Conductivity	958	10	μmhos/cm @25C	Α	B4F4157	06/21/2024 15:3	4 ARB	SM 2510 B	
E coli 1DEXX	<1	1	mpn/100ml	A	B4F4280	06/20:2024 14:3	9 HIS	Colilert 18	
Nitrate as N	25.9	0.05	mg/L	Α	B4F4179	06/21/2024 16:4	0 OCR	EPA 300.0	
Sulfate	44.2	4.0	mg/L	Α	B4F4179	06/21/2024 16:4	0 OCR	EPA 300.0	
TDS	690	10.0	mg/L	Α	B4F4142	06/21/2024 16:3:	5 ARB	SM 2540 C	
TKN	3,1	1.0	mg/L	Α	B4F5375	06/27/2024 08:00	0 CNS	EPA 351.2	13, E
Total Phosphorus	6.34	0.0600	mg/L	Α	B4F5636	06/28/2024 15:29	9 КЈН	EPA 200.7	
TSS	16.5	1.0	mg/L	Α	B4F4136	06/21/2024 11:01	7 KRT	SM 2540 D	



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Emerson Estates C & R Water Supply P.O. Box 187 Willis, TX 77378

### SM 4500 NH3 G - Quality Control

### Eastex Environmental Laboratory - Coldspring

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch B4F4114 - No Prep										
Blank (B4F4114-BLK1)				Prepared &	Analyzed:	06/21/24				
Ammonia as N	ND	0,1	mg/L							
LCS (B4F4114-BS1)				Prepared &	Analyzed:	06/21/24				
Ammonia as N	3.88		mg/L	4.00		97.0	90-110			
Matrix Spike (B4F4114-MS1)	Source	e: C4F6237-	01	Prepared &	Analyzed:	06/21/24				
Ammonia as N	2.4	0.1	mg/L	2.50	0.08	94.0	80-120			-
Matrix Spike Dup (B4F4114-MSD1)	Source	e: C4F6237-	01	Prepared &	Analyzed:	06/21/24				
Ammonia as N	2.4	0.1	mg/L	2,50	0.08	94.7	80-120	0.697	20	
Batch B4F4136 - No Prep										
Blank (B4F4136-BLK1)				Prepared &	Analyzed:	06/21/24				
TSS	ND	1.0	mg/L							
Duplicate (B4F4136-DUP1)	Source	e: C4F6351-	01	Prepared &	Analyzed:	06/21/24				
rss	136	1.0	mg/L		140			2,90	10	
Batch B4F4142 - No Prep										
Blank (B4F4142-BLK1)				Prepared &	Analyzed:	06/21/24			7 - 100	
TDS	ND	10.0	mg/L							
LCS (B4F4142-BS1)				Prepared &	Analyzed:	06/21/24				
TDS	330		mg/L	300		110	80-120			
Ouplicate (B4F4142-DUP1)	Source	e: C4F6109-	01	Prepared &	Analyzed:	06/21/24				
TDS	1000	10.0	mg/L		1060			5.83	10	



Emerson Estates
C & R Water Supply
P.O. Box 187

Willis, TX 77378

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SM 2510 B - Quality Control

### Eastex Environmental Laboratory - Coldspring

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch B4F4157 - No Prep										
Blank (B4F4157-BLK1)				Prepared &	& Analyzed:	06/21/24				
Conductivity	ND	10	μmhos/cm @25C							
LCS (B4F4157-BS1)				Prepared &	k Analyzed:	06/21/24				
Conductivity	1005	10	μmhos/cm @25C				80-120			
Duplicate (B4F4157-DUP1)	Sou	rce: C4F4492	2-01	Prepared &	k Analyzed:	06/21/24				
Conductivity	725	10	μmhos/cm @25C		726			0,138	20	
Batch B4F4179 - No Prep										
Blank (B4F4179-BLK1)				Prepared &	k Analyzed:	06/21/24				
Chloride	ND	5.0	mg/L							
Nitrate as N	ND	0.05	mg/L							
Sulfate	ND	4.0	mg/L							
LCS (B4F4179-BS1)				Prepared &	k Analyzed:	06/21/24				
Chloride	23,6		mg/L	25.0		94.2	90-110			
Nitrate as N	1.4639		mg/L	1,50		97.6	90-110			
Sulfate	18.8		mg/L	20.0		94.1	90-110			
Matrix Spike (B4F4179-MS1)	Sou	rce: C4F6236	i-01	Prepared &	Analyzed:	06/21/24				
Chloride	220	5.0	mg/L	125	110	88.3	80-120			
Vitrate as N	43,8674	0.05	mg/L	7,50	36,3681	100	80-120			
Sulfate	143	4.0	mg/L	100	35.4	107	80-120			
Matrix Spike Dup (B4F4179-MSD1)	Sou	rce: C4F6236	-01	Prepared &	Analyzed:	06/21/24				
Chloride	220	5.0	mg/L	125	110	87.9	80~120	0.259	20	
Nitrate as N	43,7755	0.05	mg/L	7.50	36,3681	98.8	80-120	0,210	20	
Sulfate	142	4.0	mg/L	100	35.4	107	80-120	0.323	20	



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### SM 5210 B - Quality Control

### Eastex Environmental Laboratory - Coldspring

			Reporting		Spike	Source		%REC		RPD	
Analyte		Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch B4F4192 - No Prep						- X					***************************************
Blank (B4F4192-BLK1)					Prepared &	Analyzed:	06/21/24	1			
CBOD 5		1.67	2.0	mg/L							1
LCS (B4F4192-BS1)					Prepared &	Analyzed:	06/21/24	1			
CBOD 5		233		mg/L	198		118	84,59-115,402			1, 13
Duplicate (B4F4192-DUP1)		Sour	ce: C4F6237	-01	Prepared &	Analyzed:	06/21/24	1			
CBOD 5		4.14	2.0	mg/L		3.49			17.0	30	1, 13
Batch B4F4280 - No Prep Micro											
Blank (B4F4280-BLK1)					Prepared &	Analyzed:	06/20/24	1			
E coli IDEXX		ND	1	mpn/100ml							
Duplicate (B4F4280-DUP1)		Sour	ce: C4F6478-	-01	Prepared &	Analyzed:	06/20/24	ļ			
E coli IDEXX	-5	ND	10	mpn/100ml		10				200	
Batch B4F4895 - No Prep						_	3				
Blank (B4F4895-BLK1)					Prepared &	: Analyzed:	06/25/24				
Alkalinity		ND	20.0 n	ng CaCO3/L							
LCS (B4F4895-BS1)					Prepared &	Analyzed:	06/25/24				
Alkalinity		46.0	ח	ig CaCO3/L	50.0		92.0	80-120			
Duplicate (B4F4895-DUP1)		Sour	ce: C4F4492-	01	Prepared &	Analyzed:	06/25/24				
Alkalinity		44.0	20.0 n	ng CaCO3/L		36.0			20.0	20	



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EPA 351.2 - Quality Control

### Eastex Environmental Laboratory - Coldspring

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch B4F5375 - SM 4500 Norg C										
Blank (B4F5375-BLK1)				Prepared &	k Analyzed	: 06/27/24				
TKN	0.560	1.0	mg/L							В
LCS (B4F5375-BS1)				Prepared 8	k Analyzed	: 06/27/24				
TKN	11,2		mg/L	10.0		112	90-110			13, B
Matrix Spike (B4F5375-MS1)	Sou	rce: C4F6236-	-01	Prepared &	k Analyzed:	06/27/24				
TKN	10.2	1.0	mg/L	10.0	3.92	62.7	80-120			13, 23, B
Matrix Spike Dup (B4F5375-MSD1)	Sou	rce: C4F6236-	-01	Prepared 8	k Analyzed:	06/27/24				
TKN	9.40	1.0	mg/L	10.0	3.92	54.8	80-120	8.07	20	13, B
Batch B4F5636 - EPA 200.7										
Blank (B4F5636-BLK1)				Prepared: (	06/27/24 A	nalyzed; 06	/28/24			
Total Phosphorus	ND	0.0600	mg/l							
LCS (B4F5636-BS1)				Prepared: (	06/27/24 A	nalyzed: 06	/28/24			
Total Phosphorus	2,59	0.0600	mg/L	2.52		103	85-115			
Matrix Spike (B4F5636-MS1)	Sour	rce: C4F4492-	01	Prepared: (	)6/27/24 A	nalyzed: 06	/28/24			
Total Phosphorus	8.14	0.0600	mg/L	2,52	5.24	115	70-130			
Matrix Spike Dup (B4F5636-MSD1)	Sour	rce: C4F4492-	01	Prepared: (	)6/27/24 A	nalyzed: 06	/28/24			
Total Phosphorus	8.20	0.0600	mg/L	2.52	5,24	117	70-130	0.780	20	



Mark Bourgeois, Special Projects Manager

### Qualifiers

В	Analyte	detected	in N	1ethod	Blank.

<sup>23</sup> Spike recovery outside of acceptance limits due to matrix interference.

<sup>13</sup> LCS associated with sample batch outside of acceptance limits.

<sup>1</sup> Dilution water blank > 0.20 mg/L DO uptake.



REPORT TO:

# EASTEX ENVIRONMENTAL LABORATORY, INC. P.O. Box 1089 \* Coldspring, TX 77331 P.O. Box 631375 \* Nacogdoches, TX 75963-1375 (936) 653-3249 \* (800) 525-0508 (936) 569-8879 \* FAX (936) 569-8951

www.eastexlabs.com

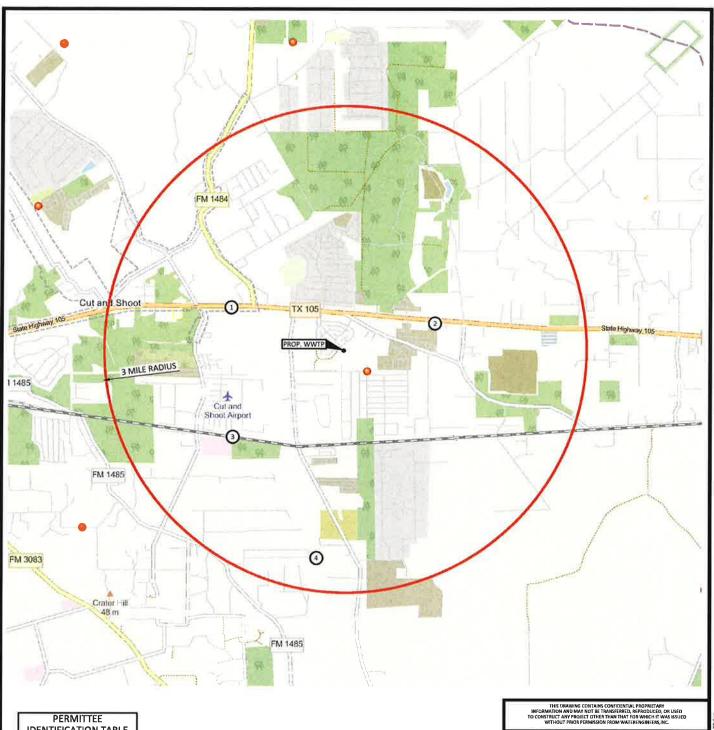
Yellow Copy-Laboratory
Pink Copy-Client Copy White Copy-Follows San

m. I	6		y By	Logged in By:	ō D	S JM	Temp C			Time Temp C Therm ID Logged in By:	YES //		Accepta	Sample Condition Acceptable:  Date	Sample		Alternate Check In:
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organia.	TO	KN KN	11	Z= Zn Acetate	- C	B=Base/Causti		T= Teffon S= Sterile c Acid N=Nitric Acid. b H=HCL O= Other	P= Plastic G= Glass T= Teflon S= Sterile C=Chilled S=Suffuric Acid N=Nitric Acid ST=Sodium Thiosulfate H=HCL O= Other	c G= Glass S=Sulfuri Im Thiosulfat	P= Plastic C=Chilled ST=Sodium	11.5	Type: Preservatives:		らいかさへ	5	Project Name:
TSS	-				Ž	5=250 Other		3=Quart/Liter (2 oz) 8= 40m	allon 3=C 60mL (2 oz	2=1/2 Gallon (4oz) 7=60mL	1=Gallon 6=125mL		Container Size:		JUST NOTES	int):	Sampier's Name (print):
		+		Ter	OT= Other	Sludge	SO=Soil/Sludge	Grab WW=Wastewater		~	C= Composite DW=Drinking V		Matrix:				
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# ATTACHMENT TECH.07 Map and List of Facilities within 3 Miles And

**Service Request Correspondence** 

(Reference Technical Report Page 20, Section 1B3)





### **WATER ENGINEERS, INC.**

Water & Wastewater Treatment Consultants TEXAS BOARD OF PROFESSIONAL ENGINEERS FIRM No. 2066

17230 HUFFMEISTER ROAD CYPRESS, TEXAS 77429

TEL: 281-373-0500 FAX: 281-373-1113

C & R WATER SUPPLY, INC - APPLICANT **EMERSON ESTATES WWTP** APPLICATION FOR A MAJOR AMENDMENT WITH RENEWAL FOR TPDES PERMIT WQ0014285001

### THREE MILE RADIUS PERMITEE MAP

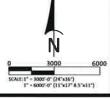
DRAWN BY: BIR APPROVED BY: SBY SCALE: AS NOTED

7/29/2024 JOB No.: 5995-22180

DATE:

DWG. NO.:

**TECH.07** 





Water & Wastewater Treatment Consultants
17230 Huffmeister Road, Suite A~Cypress, Texas 77429-1643
Tel: 281-373-0500 Fax: 281-373-1113

January 24, 2024

Crystal Springs Water Co., Inc. P.O. Box 603 Porter, Texas 77365

Rei

TCEQ Waste Discharge Pennit No. WQ0015261001

Dear Permittee:

We are writing to you on behalf of C & R Water Supply regarding a proposed wastewater treatment plant expansion project to serve additional proposed subdivision in Montgomery County, located in the area of the intersection of Crockett Martin Road and Highway 105 as shown on the attached map. The proposed expanded wastewater system will serve approximately 3,500 equivalent single-family connections, C & R Water Supply is in the process of applying for a major amendment to its current TCEQ Wastewater Discharge Permit to increase ultimate flow from the currently permitted flow of 300,000 gpd to 840,000 gpd.

We are required to contact all existing TCEQ Wastewater Discharge Permittees within a 3-mile radius of the project to inquire if an existing permit holder is willing to provide the wastewater treatment capacity needed. According to TCEQ records, you are a permittee having an existing wastewater treatment plant located within three miles of the project and have a TCEQ Waste Discharge Permit. If we find a wastewater treatment plant permit holder within three miles that has the required capacity available or will expand their facility to make it available, we will conduct a feasibility study to determine if it is cost effective to obtain service from them.

We will appreciate receiving a response from you indicating if 540,000 gpd of wastewater treatment capacity in your facility is available, and if so, under what terms. A handwritten reply on a copy of this letter will be adequate. You may email your response to me at <a href="mailto:syoung@waterengineers.com">syoung@waterengineers.com</a> or fax to (281) 373-1113. Please feel free to call me at 281-373-0500 if you have any questions. Thank you for your assistance.

Shelley Young, P.E.

cc: C & R Water Supply

	REPLY
Date of Reply:	Signature:
Name of Permittee:	Printed Name: Larry PUT COLL
Capacity Available (Yes /(No))	Title: Marager
Terms (if available)	Address: PO BOY WB
	POREY TY 773105
	Telephone: 28 354 5136
	Email: Muren C. Conzi. com



WATER & WASTEWATER TREATMENT CONSULTANTS
17230 HUFFMEISTER ROAD, SUITE A~CYPRESS, TEXAS 77429-1643
TEL: 281-373-0500 FAX: 281-373-1113

January 24, 2024

Crystal Springs Water Co., Inc. P.O. Box 603 Porter, Texas 77365

Re: TCEQ Waste Discharge Permit No. WQ0015349001

Dear Permittee:

We are writing to you on behalf of C & R Water Supply regarding a proposed wastewater treatment plant expansion project to serve additional proposed subdivision in Montgomery County, located in the area of the intersection of Crockett Martin Road and Highway 105 as shown on the attached map. The proposed expanded wastewater system will serve approximately 3,500 equivalent single-family connections. C & R Water Supply is in the process of applying for a major amendment to its current TCEQ Wastewater Discharge Permit to increase ultimate flow from the currently permitted flow of 300,000 gpd to 840,000 gpd.

We are required to contact all existing TCEQ Wastewater Discharge Permittees within a 3-mile radius of the project to inquire if an existing permit holder is willing to provide the wastewater treatment capacity needed. According to TCEQ records, you are a permittee having an existing wastewater treatment plant located within three miles of the project and have a TCEQ Waste Discharge Permit. If we find a wastewater treatment plant permit holder within three miles that has the required capacity available or will expand their facility to make it available, we will conduct a feasibility study to determine if it is cost effective to obtain service from them.

We will appreciate receiving a response from you indicating if 540,000 gpd of wastewater treatment capacity in your facility is available, and if so, under what terms. A handwritten reply on a copy of this letter will be adequate. You may email your response to me at <a href="mailto:syoung@waterengineers.com">syoung@waterengineers.com</a> or fax to (281) 373-1113. Please feel free to call me at 281-373-0500 if you have any questions. Thank you for your assistance.

WATERÉNGINEERS, INC.

Shelley Young, P.E.

C & R Water Supply

	REPLY
Date of Reply:	Signature: Jan
Name of Permittee:	Printed Name: CAMY YWELL
Capacity Available (Yes / (No)?	Title: Wanage V
Terms (if available)	Address: D B CO
4	POHEN TY 77365
	Telephone: 254 5130
	Email: 10UVENECSUCE CON

### WATER & WASTEWATER TREATMENT CONSULTANTS

17230 HUFFMEISTER ROAD, SUITE A~CYPRESS, TEXAS 77429-1643

TEL: 281-373-0500 FAX: 281-373-1113

January 24, 2024

Crocket Martin Corp. 11166 Crockett Martin Road Conroe, Texas 77306

Re:

TCEQ Waste Discharge Permit No. WQ0015689001

Dear Permittee:

We are writing to you on behalf of C & R Water Supply regarding a proposed wastewater treatment plant expansion project to serve additional proposed subdivision in Montgomery County, located in the area of the intersection of Crockett Martin Road and Highway 105 as shown on the attached map. The proposed expanded wastewater system will serve approximately 3,500 equivalent single-family connections. C & R Water Supply is in the process of applying for a major amendment to its current TCEQ Wastewater Discharge Permit to increase ultimate flow from the currently permitted flow of 300,000 gpd to 840,000 gpd.

We are required to contact all existing TCEQ Wastewater Discharge Permittees within a 3-mile radius of the project to inquire if an existing permit holder is willing to provide the wastewater treatment capacity needed. According to TCEQ records, you are a permittee having an existing wastewater treatment plant located within three miles of the project and have a TCEQ Waste Discharge Permit. If we find a wastewater treatment plant permit holder within three miles that has the required capacity available or will expand their facility to make it available, we will conduct a feasibility study to determine if it is cost effective to obtain service from them.

We will appreciate receiving a response from you indicating if 540,000 gpd of wastewater treatment capacity in your facility is available, and if so, under what terms. A handwritten reply on a copy of this letter will be adequate. You may email your response to me at <a href="mailto:syoung@waterengineers.com">syoung@waterengineers.com</a> or fax to (281) 373-1113. Please feel free to call me at 281-373-0500 if you have any questions. Thank you for your assistance.

Sincerely,
WATERENGINEERS, INC.

Shelley Young, P.E.

cc:

C & R Water Supply

	REPLY
Date of Reply: 1-22-2024	Signature: Klay Young
Name of Permittee:	Printed Name: D. RAY Young
Capacity Available (Yes / No)	Title: CONSULTING ENGINEER
Terms (if available)	Address: 17230 HUFFINEISTER RD #A
No existing or proposed	CYPITELS, TEXAS 77429
treatment facilities.	Telephone: 281-343-0500
	Email: 4. ray@waterengineers.com



### WATER & WASTEWATER TREATMENT CONSULTANTS

17230 HUFFMEISTER ROAD, SUITE A~CYPRESS, TEXAS 77429-1643

TEL: 281-373-0500 FAX: 281-373-1113

January 24, 2024

Conroe I.S.D. 3205 West Davis Conroe, Texas 77304 Cert. Mail No. 7022 3330 0000 8194 6341

Re:

TCEQ Waste Discharge Permit No. WQ0012204001

Dear Permittee:

We are writing to you on behalf of C & R Water Supply regarding a proposed wastewater treatment plant expansion project to serve additional proposed subdivision in Montgomery County, located in the area of the intersection of Crockett Martin Road and Highway 105 as shown on the attached map. The proposed expanded wastewater system will serve approximately 3,500 equivalent single-family connections. C & R Water Supply is in the process of applying for a major amendment to its current TCEQ Wastewater Discharge Permit to increase ultimate flow from the currently permitted flow of 300,000 gpd to 840,000 gpd.

We are required to contact all existing TCEQ Wastewater Discharge Permittees within a 3-mile radius of the project to inquire if an existing permit holder is willing to provide the wastewater treatment capacity needed. According to TCEQ records, you are a permittee having an existing wastewater treatment plant located within three miles of the project and have a TCEQ Waste Discharge Permit. If we find a wastewater treatment plant permit holder within three miles that has the required capacity available or will expand their facility to make it available, we will conduct a feasibility study to determine if it is cost effective to obtain service from them.

We will appreciate receiving a response from you indicating if 540,000 gpd of wastewater treatment capacity in your facility is available, and if so, under what terms. A handwritten reply on a copy of this letter will be adequate. You may email your response to me at syoung@waterengineers.com or fax to (281) 373-1113. Please feel free to call me at 281-373-0500 if you have any questions. Thank you for your assistance.

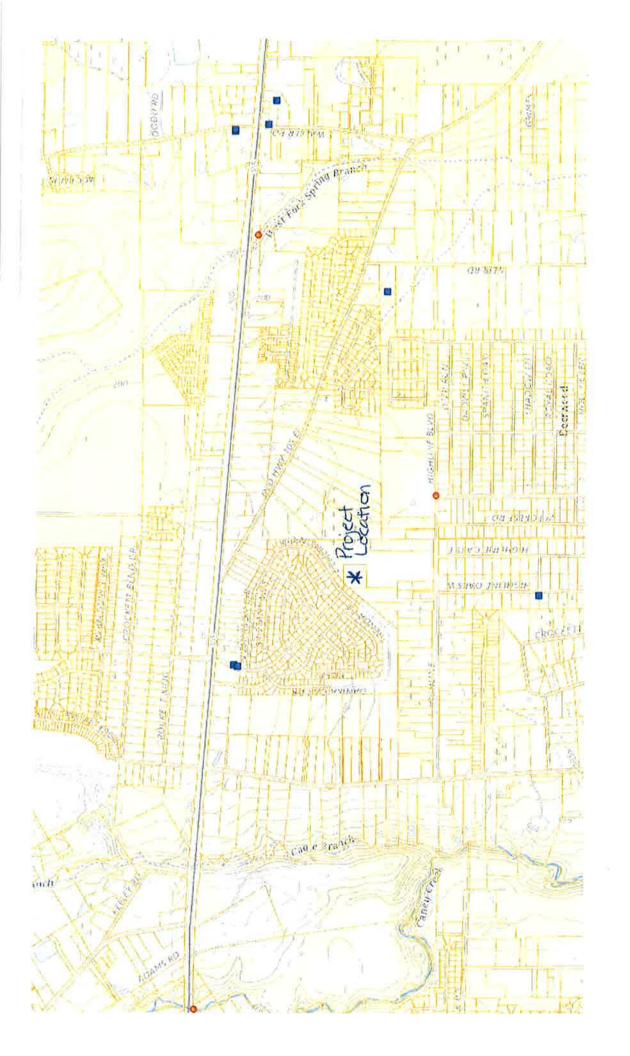
Sincerely,

WATERENGINEERS, INC.

Shelley Young, P.E.

cc: C & R Water Supply

	REP	LYNO	
Date of Reply:		Bignature:	
Name of Permittee:		Printed Name:	
Capacity Available (Yes / No)?	HUX,	Title:	
Terms (if available)	- 10 NO	Address:	
	to		
	- D	Telephone:	
	7,	Email:	



E.	Owner of effluent disposal site:	
	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: Click to ente	er text.
	Mailing Address: Click to enter to	ext. City, State, Zip Code: Click to enter text.
	Phone No.: Click to enter text.	E-mail Address: Click to enter text.
	If the landowner is not the same agreement or deed recorded ease	person as the facility owner or co-applicant, attach a lease ement. See instructions.
	Attachment: Click to enter te	xt.
F.	Owner sewage sludge disposal si property owned or controlled by	te (if authorization is requested for sludge disposal on the applicant)::
	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: Click to ente	er text.
	Mailing Address: Click to enter to	ext. City, State, Zip Code: Click to enter text.
	Phone No.: Click to enter text.	E-mail Address: Click to enter text.
	If the landowner is not the same agreement or deed recorded ease	person as the facility owner or co-applicant, attach a lease ement. See instructions.
	Attachment: Click to enter te	xt.
Se	ction 10. TPDES Discharg	ge Information (Instructions Page 31)
		ge Information (Instructions Page 31) ity location in the existing permit accurate?
	Is the wastewater treatment facil  ☐ Yes ☐ No  If <b>no, or a new permit application</b>	ity location in the existing permit accurate?  on, please give an accurate description:
	Is the wastewater treatment facil  ☐ Yes ☐ No  If <b>no, or a new permit application</b>	ity location in the existing permit accurate?  on, please give an accurate description: t of the intersection of Crockett-Martin Road and State
A.	Is the wastewater treatment facil  Yes No  If <b>no, or a new permit application</b> Approximately 4,235 feet southeast Highway 105, in Montgomery Cour	ity location in the existing permit accurate?  on, please give an accurate description: t of the intersection of Crockett-Martin Road and State
A.	Is the wastewater treatment facil  Yes No  If <b>no, or a new permit application</b> Approximately 4,235 feet southeast Highway 105, in Montgomery Cour	ity location in the existing permit accurate?  on, please give an accurate description: t of the intersection of Crockett-Martin Road and State aty, Texas 77306
A.	Is the wastewater treatment facil  ☐ Yes ☐ No  If no, or a new permit application Approximately 4,235 feet southeast Highway 105, in Montgomery Count  Are the point(s) of discharge and ☐ Yes ☐ No  If no, or a new or amendment perpoint of discharge and the dischar	ity location in the existing permit accurate?  on, please give an accurate description: t of the intersection of Crockett-Martin Road and State aty, Texas 77306
A.	Is the wastewater treatment facil  ☐ Yes ☐ No  If no, or a new permit application Approximately 4,235 feet southeast Highway 105, in Montgomery Countain Are the point(s) of discharge and ☐ Yes ☐ No  If no, or a new or amendment perpoint of discharge and the disch	ity location in the existing permit accurate?  on, please give an accurate description: t of the intersection of Crockett-Martin Road and State aty, Texas 77306  the discharge route(s) in the existing permit correct?  ermit application, provide an accurate description of the
A.	Is the wastewater treatment facil  ☐ Yes ☐ No  If no, or a new permit application Approximately 4,235 feet southeast Highway 105, in Montgomery Count  Are the point(s) of discharge and ☐ Yes ☐ No  If no, or a new or amendment perpoint of discharge and the dischar	ity location in the existing permit accurate?  on, please give an accurate description: t of the intersection of Crockett-Martin Road and State aty, Texas 77306  the discharge route(s) in the existing permit correct?  ermit application, provide an accurate description of the
A.	Is the wastewater treatment facil  ☐ Yes ☐ No  If no, or a new permit application Approximately 4,235 feet southeast Highway 105, in Montgomery Count  Are the point(s) of discharge and ☐ Yes ☐ No  If no, or a new or amendment perpoint of discharge and the dischar	ity location in the existing permit accurate?  on, please give an accurate description: t of the intersection of Crockett-Martin Road and State aty, Texas 77306  the discharge route(s) in the existing permit correct?  ermit application, provide an accurate description of the arge route to the nearest classified segment as defined in 30
A.	Is the wastewater treatment facil  ☐ Yes ☐ No  If no, or a new permit application Approximately 4,235 feet southeast Highway 105, in Montgomery County  Are the point(s) of discharge and ☐ Yes ☐ No  If no, or a new or amendment perpoint of discharge and the discharge and the discharge Click to enter text.	on, please give an accurate description: to of the intersection of Crockett-Martin Road and State aty, Texas 77306  the discharge route(s) in the existing permit correct?  ermit application, provide an accurate description of the arge route to the nearest classified segment as defined in 30
A.	Is the wastewater treatment facil  ☐ Yes ☐ No  If no, or a new permit application Approximately 4,235 feet southeast Highway 105, in Montgomery Court  Are the point(s) of discharge and ☐ Yes ☐ No  If no, or a new or amendment perpoint of discharge and the dischar	on, please give an accurate description: t of the intersection of Crockett-Martin Road and State htty, Texas 77306  the discharge route(s) in the existing permit correct?  ermit application, provide an accurate description of the arge route to the nearest classified segment as defined in 30  /are located: Montgomery discharge to a city, county, or state highway right-of-way, or

23. Street Addres													
the Regulated Ent (No PO Boxes)	-	City	Conroe	Stat	е	TX	<u> </u>	ZIP	773	306	ZI	P + 4	
24. County		Montgo	merv										
			nter Physical L	ocation Des	scriptio	n if no	street	address	is prov	ided.			
25. Description to Physical Location		approxi	mately 4,23 Montgomer	5' southe	ast of	the ir	nterse				in Ro	ad and	d Highway
26. Nearest City									State	<u> </u>		Nea	rest ZIP Code
Conroe									TX			773	304
27. Latitude (N)	In Decima	al:	30.325200	5			28. Lor	ngitude	(W) In	Decimal:	95.3	30899	7
Degrees		Minutes		Seconds			Degrees			Minutes	1		Seconds
30			19	30	.74			95			18		32.39
29. Primary SIC Co	ode (4 digit	rs) 30.	Secondary SI	C Code (4 dig	gits)		Primary 6 digits)	NAICS	Code		econda digits)	ary NAI	CS Code
4952						221							
33. What is the Pri	mary Bus	siness of	this entity?	(Do not repeat t	the SIC or	r NAICS	descriptio	n.)					
Providing sew				· · · · · · · · · · · · · · · · · · ·				,					
34. Mailing							P.O. Bo	ox 187					
Address:						_,							
Address.		City	Conroe	s	tate	Т	·x	ZIP		77378	ZI	IP + 4	
35. E-Mail Ad	idress:		-1			'n	nike@c	rwater.c	nline				
36. 1	Telephone	e Number		37. E	xtensio					8. Fax Num	ber (if	applica	able)
(	936 ) 856	6-4911								(	) -		
9. TCEQ Programs arm. See the Core Data	and ID Nu Form instr	umbers Ch	neck all Programs additional quidan	s and write in t	the perm	nits/regis	stration n	umbers t	hat will be	affected by	the upda	ates sub	mitted on this
☐ Dam Safety		Districts			ds Aquife	er		Emission	s Invento	ry Air	☐ Indu	strial Ha	zardous Waste
☐ Municipal Solid W	/aste [	New Sou	rce Review Air	OSSF				Petroleur	n Storage	Tank	☐ PWS	6	
Sludge		☐ Storm W	ater	☐ Title V	☐ Title V Air			Tires			Used	d Oil	
☐ Voluntary Cleanu	/oluntary Cleanup   ☐ Waste Water ☐ Wastewater Agriculture ☐ Water Rights ☐ Other:												
WQ0014285001													
ECTION IV:	Prepa	rer Inf	<u>formation</u>										
IO. Name: Shel	ley You	ıng					41. Titl	le:	Consu	lting Eng	gineer		
2. Telephone Numb	рег	43. Ext./	Code 4	4. Fax Num	ber		45. E	-Mail Ad					
281 ) 373-0500			(	281)373	-1113	6	syou	ıng@v	vaterei	ngineers.	com		
ECTION V:	Autho	rized S	Signature										
6. By my signature be gnature authority to sentified in field 39.	elow, I ce	ertify, to th	ne best of my ki	nowledge, that tity specified	at the ir d in Sec	nformat ction II,	tion pro Field 6	vided in and/or a	this form	n is true and ed for the u	i compl pdates t	ete, and to the II	I that I have I numbers
Company: V	VaterEngi	neers, Inc.				Job Ti	itle:	Consu	Iting Eng	ineer			
	Shelley Yo								Pho		281 \ 3°	73-0500	)

TCEQ-10400 (04/15) Page 2 of 2

Date:

Signature:



WWTF

### Basis2 Receipt Report by Endorsement Number

AUG-13-24 08:35 AM

Acct. #: PTGQ	Account	Name: N	NOTICE FEES WO	P WATE	R QUALI	TY PMT				
Paid For	Endors. #	<u>Ref #2</u>	Paid In By		PayTyp	Chk #	Card#	Bank Slip	<u>Tran.Date</u>	Receipt Amnt.
	M420162B	14285001	WATERENGINEERS	INC	CK	1377		BS00110426	09-AUG-24	\$50.00
Acct. #: WQP	Account	Name: V	WATER QUALITY	PERMIT	APPLIC	ATION				
Paid For	Endors. #	Ref #2	<u>Paid In By</u>		PayTyp	Chk #	Card#	Bank Slip	Tran.Date	Receipt Amnt.
EMERSON ESTATES	M420162A	14285001	WATERENGINEERS	INC	CK	1377		BS00110426	09-AUG-24	\$1600.00

Report\_ID: Page 1

SUGARCREEK BUILDERS LLC P O BOX 1824 MONTGOMERY TX 77356-1824

EMERSON ESTATES 3828 W DAVIS ST #308-420 CONROE TX 77304

ASHLEY FIELDS 16585 E EMERSON CIR CONROE TX 77306

DANIELA IBANEZ 16589 S EMERSON CIR CONROE TX 77306 WILLIAM & JO ANN COWLEY 16851 HIGHLINE BLVD CONROE TX 77306 VON SCHMIDT LAND & CATTLE LLC 185 CEDAR POINT DR LIVINGSTON TX 77351

RAFAEL SILVA 17156 HIGHLINE BLVD CONROE TX 77306 ELLIZAR ALDAVE 17189 DEER RUN CONROE TX 77306 ISAIS & MARIA GARCIA 2096 N 1<sup>ST</sup> ST CONROE TX 77301

MANUEL RODRIGUEZ 4042 DEERWOOD CONROE TX 77306 JUDITH MARTINEZ 4218 DEERWOOD CONROE TX 77306 MARIA BARRIENTOS 17435 DROWSY PINES CONROE TX 77306

E ALVAREZ & FRANCISCO RAMIREZ 17213 DROWSY PINES CONROE TX 77306 JOSE & CLAUDIA VELAZQUEZ 17190 DROWSY PINES CONROE TX 77306 HILDA YADO 17155 DROWSY PINE CONROE TX 77306

MARTA ALCARAZ 12544 CANYON HILL WILLIS TX 77318

ILIANA AVILA 17199 SPANISH OAK CONROE TX 77306 ALBERTO & TEOFILA PASTRANA 5114 DEERWOOD CONROE TX 77306

JONATHAN & EUDOSIA PORRAS 5342 DEERWOOD CONROE TX 77306 EZEQUIEL & ROSA LIZARDO 17198 SPANISH OAK CONROE TX 77306 CRISTOBAL & YOANA SANCHEZ 17365 COZUMEL CONROE TX 77306

HIPOLITO BARRAZA 5526 DEERWOOD CONROE TX 77306

JUAN @ BLANCA DE GADO 17451 WHITE OAK ORCHARD CONROE TX 77306 EMMANUEL & ARACELY ROMAN 18151 DEER GLEN WEST CONROE TX 77302

LUIS VILLANUEVA 17197 SHADOW LN CONROE TX 77306 JUAN & CHRISTINA VALDEZ 4225 E FOREST RD CONROE TX 77306 ARACELI RAMIREZ 2433 CROCKETT MARTIN RD CONROE TX 77306

MARTA SANTOS 1735 TABOR ST HOUSTON TX 77009 JULIO PAZ 987 ARBOR CROSSING CONROE TX 77303 LINO & MARIA RODRIGUEZ 5898 DEERWOOD CONROE TX 77306 **HOWARD COUVILLON** JOSE FIGUEROA **LUIS MARTINEZ** 5934 DEERWOOD 2625 SAGEDALE 17197 HOLLY GLEN CONROE TX 77306 CONROE TX 77301 CONROE TX 77306 **ROSA DEL SORTO JAVIER SALINAS DIANA SALINAS** 6722 DEERWOOD 17160 HOLLY GLEN 17160 HOLLY GLEN **CONROE TX 77306** CONROE TX 77306 CONROE TX 77306 **CARLOS & MARIA SORTO** JULIAN RODRIGUEZ **EVA VARGAS & DEPHNE JUAREZ** 6730 DEERWOOD **7233 JEWELL AVE** 1438 SHORECREST DR CONROE TX 77306 FORT WORTH TX 76112 **GARLAND TX 75040** THE FOREST CORP MARIA MEDINA ANTONIO BARRERA

THE FOREST CORP MARIA MEDINA ANTONIO BARRERA 206A S LOOP 336 W 352 6798 DEERWOOD 1510 S FRAZIER CONROE TX 77304 CONROE TX 77306 CONROE TX 77301