Technical Package Cover Page

This file contains the following documents:

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

Portada de Paquete Técnico

Este archivo contiene los siguientes documentos:

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

ATTACHMENT: FPP-ADMIN-3 Plain Language Summary

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

The Lower Colorado River Authority (LCRA) (CN600253637) operates the Fayette Power Project (FPP) (RN 100226844), which is a coal-fired steam electric power generation facility, that consists of three generating units with a total gross generation capacity of approximately 1,760 megawatts. The facility is located at 6549 Power Plant Road near La Grange, Fayette County, La Grange, Texas 78945.

The application is for a renewal and a major amendment of the Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0002105000. The major amendment requests to remove selenium limits from Outfalls 003, 004 and 301; to amend Other Requirement No. 3.G to include coal pile runoff from Outfall 301 and to increase the duration of a rainfall event (up to a 10-year, 10-day rainfall event); and to reduce sampling frequency from weekly to monthly at Outfall 201 for total suspended solids, oil and grease, and pH; and minor amendment requests to modify the footnotes for Outfall 002 on page 2d of the existing permit.

This renewal authorizes the discharge of 1,165,000,000 gallons per day of once-through 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 Outfall 001, referred to as "previously monitored effluents" (low-volume waste, coal pile runoff, truck wash water, and stormwater from the Coal Pile Runoff Pond from Outfall 301 and low-volume waste from Outfall 201). Low-volume waste sources drain on an intermittent and flow-variable basis via internal Outfall 201. Low-volume waste, coal pile runoff, truck wash water, and stormwater from the Coal Pile Runoff Pond drain on an intermittent and flow-variable basis via Outfall 301. In addition, the application is a renewal to discharge cooling water drained from the condensers and other cooling equipment during maintenance periods via Outfall 002; low-volume waste, coal pile runoff, truck wash water, and stormwater from the Coal Pile Runoff Pond via Outfall 003; and low-volume waste, truck wash water, and stormwater from the Coal Combustion Byproducts Landfill Pond via Outfall 004.

The discharge of once through cooling water via Outfall 001; coal pile runoff via Outfall 003 and 301; low-volume waste via Outfall 201, 301, 003, and 004 and cooling water drained from the condensers and other cooling equipment during maintenance periods via Outfall 002 are subject to federal effluent limitation guidelines at 40 CFR Part 423. The pollutants expected from these discharges based on 40 CFR Part 423 are: total residual chlorine, total suspended solids, oil and grease, and pH. Temperature is also expected from Outfall 001 and 002. Additional potential pollutants are included in the Industrial Wastewater Application Technical Report, Worksheet 2.0.

Low volume wastes are routed through an oil and water separator prior to discharge via Outfall 301 or Outfall 003. Low volume wastes receive no treatment prior to

discharge via Outfall 201. The low-volume waste, coal pile runoff, truck wash water, and stormwater from the Coal Pile Runoff Pond via Outfall 003 and 301 and low-volume waste, truck wash water, and stormwater from the Coal Combustion Byproducts Landfill Pond via Outfall 004 provide gravity settling of sediments in their respective ponds prior to discharge.

Cooling water is supplied by Lake Fayette. Water from Lake Fayette is withdrawn at the intake structure and treated with chemicals to prevent biofouling and improve efficacy and then passed through condensers and auxiliary equipment on a once-through basis to cool equipment and condense exhaust steam. Potable water is supplied by the Fayette Water Supply Corporation. Sanitary domestic wastewater from FPP is treated in an on-site aerobic treatment system and sent to an on-site process pond that recycles the water internally.

Spanish Translation

ANEXO: Resumen en Lenguaje Sencillo FPP-ADMIN-3

Solicitud Individual de Aguas Residuales Industriales

El siguiente resumen se presenta para esta solicitud pendiente de permiso de calidad del agua que está siendo revisada por la Comisión de Calidad Ambiental de Texas (Texas Comission on Environmental Quality o TCEQ, siglas en inglés) como lo exige el Título 30 del Código Administrativo de Texas, Capítulo 39. La información proporcionada en este resumen puede cambiar durante la revisión técnica de la solicitud y no son declaraciones federales aplicables de la solicitud de permiso.

Lower Colorado River Authority (LCRA, siglas en inglés) (CN600253637) controla el Proyecto de Energía Fayette (Fayette Power Project o FPP, siglas en inglés) (RN 100226844), la cual es una instalación de generación de energía eléctrica a vapor de agua producido por la combustión de carbón que consta de tres unidades generadoras con una capacidad total de generación bruta aproximada de 1,760 megavatios. La instalación está situada en 6549 Power Plant Road, cerca de La Grange, Fayette County, La Grange, Texas 78945.

La solicitud es para una renovación y una enmienda mayor del Permiso No. WQ0002105000 del Sistema de Eliminación de Vertidos Contaminantes de Texas (Texas Pollutant Discharge Elimination System o TPDES, siglas en inglés). La enmienda mayor solicita la eliminación de los límites de selenio de las Desembocaduras 003, 004 y 301; la modificación del Otro Requisito No. 3.G para incluir la escorrentía de la pila de carbón de la Desembocadura 301 y aumentar la duración de las precipitaciones (hasta 10 años, precipitaciones de 10 días); la reducción de la frecuencia de muestreo de semanal a mensual en la Desembocadura 201 para sólidos suspendidos totales, aceite y grasa, y pH; y la enmienda de modificación menor solicita la modificación de las notas al pie de página para la Desembocadura 002 en la página 2d del permiso vigente.

Esta renovación autoriza el vertido de 1,165,000,000 galones por día de agua de enfriamiento de una pasada y también autoriza los siguientes flujos de residuos monitoreados dentro de las instalaciones (desembocaduras internas) antes de que se mezclen con otras aguas residuales autorizadas para verter a través de la Desembocadura 001, denominadas "aguas residuales monitoreadas previamente" (aguas residuales de bajo volumen, escorrentía de pilas de carbón, agua de lavado de camiones y aguas pluviales del estanque de escorrentía de pilas de carbón de la Desembocadura 301 y aguas residuales de bajo volumen de la Desembocadura 201) a través de la Desembocadura 001. Las fuentes de aguas residuales de bajo volumen drenan de forma intermitente y con flujo variable a través de la Desembocadura 201 interna. Aguas residuales de bajo volumen, escorrentía de pilas de carbón, agua de lavado de camiones y aguas pluviales del estanque de escorrentía de pilas de carbón se drenan de forma intermitente y con flujo variable a través de la Desembocadura 301. Además, la solicitud constituye una renovación para verter agua de enfriamiento drenada de condensadores y otros equipos de enfriamiento durante los periodos de mantenimiento a través de la Desembocadura 002; resíduos de bajo volumen, escorrentía de pilas de carbón, agua de lavado de camiones y aguas pluviales del

estanque de escorrentía de pilas de carbón a través de la Desembocadura 003; y aguas residuales de bajo volumen, agua de lavado de camiones y aguas pluviales del Estanque de Vertedero de Subproductos de la Combustión de Carbón a través de la Desembocadura 004.

El vertido de agua de enfriamiento de una sola pasada a través de la Desembocadura 001; escorrentía de pilas de carbón a través de las Desembocaduras 003 y 301; aguas residuales de bajo volumen a través de las Desembocaduras 201, 301, 003 y 004; y agua de enfriamiento drenada de los condensadores y otros equipos de enfriamiento durante los periodos de mantenimiento a través de la Desembocadura 002 están sujetos a las directrices federales de limitación de efluentes del Título 40 según el Código de Reglamentos Federales, Parte 423. Los contaminantes que se esperan de estos vertidos, según el Título 40 del Código de Reglamentos Federales, Parte 423, son: cloro residual total, sólidos suspendidos totales, aceite y grasa, y pH. También se espera temperatura en las Desembocaduras 001 y 002. Se incluyen contaminantes potenciales adicionales en el Informe Técnico de Solicitud de Aguas Residuales Industriales, Hoja de Trabajo 2.0.

Las aguas residuales de bajo volumen se canalizan a través de un separador de aceite y agua antes de verter a través de la Desembocadura 301 o 003. Las aguas residuales de bajo volumen no reciben tratamiento antes de verter a través de la Desembocadura 201. Los resíduos de bajo volumen, escorrentía de pilas de carbón, agua de lavado de camiones y aguas pluviales del estanque de escorrentía de pilas de carbón, a través de las Desembocaduras 003 y 301, y las aguas residuales de bajo volumen, agua de lavado de camiones y aguas pluviales del Estanque de Vertedero de Subproductos de la Combustión de Carbón, a través de la Desembocadura 004, permiten depositar por gravedad los sedimentos en sus respectivos estanques antes de verter.

El agua de enfriamiento es suministrada por el Lago Fayette (Fayette Lake). El agua del Lago Fayette se extrae en la estructura de entrada y se trata con productos químicos para prevenir la bioincrustación y mejorar su eficacia, luego pasa por condensadores y equipo auxiliar en una sola pasada para enfriar el equipo y condensar el vapor de escape. El agua potable es suministrada por la Corporación de Suministro de Agua de Fayette (Fayette Water Supply Corporation en inglés). Las aguas residuales domésticas de FPP se tratan en un sistema de tratamiento aeróbico en el sitio y se envían a un estanque de proceso en el sitio que recicla el agua internamente.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

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

PERMIT NO. WQ0002105000

APPLICATION. Lower Colorado River Authority, P.O. Box 220, Austin, Texas 78767, which owns a coal-fired steam electric power generation facility, has applied to the Texas Commission on Environmental Quality (TCEQ) to amend Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0002105000 (EPA I.D. No. TX0073121) to authorize: removal of selenium limits from external Outfalls 003 and 004 and internal Outfall 301; amendment of Other Requirement 3(G) from "10-year, 24-hour rainfall event" to a longer duration event (up to a 10-year, 10-day rainfall event); amendment of Other Requirement 3(G) to include coal pile runoff from Outfall 301, which is the same effluent as Outfall 003; and reduction of sampling frequency from weekly to monthly for Outfall 201 for TSS, oil and grease, and pH. The facility is located at 6549 Power Plant Road, near the city of La Grange, in Fayette County, Texas 78945. The discharge route is from the plant site via Outfall 001 to Lake Fayette, thence to Cedar Creek, thence to Colorado River Below La Grange; via Outfall 002 to an unnamed tributary, thence to Cedar Creek, thence to Colorado River Below La Grange; via Outfall 003 to a man-made ditch, thence to an unnamed tributary, thence to Cedar Creek, thence to Colorado River Below La Grange; and via Outfall 004 to an unnamed tributary, thence to Cedar Creek, thence to Colorado River Below La Grange. TCEQ received this application on May 23, 2025. The permit application will be available for viewing and copying at Fayette Public Library, 855 South Jefferson Street, La Grange, in Fayette County, Texas prior to the date this notice is published in the newspaper. The application, including any updates, and associated notices are available electronically at the following webpage: https://www.tceq.texas.gov/permitting/wastewater/pending-permits/tpdes-applications. This link to an electronic map of the site or facility's general location is provided as a public courtesy and not part of the application or notice. For the exact location, refer to the application.

https://gisweb.tceq.texas.gov/LocationMapper/?marker=-96.753611,29.914722&level=18

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

ADDITIONAL NOTICE. TCEQ's Executive Director has determined the application is administratively complete and will conduct a technical review of the application. After technical review of the application is complete, the Executive Director may prepare a draft

permit and will issue a preliminary decision on the application. **Notice of the Application and Preliminary Decision will be published and mailed to those who are on the county-wide mailing list and to those who are on the mailing list for this application. That notice will contain the deadline for submitting public comments.**

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

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

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

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

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

MAILING LIST. If you submit public comments, a request for a contested case hearing or a reconsideration of the Executive Director's decision, you will be added to the mailing list for this specific application to receive future public notices mailed by the Office of the Chief

Clerk. In addition, you may request to be placed on: (1) the permanent mailing list for a specific applicant name and permit number; and/or (2) the mailing list for a specific county. If you wish to be placed on the permanent and/or the county mailing list, clearly specify which list(s) and send your request to TCEQ Office of the Chief Clerk at the address below.

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

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

Further information may also be obtained from Lower Colorado River Authority at the address stated above or by calling Ms. Wendy Schreiber, Manager, Plant Environmental Support, at 512-767-3560.

Issuance Date: June 24, 2025

Comisión de Calidad Ambiental del Estado de Texas

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

PERMISO NO. WQ0002105000

SOLICITUD. Lower Colorado River Authority, P.O. Box 220, Austin, Texas 78767, la cual es propietaria de una instalación de generación de energía eléctrica a vapor de agua producido por la combustión de carbón, ha solicitado a la Comisión de Calidad Ambiental de Texas (TCEQ) para modificar el Permiso No. WQ0002105000 (EPA I.D. No. TX0073121) del Sistema de Eliminación de Descargas de Contaminantes de Texas (TPDES) para autorizar la eliminación de los límites de selenio de las Desembocaduras externas 003 y 004 y de la Desembocadura interna 301; modificación del Otro Requisito 3 (G) de "evento de lluvia de 24 horas cada 10 años" a un evento de mayor duración (hasta un evento de lluvia de 10 días cada 10 años); modificación del Otro Requisito 3 (G) para incluir escorrentía de pila de carbón de la Desembocadura 301, que es el mismo efluente que la Desembocadura 003; y reducción de la frecuencia de muestreo de semanal a mensual para la Desembocadura 201 para TSS, aceite y grasa, y pH. La instalación está ubicada en 6549 Power Plant Road, cerca de la Ciudad de La Grange, en el condado Fayette, Texas 78945. La ruta de descarga es del sitio de la planta a vía Desembocadura 001 al Lago Fayette (Fayette Lake), de allí a Cedar Creek; de allí al río Colorado debajo de La Grange; vía Desembocaduras 002 a un afluente sin nombre, de allí a Cedar Creek; de allí al río Colorado debajo de La Grange; vía Desembocaduras 003 hasta una zanja artificial, de allí a un afluente sin nombre, de allí a Cedar Creek; de allí al río Colorado debajo de La Grange; y vía Desembocaduras 004 a un afluente sin nombre, de allí a Cedar Creek; de allí al río Colorado debajo de La Grange. La TCEQ recibió esta solicitud el 23 de mayo de 2025 por TCEQ. La solicitud para el permiso estará disponible para leerla y copiarla en la Biblioteca Pública de Fayette (Fayette Public Library), 855 South Jefferson Street, La Grange, en el condado Fayette, Texas antes de la fecha de publicación de este aviso en el periódico. La solicitud (cualquier actualización y aviso inclusive) está disponible electrónicamente en la siguiente página web: https://www.tceq.texas.gov/permitting/wastewater/pending-permits/tpdes-applications. Este enlace a un mapa electrónico de la ubicación general del sitio o de la instalación es proporcionado como una cortesía y no es parte de la solicitud o del aviso. Para la ubicación exacta, consulte la solicitud. https://gisweb.tceq.texas.gov/LocationMapper/?marker=-96.753611,29.914722&level=18

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

AVISO ADICIONAL. El Director Ejecutivo de la TCEQ ha determinado que la solicitud es administrativamente completa y conducirá una revisión técnica de la solicitud. Después de

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

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

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

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

Después del cierre de todos los períodos de comentarios y de petición que aplican, el Director Ejecutivo enviará la solicitud y cualquier petición para reconsideración o para una audiencia de caso impugnado a los Comisionados de la TCEQ para su consideración durante una reunión programada de la Comisión.

La Comisión sólo puede conceder una solicitud de una audiencia de caso impugnado sobre los temas que el solicitante haya presentado en sus comentarios oportunos que no fueron

retirados posteriormente. **Si se concede una audiencia, el tema de la audiencia estará limitado a cuestiones de hecho en disputa o cuestiones mixtas de hecho y de derecho relacionadas a intereses pertinentes y materiales de calidad del agua que se hayan presentado durante el período de comentarios.**

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

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

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

También se puede obtener información adicional de Lower Colorado River Authority a la dirección indicada arriba o llamando a la señora Wendy Schreiber, Gerente, Apoyo Ambiental de la Planta (Manager, Plant Environmental Support), al 512-767-3560.

Fecha de emisión: 24 de junio de 2025

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

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

AMENDMENT

PERMIT NO. WQ0002105000

APPLICATION AND PRELIMINARY DECISION. Lower Colorado River Authority, P.O. Box 220, Austin, Texas 78767, which operates Sam Seymour Fayette Power Project, a coal-fired steam electric power generation facility, has applied to the Texas Commission on Environmental Quality (TCEQ) for a major amendment of Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0002105000 to remove selenium limits from external Outfalls 003 and 004 and internal Outfall 301; amendment of Other Requirement 3(G) from "10-year, 24-hour rainfall event" to a longer duration event (up to a 10-year, 10-day rainfall event); amendment of Other Requirement 3(G) to include coal pile runoff from internal Outfall 301, which is the same effluent as Outfall 003; and reduction of sampling frequency from weekly to monthly for internal Outfall 201 for total suspended solids, oil and grease, and pH. The draft permit authorizes the discharge of once-through cooling water and previously monitored effluent (low volume waste from internal Outfall 201 and low volume waste, coal pile runoff, truck wash water, and stormwater from internal Outfall 301) at a daily average flow not to exceed 1,165,000,000 gallons per day in Phase I and 1,509,000,000 gallons per day in Phase II via Outfall 001; cooling water drained from the condensers and other cooling equipment during maintenance periods at a daily average flow not to exceed 2,500,000 gallons per day via Outfall 002; low volume waste, coal pile runoff, truck wash water, and stormwater from the coal pile runoff pond on an intermittent and flow-variable basis via Outfall 003; and low volume waste, truck wash water, and stormwater from the Combustion Byproducts Landfill Pond on an intermittent and flow-variable basis via Outfall 004. The TCEQ received this application on May 23, 2025.
The facility is located at 6549 Power Plant Road, near the City of La Grange, Fayette County, Texas 78945. This link to an electronic map of the site or facility's general location is provided as a public courtesy and is not part of the application or notice. For the exact location, refer to the application. https://gisweb.tceq.texas.gov/LocationMapper/?marker=-96.753611,29.914722&level=18

The effluent is discharged via Outfall 001 to Lake Fayette, thence to Cedar Creek; via Outfall 003 to a man-made ditch, thence to an unnamed tributary, thence to Cedar Creek; and via Outfalls 002 and 004 to unnamed tributaries, thence to Cedar Creek, thence to Colorado River Below La Grange in Segment No. 1402 of the Colorado River Basin. The unclassified receiving water uses are high aquatic life use for Cedar Creek and Lake Fayette and minimal aquatic life use for the unnamed tributaries. The designated uses for Segment No. 1402 are primary contact recreation, public water supply, and high aquatic life use.

In accordance with Title 30 Texas Administrative Code Section 307.5 and TCEQ's *Procedures to Implement the Texas Surface Water Quality Standards* (June 2010), an antidegradation review of the receiving waters was performed. A Tier 1 antidegradation review has preliminarily determined that existing water quality uses will not be impaired by this permit action. Numerical and narrative criteria to protect existing uses will be maintained. A Tier 2 review has preliminarily determined that no significant degradation of water quality is expected in Cedar Creek and Lake Fayette, which has been identified as having high aquatic life use. Existing uses will be maintained and protected. The preliminary determination can be reexamined and may be modified if new information is received.

The TCEQ Executive Director has completed the technical review of the application and prepared a draft permit. The draft permit, if approved, would establish the conditions under which the facility must operate. The Executive Director has made a preliminary decision that this permit, if issued, meets all statutory and regulatory requirements. The permit application, Executive Director's preliminary decision, and draft permit are available for viewing and copying at Fayette Public Library, 855 South Jefferson Street, La Grange, in Fayette County, Texas. The application, including any updates, and associated notices are available electronically at the following webpage: https://www.tceq.texas.gov/permitting/wastewater/pending-permits/tpdes-applications

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

PUBLIC COMMENT / PUBLIC MEETING. You may submit public comments or request a public meeting about this application. The purpose of a public meeting is to provide the opportunity to submit written or oral comment or to ask questions about the application. Generally, the 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 public comments, the Executive Director will consider the comments and prepare a response to all relevant and material, or significant public comments. **The response to comments, along with the Executive Director's decision on the application, will be mailed to everyone who submitted public comments or who requested to be on a mailing list for this application. If comments are received, the mailing will also provide instructions for requesting a contested case hearing or reconsideration of the Executive Director's decision.** A contested case hearing is a legal proceeding similar to a civil trial in a state district court.

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

Following the close of all applicable comment and request periods, the Executive Director will forward the application and any requests for reconsideration or for a contested case hearing to the TCEQ Commissioners for their consideration at a scheduled Commission meeting.
The Commission may only grant a request for a contested case hearing on issues the requestor submitted in their timely comments that were not subsequently withdrawn. **If a hearing is granted, the subject of a hearing will be limited to disputed issues of fact or mixed questions of fact and law relating to relevant and material water quality concerns submitted during the comment period.**

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

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

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

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

AGENCY CONTACTS AND INFORMATION. Public comments and requests must be submitted either electronically at https://www.tceq.texas.gov/goto/comment/ or in writing to the Texas Commission on Environmental Quality, Office of the Chief Clerk, MC-105, P.O. Box 13087, Austin, Texas 78711-3087. 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 https://www.tceq.texas.gov/agency/decisions/participation/permitting-participation. Si desea información en Español, puede llamar al 1-800-687-4040.
Further information may also be obtained from Lower Colorado River Authority at the address stated above or by calling Ms. Wendy Schreiber, Manager, Plant Environmental Support, at 512-767-3560.

Issued: September 24, 2025

Comisión De Calidad Ambiental Del Estado De Texas

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

MODIFICACIÓN

PERMISO NO. WQ 0002105000

SOLICITUD Y DECISIÓN PRELIMINAR. Lower Colorado River Authority, P.O. Box 220, Austin, Texas 78767, la cual es propietaria de una instalación de generación de energía eléctrica a vapor de agua producido por la combustión de carbón, ha solicitado a la Comisión de Calidad Ambiental del Estado de Texas (TCEQ) una modificación principal para autorizar autorizar la eliminación de los límites de selenio de las Desembocaduras externas 003 y 004 y de la Desembocadura interna 301; modificación del Otro Requisito 3 (G) de "evento de lluvia de 24 horas cada 10 años" a un evento de mayor duración (hasta un evento de lluvia de 10 días cada 10 años); modificación del Otro Requisito 3 (G) para incluir escorrentía de pila de carbón de la Desembocadura 301, que es el mismo efluente que la Desembocadura 003; y reducción de la frecuencia de muestreo de semanal a mensual para la Desembocadura 201 para TSS, aceite y grasa, y pH. El borrador de permiso autoriza la descarga de agua de enfriamiento de paso único y efluentes monitoreados previamente (desechos de bajo volumen de la Desembocadura interna 201 y desechos de bajo volumen, escorrentía de pila de carbón, agua de lavado de camiones y aguas pluviales de la Desembocadura interna 301) a un flujo promedio diario que no exceda los 1,165,000,000 galones por día en la Fase I y 1,509,000,000 galones por día en la Fase II a través de la Desembocadura 001; agua de enfriamiento drenada de los condensadores y otros equipos de enfriamiento durante períodos de mantenimiento a un flujo promedio diario que no exceda los 2,500,000 galones por día a través de la Desembocadura 002; desechos de bajo volumen, escorrentía de pilas de carbón, agua de lavado de camiones y aguas pluviales del estanque de escorrentía de pila de carbón de manera intermitente y con flujo variable a través de la Desembocadura 003; y desechos de bajo volumen, agua de lavado de camiones y aguas pluviales del estanque de vertedero de subproductos de combustión de manera intermitente y con caudal variable a través de la Desembocadura 004. TCEQ recibió esta solicitud el 23 de mayo de 2025 por TCEQ.

La planta está ubicada en 6549 Power Plant Road, cerca de la Ciudad de La Grange, en el condado Fayette, Texas 78945. El efluente tratado es descargado a vía Desembocadura 001 al lago Fayette, de allí a Cedar Creek; a via Desembocadura 003 a una zanja artificial, de allí a una afluentes sin nombre, de allí a Cedar Creek; y a través de los Desembocaduras 002 y 004 a afluentes sin nombre, de allí a Cedar Creek, de allí al río Colorado debajo de La Grange en el Segmento No. 1402 de la Cuenca del Río Colorado. Los usos de las aguas receptoras no clasificados son elevados usos de la vida acuática para a Cedar Creek y lago Fayette y uso mínimo de vida acuática para a afluentes sin nombre. Los usos designados para el Segmento No. 1402 son elevados de vida acuática; abastecimiento de agua potable; y recreación de contacto primario.

De acuerdo con la 30 TAC §307.5 y los procedimientos de implementación de la TCEQ (Enero 2010) para las Normas de Calidad de Aguas Superficiales en Texas, fue realizada una revisión de la antidegradación de las aguas recibidas. Una revisión de antidegradación del Nivel 1 ha determinado preliminarmente que los usos de la calidad del agua existente no serán perjudicados por la acción de este permiso. Se mantendrá un criterio narrativo y numérico para proteger los usos existentes. Una revisión del Nivel 2 ha determinado preliminarmente que no se espera ninguna degradación significativa en Cedar Creek y Lake Fayette el cual se ha identificado que tiene altos usos en la vida acuática. Los usos existentes serán mantenidos y protegidos. La determinación preliminar puede ser reexaminada y puede ser modificada, si se recibe alguna información nueva.

El Director Ejecutivo de la TCEQ ha completado la revisión técnica de la solicitud y ha preparado un borrador del permiso. El borrador del permiso, si es aprobado, establecería las condiciones bajo las cuales la instalación debe operar. El Director Ejecutivo ha tomado una decisión preliminar que si este permiso es emitido, cumple con todos los requisitos normativos y legales. La solicitud del permiso, la decisión preliminar del Director Ejecutivo y el borrador del permiso están disponibles para leer y copiar en la Biblioteca Pública de Fayette (Fayette Public Library), 855 South Jefferson Street, La Grange, en el condado Fayette, Texas. La solicitud (cualquier actualización y aviso inclusive) está disponible electrónicamente en la siguiente página web: https://www.tceq.texas.gov/permitting/wastewater/pending-permits/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=-96.753611,29.914722&level=18

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

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.

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

LISTA DE CORREO. Si somete comentarios públicos, un pedido para una audiencia administrativa de lo contencioso o una reconsideración de la decisión del Director Ejecutivo, la Oficina del Secretario Principal enviará por correo los avisos públicos en relación con la solicitud. 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.

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

CONTACTOS E INFORMACIÓN DE LA AGENCIA. Los comentarios y solicitudes públicas deben enviarse electrónicamente a https://www14.tceq.texas.gov/epic/eComment/, o por escrito a Texas Commission on Environmental Quality, Office of the Chief Clerk, MC-105, P.O. Box 13087, Austin, Texas 78711-3087. Cualquier información personal que envíe a al TCEQ pasará a formar parte del registro de la agencia; esto incluye las direcciones de correo electrónico. Para obtener más información sobre esta solicitud de permiso o el proceso de permisos, llame al Programa de Educación Pública de la TCEQ, sin cargo, al 1-800-687-4040 o visite su sitio web en **www.tceq.texas.gov/goto/pep**. Si desea información en español, puede llamar al 1-800-687-4040.

También se puede obtener información adicional de Lower Colorado River Authority a la dirección indicada arriba o llamando a la señora Wendy Schreiber, Gerente, Apoyo Ambiental de la Planta (Manager, Plant Environmental Support), al 512-767-3560.

Fecha de emisión el 24 de septiembre de 2025

LCRA
ENERGY • WATER • COMMUNITY SERVICES

Hand delivered
RECEIVED
MAY 23 2025
WATER QUALITY DIVISION
TCEQ

May 23, 2025

Texas Commission on Environmental Quality (TCEQ)
Applications Review and Processing Team
Building F, Room 2101
12100 Park 35 Circle
Austin, Texas 78753

Re: Lower Colorado River Authority (CN600253637)
Sam Seymour Fayette Power Project (RN100226844)
TPDES Wastewater Renewal/Major Amendment Application
Permit No. WQ0002105000

Dear Applications Team:

Enclosed with this transmittal letter are an original and one copy of a renewal and major amendment permit application for the Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0002105000. If you have any questions, please contact me at (512) 730-6749.

Sincerely,

Julie Podbielski

Julie Podbielski
Environmental Advisor

cc: Bill Steinhauser, P.E.
Sr. Manager, Environmental Permitting and Compliance

Enclosures

ORIGINAL

RECEIVED
MAY 23 2025
Water Quality Applications Team

RENEWAL AND MAJOR AMENDMENT APPLICATION
TCEQ INDUSTRIAL WASTEWATER PERMIT

SAM SEYMOUR FAYETTE POWER PROJECT
PERMIT #WQ0002105000

SUBMITTED TO:

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
APPLICATIONS REVIEW AND PROCESSING TEAM
BUILDING F, ROOM 2101
12100 PARK 35 CIRCLE
AUSTIN, TEXAS 78753

ORIGINAL

SUBMITTED BY:

LOWER COLORADO RIVER AUTHORITY
ENVIRONMENTAL AFFAIRS
P.O. BOX 220
AUSTIN, TEXAS 78767

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

INDUSTRIAL WASTEWATER PERMIT APPLICATION CHECKLIST

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

APPLICANT NAME: Lower Colorado River Authority

PERMIT NUMBER (If new, leave blank): WQ00 2105000

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

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

RECEIVED
MAY 23 2025
Water Quality Applications Team

For TCEQ Use Only

Segment Number _____County _____
Expiration Date _____Region _____
Permit Number _____

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

INDUSTRIAL WASTEWATER PERMIT APPLICATION ADMINISTRATIVE REPORT 1.0

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

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

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

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

Applicant Name: Lower Colorado River Authority

Permit No.: WQ0002105000

EPA ID No.: TX0073121

Expiration Date: November 20, 2025

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

☒ Industrial Wastewater (wastewater and stormwater)

☐ Industrial Stormwater (stormwater only)

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

☒ Active ☐ Inactive

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

☒ TPDES Permit ☐ TLAP ☐ TPDES with TLAP component

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

☐ New

☐ Renewal with changes ☐ Renewal without changes

☒ Major amendment with renewal ☐ Major amendment without renewal

☐ Minor amendment without renewal

☐ Minor modification without renewal

f. If applying for an amendment or modification, describe the request: Permittee requests the following major amendments: Remove selenium limits from external Outfalls 003 and 004 and internal Outfall 301; Amend Other Requirement 3 (G) from "10-year, 24-hour rainfall event" to a longer duration event (up to a 10-year, 10-day rainfall event); Amend Other Requirement 3 (G) to include coal pile runoff from Outfall 301, which is the same effluent as Outfall 003; and Reduce sampling frequency from weekly to monthly for Outfall 201 for

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

TSS, oil and grease, and pH. Permittee requests two minor amendments, which are described in Technical Report 1.0, Section 13(b).

For TCEQ Use Only

Segment Number _____County _____
Expiration Date _____Region _____
Permit Number _____

g. Application Fee

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

h. Payment Information

Mailed

Check or money order No.: N/A

Check or money order amt.: N/A

Named printed on check or money order: N/A

Epay

Voucher number: 766793 and 766794

Copy of voucher attachment: FPP-ADMIN-1 Epay Vouchers

Item 2. Applicant Information (Instructions, Pages 26)

a. Customer Number, if applicant is an existing customer: CN600253637

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

b. Legal name of the entity (applicant) applying for this permit: Lower Colorado River Authority

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

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

Prefix: Mr. Full Name (Last/First Name): Valencia, Andrew

Title: Senior Vice President, Generation Credential: PE

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

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

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

☒ Yes ☐ No

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

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

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

a. Legal name of the entity (co-applicant) applying for this permit: Click to enter text.

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

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

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

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

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

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

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

☐ Yes ☐ No

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

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

a. Complete one Core Data Form (TCEQ Form 10400) for each customer (applicant and co-applicant(s)) and include as an attachment. If the customer type selected on the Core Data Form is Individual, complete Attachment 1 of the Administrative Report. Attachment: FPP-ADMIN-2 Core Data Form

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

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

a. ☒ Administrative Contact . ☒ Technical Contact

Prefix: Ms. Full Name (Last/First Name): Podbielski, Julie

Title: Environmental Advisor Credential: Click to enter text.

Organization Name: Lower Colorado River Authority

Mailing Address: P.O. Box 220 City/State/Zip: Austin, Texas 78767

Phone No: 512-730-5633 Email: Julie.Podbielski@lcra.org

b. ☒ Administrative Contact ☒ Technical Contact

Prefix: Mr. Full Name (Last/First Name): Steinhauser, Bill

Title: Senior Manager, Env Permitting and Compliance Credential: PE

Organization Name: Lower Colorado River Authority

Mailing Address: P. O. Box 220 City/State/Zip: Austin, Texas 78767

Phone No: 512-730-6749 Email: Bill.Steinhauser@lcra.org

Attachment: N/A

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

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

a. Prefix: Ms. Full Name (Last/First Name): Podbielski, Julie

Title: Environmental Advisor Credential: Click to enter text.

Organization Name: Lower Colorado River Authority

Mailing Address: P.O. Box 220 City/State/Zip: Austin, Texas 78767

Phone No: 512-730-5633 Email: Julie.Podbielski@lcra.org

b. Prefix: Mr. Full Name (Last/First Name): Steinhauser, Bill

Title: Senior Manager, Env Permitting and Compliance Credential: PE

Organization Name: Lower Colorado River Authority

Mailing Address: P.O. Box 220 City/State/Zip: Austin, Texas 78767

Phone No: 512-730-6749 Email: Bill.Steinhauser@lcra.org

Attachment: Click to enter text.

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

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

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

Prefix: Mr. Full Name (Last/First Name): Richter, Terry

Title: Environmental Supervisor Credential: Click to enter text.

Organization Name: Lower Colorado River Authority

Mailing Address: 6549 Power Plant Road City/State/Zip: La Grange, Texas 78945

Phone No: 979-249-8661 Email: Terry.Richter@lcra.org

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

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

Prefix: Mr. Full Name (Last/First Name): Richter, Terry

Title: Environmental Supervisor Credential: Click to enter text.

Organization Name: Lower Colorado River Authority

Mailing Address: 6549 Power Plant Road City/State/Zip: La Grange, Texas 78945

Phone No: 979-249-8661 Email: Terry.Richter@lcra.org

Item 9. Notice Information (Instructions, Pages 28)

a. Individual Publishing the Notices

Prefix: Mr. Full Name (Last/First Name): Richter, Terry

Title: Environmental Supervisor Credential: Click to enter text.

Organization Name: Lower Colorado River Authority

Mailing Address: 6549 Power Plant Road City/State/Zip: La Grange, Texas 78945

Phone No: 979-249-8661 Email: Terry.Richter@lcra.org

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

☒ E-mail: Terry.Richter@lcra.org

☐ Fax: Click to enter text.

☒ Regular Mail (USPS)

Mailing Address: 6549 Power Plant Road

City/State/Zip Code: La Grange, Texas 78945

c. Contact in the Notice

Prefix: Ms. Full Name (Last/First Name): Schreiber, Wendy

Title: Manager, Plant Environmental Support Credential: Click to enter text.

Organization Name: Lower Colorado River Authority

Phone No: 512-767-3560 Email: Wendy.Schreiber@lcra.org

d. Public Viewing Location Information

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

Public building name: Fayette Public Library Location within the building: Front Desk

Physical Address of Building: 855 South Jefferson Street

City: La Grange County: Fayette

e. Bilingual Notice Requirements

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

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

Call the bilingual/ESL coordinator at the nearest elementary and middle schools and obtain the following information to determine if an alternative language notice(s) is required.

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

☒ Yes ☐ No

If no, publication of an alternative language notice is not required; skip to Item 8 (Regulated Entity and Permitted Site Information.)

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

   ☐ Yes ☒ No

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

   ☐ Yes ☒ No

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

   ☐ Yes ☐ No ☒ N/A

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

f. Plain Language Summary Template – Complete the Plain Language Summary (TCEQ Form 20972) and include as an attachment. Attachment: FPP-ADMIN-3 Plain Language Summary

g. Complete one Public Involvement Plan (PIP) Form (TCEQ Form 20960) for each application for a new permit or major amendment and include as an attachment. Attachment: FPP-ADMIN-4 Public Involvement Plan Form

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

a. TCEQ issued Regulated Entity Number (RN), if available: RN100226844

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

b. Name of project or site (the name known by the community where located): Fayette Power Project

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

☒ Yes ☐ No ☐ N/A (new permit)

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

d. Owner of treatment facility:

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

or Organization Name: Lower Colorado River Authority (all units) and City of Austin (Units 1 and 2)

Mailing Address: P.O. Box 220 City/State/Zip: Austin, Texas 78767

Phone No: 512-473-3200 Email: N/A

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

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

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

or Organization Name: Lower Colorado River Authority and City of Austin

Mailing Address: P.O. Box 220 City/State/Zip: Austin, Texas 78767

Phone No: 512-473-3200 Email: N/A

Note: If not the same as the facility owner, attach a long-term lease agreement in effect for at least six years (In some cases, a lease may not suffice - see instructions). Attachment: FPP-ADMIN-10 Deeds

g. Owner of effluent TLAP disposal site (if applicable): N/A

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

or Organization Name: Click to enter text.

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

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

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

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

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

or Organization Name: Click to enter text.

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

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

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

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

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

☐ Yes ☒ No

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

☒ One-mile radius

☒ Applicant's property boundaries

☒ Labeled point(s) of discharge

☐ Effluent disposal site boundaries

☐ Sewage sludge disposal site

☒ Three-miles downstream information

☒ Treatment facility boundaries

☒ Highlighted discharge route(s)

☒ All wastewater ponds

☐ New and future construction

Attachment: FPP-ADMIN-5 USGS Topographic Map

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

☐ Yes ☐ No or New Permit N/A

If no, or a new application, provide an accurate location description: Click to enter text.

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

☒ Yes ☐ No or New Permit

If no, or a new application, provide an accurate location description: Click to enter text.

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

☒ Yes ☐ No or New Permit

If no, or a new permit, provide an accurate description of the discharge route: Click to enter text.

f. City nearest the outfall(s): La Grange

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

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

☐ Yes ☒ No

If yes, indicate by a check mark if: ☐ Authorization granted ☐ Authorization pending

For new and amendment applications, attach copies of letters that show proof of contact and provide the approval letter upon receipt. Attachment: Click to enter text.

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: Fayette, Colorado, Wharton, Matagorda

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

☐ Yes No or New Permit ☒ N/A

If no, or a new application, provide an accurate location description: Click to enter text.

j. City nearest the disposal site: N/A

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

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

m. For TLAPs, identify the nearest watercourse to the disposal site to which rainfall runoff might flow if not contained: N/A

Item 12. Miscellaneous Information (Instructions, Page 33)

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

☐ Yes ☒ No

If yes, list each person: Click to enter text.

b. Do you owe any fees to the TCEQ?

☐ Yes ☒ No

If yes, provide the following information:

Account no.: Click to enter text.

Total amount due: Click to enter text.

c. Do you owe any penalties to the TCEQ?

☐ Yes ☒ No

If yes, provide the following information:

Enforcement order no.: Click to enter text.

Amount due: Click to enter text.

Item 13. Signature Page (Instructions, Page 33)

Permit No: WQ0002105000

Applicant Name: Lower Colorado River Authority

Certification: I, Andrew Valencia, 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): Andrew Valencia, PE

Signatory title: Senior Vice President, Generation

Signature: _____ Date: 5/19/2025
(Use blue ink)

Subscribed and Sworn to before me by the said Andrew Valencia

on this 19th day of May, 20 25.

My commission expires on the 11th day of January, 20 26.

_____
Notary Public

[SEAL]

NOTARY PUBLIC STATE OF TEXAS
MABETHA JASKE
Notary Public, State of Texas
Comm. Expires 01-11-2026
Notary ID 128143668

Travis
County, Texas

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

INDUSTRIAL WASTEWATER PERMIT APPLICATION ADMINISTRATIVE REPORT 1.1

The following information is required for new and amendment applications.

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

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

☒ The applicant's property boundaries.

☒ The facility site boundaries within the applicant's property boundaries.

☐ The distance the buffer zone falls into adjacent properties and the property boundaries of the landowners located within the buffer zone.

☒ The property boundaries of all landowners surrounding the applicant's property. (Note: if the application is a major amendment for a lignite mine, the map must include the property boundaries of all landowners adjacent to the new facility (ponds).)

☒ The point(s) of discharge and highlighted discharge route(s) clearly shown for one mile downstream.

☒ The property boundaries of the landowners located on both sides of the discharge route for one full stream mile downstream of the point of discharge.

☒ The property boundaries of the landowners along the watercourse for a one-half mile radius from the point of discharge if the point of discharge is into a lake, bay, estuary, or affected by tides.

☐ The boundaries of the effluent disposal site (e.g., irrigation area or subsurface drainfield site) and all evaporation/holding ponds within the applicant's property.

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

☐ The boundaries of the sludge land application site (for land application of sewage sludge for beneficial use) and the property boundaries of landowners within one-quarter mile of the applicant's property boundaries where the sewage sludge land application site is located.

☐ The property boundaries of landowners within one-half mile in all directions from the applicant's property boundaries where the sewage sludge disposal site (e.g., sludge surface disposal site or sludge monofil) is located.

Attachment: FPP-ADMIN-6 Affected Landowner Map

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

☐ Readable/Writeable CD ☒ Four sets of labels

Attachment: FPP-ADMIN-7 Landowner List for Cross-Reference

d. Provide the source of the landowners' names and mailing addresses: Fayette County Appraisal District

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

☐ Yes ☒ No

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

Item 2. Original Photographs (Instructions, Page 37)

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

☐ At least one original photograph of the new or expanded treatment unit location.

☒ At least two photographs of the existing/proposed point of discharge and as much area downstream (photo 1) and upstream (photo 2) as can be captured. If the discharge is to an open water body (e.g., lake, bay), the point of discharge should be in the right or left edge of each photograph showing the open water and with as much area on each respective side of the discharge as can be captured.

☐ At least one photograph of the existing/proposed effluent disposal site.

☒ A plot plan or map showing the location and direction of each photograph.

Attachment: FPP-ADMIN-8 Outfall Photos

INDUSTRIAL WASTEWATER PERMIT APPLICATION

SUPPLEMENTAL PERMIT INFORMATION FORM (SPIF)

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

Attachment: FPP-ADMIN-9 Supplemental Permit Information Form (SPIF)

WATER QUALITY PERMIT

PAYMENT SUBMITTAL FORM

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

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

Mail this form and the check or money order to:

BY REGULAR U.S. MAIL

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

BY OVERNIGHT/EXPRESS MAIL

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

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

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

   Name of Project or Site: Click to enter text.

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

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

Staple Check or Money Order in This Space

ATTACHMENT 1

INDIVIDUAL INFORMATION

Item 1. Individual information (Instructions, Page 38)

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

Prefix (Mr., Ms., or Miss): Click to enter text.

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

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

Date of Birth: Click to enter text.

Mailing Address: Click to enter text.

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

Phone No.: Click to enter text.

Fax No.: Click to enter text.

E-mail Address: Click to enter text.

CN: Click to enter text.

INDUSTRIAL WASTEWATER PERMIT APPLICATION CHECKLIST OF COMMON DEFICIENCIES

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

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

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

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

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

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

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

Things to Know:

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

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

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

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

☒ Plain Language Summary

ADMINISTRATIVE REPORT

ATTACHMENTS

1. FPP-ADMIN-1 Epay Voucher
2. FPP-ADMIN-2 Core Data Form
3. FPP-ADMIN-3 Plain Language Summary
4. FPP-ADMIN-4 Public Involvement Plan Form
5. FPP-ADMIN-5 USGS Topographic Map
6. FPP-ADMIN-6 Affected Landowner Map
7. FPP-ADMIN-7 Landowner List for Cross-Reference
8. FPP-ADMIN-8 Outfall Photos
9. FPP-ADMIN-9 Supplemental Permit Information Form (SPIF)
10. FPP-ADMIN-10 Deeds
11. FPP-SPIF-1 USGS Topographic Map
12. FPP-SPIF-1 General Location Map
13. FPP-SPIF-2 Photographs of Structures 50 Years or Older

Attachment: FPP-ADMIN-1 Epay Voucher

Transaction Information

Voucher Number: 766793
Trace Number: 582EA000668261
Date: 05/15/2025 12:21 PM
Payment Method: CC - Authorization 0000070777
Voucher Amount: $2,000.00
Fee Type: WW PERMIT - MAJOR INDUSTRIAL FACILITY - MAJOR AMENDMENT
ePay Actor: JULIE PODBIELSKI
Actor Email: julie.podbielski@lcra.org
IP: 165.225.36.112

Payment Contact Information

Name: JULIE PODBIELSKI
Company: LOWER COLORADO RIVER AUTHORITY
Address: 3700 LAKE AUSTIN BLVD, AUSTIN, TX 78703
Phone: 512-461-4294

Site Information

RN: RN100226844
Site Name: LCRA SAM SEYMOUR FAYETTE POWER PROJECT
Site Address: 6549 POWER PLANT ROAD, LA GRANGE, TX 78945
Site Location: 6549 POWER PLANT ROAD LA GRANGE TEXAS 78945

Customer Information

CN: CN600253637
Customer Name: LOWER COLORADO RIVER AUTHORITY
Customer Address: P O BOX 220, AUSTIN, TX 78767 0220

Other Information

Program Area ID: WQ0002105000

Transaction Information

Voucher Number: 766794
Trace Number: 582EA000668261
Date: 05/15/2025 12:21 PM
Payment Method: CC - Authorization 0000070777
Voucher Amount: $50.00
Fee Type: 30 TAC 305.53B WQ NOTIFICATION FEE
ePay Actor: JULIE PODBIELSKI
Actor Email: julie.podbielski@lcra.org
IP: 165.225.36.112

Payment Contact Information

Name: JULIE PODBIELSKI
Company: LOWER COLORADO RIVER AUTHORITY
Address: 3700 LAKE AUSTIN BLVD, AUSTIN, TX 78703
Phone: 512-461-4294

TCEQ Use Only

TCEQ Core Data Form

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

SECTION I: General Information

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

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

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

☒ Other **Major Amendment**

2. Customer Reference Number *(if issued)*	Follow this link to search for CN or RN numbers in Central Registry**	3. Regulated Entity Reference Number *(if issued)*
CN 600253637		RN 100226844

SECTION II: Customer Information

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

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

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

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

Lower Colorado River Authority

7. TX SOS/CPA Filing Number	8. TX State Tax ID (11 digits)	9. Federal Tax ID (9 digits)	10. DUNS Number *(if applicable)*
		746002915	

11. Type of Customer: ☐ Corporation ☐ Individual Partnership: ☐ General ☐ Limited
Government: ☐ City ☐ County ☐ Federal ☐ Local ☐ State ☐ Other ☐ Sole Proprietorship ☒ Other: River Authority

12. Number of Employees
☐ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☒ 501 and higher

13. Independently Owned and Operated?
☒ **Yes** ☐ **No**

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

☐ Owner ☐ Operator ☒ Owner & Operator
☐ Occupational Licensee ☐ Responsible Party ☐ VCP/BSA Applicant
☒ Other: City of Austin owns 50% of Units 1&2

15. Mailing Address:								
	P.O. Box 220							
	City	Austin	**State**	TX	**ZIP**	78767	**ZIP + 4**	0220

16. Country Mailing Information *(if outside USA)*	17. E-Mail Address *(if applicable)*
N/A	Andrew.Valencia@lcra.org

18. Telephone Number	19. Extension or Code	20. Fax Number *(if applicable)*
(512) 578-3591		( ) -

SECTION III: Regulated Entity Information

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

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

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

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

Sam Seymour Fayette Power Project

23. Street Address of the Regulated Entity: ***(No PO Boxes)***	6549 Power Plant Road							
	City	La Grange	**State**	TX	**ZIP**	78945	**ZIP + 4**	
24. County	Fayette							

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

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

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

27. Latitude (N) In Decimal:	29.914742		**28. Longitude (W) In Decimal:**	-96.753535	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
29	54	53.0712	96	45	12.726

29. Primary SIC Code (4 digits)	**30. Secondary SIC Code** (4 digits)	**31. Primary NAICS Code** (5 or 6 digits)	**32. Secondary NAICS Code** (5 or 6 digits)
4911		221112	

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

coal-fired power plant

34. Mailing Address:	**6549 Power Plant Road**							
	City	La Grange	**State**	TX	**ZIP**	78945	**ZIP + 4**	
35. E-Mail Address:	**Andrew.Valencia@lcra.org**							

36. Telephone Number	**37. Extension or Code**	**38. Fax Number** *(if applicable)*
(512) 578-3591		( ) -

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

☐ Dam Safety	☐ Districts	☐ Edwards Aquifer	☐ Emissions Inventory Air	☐ Industrial Hazardous Waste
☐ Municipal Solid Waste	☐ New Source Review Air	☐ OSSF	☐ Petroleum Storage Tank	☐ PWS
☐ Sludge	☐ Storm Water	☐ Title V Air	☐ Tires	☐ Used Oil
☐ Voluntary Cleanup	☒ Wastewater	☐ Wastewater Agriculture	☐ Water Rights	☐ Other:
	WQ0002105000			

SECTION IV: Preparer Information

40. Name:	Julie Podbielski		**41. Title:**	Environmental Advisor
42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**	
(512) 730-5633		( ) -	Julie.Podbielski@lcra.org	

SECTION V: Authorized Signature

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

Company:	Lower Colorado River Authority	**Job Title:**	Sr. VP, Generation
Name *(In Print):*	Andrew Valencia, PE	**Phone:**	(512) 578- 3591
Signature:		**Date:**	5/19/2026

ATTACHMENT: FPP-ADMIN-3 Plain Language Summary

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

The Lower Colorado River Authority (LCRA) (CN600253637) operates the Fayette Power Project (FPP) (RN 100226844), which is a coal-fired steam electric power generation facility, that consists of three generating units with a total gross generation capacity of approximately 1,760 megawatts. The facility is located at 6549 Power Plant Road near La Grange, Fayette County, La Grange, Texas 78945.

The application is for a renewal and a major amendment of the Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0002105000. The major amendment requests to remove selenium limits from Outfalls 003, 004 and 301; to amend Other Requirement No. 3.G to include coal pile runoff from Outfall 301 and to increase the duration of a rainfall event (up to a 10-year, 10-day rainfall event); and to reduce sampling frequency from weekly to monthly at Outfall 201 for total suspended solids, oil and grease, and pH; and minor amendment requests to modify the footnotes for Outfall 002 on page 2d of the existing permit.

This renewal authorizes the discharge of 1,165,000,000 gallons per day of once-through 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 Outfall 001, referred to as "previously monitored effluents" (low-volume waste, coal pile runoff, truck wash water, and stormwater from the Coal Pile Runoff Pond from Outfall 301 and low-volume waste from Outfall 201). Low-volume waste sources drain on an intermittent and flow-variable basis via internal Outfall 201. Low-volume waste, coal pile runoff, truck wash water, and stormwater from the Coal Pile Runoff Pond drain on an intermittent and flow-variable basis via Outfall 301. In addition, the application is a renewal to discharge cooling water drained from the condensers and other cooling equipment during maintenance periods via Outfall 002; low-volume waste, coal pile runoff, truck wash water, and stormwater from the Coal Pile Runoff Pond via Outfall 003; and low-volume waste, truck wash water, and stormwater from the Coal Combustion Byproducts Landfill Pond via Outfall 004.

The discharge of once through cooling water via Outfall 001; coal pile runoff via Outfall 003 and 301; low-volume waste via Outfall 201, 301, 003, and 004 and cooling water drained from the condensers and other cooling equipment during maintenance periods via Outfall 002 are subject to federal effluent limitation guidelines at 40 CFR Part 423. The pollutants expected from these discharges based on 40 CFR Part 423 are: total residual chlorine, total suspended solids, oil and grease, and pH. Temperature is also expected from Outfall 001 and 002. Additional potential pollutants are included in the Industrial Wastewater Application Technical Report, Worksheet 2.0.

Low volume wastes are routed through an oil and water separator prior to discharge via Outfall 301 or Outfall 003. Low volume wastes receive no treatment prior to

discharge via Outfall 201. The low-volume waste, coal pile runoff, truck wash water, and stormwater from the Coal Pile Runoff Pond via Outfall 003 and 301 and low-volume waste, truck wash water, and stormwater from the Coal Combustion Byproducts Landfill Pond via Outfall 004 provide gravity settling of sediments in their respective ponds prior to discharge.

Cooling water is supplied by Lake Fayette. Water from Lake Fayette is withdrawn at the intake structure and treated with chemicals to prevent biofouling and improve efficacy and then passed through condensers and auxiliary equipment on a once-through basis to cool equipment and condense exhaust steam. Potable water is supplied by the Fayette Water Supply Corporation. Sanitary domestic wastewater from FPP is treated in an on-site aerobic treatment system and sent to an on-site process pond that recycles the water internally.

Spanish Translation

ANEXO: Resumen en Lenguaje Sencillo FPP-ADMIN-3

Solicitud Individual de Aguas Residuales Industriales

El siguiente resumen se presenta para esta solicitud pendiente de permiso de calidad del agua que está siendo revisada por la Comisión de Calidad Ambiental de Texas (Texas Comission on Environmental Quality o TCEQ, siglas en inglés) como lo exige el Título 30 del Código Administrativo de Texas, Capítulo 39. La información proporcionada en este resumen puede cambiar durante la revisión técnica de la solicitud y no son declaraciones federales aplicables de la solicitud de permiso.

Lower Colorado River Authority (LCRA, siglas en inglés) (CN600253637) controla el Proyecto de Energía Fayette (Fayette Power Project o FPP, siglas en inglés) (RN 100226844), la cual es una instalación de generación de energía eléctrica a vapor de agua producido por la combustión de carbón que consta de tres unidades generadoras con una capacidad total de generación bruta aproximada de 1,760 megavatios. La instalación está situada en 6549 Power Plant Road, cerca de La Grange, Fayette County, La Grange, Texas 78945.

La solicitud es para una renovación y una enmienda mayor del Permiso No. WQ0002105000 del Sistema de Eliminación de Vertidos Contaminantes de Texas (Texas Pollutant Discharge Elimination System o TPDES, siglas en inglés). La enmienda mayor solicita la eliminación de los límites de selenio de las Desembocaduras 003, 004 y 301; la modificación del Otro Requisito No. 3.G para incluir la escorrentía de la pila de carbón de la Desembocadura 301 y aumentar la duración de las precipitaciones (hasta 10 años, precipitaciones de 10 días); la reducción de la frecuencia de muestreo de semanal a mensual en la Desembocadura 201 para sólidos suspendidos totales, aceite y grasa, y pH; y la enmienda de modificación menor solicita la modificación de las notas al pie de página para la Desembocadura 002 en la página 2d del permiso vigente.

Esta renovación autoriza el vertido de 1,165,000,000 galones por día de agua de enfriamiento de una pasada y también autoriza los siguientes flujos de residuos monitoreados dentro de las instalaciones (desembocaduras internas) antes de que se mezclen con otras aguas residuales autorizadas para verter a través de la Desembocadura 001, denominadas "aguas residuales monitoreadas previamente" (aguas residuales de bajo volumen, escorrentía de pilas de carbón, agua de lavado de camiones y aguas pluviales del estanque de escorrentía de pilas de carbón de la Desembocadura 301 y aguas residuales de bajo volumen de la Desembocadura 201) a través de la Desembocadura 001. Las fuentes de aguas residuales de bajo volumen drenan de forma intermitente y con flujo variable a través de la Desembocadura 201 interna. Aguas residuales de bajo volumen, escorrentía de pilas de carbón, agua de lavado de camiones y aguas pluviales del estanque de escorrentía de pilas de carbón se drenan de forma intermitente y con flujo variable a través de la Desembocadura 301. Además, la solicitud constituye una renovación para verter agua de enfriamiento drenada de condensadores y otros equipos de enfriamiento durante los periodos de mantenimiento a través de la Desembocadura 002; resíduos de bajo volumen, escorrentía de pilas de carbón, agua de lavado de camiones y aguas pluviales del

estanque de escorrentía de pilas de carbón a través de la Desembocadura 003; y aguas residuales de bajo volumen, agua de lavado de camiones y aguas pluviales del Estanque de Vertedero de Subproductos de la Combustión de Carbón a través de la Desembocadura 004.

El vertido de agua de enfriamiento de una sola pasada a través de la Desembocadura 001; escorrentía de pilas de carbón a través de las Desembocaduras 003 y 301; aguas residuales de bajo volumen a través de las Desembocaduras 201, 301, 003 y 004; y agua de enfriamiento drenada de los condensadores y otros equipos de enfriamiento durante los periodos de mantenimiento a través de la Desembocadura 002 están sujetos a las directrices federales de limitación de efluentes del Título 40 según el Código de Reglamentos Federales, Parte 423. Los contaminantes que se esperan de estos vertidos, según el Título 40 del Código de Reglamentos Federales, Parte 423, son: cloro residual total, sólidos suspendidos totales, aceite y grasa, y pH. También se espera temperatura en las Desembocaduras 001 y 002. Se incluyen contaminantes potenciales adicionales en el Informe Técnico de Solicitud de Aguas Residuales Industriales, Hoja de Trabajo 2.0.

Las aguas residuales de bajo volumen se canalizan a través de un separador de aceite y agua antes de verter a través de la Desembocadura 301 o 003. Las aguas residuales de bajo volumen no reciben tratamiento antes de verter a través de la Desembocadura 201. Los resíduos de bajo volumen, escorrentía de pilas de carbón, agua de lavado de camiones y aguas pluviales del estanque de escorrentía de pilas de carbón, a través de las Desembocaduras 003 y 301, y las aguas residuales de bajo volumen, agua de lavado de camiones y aguas pluviales del Estanque de Vertedero de Subproductos de la Combustión de Carbón, a través de la Desembocadura 004, permiten depositar por gravedad los sedimentos en sus respectivos estanques antes de verter.

El agua de enfriamiento es suministrada por el Lago Fayette (Fayette Lake). El agua del Lago Fayette se extrae en la estructura de entrada y se trata con productos químicos para prevenir la bioincrustación y mejorar su eficacia, luego pasa por condensadores y equipo auxiliar en una sola pasada para enfriar el equipo y condensar el vapor de escape. El agua potable es suministrada por la Corporación de Suministro de Agua de Fayette (Fayette Water Supply Corporation en inglés). Las aguas residuales domésticas de FPP se tratan en un sistema de tratamiento aeróbico en el sitio y se envían a un estanque de proceso en el sitio que recicla el agua internamente.

ATTACHMENT: FPP-ADMIN-4 Public Involvement Plan

Texas Commission on Environmental Quality

Public Involvement Plan Form for Permit and Registration Applications

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

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

Section 1. Preliminary Screening

☐ New Permit or Registration Application

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

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

Section 2. Secondary Screening

☒ Requires public notice,

☒ Considered to have significant public interest, **and**

☐ Located within any of the following geographical locations:

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

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

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

The facility is not in a listed geographical location.

Section 3. Application Information

Type of Application (check all that apply):

Air ☐ Initial ☐ Federal ☐ Amendment ☐ Standard Permit ☐ Title V

Waste ☐ Municipal Solid Waste ☐ Industrial and Hazardous Waste ☐ Scrap Tire
☐ Radioactive Material Licensing ☐ Underground Injection Control

Water Quality

☐ Texas Pollutant Discharge Elimination System (TPDES)

☐ Texas Land Application Permit (TLAP)

☐ State Only Concentrated Animal Feeding Operation (CAFO)

☐ Water Treatment Plant Residuals Disposal Permit

☐ Class B Biosolids Land Application Permit

☐ Domestic Septage Land Application Registration

Water Rights New Permit

☐ New Appropriation of Water

☐ New or existing reservoir

Amendment to an Existing Water Right

☐ Add a New Appropriation of Water

☐ Add a New or Existing Reservoir

☐ Major Amendment that could affect other water rights or the environment

Section 4. Plain Language Summary

Provide a brief description of planned activities.

Section 5. Community and Demographic Information

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

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

(City)

(County)

(Census Tract)
Please indicate which of these three is the level used for gathering the following information.

☐ City ☐ County ☐ Census Tract

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

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

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

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

(e) Languages commonly spoken in area by percentage

(f) Community and/or Stakeholder Groups

(g) Historic public interest or involvement

Section 6. Planned Public Outreach Activities

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

☐ Yes ☐ No

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

☐ Yes ☐ No

If Yes, please describe.

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

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

☐ Yes ☐ No

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

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

☐ Publish in alternative language newspaper

☐ Posted on Commissioner's Integrated Database Website

☐ Mailed by TCEQ's Office of the Chief Clerk

☐ Other (specify)

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

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ TCEQ Regional Office ☐ TCEQ Central Office

☐ Public Place (specify)

Section 7. Voluntary Submittal

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

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

☐ Yes ☐ No

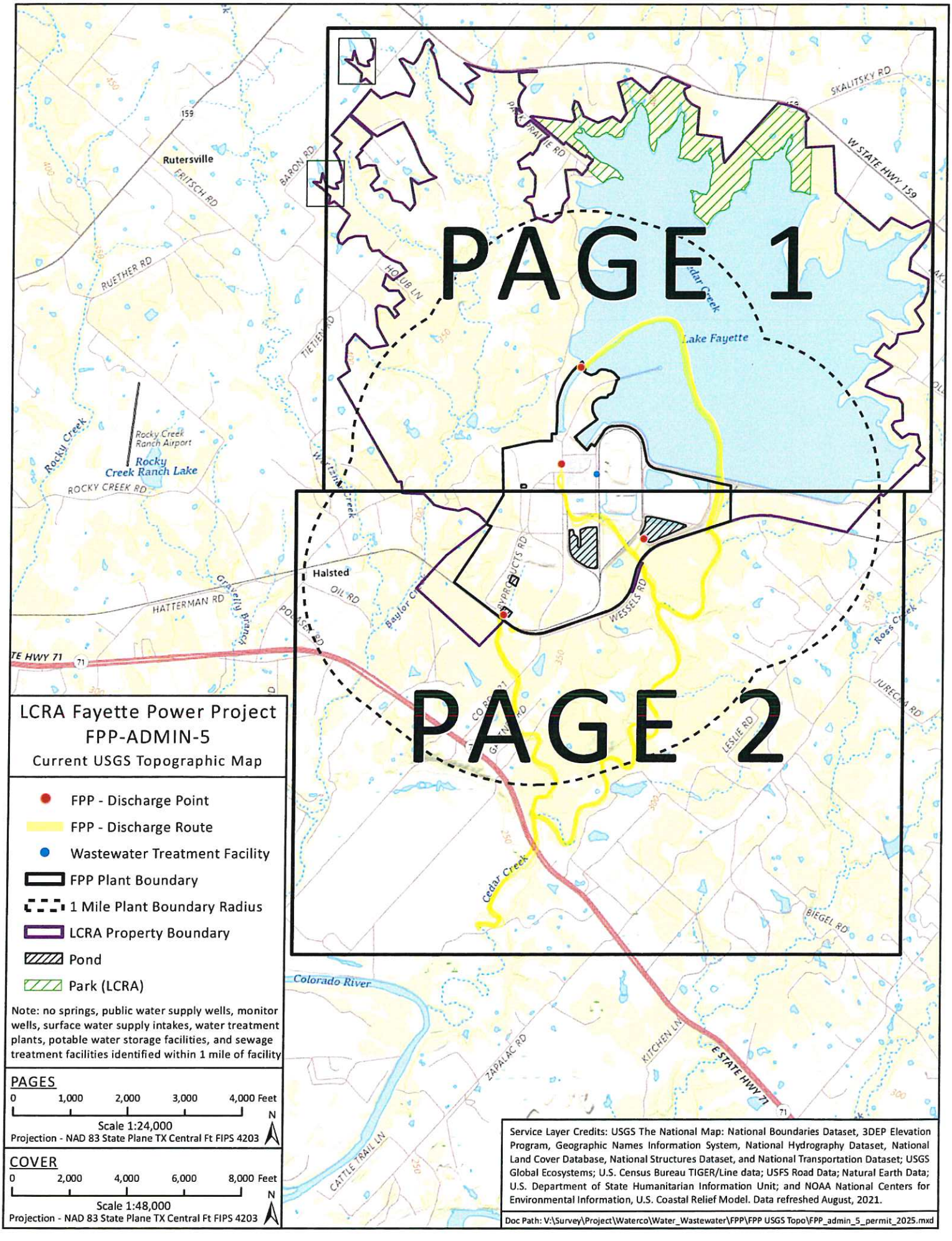
What types of notice will be provided?

☐ Publish in alternative language newspaper

☐ Posted on Commissioner's Integrated Database Website

☐ Mailed by TCEQ's Office of the Chief Clerk

☐ Other (specify)



LCRA Fayette Power Project
FPP-ADMIN-5
Current USGS Topographic Map

- FPP - Discharge Point
- FPP - Discharge Route
- Wastewater Treatment Facility
- FPP Plant Boundary
- 1 Mile Plant Boundary Radius
- LCRA Property Boundary
- Pond
- Park (LCRA)

Note: no springs, public water supply wells, monitor wells, surface water supply intakes, water treatment plants, potable water storage facilities, and sewage treatment facilities identified within 1 mile of facility

PAGES

0 1,000 2,000 3,000 4,000 Feet

Scale 1:24,000

Projection - NAD 83 State Plane TX Central Ft FIPS 4203

N

COVER

0 2,000 4,000 6,000 8,000 Feet

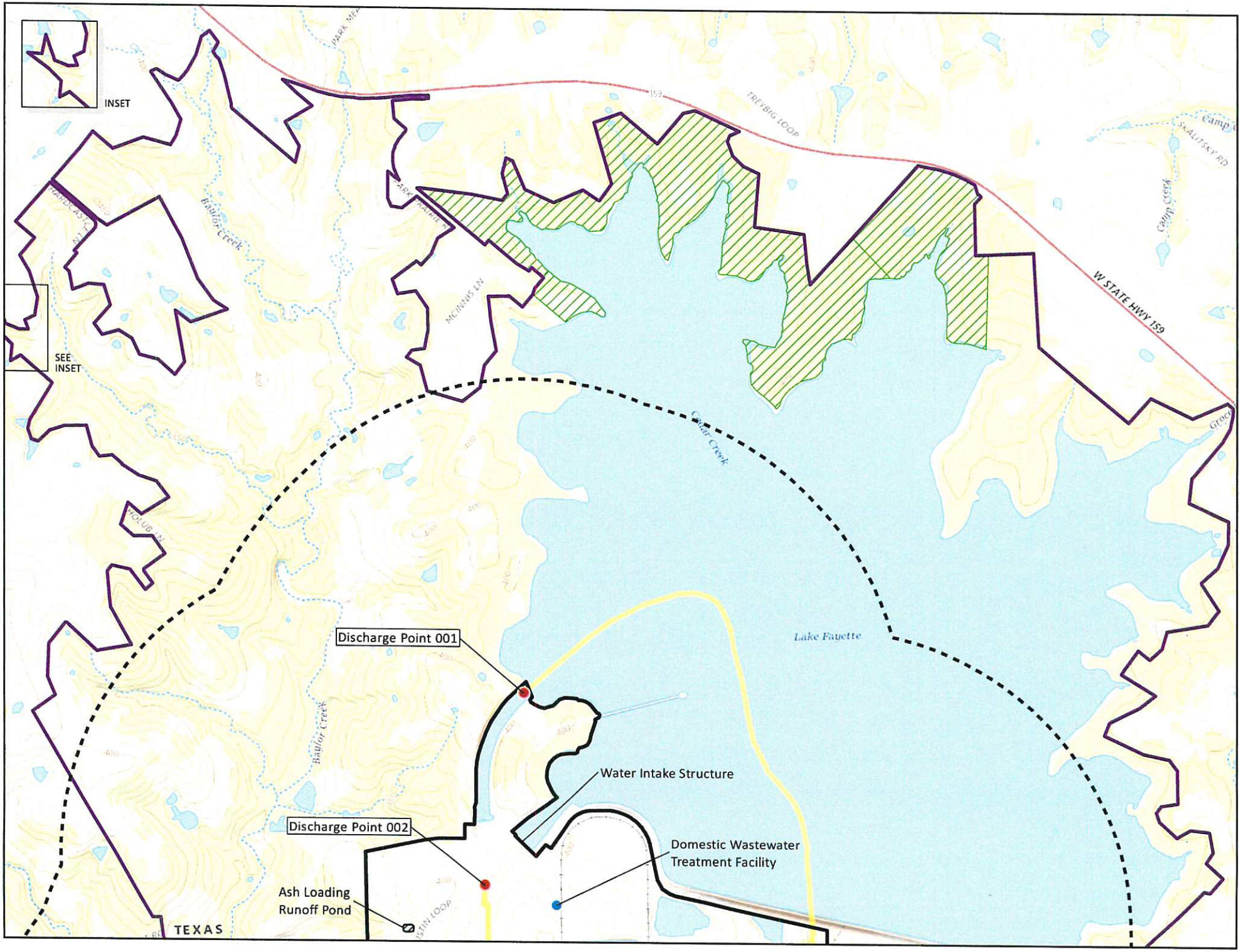
Scale 1:48,000

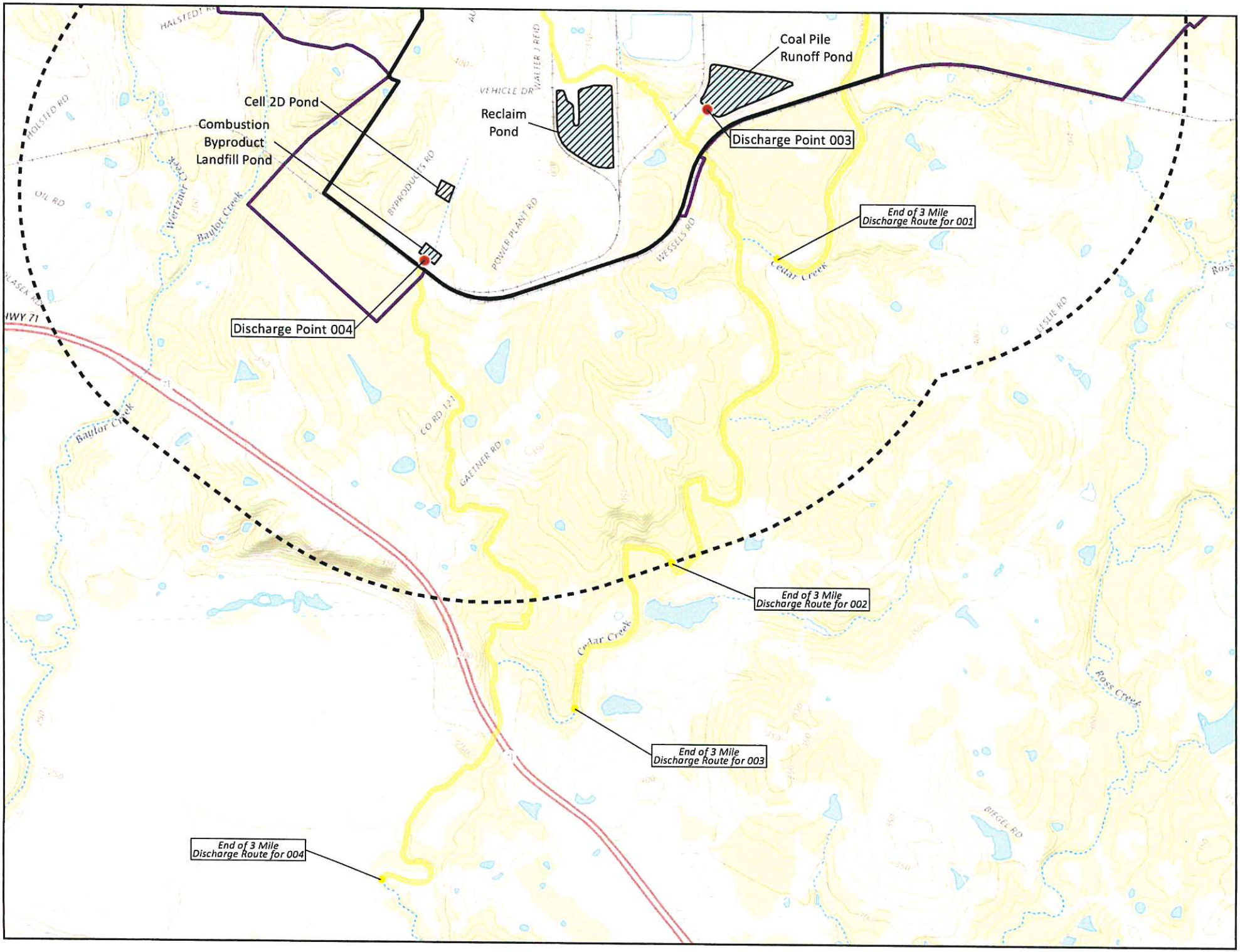
Projection - NAD 83 State Plane TX Central Ft FIPS 4203

N

Service Layer Credits: USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census Bureau TIGER/Line data; USFS Road Data; Natural Earth Data; U.S. Department of State Humanitarian Information Unit; and NOAA National Centers for Environmental Information, U.S. Coastal Relief Model. Data refreshed August, 2021.

Doc Path: V:\Survey\Project\Waterco\Water_Wastewater\FPP\FPP USGS Topo\FPP_admin_5_permit_2025.mxd


INSET
SEE INSET
Discharge Point 001
Discharge Point 002
Water Intake Structure
Domestic Wastewater Treatment Facility
Ash Loading Runoff Pond
TEXAS
Lake Fayette
Cedar Creek
Baylor Creek
W STATE HWY 159
TREYBIG LOOP
MCINNIS LN
SKALITSKY RD
Camp Creek


Coal Pile
Runoff Pond
Cell 2D Pond
Combustion
Byproduct
Landfill Pond
Reclaim
Pond
Discharge Point 003
Discharge Point 004
End of 3 Mile
Discharge Route for 001
End of 3 Mile
Discharge Route for 002
End of 3 Mile
Discharge Route for 003
End of 3 Mile
Discharge Route for 004
HALSTED RD
OIL RD
VEHICLE DR
WALTER J REID
BYPRODUCTS RD
POWER PLANT RD
WESSELS RD
LESLIE RD
GAETNER RD
CO RD 121
HWY 71
Baylor Creek
Cedar Creek
Ross Creek
BIEGEL RD

ATTACHMENT: FPP ADMIN 7

Landowner List - Cross-Referenced to Affected Landowner Map (FPP-ADMIN 6)

MAP #	OWNER NAME	MAILING ADDRESS	CITY	STATE	ZIP CODE
1	ROBERT BENJAMIN SCHIELACK	1731 REK HILL RD	FAYETTEVILLE	TX	78940
2	ROYCE B OWENS	1107 NARCILLE ST	BAYTOWN	TX	77520
3	KENNETH AND BESSIE FIELDER	2418 RUNNEBURG RD	CROSBY	TX	77532
4	CHARLIE HARVEY JR EST	PO BOX 1582	BRENHAM	TX	77834
5	ALAN AND LORI JOINER	1715 GRAYSON LAKES BLVD	KATY	TX	77494
6	BRETT ROHDE	219 ROZNOV RD	FAYETTEVILLE	TX	78940
7	THOMAS R AND BONNIE L ROHDE	312 PARK PRAIRIE RD	FAYETTEVILLE	TX	78940
8	SEAN AND TARA MURPHY	940 MCINNIS LN	FAYETTEVILLE	TX	78940
9	BRUCE SCHIELACK	721 PARK PRAIRIE RD	FAYETTEVILLE	TX	78940
10	DENNIS C MCINNIS	960 MCINNIS LN	FAYETTEVILLE	TX	78940
11	PATRICK MCINNIS	950 MCINNIS LN	FAYETTEVILLE	TX	78940
12	JACK D MCINNIS TRUST	PO BOX 4011	PAGOSA SPRINGS	CO	81157
13	TREVOR AND BRADLEY AND PRISCILLA MALOTA	334 C H ALLEN RD	FAYETTEVILLE	TX	78940
14	JOHNATHAN HARVEY	6926 FM 1952	WALLIS	TX	77485
15	BETH CHAPLINE	623 STONELEIGH DR	HOUSTON	TX	77079
16	LEONARD SR AND ALICE MALOTA EST	1120 PARK PRAIRIE RD	FAYETTEVILLE	TX	78940
17	JAMES E ROHDE EST AND ROSE ROHDE	6745 W STATE HIGHWAY 159	FAYETTEVILLE	TX	78940
18	KATHERINE MYNAR ET AL	709-B CASTLE RIDGE RD	AUSTIN	TX	78746
19	THOMAS AND SHANNON GERIK	104 POST OAK LN	COLUMBUS	TX	78934
20	LURLYN NEISNER	120 CARDINAL LANE	COLUMBUS	TX	78934
20	BRIAN BREMSER	211 W MAILAM	WHARTON	TX	77488
21	JAMES ROHDE JR	6327 W STATE HIGHWAY 159	FAYETTEVILLE	TX	78940
22	MICHAEL AND BARBARA CHADDOCK	6227 W STATE HIGHWAY 159	FAYETTEVILLE	TX	78940
23	JOSEPH AND GRETA GROMASKI	6230 W STATE HIGHWAY 159	FAYETTEVILLE	TX	78940
24	RONALD AND FRANCESCA HAVEMANN	5005 TREYBIG LOOP	FAYETTEVILLE	TX	78940
25	ROBBIE AND THERESA BYERS	5848 W STATE HIGHWAY 159	FAYETTEVILLE	TX	78940
26	HAVEMANN'S HAVEN LLC	19522 LOCKRIDGE DR	TOMBALL	TX	77377
27	RHONDA VAJA AND RICHARD MARTINAK AND RUTH MARTINAK	5704 W STATE HIGHWAY 159	FAYETTEVILLE	TX	78940
28	DAVID OTT	4739 TREYBIG LOOP	FAYETTEVILLE	TX	78940
29	JEFFREY AND CYNTHIA HARVEY	4727 TREYBIG LOOP	FAYETTEVILLE	TX	78940
30	BRANDON NOVOSAD	406 N FM 1291	FAYETTEVILLE	TX	78940
31	A AND Z TESTAMENTARY TRUST - SCOTT WEST (TRUSTEE)	9106 HUDSON CT	HOUSTON	TX	77024
32	DOROTHY AND LAMAR HEINTSCHEL	326 HAPPY HOLLOW RD	BRENHAM	TX	77833
33	NICHOLAS AND CAROL KOSTELNIK	7402 CHERRY BROOK CT	SUGAR LAND	TX	77479
34	BILLIE E ADAMS	3852 LESLIE RD	FAYETTEVILLE	TX	78940
35	ROBERT VASEK	302 BARRINGTON FARM CT	GEORGETOWN	TX	78633
36	KYLE STOUTENGER	1108 HOLLYBLUFF ST	AUSTIN	TX	78753
37	ROY GENE AND CYNTHIA SUE WIED	1244 STATE LOOP 458	CARMINE	TX	78932
38	GREGORY H AND EVA I GILLESPIE	129 WINDCLIFF WAY	NEW BRAUNFELS	TX	78132
39	BETTY JEAN VASEK	19811 INDIAN CHERRY FOREST LN	CYPRESS	TX	77433
40	LEON JR AND JOAN HEINTSCHEL EST	4535 W STATE HIGHWAY 159	FAYETTEVILLE	TX	78940
41	MAE DELL HANATH	5059 HIGHWAY 290 W	BRENHAM	TX	77833
42	BRADLEY HANATH	6796 HIGHWAY 36 N	BELLVILLE	TX	77418
43	RODNEY AND REBECCA HANATH	4455 FM 1155 S	CHAPPELL HILL	TX	77426
44	ALVIN H AND KIRK HANATH	PO BOX 2523	BRENHAM	TX	77834
45	RICHARD F HANATH	3829 MOUNT VERNON RD	BRENHAM	TX	77833
46	CONFIDENTIAL*	CONFIDENTIAL*			
47	MARIANNE HEFFINGTON TRUST	PO BOX 71	FAYETTEVILLE	TX	78940
48	EMIL AND MARY SCHLEY REVOCABLE TRUST	3834 W STATE HIGHWAY 159	FAYETTEVILLE	TX	78940
49	MARY M BARBER	905 AVENUE C	SWEENY	TX	77480
50	JACK MARTIN	500 LAKEVIEW RD	FAYETTEVILLE	TX	78940
51	BBF AND R LLC	1306 EMERALD CT	EL CAMPO	TX	77437
52	SCOTT AND ELIZABETH ALLEN	15875 MEADOW VILLAGE DR	HOUSTON	TX	77095
53	RANDY JONES	225 SUMMER HL	NEW BRAUNFELS	TX	78132
54	DAWN SUPAK	3190 OLD PARK RD	FAYETTEVILLE	TX	78940
55	KIMBERLY FISCHER THOMAS	3124 OLD PARK RD	FAYETTEVILLE	TX	78940
56	STEVEN AND DEBORAH BERTSCH	3101 OLD PARK RD	FAYETTEVILLE	TX	78940
57	ROBERT AND JANA PONCIK	5935 BLASE RD	ROSENBERG	TX	77471
58	UNION PACIFIC RAILROAD COMPANY - C/O JOHN VAN GELDER	1400 DOUGLAS ST (STOP 1690)	OMAHA	NE	68179
59	EUGENE PONCIK	1915 PLANTATION BEND DR	SUGAR LAND	TX	77478
60	DELORES KASPER	11855 GREAT OAKS DR	COLLEGE STATION	TX	77845
61	COLLEN AND MEGAN ZAPALAC	178 MADRONE TRL	BOERNE	TX	78006
62	BRENDA BELOTA	109 RUSK ST	FAYETTEVILLE	TX	78940

* LCRA has contacted the Fayette County Appraisal District and was informed that the information is confidential and not available to the public.

ATTACHMENT: FPP ADMIN 7

Landowner List - Cross-Referenced to Affected Landowner Map (FPP-ADMIN 6)

63	MARVIN R AND TERRI L ALLCORN	47 EAST STONY END PL	THE WOODLANDS	TX	77381
64	JODY AND NATHAN MINARCIK FAMILY TRUST	6382 STOKES RD	BELLVILLE	TX	77418
65	CEDAROW PARTNERS LTD	1518 POTOMAC DR	HOUSTON	TX	77057
66	ALLEN L AND JOSEPHINE MUELLER EST	6123 BACA RD	FAYETTEVILLE	TX	78940
66	ANGELA WALLACE CROCKER	10555 SAWMILL RD	BRENHAM	TX	77833
66	MARIANNA WALLACE KRAUTER	2319 W BRIARGATE DR	BRYAN	TX	77802
67	VIVIAN ALBERS	4316 WOODSTONE CIR	TEMPLE	TX	76502
68	ALBERS BROTHERS LLC	150 BRUSHY CREEK TRL	HUTTO	TX	78634
69	STACY ROGERS	P O BOX 1052	LA GRANGE	TX	78945
70	JAMES AND TERESA DIVIN	6817 E STATE HIGHWAY 71	LA GRANGE	TX	78945
71	JOHN AND HACKEMACK SEIDEL LIVING TRUST	6301 WINIFRED DR	FT WORTH	TX	76133
72	GLENN AND BEVERLY GAERTNER	6829 E STATE HIGHWAY 71	LA GRANGE	TX	78945
73	JOHNNY AND CONNIE GAERTNER REVOCABLE LIVING TRUST	3715 RIVER VISTA WAY	LOUISVILLE	TN	37777
74	CONSOLIDATED FROZEN FOOD LOCKERS INC	957 S MADISON ST	LA GRANGE	TX	78945
75	JANIS STANCIK AND JANIS STANCIK GST EXEMPT TRUST	PO BOX 1130	LA GRANGE	TX	78945
76	CONNIE GAIL KRAUSS AND CONNIE GAIL KRAUSS GST EXEMPT TRUST	240 RENN RD	STOKESDALE	NC	27357
77	DOYLE KRAUSS	1269 VIA PRINCIPALE	MC QUEENEY	TX	78123
78	DANETTE HUVAR	1836 TIETJEN RD	LA GRANGE	TX	78945
79	CHARLES PHELPS	535 CREEKWOOD CT	BRENTWOOD	CA	94513
80	I J AND GERALDINE ORSAK	741 FM 2503	FAYETTEVILLE	TX	78940
81	TEXAS FIRST CHOICE INVESTMENTS	PO BOX 74	CYPRESS	TX	77410
82	NATHAN AND ALEXANDRA HOLUB	6202 PIECHA NEGROS CT	KATY	TX	77450
83	JERRY HOLUB	3825 COUNTY ROAD 302	SHINER	TX	77984
84	ROBERT AND MARY HOLUB	1079 COUNTY ROAD 207	WEIMAR	TX	78962
85	SANDRA KEEPERS AND THERESA NIDEY - C/O JAMES D HOLUB	2436 KRISCHKE RD	SCHULENBURG	TX	78956
86	FRANKLIN HOLUB ET AL	18023 OAK ORCHARD LN	CYPRESS	TX	77433
87	GEORGE P HOLUB EST	513 COLUMBUS HALL LN	FAYETTEVILLE	TX	78940
88	KAREN MAYER AND JANICE FOX AND E H BAUMACH	3112 FRITSCH RD	LA GRANGE	TX	78945
89	JAMES AND JO ANN AYRES	PO BOX 202	ROUND TOP	TX	78954
90	RYAN KLEIBER	1880 BARON RD	LA GRANGE	TX	78945
91	ERIC AND TAMMY NAUMANN	1505 BARON RD	LA GRANGE	TX	78945
92	KARL JOHNSON	1212 BARON RD	LA GRANGE	TX	78945
93	NORMAN AND WANDA HUBBARD	7630 HARDCASTLE LN	LA GRANGE	TX	78945
94	PATRICIA GARRETT	7644 HARDCASTLE LN	LA GRANGE	TX	78945
95	DAVID MENCONI	7690 HARDCASTLE LN	LA GRANGE	TX	78945
96	ERICA MENCONI	7617 HARDCASTLE LN	LA GRANGE	TX	78945
97	BENEDICTION RANCH LLC	21202 BELMONT FARMS DR	TOMBALL	TX	77375
98	MRS WM E BRENDLE EST AND CHARLOTTE HOLZ	4710 GUY GRANT RD	VICTORIA	TX	77904
99	KOLBE FAMILY HOLDINGS LLC	P O BOX 1252	LA GRANGE	TX	78945
100	DREW AND JACKIE BUCCI	610 BARON RD	FAYETTEVILLE	TX	78940
101	JEFFREY WALKER	344 BARON RD	FAYETTEVILLE	TX	78940

* LCRA has contacted the Fayette County Appraisal District and was informed that the information is confidential and not available to the public.

ROBERT BENJAMIN SCHIELACK
1731 REK HILL RD
FAYETTEVILLE TX 78940

CHARLIE HARVEY JR EST
PO BOX 1582
BRENHAM TX 77834

THOMAS R AND BONNIE L ROHDE
312 PARK PRAIRIE RD
FAYETTEVILLE TX 78940

DENNIS C MCINNIS
960 MCINNIS LN
FAYETTEVILLE TX 78940

TREVOR AND BRADLEY AND PRISCILLA MALOTA
334 C H ALLEN RD
FAYETTEVILLE TX 78940

LEONARD SR AND ALICE MALOTA EST
1120 PARK PRAIRIE RD
FAYETTEVILLE TX 78940

THOMAS AND SHANNON GERIK
104 POST OAK LN
COLUMBUS TX 78934

IAMES ROHDE JR
3327 W STATE HIGHWAY 159
FAYETTEVILLE TX 78940

RONALD AND FRANCESCA HAVEMANN
5005 TREYBIG LOOP
FAYETTEVILLE TX 78940

RHONDA VAJA AND RICHARD MARTINAK AND RUTH MARTINAK
5704 W STATE HIGHWAY 159
FAYETTEVILLE TX 78940

ROYCE B OWENS
1107 NARCILLE ST
BAYTOWN TX 77520

ALAN AND LORI JOINER
1715 GRAYSON LAKES BLVD
KATY TX 77494

SEAN AND TARA MURPHY
940 MCINNIS LN
FAYETTEVILLE TX 78940

PATRICK MCINNIS
950 MCINNIS LN
FAYETTEVILLE TX 78940

JOHNATHAN HARVEY
6926 FM 1952
WALLIS TX 77485

JAMES E ROHDE EST AND ROSE ROHDE
6745 W STATE HIGHWAY 159
FAYETTEVILLE TX 78940

LURLYN NEISNER
120 CARDINAL LANE
COLUMBUS TX 78934

MICHAEL AND BARBARA CHADDOCK
6227 W STATE HIGHWAY 159
FAYETTEVILLE TX 78940

ROBBIE AND THERESA BYERS
5848 W STATE HIGHWAY 159
FAYETTEVILLE TX 78940

DAVID OTT
4739 TREYBIG LOOP
FAYETTEVILLE TX 78940

KENNETH AND BESSIE FIELDER
2418 RUNNEBURG RD
CROSBY TX 77532

BRETT ROHDE
219 ROZNOV RD
FAYETTEVILLE TX 78940

BRUCE SCHIELACK
721 PARK PRAIRIE RD
FAYETTEVILLE TX 78940

JACK D MCINNIS TRUST
PO BOX 4011
PAGOSA SPRINGS CO 81157

BETH CHAPLINE
623 STONELEIGH DR
HOUSTON TX 77079

KATHERINE MYNAR ET AL
709-B CASTLE RIDGE RD
AUSTIN TX 78746

BRIAN BREMSER
211 W MAILAM
WHARTON TX 77488

JOSEPH AND GRETA GROMASKI
6230 W STATE HIGHWAY 159
FAYETTEVILLE TX 78940

HAVEMANN'S HAVEN LLC
19522 LOCKRIDGE DR
TOMBALL TX 77377

JEFFREY AND CYNTHIA HARVEY
4727 TREYBIG LOOP
FAYETTEVILLE TX 78940

AVERY 8160

Easy Peel® Address Labels
Bend along line to expose Pop-up Edge

Go to avery.com/templates
Use Avery Template 5160

BRANDON NOVOSAD
406 N FM 1291
FAYETTEVILLE TX 78940

NICHOLAS AND CAROL KOSTELNIK
7402 CHERRY BROOK CT
SUGAR LAND TX 77479

KYLE STOUTENGER
1108 HOLLYBLUFF ST
AUSTIN TX 78753

BETTY JEAN VASEK
19811 INDIAN CHERRY FOREST LN
CYPRESS TX 77433

BRADLEY HANATH
6796 HIGHWAY 36 N
BELLVILLE TX 77418

RICHARD F HANATH
3829 MOUNT VERNON RD
BRENHAM TX 77833

MARY M BARBER
905 AVENUE C
SWEENY TX 77480

SCOTT AND ELIZABETH ALLEN
15875 MEADOW VILLAGE DR
HOUSTON TX 77095

KIMBERLY FISCHER THOMAS
3124 OLD PARK RD
FAYETTEVILLE TX 78940

UNION PACIFIC RAILROAD COMPANY - C/O JOHN VAN GELDER
400 DOUGLAS ST (STOP 1690)
OMAHA NE 68179

A AND Z TESTAMENTARY TRUST - SCOTT WEST (TRUSTEE)
9106 HUDSON CT
HOUSTON TX 77024

BILLIE E ADAMS
3852 LESLIE RD
FAYETTEVILLE TX 78940

ROY GENE AND CYNTHIA SUE WIED
1244 STATE LOOP 458
CARMINE TX 78932

LEON JR AND JOAN HEINTSCHEL EST
4535 W STATE HIGHWAY 159
FAYETTEVILLE TX 78940

RODNEY AND REBECCA HANATH
4455 FM 1155 S
CHAPPELL HILL TX 77426

MARIANNE HEFFINGTON TRUST
PO BOX 71
FAYETTEVILLE TX 78940

JACK MARTIN
500 LAKEVIEW RD
FAYETTEVILLE TX 78940

RANDY JONES
225 SUMMER HL
NEW BRAUNFELS TX 78132

STEVEN AND DEBORAH BERTSCH
3101 OLD PARK RD
FAYETTEVILLE TX 78940

EUGENE PONCIK
1915 PLANTATION BEND DR
SUGAR LAND TX 77478

DOROTHY AND LAMAR HEINTSCHEL
326 HAPPY HOLLOW RD
BRENHAM TX 77833

ROBERT VASEK
302 BARRINGTON FARM CT
GEORGETOWN TX 78633

GREGORY H AND EVA I GILLESPIE
129 WINDCLIFF WAY
NEW BRAUNFELS TX 78132

MAE DELL HANATH
5059 HIGHWAY 290 W
BRENHAM TX 77833

ALVIN H AND KIRK HANATH
PO BOX 2523
BRENHAM TX 77834

EMIL AND MARY SCHLEY REVOCABLE TRUST
3834 W STATE HIGHWAY 159
FAYETTEVILLE TX 78940

BBF AND R LLC
1306 EMERALD CT
EL CAMPO TX 77437

DAWN SUPAK
3190 OLD PARK RD
FAYETTEVILLE TX 78940

ROBERT AND JANA PONCIK
5935 BLASE RD
ROSENBERG TX 77471

DELORES KASPER
11855 GREAT OAKS DR
COLLEGE STATION TX 77845

Pat: avery.com/patents

Étiquettes d'adresse Easy Peel®
Repliez à la hachure afin de révéler le rebord Pop-up

Allez à avery.ca/gabarits
Utilisez le Gabarit Avery 5160

COLLEN AND MEGAN ZAPALAC
178 MADRONE TRL
BOERNE TX 78006

JODY AND NATHAN MINARCIK FAMILY TRUST
6382 STOKES RD
BELLVILLE TX 77418

ANGELA WALLACE CROCKER
10555 SAWMILL RD
BRENHAM TX 77833

ALBERS BROTHERS LLC
150 BRUSHY CREEK TRL
HUTTO TX 78634

JOHN AND HACKEMACK SEIDEL LIVING TRUST
6301 WINIFRED DR
FT WORTH TX 76133

CONSOLIDATED FROZEN FOOD LOCKERS INC
957 S MADISON ST
LA GRANGE TX 78945

DOYLE KRAUSS
1269 VIA PRINCIPALE
MC QUEENEY TX 78123

J AND GERALDINE ORSAK
741 FM 2503
FAYETTEVILLE TX 78940

ERRY HOLUB
3825 COUNTY ROAD 302
SHINER TX 77984

RANKLIN HOLUB ET AL
8023 OAK ORCHARD LN
CYPRESS TX 77433

BRENDA BELOTA
109 RUSK ST
FAYETTEVILLE TX 78940

CEDAROW PARTNERS LTD
1518 POTOMAC DR
HOUSTON TX 77057

MARIANNA WALLACE KRAUTER
2319 W BRIARGATE DR
BRYAN TX 77802

STACY ROGERS
P O BOX 1052
LA GRANGE TX 78945

GLENN AND BEVERLY GAERTNER
6829 E STATE HIGHWAY 71
LA GRANGE TX 78945

JANIS STANCIK AND JANIS STANCIK GST EXEMPT TRUST
PO BOX 1130
LA GRANGE TX 78945

DANETTE HUVAR
1836 TIETJEN RD
LA GRANGE TX 78945

TEXAS FIRST CHOICE INVESTMENTS
PO BOX 74
CYPRESS TX 77410

ROBERT AND MARY HOLUB
1079 COUNTY ROAD 207
WEIMAR TX 78962

GEORGE P HOLUB EST
513 COLUMBUS HALL LN
FAYETTEVILLE TX 78940

MARVIN R AND TERRI L ALLCORN
47 EAST STONY END PL
THE WOODLANDS TX 77381

ALLEN L AND JOSEPHINE MUELLER EST
6123 BACA RD
FAYETTEVILLE TX 78940

VIVIAN ALBERS
4316 WOODSTONE CIR
TEMPLE TX 76502

JAMES AND TERESA DIVIN
6817 E STATE HIGHWAY 71
LA GRANGE TX 78945

JOHNNY AND CONNIE GAERTNER REVOCABLE LIVING TRUST
3715 RIVER VISTA WAY
LOUISVILLE TN 37777

CONNIE GAIL KRAUSS AND CONNIE GAIL KRAUSS GST EXEMPT TRUST
240 RENN RD
STOKESDALE NC 27357

CHARLES PHELPS
535 CREEKWOOD CT
BRENTWOOD CA 94513

NATHAN AND ALEXANDRA HOLUB
6202 PIECHA NEGROS CT
KATY TX 77450

SANDRA KEEPERS AND THERESA NIDEY - C/O JAMES D HOLUB
2436 KRISCHKE RD
SCHULENBURG TX 78956

KAREN MAYER AND JANICE FOX AND E H BAUMACH
3112 FRITSCH RD
LA GRANGE TX 78945

JAMES AND JO ANN AYRES
PO BOX 202
ROUND TOP TX 78954

KARL JOHNSON
1212 BARON RD
LA GRANGE TX 78945

DAVID MENCONI
7690 HARDCASTLE LN
LA GRANGE TX 78945

MRS WM E BRENDLE EST AND CHARLOTTE HOLZ
4710 GUY GRANT RD
VICTORIA TX 77904

JEFFREY WALKER
344 BARON RD
FAYETTEVILLE TX 78940

RYAN KLEIBER
1880 BARON RD
LA GRANGE TX 78945

NORMAN AND WANDA HUBBARD
7630 HARDCASTLE LN
LA GRANGE TX 78945

ERICA MENCONI
7617 HARDCASTLE LN
LA GRANGE TX 78945

KOLBE FAMILY HOLDINGS LLC
P O BOX 1252
LA GRANGE TX 78945

ERIC AND TAMMY NAUMANN
1505 BARON RD
LA GRANGE TX 78945

PATRICIA GARRETT
7644 HARDCASTLE LN
LA GRANGE TX 78945

BENEDICTION RANCH LLC
21202 BELMONT FARMS DR
TOMBALL TX 77375

DREW AND JACKIE BUCCI
610 BARON RD
FAYETTEVILLE TX 78940

ROBERT BENJAMIN SCHIELACK
1731 REK HILL RD
FAYETTEVILLE TX 78940

CHARLIE HARVEY JR EST
PO BOX 1582
BRENHAM TX 77834

THOMAS R AND BONNIE L ROHDE
312 PARK PRAIRIE RD
FAYETTEVILLE TX 78940

DENNIS C MCINNIS
960 MCINNIS LN
FAYETTEVILLE TX 78940

TREVOR AND BRADLEY AND PRISCILLA MALOTA
334 C H ALLEN RD
FAYETTEVILLE TX 78940

LEONARD SR AND ALICE MALOTA EST
1120 PARK PRAIRIE RD
FAYETTEVILLE TX 78940

THOMAS AND SHANNON GERIK
104 POST OAK LN
COLUMBUS TX 78934

IAMES ROHDE JR
3327 W STATE HIGHWAY 159
FAYETTEVILLE TX 78940

RONALD AND FRANCESCA HAVEMANN
5005 TREYBIG LOOP
FAYETTEVILLE TX 78940

RHONDA VAJA AND RICHARD MARTINAK AND RUTH MARTINAK
5704 W STATE HIGHWAY 159
FAYETTEVILLE TX 78940

ROYCE B OWENS
1107 NARCILLE ST
BAYTOWN TX 77520

ALAN AND LORI JOINER
1715 GRAYSON LAKES BLVD
KATY TX 77494

SEAN AND TARA MURPHY
940 MCINNIS LN
FAYETTEVILLE TX 78940

PATRICK MCINNIS
950 MCINNIS LN
FAYETTEVILLE TX 78940

JOHNATHAN HARVEY
6926 FM 1952
WALLIS TX 77485

JAMES E ROHDE EST AND ROSE ROHDE
6745 W STATE HIGHWAY 159
FAYETTEVILLE TX 78940

LURLYN NEISNER
120 CARDINAL LANE
COLUMBUS TX 78934

MICHAEL AND BARBARA CHADDOCK
6227 W STATE HIGHWAY 159
FAYETTEVILLE TX 78940

ROBBIE AND THERESA BYERS
5848 W STATE HIGHWAY 159
FAYETTEVILLE TX 78940

DAVID OTT
4739 TREYBIG LOOP
FAYETTEVILLE TX 78940

KENNETH AND BESSIE FIELDER
2418 RUNNEBURG RD
CROSBY TX 77532

BRETT ROHDE
219 ROZNOV RD
FAYETTEVILLE TX 78940

BRUCE SCHIELACK
721 PARK PRAIRIE RD
FAYETTEVILLE TX 78940

JACK D MCINNIS TRUST
PO BOX 4011
PAGOSA SPRINGS CO 81157

BETH CHAPLINE
623 STONELEIGH DR
HOUSTON TX 77079

KATHERINE MYNAR ET AL
709-B CASTLE RIDGE RD
AUSTIN TX 78746

BRIAN BREMSER
211 W MAILAM
WHARTON TX 77488

JOSEPH AND GRETA GROMASKI
6230 W STATE HIGHWAY 159
FAYETTEVILLE TX 78940

HAVEMANN'S HAVEN LLC
19522 LOCKRIDGE DR
TOMBALL TX 77377

JEFFREY AND CYNTHIA HARVEY
4727 TREYBIG LOOP
FAYETTEVILLE TX 78940

AVERY 8160

Easy Peel® Address Labels
Bend along line to expose Pop-up Edge

Go to avery.com/templates
Use Avery Template 5160

BRANDON NOVOSAD
406 N FM 1291
FAYETTEVILLE TX 78940

NICHOLAS AND CAROL KOSTELNIK
7402 CHERRY BROOK CT
SUGAR LAND TX 77479

KYLE STOUTENGER
1108 HOLLYBLUFF ST
AUSTIN TX 78753

BETTY JEAN VASEK
19811 INDIAN CHERRY FOREST LN
CYPRESS TX 77433

BRADLEY HANATH
6796 HIGHWAY 36 N
BELLVILLE TX 77418

RICHARD F HANATH
3829 MOUNT VERNON RD
BRENHAM TX 77833

MARY M BARBER
905 AVENUE C
SWEENY TX 77480

SCOTT AND ELIZABETH ALLEN
15875 MEADOW VILLAGE DR
HOUSTON TX 77095

KIMBERLY FISCHER THOMAS
3124 OLD PARK RD
FAYETTEVILLE TX 78940

UNION PACIFIC RAILROAD
COMPANY - C/O JOHN VAN GELDER
400 DOUGLAS ST (STOP 1690)
OMAHA NE 68179

A AND Z TESTAMENTARY TRUST -
SCOTT WEST (TRUSTEE)
9106 HUDSON CT
HOUSTON TX 77024

BILLIE E ADAMS
3852 LESLIE RD
FAYETTEVILLE TX 78940

ROY GENE AND CYNTHIA SUE WIED
1244 STATE LOOP 458
CARMINE TX 78932

LEON JR AND JOAN HEINTSCHEL EST
4535 W STATE HIGHWAY 159
FAYETTEVILLE TX 78940

RODNEY AND REBECCA HANATH
4455 FM 1155 S
CHAPPELL HILL TX 77426

MARIANNE HEFFINGTON TRUST
PO BOX 71
FAYETTEVILLE TX 78940

JACK MARTIN
500 LAKEVIEW RD
FAYETTEVILLE TX 78940

RANDY JONES
225 SUMMER HL
NEW BRAUNFELS TX 78132

STEVEN AND DEBORAH BERTSCH
3101 OLD PARK RD
FAYETTEVILLE TX 78940

EUGENE PONCIK
1915 PLANTATION BEND DR
SUGAR LAND TX 77478

DOROTHY AND LAMAR HEINTSCHEL
326 HAPPY HOLLOW RD
BRENHAM TX 77833

ROBERT VASEK
302 BARRINGTON FARM CT
GEORGETOWN TX 78633

GREGORY H AND EVA I GILLESPIE
129 WINDCLIFF WAY
NEW BRAUNFELS TX 78132

MAE DELL HANATH
5059 HIGHWAY 290 W
BRENHAM TX 77833

ALVIN H AND KIRK HANATH
PO BOX 2523
BRENHAM TX 77834

EMIL AND MARY SCHLEY
REVOCABLE TRUST
3834 W STATE HIGHWAY 159
FAYETTEVILLE TX 78940

BBF AND R LLC
1306 EMERALD CT
EL CAMPO TX 77437

DAWN SUPAK
3190 OLD PARK RD
FAYETTEVILLE TX 78940

ROBERT AND JANA PONCIK
5935 BLASE RD
ROSENBERG TX 77471

DELORES KASPER
11855 GREAT OAKS DR
COLLEGE STATION TX 77845

Pat: avery.com/patents

Étiquettes d'adresse Easy Peel®
Repliez à la hachure afin de révéler le rebord Pop-up

Allez à avery.ca/gabarits
Utilisez le Gabarit Avery 5160

COLLEN AND MEGAN ZAPALAC
178 MADRONE TRL
BOERNE TX 78006

JODY AND NATHAN MINARCIK FAMILY TRUST
6382 STOKES RD
BELLVILLE TX 77418

ANGELA WALLACE CROCKER
10555 SAWMILL RD
BRENHAM TX 77833

ALBERS BROTHERS LLC
150 BRUSHY CREEK TRL
HUTTO TX 78634

JOHN AND HACKEMACK SEIDEL LIVING TRUST
6301 WINIFRED DR
FT WORTH TX 76133

CONSOLIDATED FROZEN FOOD LOCKERS INC
957 S MADISON ST
LA GRANGE TX 78945

DOYLE KRAUSS
1269 VIA PRINCIPALE
MC QUEENEY TX 78123

I J AND GERALDINE ORSAK
741 FM 2503
FAYETTEVILLE TX 78940

JERRY HOLUB
3825 COUNTY ROAD 302
SHINER TX 77984

FRANKLIN HOLUB ET AL
18023 OAK ORCHARD LN
CYPRESS TX 77433

BRENDA BELOTA
109 RUSK ST
FAYETTEVILLE TX 78940

CEDAROW PARTNERS LTD
1518 POTOMAC DR
HOUSTON TX 77057

MARIANNA WALLACE KRAUTER
2319 W BRIARGATE DR
BRYAN TX 77802

STACY ROGERS
P O BOX 1052
LA GRANGE TX 78945

GLENN AND BEVERLY GAERTNER
6829 E STATE HIGHWAY 71
LA GRANGE TX 78945

JANIS STANCIK AND JANIS STANCIK GST EXEMPT TRUST
PO BOX 1130
LA GRANGE TX 78945

DANETTE HUVAR
1836 TIETJEN RD
LA GRANGE TX 78945

TEXAS FIRST CHOICE INVESTMENTS
PO BOX 74
CYPRESS TX 77410

ROBERT AND MARY HOLUB
1079 COUNTY ROAD 207
WEIMAR TX 78962

GEORGE P HOLUB EST
513 COLUMBUS HALL LN
FAYETTEVILLE TX 78940

MARVIN R AND TERRI L ALLCORN
47 EAST STONY END PL
THE WOODLANDS TX 77381

ALLEN L AND JOSEPHINE MUELLER EST
6123 BACA RD
FAYETTEVILLE TX 78940

VIVIAN ALBERS
4316 WOODSTONE CIR
TEMPLE TX 76502

JAMES AND TERESA DIVIN
6817 E STATE HIGHWAY 71
LA GRANGE TX 78945

JOHNNY AND CONNIE GAERTNER REVOCABLE LIVING TRUST
3715 RIVER VISTA WAY
LOUISVILLE TN 37777

CONNIE GAIL KRAUSS AND CONNIE GAIL KRAUSS GST EXEMPT TRUST
240 RENN RD
STOKESDALE NC 27357

CHARLES PHELPS
535 CREEKWOOD CT
BRENTWOOD CA 94513

NATHAN AND ALEXANDRA HOLUB
6202 PIECHA NEGROS CT
KATY TX 77450

SANDRA KEEPERS AND THERESA NIDEY - C/O JAMES D HOLUB
2436 KRISCHKE RD
SCHULENBURG TX 78956

KAREN MAYER AND JANICE FOX AND E H BAUMACH
3112 FRITSCH RD
LA GRANGE TX 78945

JAMES AND JO ANN AYRES
PO BOX 202
ROUND TOP TX 78954

KARL JOHNSON
1212 BARON RD
LA GRANGE TX 78945

DAVID MENCONI
7690 HARDCASTLE LN
LA GRANGE TX 78945

MRS WM E BRENDLE EST AND CHARLOTTE HOLZ
4710 GUY GRANT RD
VICTORIA TX 77904

JEFFREY WALKER
344 BARON RD
FAYETTEVILLE TX 78940

RYAN KLEIBER
1880 BARON RD
LA GRANGE TX 78945

NORMAN AND WANDA HUBBARD
7630 HARDCASTLE LN
LA GRANGE TX 78945

ERICA MENCONI
7617 HARDCASTLE LN
LA GRANGE TX 78945

KOLBE FAMILY HOLDINGS LLC
P O BOX 1252
LA GRANGE TX 78945

ERIC AND TAMMY NAUMANN
1505 BARON RD
LA GRANGE TX 78945

PATRICIA GARRETT
7644 HARDCASTLE LN
LA GRANGE TX 78945

BENEDICTION RANCH LLC
21202 BELMONT FARMS DR
TOMBALL TX 77375

DREW AND JACKIE BUCCI
610 BARON RD
FAYETTEVILLE TX 78940

ROBERT BENJAMIN SCHIELACK
1731 REK HILL RD
FAYETTEVILLE TX 78940

ROYCE B OWENS
1107 NARCILLE ST
BAYTOWN TX 77520

KENNETH AND BESSIE FIELDER
2418 RUNNEBURG RD
CROSBY TX 77532

CHARLIE HARVEY JR EST
PO BOX 1582
BRENHAM TX 77834

ALAN AND LORI JOINER
1715 GRAYSON LAKES BLVD
KATY TX 77494

BRETT ROHDE
219 ROZNOV RD
FAYETTEVILLE TX 78940

THOMAS R AND BONNIE L ROHDE
312 PARK PRAIRIE RD
FAYETTEVILLE TX 78940

SEAN AND TARA MURPHY
940 MCINNIS LN
FAYETTEVILLE TX 78940

BRUCE SCHIELACK
721 PARK PRAIRIE RD
FAYETTEVILLE TX 78940

DENNIS C MCINNIS
960 MCINNIS LN
FAYETTEVILLE TX 78940

PATRICK MCINNIS
950 MCINNIS LN
FAYETTEVILLE TX 78940

JACK D MCINNIS TRUST
PO BOX 4011
PAGOSA SPRINGS CO 81157

TREVOR AND BRADLEY AND PRISCILLA MALOTA
334 C H ALLEN RD
FAYETTEVILLE TX 78940

JOHNATHAN HARVEY
6926 FM 1952
WALLIS TX 77485

BETH CHAPLINE
623 STONELEIGH DR
HOUSTON TX 77079

LEONARD SR AND ALICE MALOTA EST
1120 PARK PRAIRIE RD
FAYETTEVILLE TX 78940

JAMES E ROHDE EST AND ROSE ROHDE
6745 W STATE HIGHWAY 159
FAYETTEVILLE TX 78940

KATHERINE MYNAR ET AL
709-B CASTLE RIDGE RD
AUSTIN TX 78746

THOMAS AND SHANNON GERIK
104 POST OAK LN
COLUMBUS TX 78934

LURLYN NEISNER
120 CARDINAL LANE
COLUMBUS TX 78934

BRIAN BREMSER
211 W MAILAM
WHARTON TX 77488

JAMES ROHDE JR
6327 W STATE HIGHWAY 159
FAYETTEVILLE TX 78940

MICHAEL AND BARBARA CHADDOCK
6227 W STATE HIGHWAY 159
FAYETTEVILLE TX 78940

JOSEPH AND GRETA GROMASKI
6230 W STATE HIGHWAY 159
FAYETTEVILLE TX 78940

RONALD AND FRANCESCA HAVEMANN
5005 TREYBIG LOOP
FAYETTEVILLE TX 78940

ROBBIE AND THERESA BYERS
5848 W STATE HIGHWAY 159
FAYETTEVILLE TX 78940

HAVEMANN'S HAVEN LLC
19522 LOCKRIDGE DR
TOMBALL TX 77377

RHONDA VAJA AND RICHARD MARTINAK AND RUTH MARTINAK
5704 W STATE HIGHWAY 159
FAYETTEVILLE TX 78940

DAVID OTT
4739 TREYBIG LOOP
FAYETTEVILLE TX 78940

JEFFREY AND CYNTHIA HARVEY
4727 TREYBIG LOOP
FAYETTEVILLE TX 78940

BRANDON NOVOSAD
406 N FM 1291
FAYETTEVILLE TX 78940

NICHOLAS AND CAROL KOSTELNIK
7402 CHERRY BROOK CT
SUGAR LAND TX 77479

KYLE STOUTENGER
1108 HOLLYBLUFF ST
AUSTIN TX 78753

BETTY JEAN VASEK
19811 INDIAN CHERRY FOREST LN
CYPRESS TX 77433

BRADLEY HANATH
6796 HIGHWAY 36 N
BELLVILLE TX 77418

RICHARD F HANATH
3829 MOUNT VERNON RD
BRENHAM TX 77833

MARY M BARBER
905 AVENUE C
SWEENY TX 77480

SCOTT AND ELIZABETH ALLEN
15875 MEADOW VILLAGE DR
HOUSTON TX 77095

KIMBERLY FISCHER THOMAS
3124 OLD PARK RD
FAYETTEVILLE TX 78940

UNION PACIFIC RAILROAD COMPANY - C/O JOHN VAN GELDER
1400 DOUGLAS ST (STOP 1690)
OMAHA NE 68179

A AND Z TESTAMENTARY TRUST - SCOTT WEST (TRUSTEE)
9106 HUDSON CT
HOUSTON TX 77024

BILLIE E ADAMS
3852 LESLIE RD
FAYETTEVILLE TX 78940

ROY GENE AND CYNTHIA SUE WIED
1244 STATE LOOP 458
CARMINE TX 78932

LEON JR AND JOAN HEINTSCHEL EST
4535 W STATE HIGHWAY 159
FAYETTEVILLE TX 78940

RODNEY AND REBECCA HANATH
4455 FM 1155 S
CHAPPELL HILL TX 77426

MARIANNE HEFFINGTON TRUST
PO BOX 71
FAYETTEVILLE TX 78940

JACK MARTIN
500 LAKEVIEW RD
FAYETTEVILLE TX 78940

RANDY JONES
225 SUMMER HL
NEW BRAUNFELS TX 78132

STEVEN AND DEBORAH BERTSCH
3101 OLD PARK RD
FAYETTEVILLE TX 78940

EUGENE PONCIK
1915 PLANTATION BEND DR
SUGAR LAND TX 77478

DOROTHY AND LAMAR HEINTSCHEL
326 HAPPY HOLLOW RD
BRENHAM TX 77833

ROBERT VASEK
302 BARRINGTON FARM CT
GEORGETOWN TX 78633

GREGORY H AND EVA I GILLESPIE
129 WINDCLIFF WAY
NEW BRAUNFELS TX 78132

MAE DELL HANATH
5059 HIGHWAY 290 W
BRENHAM TX 77833

ALVIN H AND KIRK HANATH
PO BOX 2523
BRENHAM TX 77834

EMIL AND MARY SCHLEY REVOCABLE TRUST
3834 W STATE HIGHWAY 159
FAYETTEVILLE TX 78940

BBF AND R LLC
1306 EMERALD CT
EL CAMPO TX 77437

DAWN SUPAK
3190 OLD PARK RD
FAYETTEVILLE TX 78940

ROBERT AND JANA PONCIK
5935 BLASE RD
ROSENBERG TX 77471

DELORES KASPER
11855 GREAT OAKS DR
COLLEGE STATION TX 77845

COLLEN AND MEGAN ZAPALAC
178 MADRONE TRL
BOERNE TX 78006

JODY AND NATHAN MINARCIK FAMILY TRUST
6382 STOKES RD
BELLVILLE TX 77418

ANGELA WALLACE CROCKER
10555 SAWMILL RD
BRENHAM TX 77833

ALBERS BROTHERS LLC
150 BRUSHY CREEK TRL
HUTTO TX 78634

JOHN AND HACKEMACK SEIDEL LIVING TRUST
6301 WINIFRED DR
FT WORTH TX 76133

CONSOLIDATED FROZEN FOOD LOCKERS INC
957 S MADISON ST
LA GRANGE TX 78945

DOYLE KRAUSS
1269 VIA PRINCIPALE
MC QUEENEY TX 78123

I J AND GERALDINE ORSAK
741 FM 2503
FAYETTEVILLE TX 78940

IERRY HOLUB
3825 COUNTY ROAD 302
SHINER TX 77984

FRANKLIN HOLUB ET AL
18023 OAK ORCHARD LN
CYPRESS TX 77433

BRENDA BELOTA
109 RUSK ST
FAYETTEVILLE TX 78940

CEDAROW PARTNERS LTD
1518 POTOMAC DR
HOUSTON TX 77057

MARIANNA WALLACE KRAUTER
2319 W BRIARGATE DR
BRYAN TX 77802

STACY ROGERS
P O BOX 1052
LA GRANGE TX 78945

GLENN AND BEVERLY GAERTNER
6829 E STATE HIGHWAY 71
LA GRANGE TX 78945

JANIS STANCIK AND JANIS STANCIK GST EXEMPT TRUST
PO BOX 1130
LA GRANGE TX 78945

DANETTE HUVAR
1836 TIETJEN RD
LA GRANGE TX 78945

TEXAS FIRST CHOICE INVESTMENTS
PO BOX 74
CYPRESS TX 77410

ROBERT AND MARY HOLUB
1079 COUNTY ROAD 207
WEIMAR TX 78962

GEORGE P HOLUB EST
513 COLUMBUS HALL LN
FAYETTEVILLE TX 78940

MARVIN R AND TERRI L ALLCORN
47 EAST STONY END PL
THE WOODLANDS TX 77381

ALLEN L AND JOSEPHINE MUELLER EST
6123 BACA RD
FAYETTEVILLE TX 78940

VIVIAN ALBERS
4316 WOODSTONE CIR
TEMPLE TX 76502

JAMES AND TERESA DIVIN
6817 E STATE HIGHWAY 71
LA GRANGE TX 78945

JOHNNY AND CONNIE GAERTNER REVOCABLE LIVING TRUST
3715 RIVER VISTA WAY
LOUISVILLE TN 37777

CONNIE GAIL KRAUSS AND CONNIE GAIL KRAUSS GST EXEMPT TRUST
240 RENN RD
STOKESDALE NC 27357

CHARLES PHELPS
535 CREEKWOOD CT
BRENTWOOD CA 94513

NATHAN AND ALEXANDRA HOLUB
6202 PIECHA NEGROS CT
KATY TX 77450

SANDRA KEEPERS AND THERESA NIDEY - C/O JAMES D HOLUB
2436 KRISCHKE RD
SCHULENBURG TX 78956

KAREN MAYER AND JANICE FOX AND E H BAUMACH
3112 FRITSCH RD
LA GRANGE TX 78945

JAMES AND JO ANN AYRES
PO BOX 202
ROUND TOP TX 78954

KARL JOHNSON
1212 BARON RD
LA GRANGE TX 78945

DAVID MENCONI
7690 HARDCASTLE LN
LA GRANGE TX 78945

MRS WM E BRENDLE EST AND CHARLOTTE HOLZ
4710 GUY GRANT RD
VICTORIA TX 77904

JEFFREY WALKER
344 BARON RD
FAYETTEVILLE TX 78940

RYAN KLEIBER
1880 BARON RD
LA GRANGE TX 78945

NORMAN AND WANDA HUBBARD
7630 HARDCASTLE LN
LA GRANGE TX 78945

ERICA MENCONI
7617 HARDCASTLE LN
LA GRANGE TX 78945

KOLBE FAMILY HOLDINGS LLC
P O BOX 1252
LA GRANGE TX 78945

ERIC AND TAMMY NAUMANN
1505 BARON RD
LA GRANGE TX 78945

PATRICIA GARRETT
7644 HARDCASTLE LN
LA GRANGE TX 78945

BENEDICTION RANCH LLC
21202 BELMONT FARMS DR
TOMBALL TX 77375

DREW AND JACKIE BUCCI
610 BARON RD
FAYETTEVILLE TX 78940

ROBERT BENJAMIN SCHIELACK
1731 REK HILL RD
FAYETTEVILLE TX 78940

ROYCE B OWENS
1107 NARCILLE ST
BAYTOWN TX 77520

KENNETH AND BESSIE FIELDER
2418 RUNNEBURG RD
CROSBY TX 77532

CHARLIE HARVEY JR EST
PO BOX 1582
BRENHAM TX 77834

ALAN AND LORI JOINER
1715 GRAYSON LAKES BLVD
KATY TX 77494

BRETT ROHDE
219 ROZNOV RD
FAYETTEVILLE TX 78940

THOMAS R AND BONNIE L ROHDE
312 PARK PRAIRIE RD
FAYETTEVILLE TX 78940

SEAN AND TARA MURPHY
940 MCINNIS LN
FAYETTEVILLE TX 78940

BRUCE SCHIELACK
721 PARK PRAIRIE RD
FAYETTEVILLE TX 78940

DENNIS C MCINNIS
960 MCINNIS LN
FAYETTEVILLE TX 78940

PATRICK MCINNIS
950 MCINNIS LN
FAYETTEVILLE TX 78940

JACK D MCINNIS TRUST
PO BOX 4011
PAGOSA SPRINGS CO 81157

TREVOR AND BRADLEY AND PRISCILLA MALOTA
334 C H ALLEN RD
FAYETTEVILLE TX 78940

JOHNATHAN HARVEY
6926 FM 1952
WALLIS TX 77485

BETH CHAPLINE
623 STONELEIGH DR
HOUSTON TX 77079

LEONARD SR AND ALICE MALOTA EST
1120 PARK PRAIRIE RD
FAYETTEVILLE TX 78940

JAMES E ROHDE EST AND ROSE ROHDE
6745 W STATE HIGHWAY 159
FAYETTEVILLE TX 78940

KATHERINE MYNAR ET AL
709-B CASTLE RIDGE RD
AUSTIN TX 78746

THOMAS AND SHANNON GERIK
104 POST OAK LN
COLUMBUS TX 78934

LURLYN NEISNER
120 CARDINAL LANE
COLUMBUS TX 78934

BRIAN BREMSER
211 W MAILAM
WHARTON TX 77488

JAMES ROHDE JR
6327 W STATE HIGHWAY 159
FAYETTEVILLE TX 78940

MICHAEL AND BARBARA CHADDOCK
6227 W STATE HIGHWAY 159
FAYETTEVILLE TX 78940

JOSEPH AND GRETA GROMASKI
6230 W STATE HIGHWAY 159
FAYETTEVILLE TX 78940

RONALD AND FRANCESCA HAVEMANN
5005 TREYBIG LOOP
FAYETTEVILLE TX 78940

ROBBIE AND THERESA BYERS
5848 W STATE HIGHWAY 159
FAYETTEVILLE TX 78940

HAVEMANN'S HAVEN LLC
19522 LOCKRIDGE DR
TOMBALL TX 77377

RHONDA VAJA AND RICHARD MARTINAK AND RUTH MARTINAK
5704 W STATE HIGHWAY 159
FAYETTEVILLE TX 78940

DAVID OTT
4739 TREYBIG LOOP
FAYETTEVILLE TX 78940

JEFFREY AND CYNTHIA HARVEY
4727 TREYBIG LOOP
FAYETTEVILLE TX 78940

BRANDON NOVOSAD
406 N FM 1291
FAYETTEVILLE TX 78940

NICHOLAS AND CAROL KOSTELNIK
7402 CHERRY BROOK CT
SUGAR LAND TX 77479

KYLE STOUTENGER
1108 HOLLYBLUFF ST
AUSTIN TX 78753

BETTY JEAN VASEK
19811 INDIAN CHERRY FOREST LN
CYPRESS TX 77433

BRADLEY HANATH
6796 HIGHWAY 36 N
BELLVILLE TX 77418

RICHARD F HANATH
3829 MOUNT VERNON RD
BRENHAM TX 77833

MARY M BARBER
905 AVENUE C
SWEENY TX 77480

SCOTT AND ELIZABETH ALLEN
15875 MEADOW VILLAGE DR
HOUSTON TX 77095

KIMBERLY FISCHER THOMAS
3124 OLD PARK RD
FAYETTEVILLE TX 78940

UNION PACIFIC RAILROAD
COMPANY - C/O JOHN VAN GELDER
400 DOUGLAS ST (STOP 1690)
OMAHA NE 68179

A AND Z TESTAMENTARY TRUST -
SCOTT WEST (TRUSTEE)
9106 HUDSON CT
HOUSTON TX 77024

BILLIE E ADAMS
3852 LESLIE RD
FAYETTEVILLE TX 78940

ROY GENE AND CYNTHIA SUE WIED
1244 STATE LOOP 458
CARMINE TX 78932

LEON JR AND JOAN HEINTSCHEL EST
4535 W STATE HIGHWAY 159
FAYETTEVILLE TX 78940

RODNEY AND REBECCA HANATH
4455 FM 1155 S
CHAPPELL HILL TX 77426

MARIANNE HEFFINGTON TRUST
PO BOX 71
FAYETTEVILLE TX 78940

JACK MARTIN
500 LAKEVIEW RD
FAYETTEVILLE TX 78940

RANDY JONES
225 SUMMER HL
NEW BRAUNFELS TX 78132

STEVEN AND DEBORAH BERTSCH
3101 OLD PARK RD
FAYETTEVILLE TX 78940

EUGENE PONCIK
1915 PLANTATION BEND DR
SUGAR LAND TX 77478

DOROTHY AND LAMAR HEINTSCHEL
326 HAPPY HOLLOW RD
BRENHAM TX 77833

ROBERT VASEK
302 BARRINGTON FARM CT
GEORGETOWN TX 78633

GREGORY H AND EVA I GILLESPIE
129 WINDCLIFF WAY
NEW BRAUNFELS TX 78132

MAE DELL HANATH
5059 HIGHWAY 290 W
BRENHAM TX 77833

ALVIN H AND KIRK HANATH
PO BOX 2523
BRENHAM TX 77834

EMIL AND MARY SCHLEY
REVOCABLE TRUST
3834 W STATE HIGHWAY 159
FAYETTEVILLE TX 78940

BBF AND R LLC
1306 EMERALD CT
EL CAMPO TX 77437

DAWN SUPAK
3190 OLD PARK RD
FAYETTEVILLE TX 78940

ROBERT AND JANA PONCIK
5935 BLASE RD
ROSENBERG TX 77471

DELORES KASPER
11855 GREAT OAKS DR
COLLEGE STATION TX 77845

COLLEN AND MEGAN ZAPALAC
178 MADRONE TRL
BOERNE TX 78006

JODY AND NATHAN MINARCIK FAMILY TRUST
6382 STOKES RD
BELLVILLE TX 77418

ANGELA WALLACE CROCKER
10555 SAWMILL RD
BRENHAM TX 77833

ALBERS BROTHERS LLC
150 BRUSHY CREEK TRL
HUTTO TX 78634

JOHN AND HACKEMACK SEIDEL LIVING TRUST
6301 WINIFRED DR
FT WORTH TX 76133

CONSOLIDATED FROZEN FOOD LOCKERS INC
957 S MADISON ST
LA GRANGE TX 78945

DOYLE KRAUSS
1269 VIA PRINCIPALE
MC QUEENEY TX 78123

I J AND GERALDINE ORSAK
741 FM 2503
FAYETTEVILLE TX 78940

IERRY HOLUB
3825 COUNTY ROAD 302
SHINER TX 77984

FRANKLIN HOLUB ET AL
18023 OAK ORCHARD LN
CYPRESS TX 77433

BRENDA BELOTA
109 RUSK ST
FAYETTEVILLE TX 78940

CEDAROW PARTNERS LTD
1518 POTOMAC DR
HOUSTON TX 77057

MARIANNA WALLACE KRAUTER
2319 W BRIARGATE DR
BRYAN TX 77802

STACY ROGERS
P O BOX 1052
LA GRANGE TX 78945

GLENN AND BEVERLY GAERTNER
6829 E STATE HIGHWAY 71
LA GRANGE TX 78945

JANIS STANCIK AND JANIS STANCIK GST EXEMPT TRUST
PO BOX 1130
LA GRANGE TX 78945

DANETTE HUVAR
1836 TIETJEN RD
LA GRANGE TX 78945

TEXAS FIRST CHOICE INVESTMENTS
PO BOX 74
CYPRESS TX 77410

ROBERT AND MARY HOLUB
1079 COUNTY ROAD 207
WEIMAR TX 78962

GEORGE P HOLUB EST
513 COLUMBUS HALL LN
FAYETTEVILLE TX 78940

MARVIN R AND TERRI L ALLCORN
47 EAST STONY END PL
THE WOODLANDS TX 77381

ALLEN L AND JOSEPHINE MUELLER EST
6123 BACA RD
FAYETTEVILLE TX 78940

VIVIAN ALBERS
4316 WOODSTONE CIR
TEMPLE TX 76502

JAMES AND TERESA DIVIN
6817 E STATE HIGHWAY 71
LA GRANGE TX 78945

JOHNNY AND CONNIE GAERTNER REVOCABLE LIVING TRUST
3715 RIVER VISTA WAY
LOUISVILLE TN 37777

CONNIE GAIL KRAUSS AND CONNIE GAIL KRAUSS GST EXEMPT TRUST
240 RENN RD
STOKESDALE NC 27357

CHARLES PHELPS
535 CREEKWOOD CT
BRENTWOOD CA 94513

NATHAN AND ALEXANDRA HOLUB
6202 PIECHA NEGROS CT
KATY TX 77450

SANDRA KEEPERS AND THERESA NIDEY - C/O JAMES D HOLUB
2436 KRISCHKE RD
SCHULENBURG TX 78956

KAREN MAYER AND JANICE FOX AND E H BAUMACH
3112 FRITSCH RD
LA GRANGE TX 78945

JAMES AND JO ANN AYRES
PO BOX 202
ROUND TOP TX 78954

KARL JOHNSON
1212 BARON RD
LA GRANGE TX 78945

DAVID MENCONI
7690 HARDCASTLE LN
LA GRANGE TX 78945

MRS WM E BRENDLE EST AND CHARLOTTE HOLZ
4710 GUY GRANT RD
VICTORIA TX 77904

JEFFREY WALKER
344 BARON RD
FAYETTEVILLE TX 78940

RYAN KLEIBER
1880 BARON RD
LA GRANGE TX 78945

NORMAN AND WANDA HUBBARD
7630 HARDCASTLE LN
LA GRANGE TX 78945

ERICA MENCONI
7617 HARDCASTLE LN
LA GRANGE TX 78945

KOLBE FAMILY HOLDINGS LLC
P O BOX 1252
LA GRANGE TX 78945

ERIC AND TAMMY NAUMANN
1505 BARON RD
LA GRANGE TX 78945

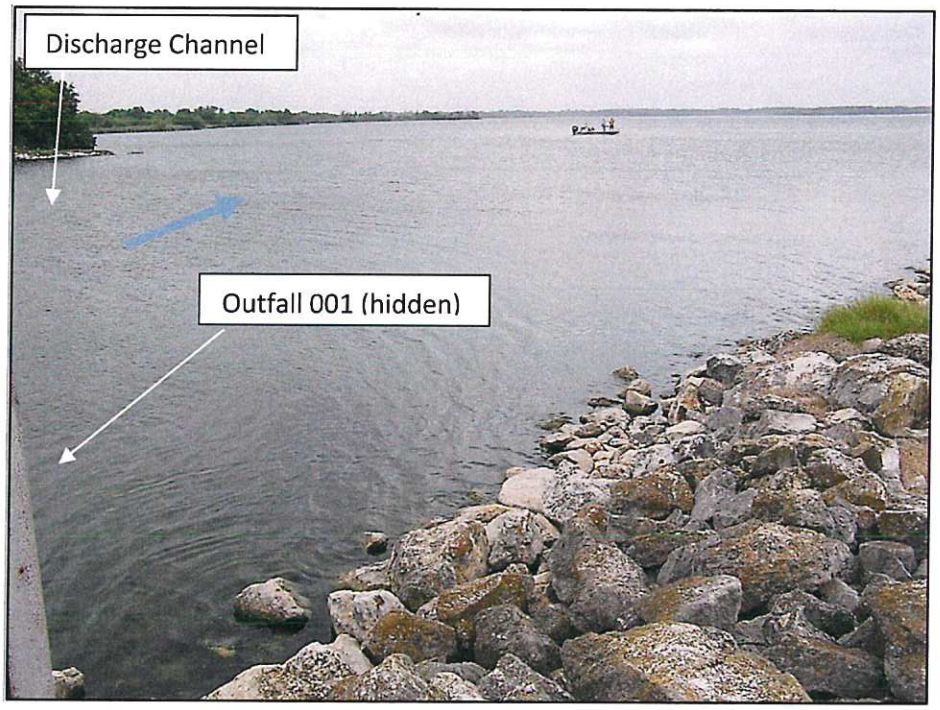
PATRICIA GARRETT
7644 HARDCASTLE LN
LA GRANGE TX 78945

BENEDICTION RANCH LLC
21202 BELMONT FARMS DR
TOMBALL TX 77375

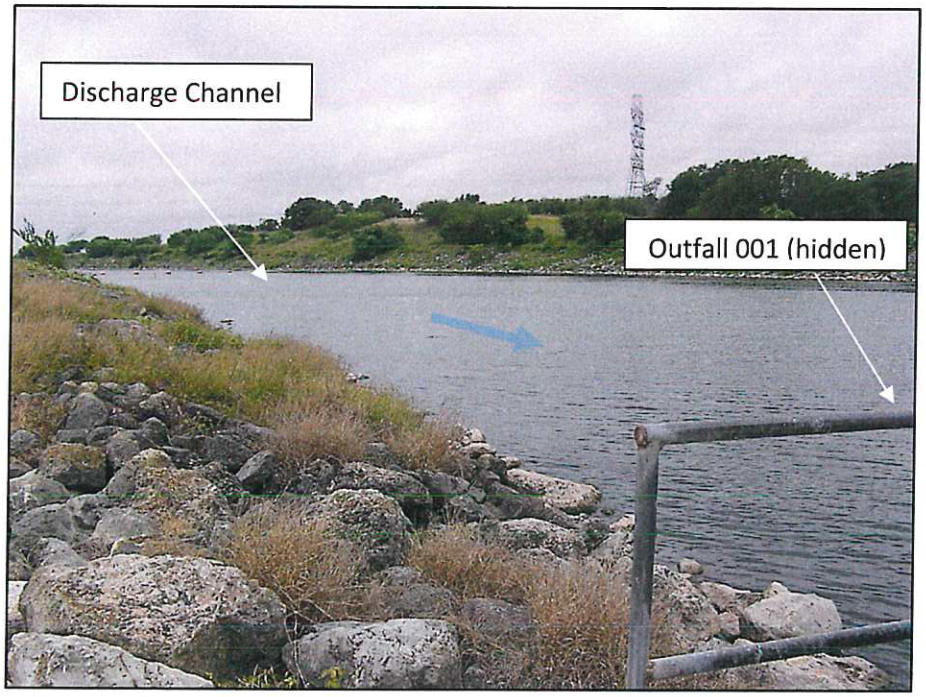
DREW AND JACKIE BUCCI
610 BARON RD
FAYETTEVILLE TX 78940

FPP-ADMIN-8 Outfall Photographs

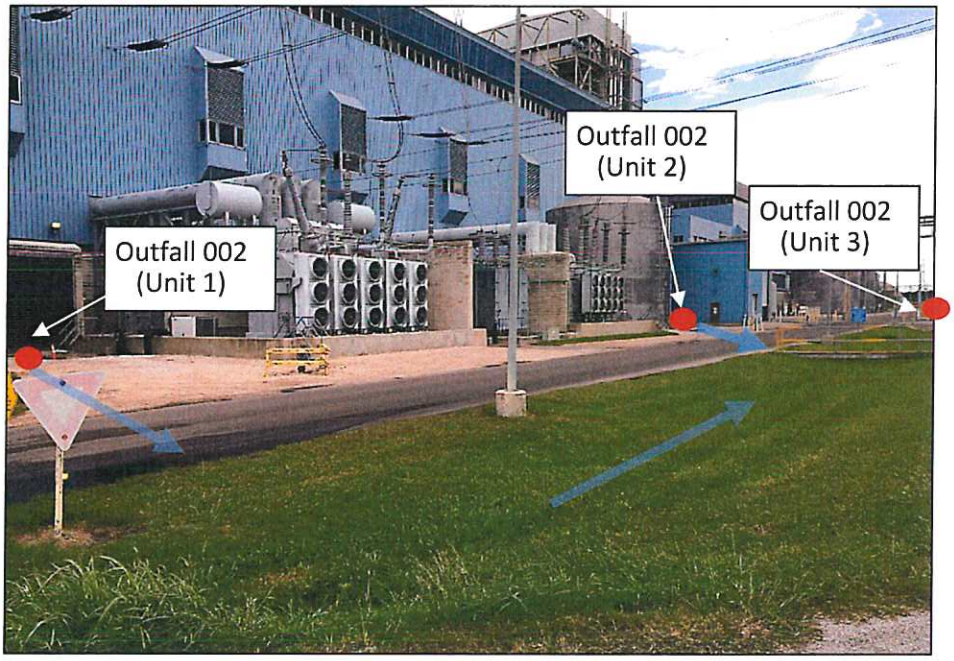
(Note: blue arrow signifies direction of water flow)



Outfall 001-Photo 1 (looking downstream)



Outfall 001-Photo 2 (looking upstream)



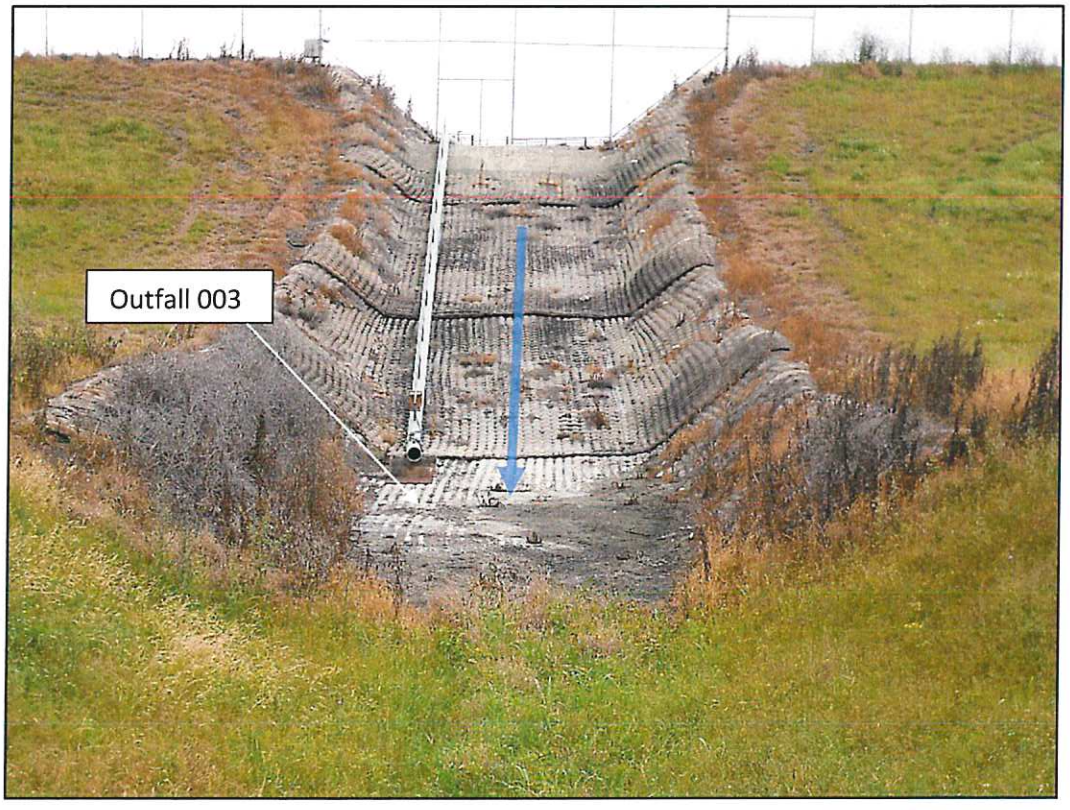
Outfall 002-Photo 3 (looking downstream)
Outfall 002 consists of multiple sources of non-contact cooling water from Units 1, 2, and 3 condensers and circulating water pipes. Red dots indicate some sources of Outfall 002. Note that not all sources are shown.



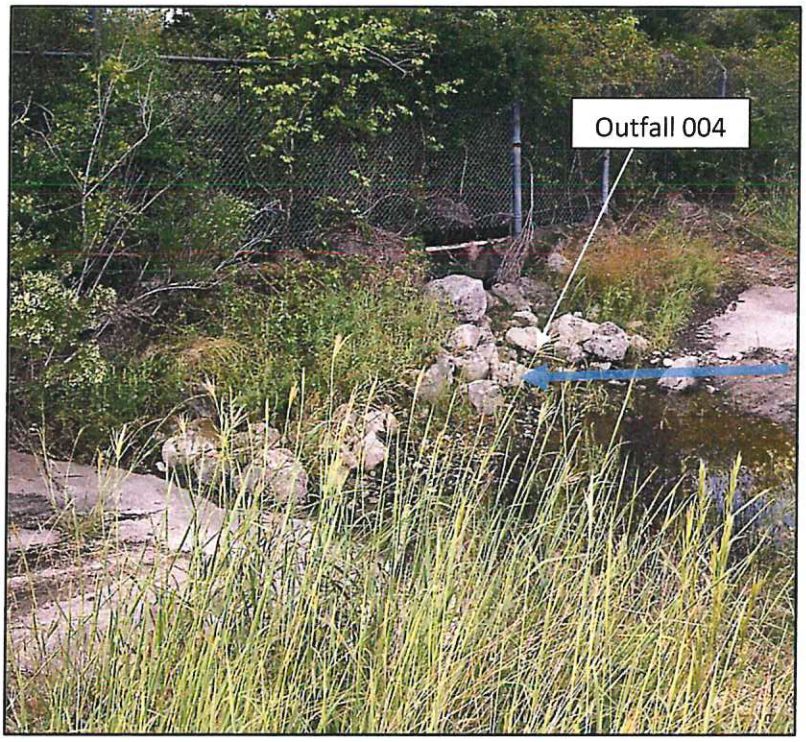
Outfall 002-Photo 4 (looking upstream)
Outfall 002 consists of multiple sources of non-contact cooling water from Units 1, 2, and 3 condensers and circulating water pipes. Red dots indicate some sources of Outfall 002. Note that not all sources are shown.



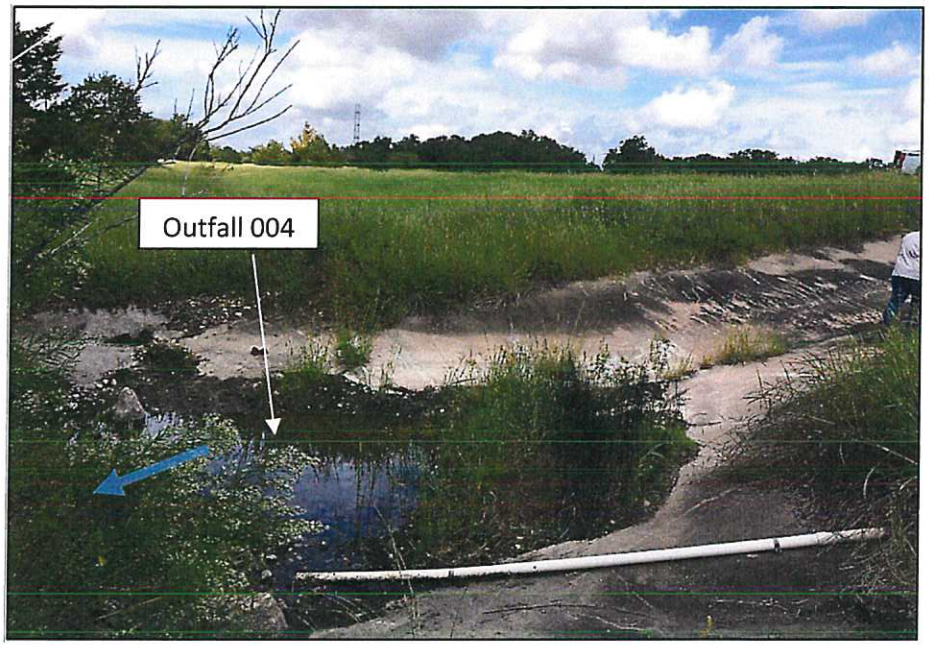
Outfall 003 - Photo 5 (looking downstream)



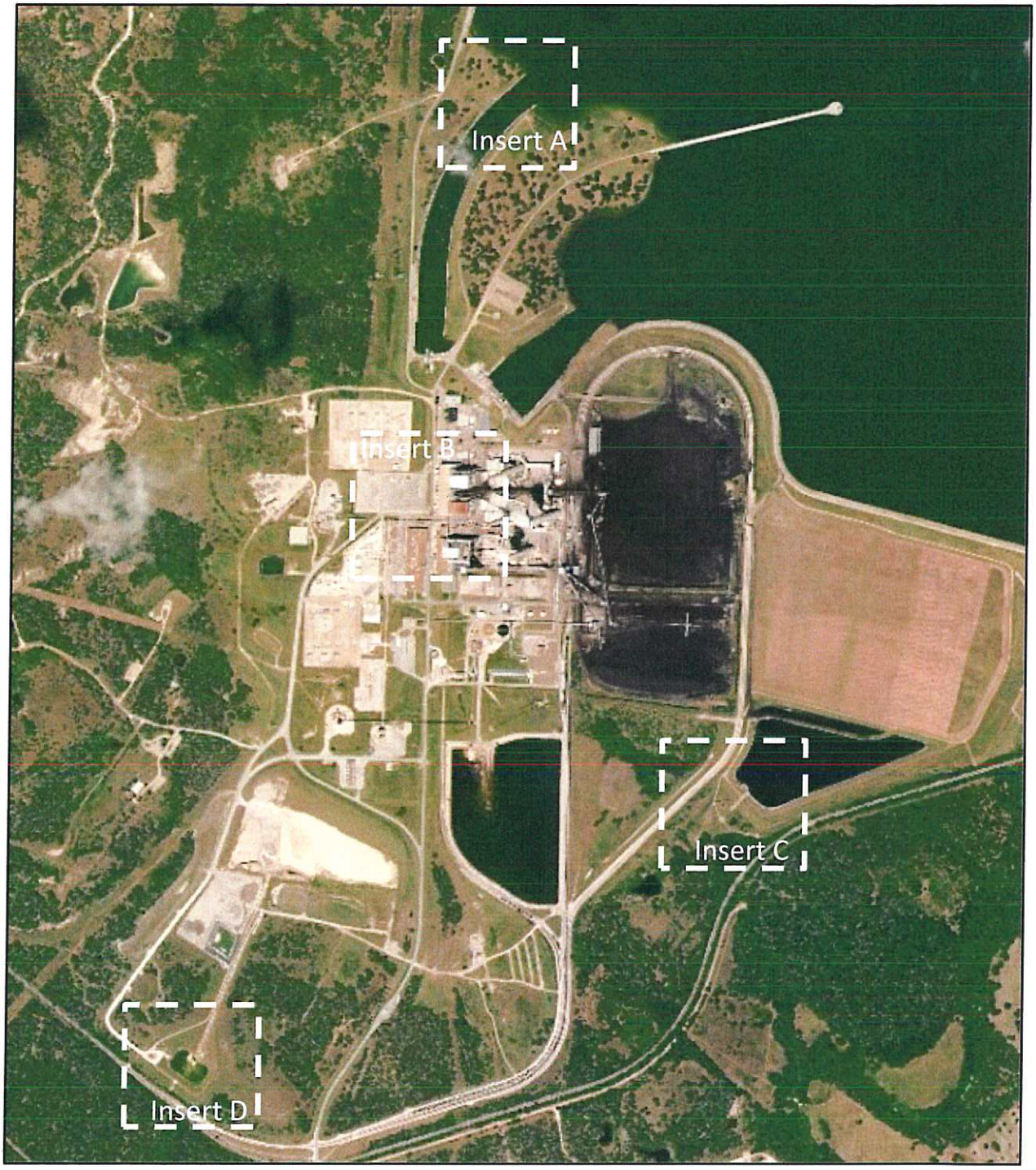
Outfall 003 – Photo 6 (looking upstream)



Outfall 004 – Photo 7 (looking downstream)



Outfall 004 - Photo 8 (looking upstream)



Overview Map with Location of Inserts A, B, C, and D



Insert A (Photos 1 and 2 of Outfall 001)



Insert B (Photos 3 and 4 of Outfall 002)



Insert C (Photos 5 and 6 of Outfall 003)



Insert D (Photos 7 and 8 of Outfall 004)

ATTACHMENT: FPP-ADMIN-9 SPIF Form

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

SUPPLEMENTAL PERMIT INFORMATION FORM (SPIF)

FOR AGENCIES REVIEWING DOMESTIC OR INDUSTRIAL TPDES WASTEWATER PERMIT APPLICATIONS

TCEQ USE ONLY:

Application type: ____Renewal ____Major Amendment ____Minor Amendment ____New

County: _____ Segment Number: _____

Admin Complete Date: _____

Agency Receiving SPIF:

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

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

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

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

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

The following applies to all applications:

1. Permittee: Lower Colorado River Authority

   Permit No. WQ00 02105000 EPA ID No. TX 0073121

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

   6549 Power Plant Road, La Grange, Texas; Fayette County 78945

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: Wendy Schreiber

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

Title: Mgr., Plant Environmental Support

Mailing Address: P.O. Box 220

City, State, Zip Code: Austin, Texas 78767

Phone No.: 512-767-3560 Ext.: Click here to enter text. Fax No.: Click here to enter text.

E-mail Address: Wendy.Schreiber@lcra.org

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

Property is co-owned by LCRA and the City of Austin

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

Via Outfall 001 to Cedar Creek Reservoir; thence to Cedar Creek; thence to the Colorado River Below La Grange in Segment No. 1402 of the Colorado River Basin, and via Outfalls 002, 003, and 004 to unnamed tributaries; thence to Cedar Creek; thence to the Colorado River Below La Grange in Segment No. 1402 of the Colorado River Basin.

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

See Attachment FPP-SPIF-1 USGS Topographic Map and FPP-SPIF-2 General Location Map

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

See Attachment FPP-SPIF-3 Original Photographs of Structures 50 years or Older

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

- ☐ Proposed access roads, utility lines, construction easements
- ☐ Visual effects that could damage or detract from a historic property's integrity
- ☐ Vibration effects during construction or as a result of project design
- ☐ Additional phases of development that are planned for the future

☐ Sealing caves, fractures, sinkholes, other karst features

☐ Disturbance of vegetation or wetlands

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

No construction proposed with this application.

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

Existing site use includes operation of a power plant.

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

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

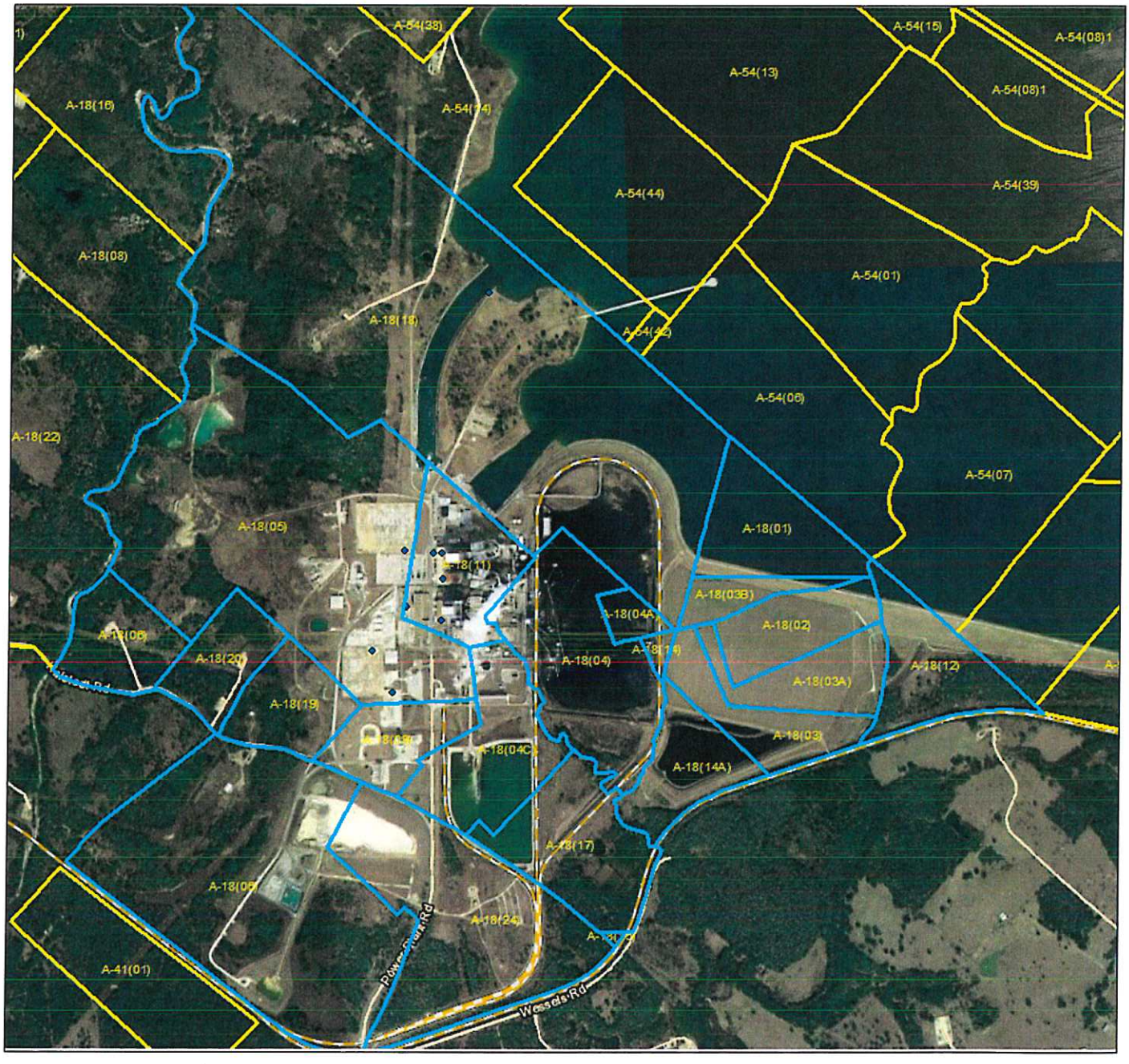
The Fayette Power Project came online for commercial use during the following years: Unit 1 (1979), Unit 2 (1980), and Unit 3 (1988).

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

The property was generally undeveloped until the construction of the power plant. Units 1 and 2 were designed by Bechtel. Unit 3 was designed by Black & Veatch Consulting Engineers.

Attachment: FPP-ADMIN-10 Deeds

Map Key for Deeds of Sam Seymour Fayette Power Project



A-18(01)

A-18(1)
A-1-1

784220

VOL 499 PAGE 119

NO. 16

LOWER COLORADO RIVER AUTHORITY AND THE CITY OF AUSTIN, TEXAS	PROCEEDING IN EMINENT DOMAIN
VS.	IN THE 155TH JUDICIAL
DANIEL F. FREYTAG, ET UX	DISTRICT COURT OF
	FAYETTE COUNTY, TEXAS

FINAL JUDGMENT

On this day came on to be considered the Award of Commissioners filed with the District Judge of the District Court of Fayette County, Texas, on the 1st day of May, 1975, a copy of said award being attached hereto as Exhibit A and made a part hereof as if set out in full at this place in the Judgment.

And, it appearing that no objections to such decision have been filed by the first Monday next following twenty days from the date of the filing of said award, as aforesaid, it is ORDERED, ADJUDGED and DECREED that such decision be, and it is hereby adopted as the Judgment of this Court; and it is further ORDERED that such Award of Commissioners be recorded with this Judgment in the Minutes of the District Court of Fayette County, Texas.

It is further ORDERED, ADJUDGED and DECREED that the Plaintiffs, Lower Colorado River Authority and the City of Austin, Texas, do have and recover from the Defendants, Daniel F. Freytag and wife, Ora Lou Freytag, the fee simple title in and to that certain real property consisting of 48.38 acres, situated in Fayette County, Texas, being heretofore described in the incorporated Award of Commissioners, and the same be, and is hereby vested in Lower Colorado River Authority and the City of Austin, Texas.

It is further ORDERED, ADJUDGED and DECREED that the Defendants, Daniel F. Freytag and wife, Ora Lou Freytag, do have and recover of and from the Plaintiffs, Lower Colorado River Authority and the City of Austin, Texas, the sum of $58,056.00, which constitutes full payment for the Defendants' property by reason of such taking; and it appearing to the Court that the Plaintiffs have heretofore deposited said sum of $58,056.00 into the Registry of the Court, which sum has heretofore been withdrawn by the Defendants, it is, therefore further

VOL 499 PAGE 120

ORDERED, ADJUDGED and DECREED that the Defendants, Daniel F. Freytag and wife, Ora Lou Freytag, are and shall be entitled to have and retain said sum withdrawn from the Registry of the Court in the amount of $58,050.00 in full satisfaction of the damages awarded to them in this Judgment, and Plaintiffs shall be and are hereby released and discharged from further liability by reason of this action in condemnation and this judgment. Z84221

It is further ORDERED, ADJUDGED and DECREED that Plaintiffs pay all costs of Court in this behalf expended.

SIGNED, RENDERED and ENTERED this the 14th day of May, 1976.

Paul Kruse
Judge of the District Court of
Fayette County, Texas.

AGREED TO AND APPROVED, BOTH
AS TO FORM AND SUBSTANCE:

SMALL, CRAIG & WERKENTHIN
900 Perry-Brooks Building
Austin, Texas 78701

Mac Umstattd, General Counsel
LOWER COLORADO RIVER AUTHORITY
P. O. Box 220
Austin, Texas 78767

Jan L. Kubicek, Acting City Attorney
P. O. Box 1088
Austin, Texas 78767

HART & HALPAIN
P. O. Box 369
La Grange, Texas 78945

By Richard T. Halpain
Richard T. Halpain
ATTORNEYS FOR PLAINTIFFS

VINSON, ELKINS, SEARLS, CONNALLY & SMITH
First City National Bank Building
Houston, Texas 77002

By Ewing Werlein, Jr.
Ewing Werlein, Jr.
ATTORNEYS FOR DEFENDANTS

045 000011

D-4-3

NO. 78

284221-A Vol. 499 Page 121

LOWER COLORADO RIVER AUTHORITY AND THE CITY OF AUSTIN	X	PROCEEDING IN EMINENT DOMAIN
	X	
	X	IN THE 155TH JUDICIAL DISTRICT
VS.	X	
	X	COURT OF
	X	
DANIEL F. FREYTAG, ET UX	X	FAYETTE COUNTY, TEXAS

AWARD OF COMMISSIONERS

(1) On 16 April, 1975, the above designated cause, after due notice to the parties, came on for hearing before the undersigned freeholders of Fayette County, Texas, duly appointed by the Judge of the 155th Judicial District Court, Fayette County, Texas, as Special Commissioners to assess the damages arising from the intended condemnation herein.

(2) Plaintiffs were represented by their attorneys, and the following named Defendant property owners appeared:

Daniel F. Freytag and wife, Ora Lois Freytag, represented by Ewing Werlein

(3) After presentation of the testimony, evidence, and arguments of counsel, the Special Commissioners found that Plaintiffs are entitled to condemn and acquire the fee simple title to the tracts of land located in Fayette County, Texas described in Exhibit "A" attached hereto and to which reference is hereby made for all purposes.

(4) In conformity with the rules of damages as set forth by Revised Civil Statutes, Article 3265, and as interpreted in prior court decisions, the Special Commissioners hereby assess the damages to be paid by Plaintiffs to each Defendant as follows:

(a) Values of the tracts to be condemned: [illegible]

plus

(b) Diminution of the values of the remainders by reason of the severances: _____;

less

(c) Offsets comprising special benefits to the remainders by reason of the improvement: _____;

leaving

(d) Adjusted total damages due to each Defendant as follows: _____.

(5) Cost, in conformity with Revised Civil Statutes, Article 3267, are adjudged against the Plaintiffs.

(6) Costs that have accrued to date are:

(a) $_____ for the expense of serving notices on Defendants which costs have been previously paid by Plaintiffs, and

(b) The following fees due to the Special Commissioners as set by the Court:

L. A. Giesc $100.00

L. E. Von Rosenberg $100.00

Arthur C. Wickelmann $100.00

SIGNED ~~Dec~~ April 16, 1975.

L. A. Giesc

L. E. Von Rosenberg

Arthur C. Wickelmann

Special Commissioners

The foregoing Award was filed with me on May 1, 1975.

[illegible]

155th Judicial District Court
of Fayette County, Texas

P-1-5

7A4223

VOL 499 PAGE 123

XHIBIT A
Lower Colorado Rive Authority and City of Austin vs.
DA F. FREYTAG, ET UX

PROPERTY DESCRIPTION

All that certain lot, tract, or parcel of land in the JOSEPH BIEGEL LEAGUE, Abstract 18, Fayette County, Texas, being all that certain tract conveyed to Daniel F. Freytag in the deed recorded in Volume 445, Page 401, Deed Records of Fayette County, Texas, and being more particularly described by metes and bounds as follows:

BEGINNING at a point in the West line of County Road No. 119, Fayette County, Texas, for the Southwest corner of said Daniel F. Freytag tract, a steel rod found in place in the fenced East line of County Road No. 119 bears East 43-0/10 feet, said point of beginning having grid coordinates of X = 2,714,895 and Y = 764,194;

THENCE with the West line of said County Road, North 15 degrees 27 minutes 30 seconds East 1776-9/10 feet to a point in the road where it turns to the West, for the Northwest corner of the Freytag tract, in the Northeast line of the J. BIEGEL LEAGUE and the Southwest line of the J. M. HENSLEY LEAGUE, Abstract 54, Fayette County, Texas;

THENCE with the Northeast line of the Freytag tract and the line common to the Biegel and Hensley Leagues, South 47 degrees 58 minutes 30 seconds East 34-5/10 feet to a fence corner post, and South 49 degrees 57 minutes 30 seconds East 2276-25/100 feet (also called South 49 degrees 56 minutes East 2276-1/10 feet) to a point in the center of Cedar Creek (also called Duty Creek) for the Northeast corner of the Freytag tract, a fence corner bears North 49 degrees 57 minutes 30 seconds West 54-4/10 feet;

THENCE Southerly and downstream with the meanders of Cedar Creek,
South 61 degrees 47 minutes West 30-5/10 feet to a point,
South 30 degrees 08 minutes West 79-7/10 feet to a point,
and South 17 degrees 16 minutes East 148-2/10 feet to a point for the Southeast corner of the Freytag tract, a steel rod found in place on the North side of County Road No. 120 bears West 131-6/10 feet;

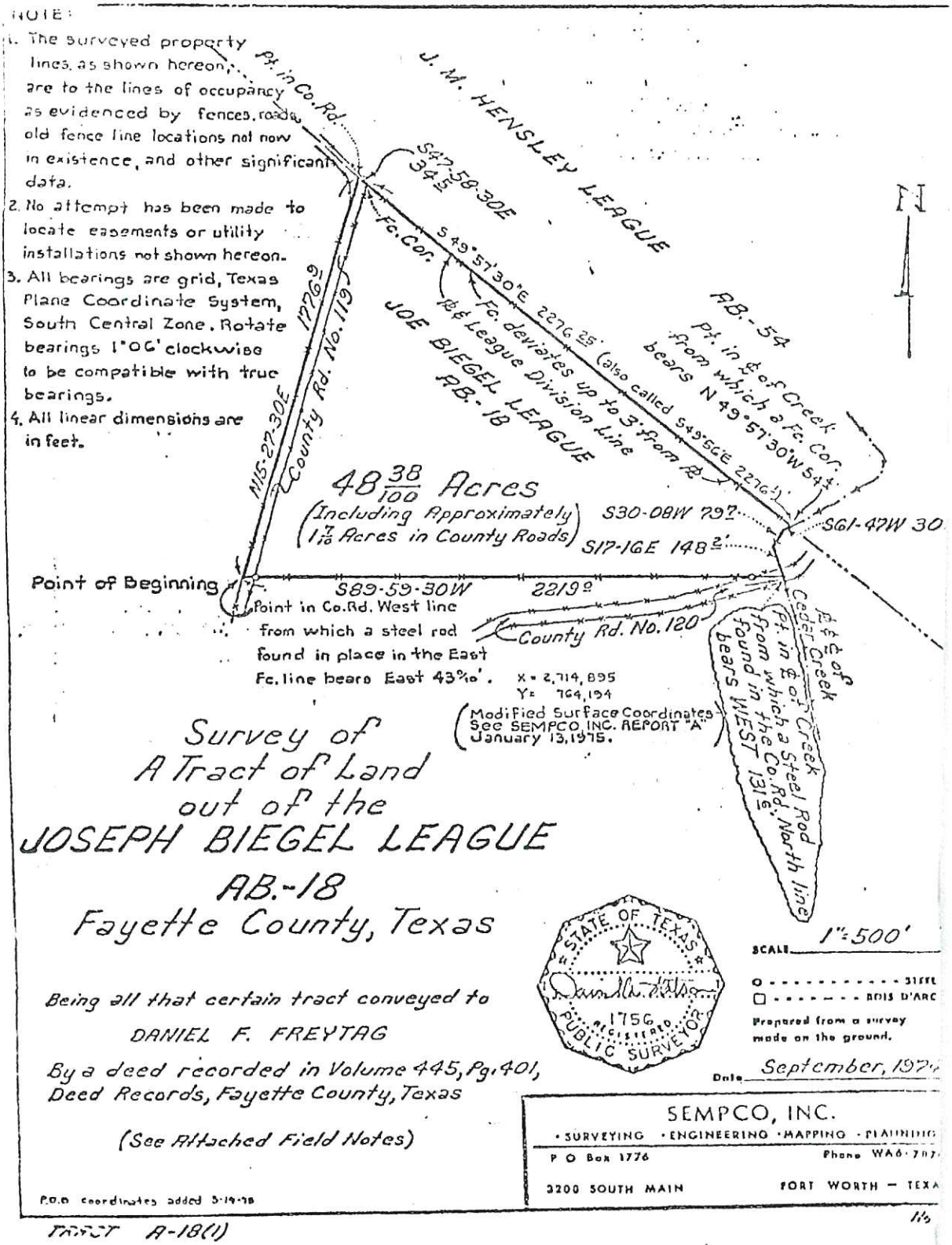
THENCE departing said creek and crossing County Road No. 120 South 89 degrees 59 minutes 30 seconds West 2219-0/10 feet to the place of beginning, containing 48-38/100 acres of land, more or less, including 1-7/10 acres, more or less, in the County Roads.

All bearings are grid, Texas Plane Coordinate System, South Central Zone. Rotate bearings 1 degree 06 minutes clockwise to be compatible with true bearings.

D-1-6

VOL 499 PAGE 124

784224



784225

vol 499 page 125

DISTRICT CLERK'S CERTIFICATE

THE STATE OF TEXAS I
COUNTY OF FAYETTE I

I, WALTER SCHAEFER, Clerk of the District Court, in and for Fayette County, Texas, do hereby certify that the above and foregoing is a full and correct copy of Final Judgment as the same appears of record in my office, in ~~Volume~~ Cancellation ~~Page~~ File # 16, of the Civil Minutes District Court, Fayette County, Texas.

WITNESS My hand and seal of office, at office in La Grange, Texas, this the 7th day of December, 1976.

Walter Schaefer
Walter Schaefer, Clerk District Court of
Fayette County, Texas
by: Virginia Wied, Deputy

FILED FOR RECORD

At 2:00 O'clock P. M.

The 10th. Day of December 19 76,

JOHN A. KUBENA

Clerk County Court, Fayette County, Texas

By Irene Vratka Deputy

$7.50 due
Chg. & return to
Coates Field Service
P.O. Box 121
La Grange, Texas 78945

COMPARED

THE STATE OF TEXAS
County of Fayette,

I, John A. Kubena, Clerk of the County Court of said County, do hereby certify that the foregoing and attached instrument of writing (with its authentications) bearing the date 7 day of December A. D. 1976, was filed for record in my office at 2:00 o'clock P. M., on the 10 day of December A.D. 19 76, and recorded in vol. 499 upon pages 119-125 of Record of Deeds for said County at 9:40 o'clock A. M., on the 14 day of Dec. A.D. 19 76

To certify all of which I here to sign my name and affix my seal of office in the City of La Grange this the 14 day of December A.D. 19 76

John A. Kubena

Clerk County Court, Fayette County, Texas

By Patsy Dees Deputy

RECORDED

045 00016

L-1-D

A-18(02)

D-1-1

VOL 475 PAGE 780

THE STATE OF TEXAS §

COUNTY OF FAYETTE §

KNOW ALL MEN BY THESE PRESENTS, that we, DANIEL E. ADAMEK and wife, OTTILIE ADAMEK, of Fayette County, Texas, for and in consideration of the sum of TEN AND NO/100 ($10.00) DOLLARS cash and other good and valuable considerations to us in hand paid by LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, the receipt of which is hereby acknowledged and confessed, and for which no lien, either express or implied, is retained, or shall exist, have GRANTED, SOLD and CONVEYED, and by these presents do GRANT, SELL and CONVEY unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, all that certain tract or parcel of land, lying and being situated in Fayette County, Texas, described as follows, to-wit:

All that certain lot, tract or parcel of land in the Joseph Biegel League, Abstract 18, Fayette County, Texas, conveyed to Daniel Edward Adamek by the Veterans Land Board of Texas by a deed recorded in Volume 475, Page 777-779, Deed Records of Fayette County, Texas, being more particularly described by metes and bounds as follows:

BEGINNING at a fence corner post for the Southwest corner of the Daniel Adamek tract, said post having grid coordinates of X = 2,715,406 and Y = 762,877;

THENCE North 15° 45' West, at 811.8 feet passing a fence corner on the South side of County Road No. 120, and continuing in all 840.1 feet to a point in said county road, for the Northwest corner of the Adamek tract;

THENCE Northeasterly with the approximate center of said road: North 75° 42' East 160.1 feet to a point, North 64° 57' East 672.9 feet to a point, North 84° 38' East 625.6 feet to a point, and North 74° 54' East 482.3 feet to a point from which an iron pin found in place in the fenced North line of the county road bears South 89° 59' 30" West 48.8 feet;

THENCE North 89° 59' 30" East 82.8 feet to a point in the center of Cedar Creek, (also called Duty's Creek), for the Northeast corner of the Adamek tract;

THENCE Southerly and downstream with the meanders of the centerline of said creek: South 17° 18' East 295.4 feet to a point, and South 9° 50' East 254.5 feet to a point for the Southeast corner of the Adamek tract, a 5/8 inch steel rod found in place bears South 66° 54' 30" West 51.4 feet;

THENCE South 66° 54' 30" West, partly with a fence, and crossing a pond, in all 1999.6 feet to the place of beginning, containing some 33.95 acres of land, including approximately 1.1 acres in County Road No. 120. Surveyed in December of 1974, all bearings are grid, Texas Plane Coordinate System, South Central Zone. Rotate bearings 1° 06' clockwise to be compatible with true bearings.

732703

044 002976

LESS, HOWEVER, AND SUBJECT TO certain rights granted to Taylor, Bastrop & Houston Railway Company by Marie Andre, by an instrument in writing dated April 30, 1887, and recorded in Volume 35, Page 344, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

LESS, ALSO, AND SUBJECT TO certain rights granted to Fayette Electric Co-operative, Inc., by Tommy Taylor, by an instrument in writing dated March 27, 1947, and recorded in Volume 217, Page 617, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

TO HAVE AND TO HOLD the above described premises, together with all and singular the rights and appurtenances thereto in anywise belonging unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, their successors and assigns forever. And we do hereby bind ourselves, our heirs, executors and administrators to Warrant and Forever Defend, all and singular, the said premises unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, their successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof.

IN TESTIMONY WHEREOF, witness our hands this the 1st day of February, A. D. 1975.

Daniel E. Adamek
DANIEL E. ADAMEK

Ottilie Adamek
OTTILIE ADAMEK

THE STATE OF TEXAS ⟨

COUNTY OF FAYETTE ⟨

BEFORE ME, the undersigned authority, on this day personally appeared DANIEL E. ADAMEK and his wife, OTTILIE ADAMEK, both known to me to be the persons whose names are subscribed to the foregoing instrument, and acknowledged to me that they each executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this the 1st day of February, A. D. 1975.

Richard T. Halpain
Richard T. Halpain, Notary Public in and for Fayette County, Texas.

FILED FOR RECORD

At 2 O'clock P. M.

This 3rd. Day of February 1975.

JOHN A. KUBENA

Clerk, County Court, Fayette County, Texas

By Irene Vratka Deputy

$2.50 due
Filed by, chg. & return to
Hart & Halpain, Attys.
P.O. Box 369
La Grange, Texas 78945

044 00297 732704

232705

THE STATE OF TEXAS
County of Fayette.

I, John A. Kubena, Clerk of the County Court of said County, do hereby certify that the foregoing and attached instrument of writing (with its authentications) bearing the date 1 day of February A. D. 1975, was filed for record in my office at 2:00 o'clock P. M., on the 3 day of Feb. A.D. 1975, and recorded in vol. 475 upon pages 780 + 781 of Record of Deeds for said County at 1:30 o'clock P. M., on the 4 day of Feb. A.D. 1975

To certify all of which I here to sign my name and affix my seal of office in the City of La Grange this the 4 day of February A.D. 1975

John A. Kubena

Clerk County Court, Fayette County, Texas

By Patsy Hentschel Deputy

232705

RECORDED

0-1-0

A-18(03)

D-1-1

RETURN TO CENTRAL FILES

THE STATE OF TEXAS §

VOL 482 PAGE 265

COUNTY OF FAYETTE §

Z85957

KNOW ALL MEN BY THESE PRESENTS, that we, WILLIAM H. SHOEMAKER, Independent Executor of the Estate of Joe K. Koss, Deceased, and JAMES KOSS, of Harris County, Texas, for and in consideration of the sum of TEN AND NO/100 ($10.00) DOLLARS cash and other good and valuable considerations to us in hand paid by LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, the receipt of which is hereby acknowledged and confessed, and for which no lien, either express or implied, is retained, or shall exist, have GRANTED, SOLD and CONVEYED, and by these presents do GRANT, SELL and CONVEY unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, all that certain tract or parcel of land, lying and being situated in Fayette County, Texas, described as follows, to-wit:

All that certain lot, tract or parcel of land in the Joseph Biegel League, Abstract 18, Fayette County, Texas, conveyed by the Veterans Land Board of Texas to Joseph Klatt Koss by deed recorded in Volume 465, Page 368, Deed Records of Fayette County, Texas, being more particularly described by metes and bounds as follows:

BEGINNING at a 3/4" pipe found in place for a re-entrant corner in the North line of the above described Koss tract; said point of beginning having grid coordinates of X = 2,715,356 and Y = 762,665;

THENCE South 85° 12' 30" East 1832.9 feet to a point in the center of Cedar Creek (also called Duty's Creek) for the Easterly Northeast corner of the Koss tract;

THENCE Southwesterly and downstream with the meanders of the center of Cedar Creek:

South 16° 29' West (also called South 16° 31' West) 43.9 feet to a point;
South 27° 43' West 130.5 feet to a point;
South 47° 51' West 150.0 feet to a point;
South 26° 46' West 65.9 feet to a point; and
South 2° 35' East 28.6 feet to a point in the North line of the 100 foot wide M.K.T. Railroad right-of-way;

THENCE with the fenced North line of said M.K.T. Railroad right-of-way, South 72° 40' 40" West 1139.65 feet to a point for the Southerly Southwest corner of the Koss tract, a 1 inch iron pipe found in place bears South 47° 14' 45" East 1.7 feet;

THENCE North 47° 14' 45" West (also called North 47° 13' 45" West) 1798.1 feet to an iron pin found in place for the most Westerly corner of the Koss tract;

THENCE North 17° 07' 30" East, at 516.52 feet passing a 3/4" pipe found in place, and continuing in all 546.55 feet to a point in the intersection of County Road No. 120 with County Road No. 119;

THENCE with County Road No. 120, North 75° 42' East 235.5 feet to a point, an iron pin found in place bears South 22° 50' East 28.95 feet;

THENCE departing County Road No. 120, South 22° 50' East 1044.8 feet to the place of beginning, containing in all some 33.75 acres of land, including approximately 0.1 of an acre in County Road No. 120. Surveyed in December of 1974 and January of 1975, all bearings are grid, Texas Plane Coordinate System, South Central Zone. Rotate bearings 1° 06' clockwise to be compatible with true bearings.

LESS, HOWEVER, AND SUBJECT TO certain rights granted to Taylor, Bastrop & Houston Railway Company by Marie Andre by an instrument in writing dated April 30, 1887, and recorded in Volume 35, Page 344, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

LESS, ALSO, AND SUBJECT TO certain rights granted to Fayette Electric Co-operative, Inc., by Tommy Taylor by an instrument in writing dated March 27, 1947, and recorded in Volume 217, Page 617, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

TO HAVE AND TO HOLD the above described premises, together with all and singular the rights and appurtenances thereto in anywise belonging unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, their successors and assigns forever. And we do hereby bind ourselves, our heirs, executors and administrators to Warrant and Forever Defend, all and singular, the said premises unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, their successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof by, through or under us.

IN TESTIMONY WHEREOF, witness our hands this the 30th day of May, A. D. 1975.

William H. Shoemaker Ind. Ex.

WILLIAM H. SHOEMAKER, Independent Executor of the Estate of Joe K. Koss, Deceased

James R. Koss

JAMES KOSS

THE STATE OF TEXAS §

COUNTY OF Harris §

Z85959

BEFORE ME, the undersigned authority, on this day personally appeared WILLIAM H. SHOEMAKER, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same, as Independent Executor of the Estate of Joe K. Koss, Deceased, for the purposes and consideration therein expressed and in the capacity therein stated.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this the 30th day of May, A. D. 1975.

Georgia Webster
, Notary Public
in and for Harris County, Texas.

THE STATE OF TEXAS §

COUNTY OF HARRIS §

BEFORE ME, the undersigned authority, on this day personally appeared JAMES KOSS, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this the 10th day of ~~May~~ June, A. D. 1975.

[signature]
, Notary Public
in and for Harris County, Texas.

FILED FOR RECORD

At 10 O'clock A. M.

The 8th. Day of July 1975.

JOHN A. KUBENA

Clerk County Court, Fayette County, Texas

By Irene Kratka Deputy

$3.50 due
Chg. Charles Rhodes
Coates Field Service
La Grange, Texas 78945

Filed by & return to
Richard T. Halpain, Atty.
P.O. Box 369
La Grange, Texas 78945

THE STATE OF TEXAS
County of Fayette,

I, John A. Kubena, Clerk of the County Court of said County, do hereby certify that the foregoing and attached instrument of writing (with its authentications) bearing the date 30 day of May A. D. 1975, was filed for record in my office at 10:00 o'clock A. M., on the 8 day of July A.D. 1975, and recorded in vol. 482 upon pages 265-267 of Record of Deeds for said County at 11:00 o'clock A. M., on the 10 day of July A.D. 1975

To certify all of which I here to sign my name and affix my seal of office in the City of La Grange this the 10 day of July A.D. 1975

John A. Kubena

Clerk County Court, Fayette County, Texas

By Patsy Hentschel Deputy

001763

A-18(03A)

D-1-1

RETURN TO GRANTOR FILES

478 PAGE 206

THE STATE OF TEXAS §

COUNTY OF FAYETTE §

KNOW ALL MEN BY THESE PRESENTS, that we, LAWRENCE L. WEBER and wife, MINNIE MAE WEBER, of Fayette County, Texas, for and in consideration of the sum of TEN AND NO/100 ($10.00) DOLLARS cash and other good and valuable considerations to us in hand paid by LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, the receipt of which is hereby acknowledged and confessed, and for which no lien, either express or implied, is retained, or shall exist, have GRANTED, SOLD and CONVEYED, and by these presents do GRANT, SELL and CONVEY unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, all that certain tract or parcel of land, lying and being situated in Fayette County, Texas, described as follows, to-wit:

All that certain lot, tract or parcel of land in the Joseph Biegel League, Abstract 18, Fayette County, Texas, conveyed to Lawrence L. Weber by the Veterans Land Board of Texas by a deed recorded in Volume 478, Pages 203-205, Deed Records of Fayette County, Texas, being more particularly described by metes and bounds as follows:

BEGINNING at a fence corner post for a re-entrant corner in the North line of the above described Weber tract, said post having grid coordinates of X = 2,715,406 and Y = 762,877;

THENCE with the fenced North line of the Weber tract, North 66° 54' 30" East, crossing a pond near the above described point of beginning, at 1948.2 feet passing a 5/8" steel rod found in place, and continuing in all 1999.6 feet to a point in the center of Cedar Creek (also called Duty's Creek);

THENCE Southerly and downstream with the meanders of the center of Cedar Creek: South 9° 50' East 92.1 feet to a point (also called South 9° 48' East), South 15° 20' East 196.6 feet to a point, South 3° 15' East 185.5 feet to a point, South 11° 41' West 199.7 feet to a point, South 8° 41' West 311.5 feet to a point, and South 16° 29' West 188.5 feet to a point for the Southeast corner of the Weber tract;

THENCE departing Cedar Creek North 85° 12' 30" West 1832.9 feet to a 3/4" pipe found in place for the Southwest corner of the Weber tract;

THENCE North 22° 50' West, at 1015.85 feet passing an iron pin found in place on the South side of County Road No. 120, and continuing in all 1044.8 feet to a point in said road for the Northwest corner of the Weber tract;

THENCE with County Road No. 120, North 75° 42' East 234.6 feet to a point for the Westerly Northeast corner of the Weber tract, a fence corner post bears South 15° 45' East 28.3 feet;

THENCE South 15° 45' East with the fenced Northeast line of the Weber tract 840.1 feet to the place of beginning, containing in all some 33.60 acres of land, including approximately 0.1 of an acre in County Road No. 120. Surveyed in

Z13689

CAS. CLERK'S

December of 1974, all bearings are grid, Texas Plane Coordinate System, South Central Zone. Rotate bearings 1° 06' clockwise to be compatible with true bearings.

LESS, HOWEVER, AND SUBJECT TO certain rights granted to Taylor, Bastrop & Houston Railway Company by Marie Andre, by an instrument in writing dated April 30, 1887, and recorded in Volume 35, Page 344, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

LESS, ALSO, AND SUBJECT TO certain rights granted to Fayette Electric Co-operative, Inc., by Tommy Taylor, by an instrument in writing dated March 27, 1947, and recorded in Volume 217, Page 617, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

TO HAVE AND TO HOLD the above described premises, together with all and singular the rights and appurtenances thereto in anywise belonging unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, their successors and assigns forever. And we do hereby bind ourselves, our heirs, executors and administrators to Warrant and Forever Defend, all and singular, the said premises unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, their successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof.

IN TESTIMONY WHEREOF, witness our hands this the 19th day of February, A. D. 1975.

FILED FOR RECORD

2:45 O'clock P. M.

19th. Day of February 1975

JOHN A. KUBENA

Clerk County Court Fayette County, Texas

By Irene Pratka Deputy

Lawrence L. Weber

LAWRENCE L. WEBER

Minnie Mae Weber

MINNIE MAE WEBER

THE STATE OF TEXAS)

COUNTY OF FAYETTE)

BEFORE ME, the undersigned authority, on this day personally appeared LAWRENCE L. WEBER and his wife, MINNIE MAE WEBER, both known to me to be the persons whose names are subscribed to the foregoing instrument, and acknowledged to me that they each executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this the 19th day of February, A. D. 1975.

$2.50 due
Chg. & return to
Charles Rhodes
Coates Field Service
La Grange, Texas 78945
(Filed by Richard T. Halpain)

Richard T. Halpain

Richard T. Halpain Notary Public in and for Fayette County, Texas.

Z13690

THE STATE OF TEXAS
County of Fayette,

I, John A. Kubena, Clerk of the County Court of said County, do hereby certify that the foregoing and attached instrument of writing (with its authentications) bearing the date 19 day of February A. D. 1975, was filed for record in my office at 2:45 o'clock P. M., on the 19 day of Feb. A.D. 1975, and recorded in vol. 478 upon pages 206 & 207 of Record of Deeds for said County at 8:30 o'clock A. M., on the 21 day of Feb. A.D. 1975

To certify all of which I here to sign my name and affix my seal of office in the City of La Grange this the 21 day of February A.D. 1975

John A. Kubena

Clerk County Court, Fayette County, Texas

By Patsy Hentschel Deputy

Z13691

D-1-3

A-18(03B)

D-2-1

RETURN TO CENTRAL FILES

286046

THE STATE OF TEXAS }

COUNTY OF FAYETTE }

VOL 479 PAGE 181

KNOW ALL MEN BY THESE PRESENTS, that we, LAWRENCE L. WEBER and wife, MINNIE MAE WEBER, of Fayette County, Texas, for and in consideration of the sum of TEN AND NO/100 ($10.00) DOLLARS cash and other good and valuable considerations to us in hand paid by LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, the receipt of which is hereby acknowledged and confessed, and for which no lien, either express or implied, is retained, or shall exist, have GRANTED, SOLD and CONVEYED, and by these presents do GRANT, SELL and CONVEY unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, all of our, and each of our, undivided part, share and interest (which is at least a one-half [1/2] undivided part, share and interest) in and to all that certain tract or parcel of land, lying and being situated in Fayette County, Texas, described as follows, to-wit:

All that certain lot, tract or parcel of land out of the J. Biegel League, Abstract 18, in Fayette County, Texas, being all of that certain tract conveyed to Joseph K. Koss and Lawrence L. Weber by deed recorded in Volume 407, Page 470, Deed Records of Fayette County, Texas, and being more particularly described by metes and bounds as follows:

BEGINNING at a point in County Road (119), at the Northwest corner of said Koss and Weber Tract, from which an iron rod in a fence, the East line of County Road (119), bears North 89° 59' 30" East 15.0 feet; said point having grid coordinates of X = 2,714,923 and Y = 764,194;

THENCE with the fenced North line of said tract, North 89° 59' 30" East at 15.0 feet passing aforesaid iron rod, and continuing in all 2108.2 feet to a point in the approximate centerline of County Road (120), from which an iron rod in a fence, the North line of County Road (120), bears South 89° 59' 30" West 48.8 feet;

THENCE with the meanders of the approximate centerline of County Road (120), South 74° 54' West 482.3 feet to a point; and South 84° 38' West 625.6 feet to a point, and South 64° 57' West 672.9 feet to a point, and South 75° 42' West 630.2 feet to a point in said road from which a 3/4 inch pipe bears South 17° 07' 30" West 30.0 feet;

THENCE departing said County Road (120) and with County Road (119) North 17° 48' 30" East 655.75 feet to the place of beginning, containing some 13.68 acres of land, including approximately 1.8 acres in the County Roads. Surveyed in September of 1974, all bearings are grid, Texas Plane Coordinate System, South Central Zone. Rotate bearings 1° 06' clockwise to be compatible with true bearings.

LESS, HOWEVER, AND SUBJECT TO certain rights granted to the Taylor, Bastrop & Houston Railway Company, by Marie Andre

786047

VOL 479 PAGE 182

by an instrument in writing dated April 30, 1887, and recorded in Volume 35, Page 344, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

LESS, ALSO, AND SUBJECT TO certain rights granted to the Fayette Electric Co-operative, Inc., by Tommy Taylor, et ux, by an instrument in writing dated March 27, 1947, and recorded in Volume 217, Page 617, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

TO HAVE AND TO HOLD the above described premises, together with all and singular the rights and appurtenances thereto in anywise belonging unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, their successors and assigns forever. And we do hereby bind ourselves, our heirs, executors and administrators to Warrant and Forever Defend, all and singular, the said premises unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, their successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof.

IN TESTIMONY WHEREOF, witness our hands this the 31st day of March, A. D. 1975.

Lawrence L. Weber
LAWRENCE L. WEBER

Minnie Mae Weber
MINNIE MAE WEBER

THE STATE OF TEXAS)

COUNTY OF FAYETTE)

BEFORE ME, the undersigned authority, on this day personally appeared LAWRENCE L. WEBER and his wife, MINNIE MAE WEBER, both known to me to be the persons whose names are subscribed to the foregoing instrument, and acknowledged to me that they each executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this the 31st day of March, A. D. 1975.

Ruth Lehmann
Ruth Lehmann, Notary Public in and for Fayette County, Texas.

FILED FOR RECORD
At 4:45 O'clock P. M.
The 3rd. Day of April 1975.
JOHN A. KUBENA
Clerk County Court, Fayette County, Texas
By Patsy Hentschel Deputy

$2.50 due
Chg. Charles Rhodes
Coates Field Serv.
La Grange, Texas
78945

Return to
Richard T. Halpain, Atty.
P.O. Box 369
La Grange, Texas 78945
(Filed by Ruth Lehmann)

THE STATE OF TEXAS }
County of Fayette, } I, John A. Kubena, Clerk of the County Court of said County, do hereby certify that the foregoing and attached instrument of writing (with its authentications) bearing the date 31 day of March A. D. 1975, was filed for record in my office at 4:45 o'clock P. M., on the 3 day of April A.D. 1975, and recorded in vol. 479 upon pages 181 + 182 of Record of Deeds for said County at 8:25 o'clock A. M., on the 8 day of April A.D. 1975

To certify all of which I here to sign my name and affix my seal of office in the City of La Grange this the 8 day of April A.D. 1975

John A. Kubena

Clerk County Court, Fayette County, Texas

By Patsy Hentschel Deputy

286048

c-2-a

D-1-1

786049

VOL 482 PAGE 262

THE STATE OF TEXAS §

COUNTY OF FAYETTE §

KNOW ALL MEN BY THESE PRESENTS, that we, WILLIAM H. SHOEMAKER, Independent Executor of the Estate of Joe K. Koss, Deceased, and JAMES KOSS, of Harris County, Texas, for and in consideration of the sum of TEN AND NO/100 ($10.00) DOLLARS cash and other good and valuable considerations to us in hand paid by LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, the receipt of which is hereby acknowledged and confessed, and for which no lien, either express or implied, is retained, or shall exist, have GRANTED, SOLD AND CONVEYED, and by these presents do GRANT, SELL and CONVEY unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, all of our undivided part, share and interest (which is at least a one-half [1/2] undivided part, share and interest) in and to all that certain tract or parcel of land, lying and being situated in Fayette County, Texas, described as follows, to-wit:

All that certain lot, tract or parcel of land out of the J. Biegel League, Abstract 18, in Fayette County, Texas, being all of that certain tract conveyed to Joseph K. Koss and Lawrence L. Weber by deed recorded in Volume 407, Page 470, Deed Records of Fayette County, Texas, and being more particularly described by metes and bounds as follows:

BEGINNING at a point in County Road (119), at the Northwest corner of said Koss and Weber Tract, from which an iron rod in a fence, the East line of County Road (119), bears North 89° 59' 30" East 15.0 feet; said point having grid coordinates of X = 2,714923 and Y = 764,194;

THENCE with the fenced North line of said tract, North 89° 59' 30" East at 15.0 feet passing aforesaid iron rod, and continuing in all 2108.2 feet to a point in the approximate centerline of County Road (120), from which an iron rod in a fence, the North line of County Road (120), bears South 89° 59' 30" West 48.8 feet;

THENCE with the meanders of the approximate centerline of County Road (120), South 74° 54' West 482.3 feet to a point; and South 84° 38' West 625.6 feet to a point, and South 64° 57' West 672.9 feet to a point, and South 75° 42' West 630.2 feet to a point in said road from which a 3/4 inch pipe bears South 17° 07' 30" West 30.0 feet;

THENCE departing said County Road (120) and with County Road (119) North 17° 48' 30" East 655.75 feet to the place of beginning, containing some 13.68 acres of land, including approximately 1.8 acres in the County Roads. Surveyed in September of 1974, all bearings are grid, Texas Plane Coordinate System, South Central Zone, Rotate bearings 1° 06' clockwise to be compatible with true bearings.

LESS, HOWEVER, AND SUBJECT TO certain rights granted to the Taylor, Bastrop & Houston Railway Company, by Marie Andre by an instrument in writing dated April 30, 1887, and recorded in Volume 35, Page 344, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

LESS, ALSO, AND SUBJECT TO certain rights granted to Fayette Electric Co-operative, Inc., by Tommy Taylor, et ux, by an instrument in writing dated March 27, 1947, and recorded in Volume 217, Page 617, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

TO HAVE AND TO HOLD the above described premises, together with all and singular the rights and appurtenances thereto in anywise belonging unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, their successors and assigns forever. And we do hereby bind ourselves, our heirs, executors and administrators to Warrant and Forever Defend, all and singular, the said premises unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, their successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof, by, through or under us.

IN TESTIMONY WHEREOF, witness our hands this the 30th day of May, A. D. 1975.

William H. Shoemaker, Executor

WILLIAM H. SHOEMAKER,
Independent Executor of the
Estate of Joe K. Koss, Deceased

James R. Koss

JAMES KOSS

THE STATE OF TEXAS)
COUNTY OF Harris)

BEFORE ME, the undersigned authority, on this day personally appeared WILLIAM H. SHOEMAKER, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same as Independent Executor of the Estate of Joe K. Koss, Deceased, for the purposes and consideration therein expressed and in the capacity therein stated.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this the 30th day of May, A. D. 1975.

Georgia Webster

, Notary Public
in and for Harris County, Texas.

045 00185

VOL 482 PAGE 264 -3-

Z86051

THE STATE OF TEXAS }

COUNTY OF HARRIS }

BEFORE ME, the undersigned authority, on this day personally appeared JAMES KOSS, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this the 12th day of ~~May~~ June, A. D. 1975.

[signature], Notary Public in and for Harris County, Texas

FILED FOR RECORD

At 10 O'clock A. M.

The 8th. Day of July 19 75.

JOHN A. KUBENA

Clerk County Court, Fayette County, Texas

By Irene Pratka Deputy

$3.50 due
Chg. Charles Rhodes
Coates Field Service
La Grange, Texas 78945
Filed by & return to
Richard T. Halpain, Atty.
P.O. Box 369
La Grange, Texas 78945

THE STATE OF TEXAS }
County of Fayette, } I, John A. Kubena, Clerk of the County Court of said County, do hereby certify that the foregoing and attached instrument of writing (with its authentications) bearing the date 30 day of May A. D. 1975, was filed for record in my office at 10:00 o'clock A. M., on the 7 day of July A.D. 1975, and recorded in vol. 482 upon pages 262-264 of Record of Deeds for said County at 10:55 o'clock A. M., on the 10 day of July A.D. 1975

To certify all of which I here to sign my name and affix my seal of office in the City of La Grange this the 10 day of July A.D. 1975

John A. Kubena

Clerk County Court, Fayette County, Texas

By Patsy Hentschel Deputy

045 00-1:54

A-18(04)

0-1-1

5

RETURN TO CENTRAL FILES

VOL 478 PAGE 486

Z41319

THE STATE OF TEXAS)

COUNTY OF FAYETTE)

KNOW ALL MEN BY THESE PRESENTS, that we, CHARLES POLASEK, SR. and wife, THUSNELDA POLASEK, of Fayette County, Texas, and ELIZABETH GAERTNER, joined by her husband, GILBERT GAERTNER, of Colorado County, Texas, for and in consideration of the sum of TEN AND NO/100 ($10.00) DOLLARS cash and other good and valuable considerations to us in hand paid by LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, the receipt of which is hereby acknowledged and confessed, and for which no lien, either express or implied, is retained, or shall exist, have GRANTED, SOLD and CONVEYED, and by these presents do GRANT, SELL and CONVEY unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, all that certain tract of parcel of land, lying and being situated in Fayette County, Texas, described as follows, to-wit:

All that certain tract or parcel of land out of the Joseph Biegel League, Abstract 18, in Fayette County, Texas, being all of the remainder of those certain three tracts of land conveyed to Charles Polasek by deed recorded in Volume 130, Page 194, Deed Records of Fayette County, Texas, and being more particularly described by metes and bounds as follows:

BEGINNING at a post oak tree at a fence corner for the North corner of the original Third Tract, said tree having grid coordinates of X = 2,713,324 and Y = 764,832;

THENCE with the fenced Northeast line of said tract, South 47° 29' 30" East 1105.4 feet to a fence corner;

THENCE departing said Northeast line, South 78° 12' West 400.3 feet to a fence corner;

THENCE South 21° 05' East, crossing the line common to said Third Tract and said Second Tract, 614.1 feet to a fence corner in the North line of County Road No. 120;

THENCE with said North line North 78° 00' East 307.7 feet to a point;

THENCE South 26° 58' East, at 37.2 feet passing a 3/8 inch iron pin found in place on the South side of the County Road, and continuing with a fence in all 490.0 feet to an angle point in the fence;

THENCE South 31° 52' East with said fence, crossing the line common to said Second and First Tracts, in all 121.23 feet to a steel rod found in place in the centerline of a branch and the East line of said First Tract;

THENCE Southerly and downstream with the centerline of said branch the following:

South 6° 56' East 230.4 feet, South 23° 36' West 86.9 feet, South 0° 07' West 105.4 feet, South 32° 17' West 112.4 feet, South 3° 44' East 112.6 feet, South 17° 24' West 173.0 feet, South 10° 00' West 129.1 feet, South 39° 44' West 151.2 feet, South 22° 11' West 205.3 feet, South 48° 35' West 226.7 feet, and South 65° 10' West 127.5 feet to the point of intersection of the centerline of this branch with the centerline of a creek;

THENCE Northwesterly and upstream with the centerline of said creek the following:

North 68° 18' West 39.5 feet, North 36° 33' East 49.7 feet, North 76° 36' East 87.0 feet, North 30° 45' West 152.4 feet, South 47° 06' West 113.3 feet, North 47° 16' West 163.0 feet, North 50° 09' East 80.0 feet, North 61° 43' East 167.1 feet, North 76° 43' West 41.9 feet, North 89° 44' West 236.1 feet, North 14° 39' East 123.4 feet, North 23° 33' West 28.2 feet, North 72° 35' West 190.1 feet, North 42° 40' West 101.1 feet, South 66° 48' West 22.5 feet, South 80° 09' West 29.6 feet, North 13° 06' West 178.0 feet, South 76° 53' West 61.4 feet, South 21° 12' West 78.5 feet, North 71° 11' West 78.2 feet North 41° 00' West 199.0 feet, North 20° 15' West 166.0 feet, North 26° 08' East 120.0 feet, North 63° 00' East 46.1 feet, North 38° 09' West 89.4 feet, North 14° 59' East 57.5 feet, North 52° 37' West 265.5 feet, North 39° 02' East 60.3 feet, North 12° 45' West 179.9 feet, North 41° 32' West 124.2 feet, North 46° 23' West 80.9 feet, North 40° 11' West 139.6 feet, North 36° 02' West 37.9 feet, North 32° 28' West 61.9 feet North 10° 30' West 105.8 feet, North 88° 25' West 115.4 feet, and North 32° 01' West 109.3 feet to a point from which a fence corner bears North 40° 51' East 23.0 feet;

THENCE North 40° 51' East 933.7 feet to a point from which a post oak tree used for a fence corner bears North 40° 51' East 1.5 feet;

THENCE North 47° 55' West 22.0 feet to a point from which a fence corner bears South 45° 19' West 1.0 feet;

THENCE North 45° 19' East 489.9 feet to the place of beginning, containing in all some 83.04 acres of land, including approximately 1.5 acres in County Road No. 120.

LESS, HOWEVER, AND SUBJECT TO certain rights granted to Fayette Electric Co-operative, Inc., by Charles Polasek, et ux, by an instrument in writing dated September 17, 1945, and recorded in Volume 217, Page 190, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

TO HAVE AND TO HOLD the above described premises, together with all and singular the rights and appurtenances thereto in anywise belonging unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, their successors and assigns forever. And we do hereby bind ourselves, our heirs, executors and administrators to Warrant and Forever Defend, all and singular, the said premises unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, their

Z41321

VOL 478 PAGE 488

successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof.

IN TESTIMONY WHEREOF, witness our hands this the 28 day of February, A. D. 1975.

Charles Polasek Sr
CHARLES POLASEK, SR.

Thusnelda Polasek
THUSNELDA POLASEK

Elizabeth Gaertner
ELIZABETH GAERTNER

Gilbert Gaertner
GILBERT GAERTNER

FILED FOR RECORD

At 4:15 O'clock P. M.
Thu. 28th. Day of February 19 75.
JOHN A. KUBENA
Clerk County Court, Fayette County, Texas
By Irene Pratka Deputy

THE STATE OF TEXAS ()
COUNTY OF FAYETTE ()

BEFORE ME, the undersigned authority, on this day personally appeared CHARLES POLASEK, SR. and his wife, THUSNELDA POLASEK, both known to me to be the persons whose names are subscribed to the foregoing instrument, and acknowledged to me that they each executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this the 28 day of February, A. D. 1975.

Freda Schubert
, Notary Public
in and for Fayette County, Texas.

THE STATE OF TEXAS ()
COUNTY OF FAYETTE ()

BEFORE ME, the undersigned authority, on this day personally appeared GILBERT GAERTNER and his wife, ELIZABETH GAERTNER, both known to me to be the persons whose names are subscribed to the foregoing instrument, and acknowledged to me that they each executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this the 28 day of February, A. D. 1975.

Freda Schubert
, Notary Public
in and for Fayette County, Texas.

$3.50 due
Chg. Charles Rhodes
Coates Field Serv.
La Grange, Texas 78945
Filed by & return to Richard T. Halpain, Atty.
P.O. Box 329
La Grange, Texas 78945

41322

THE STATE OF TEXAS
County of Fayette,

I, John A. Kubena, Clerk of the County Court of said County, do hereby certify that the foregoing and attached instrument of writing (with its authentications) bearing the date 28 day of February A. D. 1975, was filed for record in my office at 4:15 o'clock P. M., on the 28 day of Feb. A.D. 1975, and recorded in vol. 478 upon pages 486-488 of Record of Deeds for said County at 8:05 o'clock A. M., on the 5 day of March A.D. 1975

To certify all of which I here to sign my name and affix my seal of office in the City of La Grange this the 5 day of March A.D. 1975

John A. Kubena

Clerk County Court, Fayette County, Texas

By Patsy Hentschel Deputy

h-1-0

A-18(04A)

0-1-1

RETURN TO CENTRAL FILES

VOL 481 PAGE 580

Z41371

THE STATE OF TEXAS §

COUNTY OF FAYETTE §

KNOW ALL MEN BY THESE PRESENTS, that we, CHARLES POLASEK, JR. and wife, LORINE POLASEK, of Fayette County, Texas, for and in consideration of the sum of TEN AND NO/100 ($10.00) DOLLARS cash and other good and valuable considerations to us in hand paid by LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, the receipt of which is hereby acknowledged and confessed, and for which no lien, either express or implied, is retained, or shall exist, have GRANTED, SOLD and CONVEYED, and by these presents do GRANT, SELL and CONVEY unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, all that certain tract or parcel of land, lying and being situated in Fayette County, Texas, described as follows, to-wit:

All those certain tracts or parcels of land out of the J. Biegel League, Abstract 18, in Fayette County, Texas, being all those certain tracts conveyed to Charlie Polasek, Jr., et ux, by deeds recorded in Volume 330, Page 604, Volume 391, Page 111, and Volume 422, Page 275, Deed Records of Fayette County, Texas, and being more particularly described in two tracts by metes and bounds as follows:

TRACT "A":
BEGINNING at the Northeast corner of the Polasek, Jr. tract described in Volume 391, Page 111, a point in the center of a creek; said point of beginning having grid coordinates of X = 2,712,629 and Y = 763,484;

THENCE with the East line of the Polasek, Jr. tract described in Volume 391, Page 111, and with the meanders of the centerline of said creek, South 40° 11' East 139.6 feet, South 46° 23' East 80.9 feet, South 41° 32' East 124.2 feet, South 12° 45' East 179.9 feet, South 39° 02' West 60.3 feet, South 52° 37' East, passing the common Southeast corner of the Polasek, Jr. tract described in Volume 391, Page 111, and the Northeast corner of the Polasek, Jr. tract described in Volume 422, Page 275, crossing a public road and continuing with the East line of the Polasek, Jr. tract described in Volume 422, Page 275, in all 265.5 feet, South 14° 59' West 57.5 feet, South 38° 09' East 89.4 feet, South 63° 00' West 46.1 feet South 26° 08' West 120.0 feet, South 20° 15' East 166.0 feet, South 41° 00' East 199.0 feet, South 71° 11' East 78.2 feet, North 21° 12' East 78.5 feet, North 76° 53' East 61.4 feet, South 13° 06' East 178.0 feet, and North 80° 09' East 29.6 feet to the most Easterly East corner of the Polasek, Jr. tract described in Volume 422, Page 275;

THENCE departing said creek, and with a Southeast line of the Polasek, Jr. tract described in Volume 422, Page 275, and with a fence, South 42° 08' West 1405.8 feet to a fence corner at a South corner of said Polasek, Jr. tract;

THENCE with a Southwest line of the Polasek, Jr. tract and with a fence, North 44° 58' West 261.1 feet to a steel rod at a re-entrant corner on the Southwest line of the Polasek, Jr. tract;

THENCE with a Southeast line of said tract, and with a fence, South 40° 28' West 228.9 feet to a South corner of said tract, in the centerline of a public road;

THENCE with the Southwest line of the Polasek, Jr. tract in said public road, North 61° 37' West 982.1 feet to a fence corner at the most Westerly West corner of the Polasek Jr. tract, said fence corner being in the North edge of the public road;

THENCE with a Northwest line of the Polasek, Jr. tract and with a fence North 40° 07' East 481.3 feet to a fence corner and North 49° 53' West 91.7 feet to a point;

THENCE, departing said fence, and continuing with a Northwest and West line of the Polasek, Jr. tract, North 62° 39' East 864.3 feet to a point in a gulley and North 7° 57' West, crossing a public road, passing the common Northwest corner of the Polasek, Jr. tract described in Volume 422, Page 275, and the Southwest corner of the Polasek, Jr. tract described in Volume 391, Page 111, and continuing with the West line of the Polasek, Jr. tract described in Volume 391, Page 111, in all 972.2 feet to the Northwest corner of the last referred to Polasek, Jr. tract;

THENCE with the North line of said Polasek, Jr. tract, North 79° 37' East 464.8 feet to the place of beginning, containing in all some 54.93 acres of land, including approximately 1.07 acres of land in said public roads.

TRACT "B":
BEGINNING at a fence corner post in the North line of a public road, said point of beginning being the Southwest corner of that certain tract conveyed to Charlie Polasek, Jr., et ux by deed recorded in Volume 330, Page 604, Deed Records of Fayette County, Texas, said point also standing North 22° 53' East 1359.4 feet from the most Easterly East corner of Tract "A" as previously described herein; said point of beginning having grid coordinates of X = 2,713,968 and Y = 763,430;

THENCE with a fence and the West line of the Charlie Polasek, Jr. tract North 21° 05' West 614.1 feet to a fence corner post;

THENCE with a fence and the North line of the Charlie Polasek, Jr. tract North 78° 12' East 400.3 feet to a fence corner post;

THENCE with a fence and the East line of the Charlie Polasek, Jr. tract South 48° 19' East 750.9 feet to a fence corner post in the North line of a public road;

THENCE with a fence, the North line of the road, and the South line of the Charlie Polasek, Jr. tract South 78° 00' West 748.0 feet to the place of beginning, containing in all some 7.98 acres of land.

The two tracts herein described contain a total of some 62.91 acres of land, including approximately 1.07 within the public roads. Surveyed in July and August of 1974, all bearings are grid, Texas Plane Coordinates System, South Central Zone. Rotate bearings 1° 06' clockwise to be compatible with true bearings.

D-1-3

LESS, HOWEVER, AND SUBJECT TO certain rights granted to Fayette Electric Co-operative, Inc., by Charles Polasek, et ux, by an instrument in writing dated September 17, 1945, and recorded in Volume 217, Page 190, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

TO HAVE AND TO HOLD the above described premises, together with all and singular the rights and appurtenances thereto in anywise belonging unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, their successors and assigns forever. And we do hereby bind ourselves, our heirs, executors and administrators to Warrant and Forever Defend, all and singular, the said premises unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, their successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof.

IN TESTIMONY WHEREOF, witness our hands this the 20th. day of May, A. D. 1975.

Charles Polasek Sr.
Charles Polasek Jr.
CHARLES POLASEK, JR.

Lorine Polasek
LORINE POLASEK

THE STATE OF TEXAS)
COUNTY OF FAYETTE)

BEFORE ME, the undersigned authority, on this day personally appeared CHARLES POLASEK, JR. and his wife, LORINE POLASEK, both known to me to be the persons whose names are subscribed to the foregoing instrument, and acknowledged to me that they each executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this the 20th. day of May, A. D. 1975.

(L.S.)

JOHN A. KUBENA, County Clerk
~~Notary Public~~
in and for Fayette County, Texas.
By Irene Bratka, Deputy.

FILED FOR RECORD

At 2:30 O'clock P. M.
The 3rd. Day of June 1975.
JOHN A. KUBENA
Clerk County Court, Fayette County, Texas
By Irene Bratka Deputy

$3.50 due
Chg. Charles Rhodes
Coates Field Service
La Grange, Texas 78945
Filed by & return to
Richard T. Halpain, Atty.
P.O. Box 369
La Grange, Texas 78945

THE STATE OF TEXAS
County of Fayette,

I, John A. Kubena, Clerk of the County Court of said County, do hereby certify that the foregoing and attached instrument of writing (with its authentications) bearing the date 20 day of May A. D. 1975, was filed for record in my office at 2:30 o'clock P. M., on the 3 day of June A.D. 1975, and recorded in vol. 481 upon pages 580 - 583 of Record of Deeds for said County at 8:25 o'clock A. M., on the 9 day of June A.D. 1975

To certify all of which I here to sign my name and affix my seal of office in the City of La Grange this the 9 day of June A.D. 1975

John A. Kubena

Clerk County Court, Fayette County, Texas

By Patsy Hentschel Deputy

7.41:371

A-18(04C)

0-1-1

RETURN TO CENTRAL FILES

VOL 481 PAGE 580

Z41371

THE STATE OF TEXAS §

COUNTY OF FAYETTE §

KNOW ALL MEN BY THESE PRESENTS, that we, CHARLES POLASEK, JR. and wife, LORINE POLASEK, of Fayette County, Texas, for and in consideration of the sum of TEN AND NO/100 ($10.00) DOLLARS cash and other good and valuable considerations to us in hand paid by LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, the receipt of which is hereby acknowledged and confessed, and for which no lien, either express or implied, is retained, or shall exist, have GRANTED, SOLD and CONVEYED, and by these presents do GRANT, SELL and CONVEY unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, all that certain tract or parcel of land, lying and being situated in Fayette County, Texas, described as follows, to-wit:

All those certain tracts or parcels of land out of the J. Biegel League, Abstract 18, in Fayette County, Texas, being all those certain tracts conveyed to Charlie Polasek, Jr., et ux, by deeds recorded in Volume 330, Page 604, Volume 391, Page 111, and Volume 422, Page 275, Deed Records of Fayette County, Texas, and being more particularly described in two tracts by metes and bounds as follows:

TRACT "A":
BEGINNING at the Northeast corner of the Polasek, Jr. tract described in Volume 391, Page 111, a point in the center of a creek; said point of beginning having grid coordinates of X = 2,712,629 and Y = 763,484;

THENCE with the East line of the Polasek, Jr. tract described in Volume 391, Page 111, and with the meanders of the centerline of said creek, South 40° 11' East 139.6 feet, South 46° 23' East 80.9 feet, South 41° 32' East 124.2 feet, South 12° 45' East 179.9 feet, South 39° 02' West 60.3 feet, South 52° 37' East, passing the common Southeast corner of the Polasek, Jr. tract described in Volume 391, Page 111, and the Northeast corner of the Polasek, Jr. tract described in Volume 422, Page 275, crossing a public road and continuing with the East line of the Polasek, Jr. tract described in Volume 422, Page 275, in all 265.5 feet, South 14° 59' West 57.5 feet, South 38° 09' East 89.4 feet, South 63° 00' West 46.1 feet South 26° 08' West 120.0 feet, South 20° 15' East 166.0 feet, South 41° 00' East 199.0 feet, South 71° 11' East 78.2 feet, North 21° 12' East 78.5 feet, North 76° 53' East 61.4 feet, South 13° 06' East 178.0 feet, and North 80° 09' East 29.6 feet to the most Easterly East corner of the Polasek, Jr. tract described in Volume 422, Page 275;

THENCE departing said creek, and with a Southeast line of the Polasek, Jr. tract described in Volume 422, Page 275, and with a fence, South 42° 08' West 1405.8 feet to a fence corner at a South corner of said Polasek, Jr. tract;

THENCE with a Southwest line of the Polasek, Jr. tract and with a fence, North 44° 58' West 261.1 feet to a steel rod at a re-entrant corner on the Southwest line of the Polasek, Jr. tract;

THENCE with a Southeast line of said tract, and with a fence, South 40° 28' West 228.9 feet to a South corner of said tract, in the centerline of a public road;

THENCE with the Southwest line of the Polasek, Jr. tract in said public road, North 61° 37' West 982.1 feet to a fence corner at the most Westerly West corner of the Polasek Jr. tract, said fence corner being in the North edge of the public road;

THENCE with a Northwest line of the Polasek, Jr. tract and with a fence North 40° 07' East 481.3 feet to a fence corner and North 49° 53' West 91.7 feet to a point;

THENCE, departing said fence, and continuing with a Northwest and West line of the Polasek, Jr. tract, North 62° 39' East 864.3 feet to a point in a gulley and North 7° 57' West, crossing a public road, passing the common Northwest corner of the Polasek, Jr. tract described in Volume 422, Page 275, and the Southwest corner of the Polasek, Jr. tract described in Volume 391, Page 111, and continuing with the West line of the Polasek, Jr. tract described in Volume 391, Page 111, in all 972.2 feet to the Northwest corner of the last referred to Polasek, Jr. tract;

THENCE with the North line of said Polasek, Jr. tract, North 79° 37' East 464.8 feet to the place of beginning, containing in all some 54.93 acres of land, including approximately 1.07 acres of land in said public roads.

TRACT "B":
BEGINNING at a fence corner post in the North line of a public road, said point of beginning being the Southwest corner of that certain tract conveyed to Charlie Polasek, Jr., et ux by deed recorded in Volume 330, Page 604, Deed Records of Fayette County, Texas, said point also standing North 22° 53' East 1359.4 feet from the most Easterly East corner of Tract "A" as previously described herein; said point of beginning having grid coordinates of X = 2,713,968 and Y = 763,430;

THENCE with a fence and the West line of the Charlie Polasek, Jr. tract North 21° 05' West 614.1 feet to a fence corner post;

THENCE with a fence and the North line of the Charlie Polasek, Jr. tract North 78° 12' East 400.3 feet to a fence corner post;

THENCE with a fence and the East line of the Charlie Polasek, Jr. tract South 48° 19' East 750.9 feet to a fence corner post in the North line of a public road;

THENCE with a fence, the North line of the road, and the South line of the Charlie Polasek, Jr. tract South 78° 00' West 748.0 feet to the place of beginning, containing in all some 7.98 acres of land.

The two tracts herein described contain a total of some 62.91 acres of land, including approximately 1.07 within the public roads. Surveyed in July and August of 1974, all bearings are grid, Texas Plane Coordinates System, South Central Zone. Rotate bearings 1° 06' clockwise to be compatible with true bearings.

LESS, HOWEVER, AND SUBJECT TO certain rights granted to Fayette Electric Co-operative, Inc., by Charles Polasek, et ux, by an instrument in writing dated September 17, 1945, and recorded in Volume 217, Page 190, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

TO HAVE AND TO HOLD the above described premises, together with all and singular the rights and appurtenances thereto in anywise belonging unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, their successors and assigns forever. And we do hereby bind ourselves, our heirs, executors and administrators to Warrant and Forever Defend, all and singular, the said premises unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, their successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof.

IN TESTIMONY WHEREOF, witness our hands this the 20th. day of May, A. D. 1975.

Charles Polasek JR.
Charles Polasek JR.
CHARLES POLASEK, JR.

Lorine Polasek
LORINE POLASEK

THE STATE OF TEXAS)
COUNTY OF FAYETTE)

BEFORE ME, the undersigned authority, on this day personally appeared CHARLES POLASEK, JR. and his wife, LORINE POLASEK, both known to me to be the persons whose names are subscribed to the foregoing instrument, and acknowledged to me that they each executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this the 20th. day of May, A. D. 1975.

(L.S.)

JOHN A. KUBENA, County Clerk
~~Notary Public~~
in and for Fayette County, Texas.
By Irene Pratka, Deputy.

FILED FOR RECORD

At 2:30 O'clock P. M.
This 3rd. Day of June 1975.
JOHN A. KUBENA
Clerk County Court, Fayette County, Texas
By Irene Pratka Deputy

$3.50 due
Chg. Charles Rhodes
Coates Field Service
La Grange, Texas 78945
Filed by & return to
Richard T. Halpain, Atty.
P.O. Box 369
La Grange, Texas 78945

7.41.37 1

THE STATE OF TEXAS
County of Fayette,

I, John A. Kubena, Clerk of the County Court of said County, do hereby certify that the foregoing and attached instrument of writing (with its authentications) bearing the date 20 day of May A.D. 1975, was filed for record in my office at 2:30 o'clock P.M., on the 3 day of June A.D. 1975, and recorded in vol. 481 upon pages 580-582 of Record of Deeds for said County at 8:25 o'clock A.M., on the 9 day of June A.D. 1975

To certify all of which I here to sign my name and affix my seal of office in the City of La Grange this the 9 day of June A.D. 1975

John A. Kubena

Clerk County Court, Fayette County, Texas

By Patsy Hentschel Deputy

VOL 498 PAGE 446

THE STATE OF TEXAS)
)
County of Fayette)

Z85058

169

Know all men by these presents, that we the undersigned for Ten Dollars and other good and valuable consideration ($10.00 OVC) to us in hand paid by the LOWER COLORADO RIVER AUTHORITY and the CITY of AUSTIN, TEXAS, of the County of Travis, State of Texas, the receipt whereof is hereby acknowledged, have quitclaimed, and by these presents do quitclaim unto the said LOWER COLORADO RIVER AUTHORITY and the CITY of AUSTIN, TEXAS, all our and each of our right, title, interest, claim and demand in and to a certain tract of land situated in said County of Fayette, and being that Burial Ground mentioned and excepted in that Deed dated November 7, 1921 from John Talley, et ux to E.W.Wessels, Recorded in Volume 115, Page 212 of the Deed Records of Fayette County, Texas, and being a part of that certain 44.1 acres of land conveyed to Charles Polasek, Jr., et ux by Elsie W. Sommerfeld, et vir, dated April 29, 1970 and Recorded in Volume 422, Page 275 of the Deed Records of Fayette County, Texas with all and singular our and each of our right, title, interest, estate, claim and demand in and to the hereditaments and apputenances thereto belonging or in any wise pertaining; to have and to hold the above released rights, titles, interests, claims and demands, to the said LOWER COLORADO RIVER AUTHORITY and the CITY of AUSTIN, TEXAS, their grantees, successors and assigns, forever, so that neither we nor our heirs, legal representatives or assigns shall have any right or title to or interest in such property, premesis or appurtenances, or any part thereof, at any time hereafter.

In testimony whereof we have hereunto set our hands this 4 day of June, 1975.

Alfred E Helble

Mrs. Billie Schulze

Monie Sommerfeld

Dana Rami
WITNESS

Juliette Moeller
WITNESS

X
ELLA HOELSCHER (HER MARK)

Arlene Kohrd

045 00857

D-1-1

A-18(4C)

VOL 498 PAGE 612

THE STATE OF TEXAS)
)
County of Fayette)

Z85053

259

Know all men by these presents, that we the undersigned for Ten Dollars and other good and valuable consideration ($10.00 OVC) to us in hand paid by the LOWER COLORADO RIVER AUTHORITY and the CITY of AUSTIN, TEXAS, of the County of Travis, State of Texas, the receipt whereof is hereby acknowledged, have quitclaimed, and by these presents do quitclaim unto the said LOWER COLORADO RIVER AUTHORITY and the CITY of AUSTIN, TEXAS, all our and each of our right, title, interest, claim and demand in and to a certain tract of land situated in said County of Fayette, and being that Burial Ground mentioned and excepted in that Deed dated November 7, 1921 from John Talley, et ux to E.W.Wessels, Recorded in Volume 115, Page 212 of the Deed Records of Fayette County, Texas, and being a part of that certain 44.1 acres of land conveyed to Charles Polasek, Jr., et ux by Elsie W. Sommerfeld, et vir, dated April 29, 1970 and Recorded in Volume 422, Page 275 of the Deed Records of Fayette County, Texas with all and singular our and each of our right, title, interest, estate, claim and demand in and to the hereditaments and apputenances thereto belonging or in any wise pertaining; to have and to hold the above released rights, titles, interests, claims and demands, to the said LOWER COLORADO RIVER AUTHORITY and the CITY of AUSTIN, TEXAS, their grantees, successors and assigns, forever, so that neither we nor our heirs, legal representatives or assigns shall have any right or title to or interest in such property, premesis or appurtenances, or any part thereof, at any time hereafter.

In testimony whereof we have hereunto set our hands this 17 day of MARCH, 1975.

Irene Hebble Pratka

Elo H. Tschiedel

Laura Hebble Harms

Walter Hebble.

Henry L. Hebble

Tillie Hebble Horn

Anna Newberg Hebble

Emma Hebble May

Edwin Tschiedel

045 00085.3

A-18(05)
VOL 499 PAGE 126

VINSON, ELKINS, SEARLS,
CONNALLY & SMITH
ATTORNEYS AT LAW
FIRST CITY NATIONAL BANK BUILDING
HOUSTON, TEXAS 77002

A-18(5)
D-1-1

RETURN TO CENTRAL FILES

NO. 13 Z43022

LOWER COLORADO RIVER AUTHORITY and CITY OF AUSTIN	$	PROCEEDINGS IN EMINENT DOMAIN
	$	
	$	IN THE 155TH JUDICIAL DISTRICT
VS.	$	COURT OF
	$	
JOHN SCHUHMACHER, JR., ET AL	$	FAYETTE COUNTY, TEXAS

170

FINAL AGREED JUDGMENT

On this day came on to be heard the Joint Motion for Entry of Agreed Judgment of Lower Colorado River Authority and the City of Austin, Texas, plaintiffs, and John Schuhmacher, Jr., Daniel Schuhmacher and Susan Schuhmacher, defendants, and the Court, finding that it has jurisdiction over the subject matter and all parties hereto and being of the opinion that judgment should be entered in accordance with the motion of the parties, it is, therefore, ORDERED, ADJUDGED and DECREED that plaintiffs Lower Colorado River Authority and the City of Austin, Texas, do have and recover of and from the defendants John Schuhmacher, Jr., Daniel Schuhmacher and Susan Schuhmacher, the fee simple title in and to the real property described in Exhibit A attached hereto and made a part hereof for all purposes, SAVE AND EXCEPT the residence on such land commonly known as the old Joseph Biegel home and an old windmill, which improvements shall remain the property of the defendants and shall be removed from the land pursuant to the parties' Settlement Agreement.

It is further ORDERED, ADJUDGED and DECREED that the defendants John Schuhmacher, Jr., Daniel Schuhmacher and Susan Schuhmacher, do have and recover of and from the plaintiffs the sum of $327,200.00, $299,715.20 of which has heretofore been paid

100361

D-1-2

The plaintiffs [illegible] and the defendants [illegible] paid by plaintiffs to defendants; and it is further ORDERED, ADJUDGED and DECREED that the defendants are and shall be entitled to have and retain said sums withdrawn and paid, totalling $327,200.00, in full satisfaction of the damages awarded to them in this Judgment, and plaintiffs shall be and are hereby released and discharged from further liability by reason of this action in condemnation and this judgment.

VOL 469 PAGE 127

It is further ORDERED, ADJUDGED and DECREED that plaintiffs pay all costs of court in this behalf expended.

SIGNED, RENDERED and ENTERED this 12th day of ~~August~~ September, 1975.

David Hasler
JUDGE OF THE DISTRICT COURT
OF FAYETTE COUNTY, TEXAS

AGREED TO AND APPROVED,
BOTH AS TO SUBSTANCE AND FORM:

SMALL, CRAIG & WERKENTHIN
900 Perry-Brooks Building
Austin, Texas 78701

Mac Umstattd, General Counsel
LOWER COLORADO RIVER AUTHORITY
P. O. Box 220
Austin, Texas 78767

Don R. Butler, City Attorney
P. O. Box 1088
Austin, Texas 78767

HART & HALPAIN
P. O. Box 369
La Grange, Texas 78945

By: Richard Halpain
Richard Halpain
ATTORNEYS FOR PLAINTIFFS

VINSON, ELKINS, SEARLS, CONNALLY & SMITH

By: [illegible]

First City National Bank Building
Houston, Texas 77002
ATTORNEYS FOR DEFENDANTS

FILED
At 11:10 o'clock A M.
SEP 12 1975
Clerk District Court Fayette County, Texas
By ..... Deputy

Z43023

VOL 499 PAGE 128

D-1-3

Z43024

PROPERTY DESCRIPTION

All that certain lot, tract, or parcel of land out of the J. Biegel League, Abstract 18, Fayetee County, Texas being all that certain tract conveyed to John W. Schuhmacher, Jr., et al, by Deed recorded in Volume 384, Page 399, Deed Records of Fayette County, Texas and being more particularly described by metes and bounds as follows:

BEGINNING at a point in the North side of a public road from which a fence corner bears North 0 degrees 41 minutes East 42.6 feet and a fence corner bears North 38 degrees 24 minutes East 12.5 feet, said point of beginning being the most Southerly Southeast corner of said Schuhmacher tract; such beginning point having grid coordinates of X = 2,712,262 and Y = 762,756;

THENCE along the South line of said tract, in and adjacent to said public road, South 88 degrees 12 minutes West 1399.8 feet to a nail under a fence, for corner;

THENCE along a Southwest line of said tract, North 46 degrees 57 minutes 30 seconds West, at 1230.9 feet an iron pin from which a fence corner bears North 41 degrees 37 minutes East 33.3 feet, in all 2067.8 feet to an 1/2 inch iron pin in a rock pile from which a fence corner bears North 34 degrees 32 minutes West 7.0 feet;

THENCE along a South line of said tract South 41 degrees 18 minutes West 829.6 feet to an iron pin at a fence corner;

THENCE along a Southwest line of said tract North 48 degrees 26 minutes 35 seconds West at 1314.7 feet an iron pin on the East bank of Baylor Creek and at a fence corner, in all 1377.2 feet to a point in the centerline of Baylor Creek and a West corner of said Schuhmacher tract;

THENCE up Baylor Creek and with the meanders of the centerline North 30 degrees 05 minutes East 308.6 feet to a point and North 29 degrees 51 minutes West 452.0 feet to a point and North 43 degrees 44 minutes West 316.6 feet to a point and North 71 degrees 26 minutes East 419.3 feet to a point and North 27 degrees 07 minutes East 704.0 feet to a point and North 53 degrees 48 minutes East 576.7 feet to a point and North 29 degrees 12 minutes East 205.6 feet to a point and North 18 degrees 07 minutes West 280.4 feet to a point and North 16 degrees 04 minutes East 526.6 feet to a point, said point being the most Westerly Northwest corner of said tract;

THENCE departing the centerline of Baylor Creek and with a North line of said tract, South 57 degrees 38 minutes East at 380.3 feet a fence corner, in all 1395.0 feet to a point in an abandoned road;

100362

046 00345

THENCE, continuing with a North line of said tract, South 47 degrees 26 minutes East 958.3 feet to a point for corner from which a fence corner bears North 47 degrees 26 minutes West 29.0 feet and a 20 inch diameter Post Oak bears North 64 degrees 13 minutes East 10.4 feet;

THENCE with a Northwest line of said tract North 64 degrees 13 minutes East 449.0 feet to a point in a gully from which a fence corner bears South 47 degrees 38 minutes East 191.5 feet and a fence corner bears South 64 degrees 13 minutes West 183.6 feet;

THENCE with a Northeast line of said tract South 47 degrees 38 minutes East 748.2 feet to a fence corner;

THENCE with a Northwest line of said tract and a fence, North 45 degrees 43 minutes East 13.1 feet to a fence corner;

THENCE with an East line of said tract and a fence, South 09 degrees 44 minutes West at 1867 feet a fence corner post, in all 1918.1 feet to a point from which a fence corner bears North 09 degrees 44 minutes East 51.0 feet;

THENCE with a North line of said tract South 65 degrees 44 minutes East at 140.4 feet a fence corner post, in all 898.3 feet to a fence corner, the most Easterly Northeast corner of said tract;

THENCE with an East line of said tract, South 07 degrees 57 minutes East 650.0 feet to the place of beginning, containing in all some 261.76 acres of land, more or less.

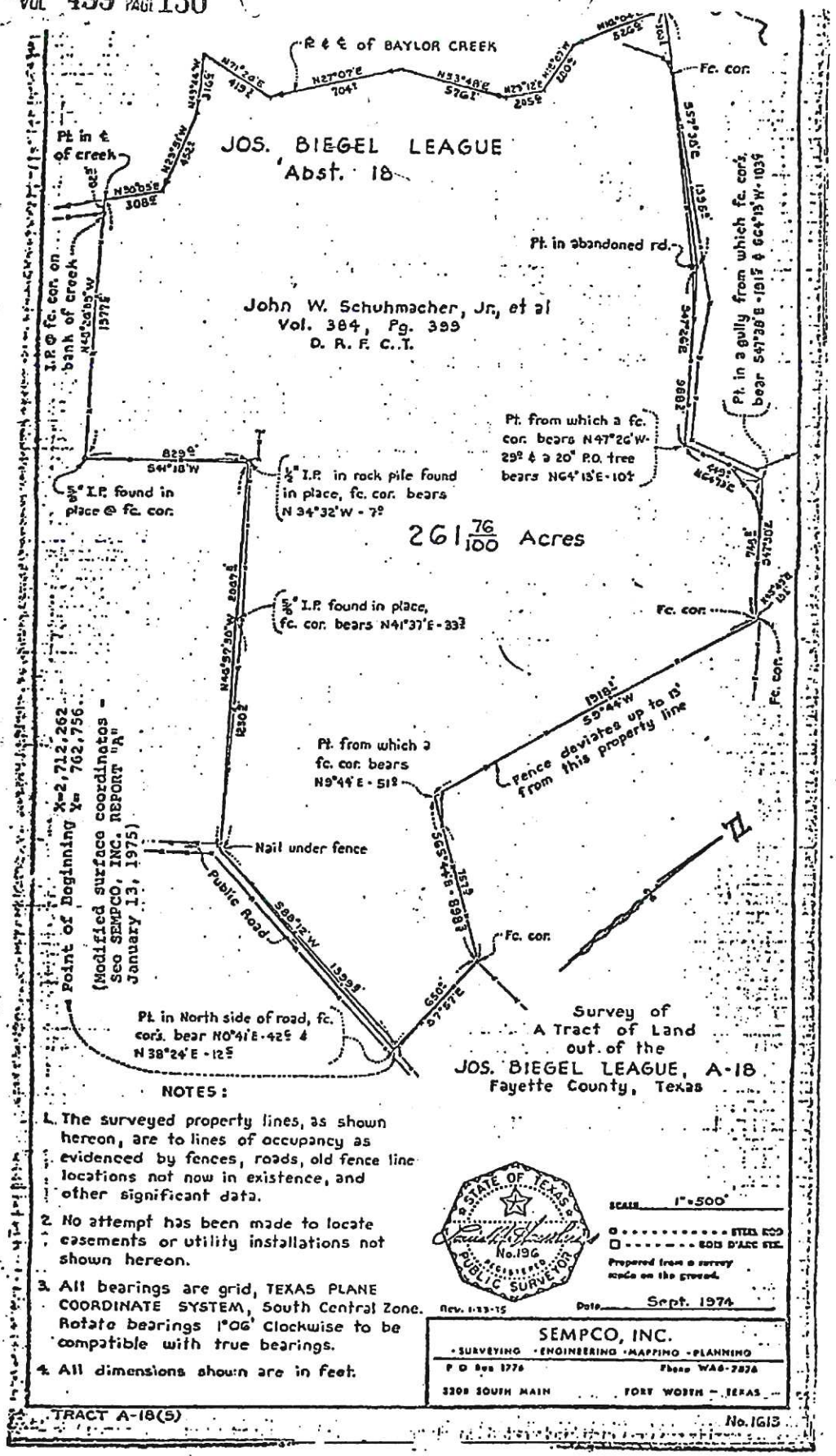
All bearings are grid, Texas Plane Coordinates System, South Central Zone, Rotate bearings 1 degree 06 minutes clockwise to be compatible with true bearings.

Z43025

VOL 499 PAGE 130

D-1-5

Z43026



NOTES:

1. The surveyed property lines, as shown hereon, are to lines of occupancy as evidenced by fences, roads, old fence line locations not now in existence, and other significant data.
2. No attempt has been made to locate easements or utility installations not shown hereon.
3. All bearings are grid, TEXAS PLANE COORDINATE SYSTEM, South Central Zone. Rotate bearings 1°06' Clockwise to be compatible with true bearings.
4. All dimensions shown are in feet.

SEMPCO, INC.
• SURVEYING • ENGINEERING • MAPPING • PLANNING
P. O. Box 1776 Phone WA6-2826
3309 SOUTH MAIN FORT WORTH — TEXAS

TRACT A-18(5) No. 1613

EXHIBIT A, PAGE 3 of 3
Lower Colorado River Authority and City of Austin - 100364
JOHN SCHUHMACHER, JR., ET AL

045 00115

VOL 499 PAGE 131

DISTRICT CLERK'S CERTIFICATE

THE STATE OF TEXAS I
COUNTY OF FAYETTE I

I, WALTER SCHAEFER, Clerk of the District Court, in and for Fayette County, Texas, do hereby certify that the above and foregoing is a full and correct copy of Final Agreed Judgment as the same appears of record in my office, in Volume Vol. 6, ~~Page~~ No. 13, of the ~~Civil Minutes~~ Condemnation District Court, Fayette County, Texas.

WITNESS My hand and seal of office, at office in La Grange, Texas, this the 7th day of December, 1976.

by: Virginia Wied, deputy

Walter Schaefer
Walter Schaefer, Clerk District Court of

FILED FOR RECORD

At 2:00 O'clock P. M.

The 10th. Day of December 19 76.

JOHN A. KUBENA

Clerk County Court, Fayette County, Texas

By Irene Pratka Deputy

$6.50 due
Chg. & return to
Coates Field Service
P.O. Box 121
La Grange, Texas 78945

100365

THE STATE OF TEXAS }
County of Fayette, } I, John A. Kubena, Clerk of the County Court of said County, do hereby certify that the foregoing and attached instrument of writing (with its authentications) bearing the date 7 day of December A. D. 1976, was filed for record in my office at 2:00 o'clock P. M., on the 10 day of December A.D. 19 76, and recorded in vol. 499 upon pages 126-131 of Record of Deeds for said County at 9:45 o'clock A. M., on the 14 day of December A.D. 1976

To certify all of which I here to sign my name and affix my seal of office in the City of La Grange this the 14 day of December A.D. 19 76

John A. Kubena

Clerk County Court, Fayette County, Texas

By Patsy Hees Deputy

COMPARED

RECORDED

243027

7-1-0

A-18(06)

D-1-1

RETURN TO CENTRAL FILE

VOL 483 PAGE 809

WARRANTY DEED

Z43113

THE STATE OF TEXAS §
§ KNOW ALL MEN BY THESE PRESENTS:
COUNTY OF FAYETTE §

That we, John Schuhmacher, Sr. and wife, Paula Schuhmacher of the County of Harris and State of Texas (hereinafter called "Grantors"), for and in consideration of the sum of TEN and NO/100 DOLLARS ($10.00) and other valuable consideration, cash to the undersigned paid by the Grantees herein named, the receipt of which is hereby acknowledged, and under threat of condemnation by the hereinafter named Grantees, have GRANTED, SOLD and CONVEYED and by these presents do GRANT, SELL and CONVEY unto the LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS (hereinafter called "Grantees"), all of the real property in Fayette County, Texas, described in Exhibit A attached hereto and which is made a part hereof for all purposes, SAVE AND EXCEPT those exceptions described hereinbelow.

This conveyance and the warranty contained herein is made subject to all outstanding easements and rights-of-way for public roads, railroads, and utilities located on and adjacent to the property hereby conveyed, and is further made less and subject to the following exceptions:

1. Rights granted to W. J. Mechura in an Oil and Gas Lease from Charles W. Harlfinger to W. J. Mechura dated July 1, 1965, and recorded in Volume 105, Page 235 of the Oil and Gas Lease Records of Fayette County, Texas;

2. Rights granted to an undivided one-half interest in the oil, gas, sulphur and other minerals in a Deed from Charles W. Harlfinger, et ux, to Texas Osage Co-operative Royalty Pool, et al, dated February 19, 1930, and recorded in Volume 150, Pages 84-86, Deed Records of Fayette County, Texas;

100447

3. Rights granted to Fayette Electric Cooperative, Inc., in the nature of an easement and right-of-way by instrument from Mary Harlfinger, et al, dated October 24, 1947, and recorded in Volume 217, Page 43, Deed Records of Fayette County, Texas;

4. Rights granted to Southwestern Bell Telephone Company by instrument dated April 1, 1930, from R. December and recorded in Volume 150, Page 217, Deed Records of Fayette County, Texas;

5. Rights excepted by and reserved to E. A. Roitsch and wife, Eva Marie M. Roitsch, in and to a one-half interest in all of the oil, gas and other minerals, including the rights of ingress and egress for the purpose of producing the same, all as more fully set forth in a deed from E. A. Roitsch and wife, Eva Marie M. Roitsch to John Schuhmacher, dated July 14, 1971, and recorded in Volume 437, Page 18 of the Deed Records of Fayette County, Texas;

6. Rights granted to Southwestern Bell Telephone Co., by an instrument in writing from Theo Heller, dated March 31, 1930, and recorded in Volume 150, Page 216, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes;

7. Rights granted to State of Texas by an instrument in writing from E. A. Roitsch, dated November 20, 1948, and recorded in Volume 231, Page 250, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes;

8. Rights granted to M. K. T. R. R., by an instrument in writing from Mary Eva Melcher, et vir, dated June 1, 1950, and recorded in Volume 242, Page 279, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes;

9. An Oil and Gas Lease from E. A. Roitsch, Trustee, et al, to W. J. Mechura, dated July 1, 1965, and recorded in Volume 105, Page 229, Oil and Gas Lease Records of Fayette County, Texas, to which refer for any and all relevant purposes; and

10. Rights of the public and Fayette County to any part of the premises that lie in a public road.

It is expressly agreed by and between Grantors and Grantees that Grantees' right of possession of Tract "C" and Tract "D" described in Exhibit A, attached hereto, commenced on June 6, 1975, and that Grantors shall have and retain exclusive possession of

FILED FOR RECORD

Tract "A-R" and Tract "B" described in Exhibit A, attached hereto, until October 1, 1975, upon which date the Grantees shall become entitled to possession thereof.

TO HAVE AND TO HOLD the above described premises, together with all and singular the rights and appurtenances thereto in anywise belonging unto the said Grantees, their successors and assigns forever; and we do hereby bind ourselves, our heirs, executors and administrators to WARRANT AND FOREVER DEFEND all and singular the said premises unto the said Grantees, their successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof.

EXECUTED this 4 day of September, 1975.

John Schuhmacher Sr.
JOHN SCHUHMACHER, SR.

Paula Schuhmacher
PAULA SCHUHMACHER

THE STATE OF TEXAS §
§
COUNTY OF HARRIS §

BEFORE ME, the undersigned authority, on this day personally appeared JOHN SCHUHMACHER, SR. and wife, PAULA SCHUHMACHER, known to me to be the persons whose names are subscribed to the foregoing instrument and acknowledged to me that they executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this 4TH day of SEPTEMBER, 1975.

John C. Ridley
Notary Public in and for
HARRIS County, Texas

JOHN C. RIDLEY
Notary Public, Harris County, Texas

FILED FOR RECORD

VOL 483 PAGE 812

Z43116

EXHIBIT A
LOWER COLORADO RIVER AUTHORITY AND CITY OF AUSTIN -
JOHN SCHUMACHER, SR. ET AL

All that certain lot, tract, or parcel of land out of the J. BIEGEL, Abstract 18, and GEORGE DUTY, Abstract 41, Leagues, Fayette County, Texas, being portions of those certain tracts conveyed to John Schumacher in the deeds recorded in Volume 437, Page 18, and Volume 391, Page 843, Deed Records of Fayette County, Texas, and being more particularly described in four separate tracts as Tracts "A-R", "B", "C" and "D", by metes and bounds as follows:

TRACT "A-R"

BEGINNING at a 1/2 inch iron rod at a fence corner in the curved North right-of-way line of the M.K.&T. Railroad, said rod also being the Southwest corner of that certain tract conveyed to John Schumacher in the deed recorded in Volume 437, Page 18, Deed Records of Fayette County, Texas; said point of beginning having grid coordinates of X=2,705,553 and Y=761,563;

THENCE with said fence and departing said railroad right-of-way, North 11 degrees 32 minutes 40 seconds West 1629-75/100 feet to a point in the center of a County Road from which a fence corner post bears South 11 degrees 33 minutes East 21-65/100 feet;

THENCE with the approximate centerline of said County Road the following courses:
North 69 degrees 05 minutes East 968-15/100 feet to a point,
South 87 degrees 08 minutes East 765-8/10 feet to a point,
and South 39 degrees 30 minutes East 350-15/100 feet to a nail set in a bridge above the centerline of Baylor Creek;

THENCE up the centerline of Baylor Creek North 31 degrees 05 minutes East 296-25/100 feet to a point;

THENCE departing said creek and crossing the Schumacher "First Tract" described in Volume 391, Page 483, Deed Records of Fayette County, Texas, the following courses:
South 83 degrees 42 minutes 38 seconds East 199-1/10 feet to a point;
North 30 degrees 28 minutes 45 seconds East 547-06/100 feet to a point,
and North 89 degrees 51 minutes 22 seconds East 604-31/100 feet to a point in the Northeast line of said Schumacher tract;

THENCE with said Northeast line of South 48 degrees 26 minutes 35 seconds East 605-5/10 feet to a 5/8 inch iron rod found in place at a fence corner;

THENCE South 41 degrees 17 minutes West 752-9/10 feet to a point in a County Road from which an iron rod found in place bears North 43 degrees 01 minute East 49-5/10 feet;

100452

THENCE with said County Road the following courses:
North 81 degrees 11 minutes East 102-85/100 feet to a point.
South 59 degrees 26 minutes East 481-4/10 feet to a point,
and South 42 degrees 00 minutes East 439-5/10 feet to a point from which an iron rod found in place bears North 28 degrees 19 minutes East 41-65/100 feet, and continuing with said County Road:
South 70 degrees 08 minutes East 307-75/100 feet to a point,
South 82 degrees 35 minutes East 532-1/10 feet to a point,
and South 66 degrees 07 minutes East 368-9/10 feet to a point on the South side of the road;

THENCE North 42 degrees 01 minute East 9-35/100 feet to a point;

THENCE South 65 degrees 42 minutes East 222-45/100 feet to a point in the County Road;

THENCE departing said County Road, crossing the John Schumacher "Second Tract" described in Volume 391, Page 483, Deed Records of Fayette County, Texas, South 34 degrees 13 minutes West 2846 feet to a point in the North right-of-way line of the M.K.&T. Railroad;

THENCE with said North right-of-way line North 52 degrees 04 minutes 30 second West, crossing Baylor Creek, and continuing in all 2717-2/10 feet to the beginning of a curve to the left having a radius of 1482-69/100 feet, and continuing Northwesterly with the arc of said curve a distance of 1252-92/100 feet to the place of beginning, containing in all 263-3/10 acres of land, more or less, including 2-6/10 acres of land, more or less, in the County Road.

TRACT "B"

All that certain lot, tract, or parcel of land out of the GEORGE DUTY LEAGUE, Abstract 41, Fayette County, Texas, being a portion of that certain 341-21/100 acre tract conveyed to John Schumacher and described under "Second Tract" in deed recorded in Volume 391, Page 483, Deed Records of Fayette County, Texas, and being more particularly described by metes and bounds as follows:

BEGINNING at a 1/2 inch iron rod found in place at the most Southerly corner of the above described "Second Tract"; said point of beginning have grid coordinates of X=2,708,800 and Y=758,115;

THENCE North 47 degrees 08 minutes 10 seconds West 3014-65/100 feet to a 1/2 inch iron rod found in place for the Southwest corner of said "Second Tract";

THENCE North 42 degrees 58 minutes East 879-25/100 feet to a point in the fenced South right-of-way of the M.K.&T. Railroad;

THENCE with said fenced South right-of-way line South 52 degrees 04 minutes 30 seconds East 3082-45/100 feet to a point;

THENCE South 45 degrees 46 minutes West 1146-0/10 feet to the place of beginning, containing in all 70-59/100 acres of land, more or less.

Z43118

TRACT "C"

BEGINNING at an iron rod found in place in the curved North right-of-way line of the M.K.&T. Railroad, a fence corner post bears North 83 degrees 13 minutes East 41-8/10 feet, said point of beginning having grid coordinates of X = 2,710,890 Y = 758,513;

THENCE with said North right-of-way line the following courses:

Northwesterly with the arc of a curve to the left having a radius of 1382-69/100 feet a distance of 1023-95/100 feet to the end of the curve,

North 52 degrees 04 minutes 30 seconds West, at 300-6/10 feet passing a 1/2 inch iron rod found in place, which bears South 37 degrees 56 minutes West 0-2/10 feet, and continuing in all 1331-3/10 feet to a point;

THENCE departing said North right-of-way line, crossing the John Schuhmacher "Second Tract" described in Volume 391, Page 483, Deed Records of Fayette County, Texas, North 34 degrees 13 minutes East 2846 feet to a point in a County Road;

THENCE South 65 degrees 42 minutes East 423-9/10 feet to a point in said County Road from which a set stone found in place bears South 28 degrees 07 minutes West 12-4/10 feet;

THENCE departing said County Road, generally following a fence, South 28 degrees 07 minutes West 900-3/10 feet to a point in a gulley from which a 20 inch Post Oak used for a fence corner bears North 32 degrees 29 minutes East 93-7/10 feet;

THENCE generally with a fence South 46 degrees 57 minutes East 1186-9/10 feet to a point;

THENCE NORTH 41 degrees 15 minutes East 125-0/10 feet to an iron rod found in place;

THENCE generally with a fence South 46 degrees 57 minutes East 233-3/10 feet to a point;

THENCE along a line Northwest of a fence South 21 degrees 19 minutes West 957-4/10 feet to a point, and South 24 degrees 15 minutes West 792-7/10 feet to the place of beginning, containing in all some 106-49/100 acres, more or less, of land, including approximately 0-25/100 acre, more or less, in the County Road.

TRACT "D"

BEGINNING at a point in the North east line of the Schuhmacher tract described under "First Tract" in the deed recorded in Volume 391, Page 483, Deed Records of Fayette County, Texas, said point of beginning stands South 48 degrees 26 minutes 35 seconds East 709-2/10 feet from an iron rod found in place at a fence corner on the East bank of Baylor Creek, said point of beginning having grid coordinates of X = 2,708,350 and Y = 763,903;

100454

THENCE departing said Northeast line and crossing said "First Tract" the following courses:

South 89 degrees 51 minutes 22 seconds West 604-31/100 feet to a point,

South 30 degrees 28 minutes 45 seconds West 547-06/100 feet to a point,

and North 83 degrees 42 minutes 38 seconds West 199-1/10 feet to a point in the center of Baylor Creek;

THENCE up Baylor Creek with the meanders of its centerline the following courses:

North 31 degrees 05 minutes East 63-0/10 feet to a point,

North 9 degrees 23 minutes East 542-9/10 feet to a point,

North 55 degrees 18 minutes East 334-95/100 feet to a point,

and North 30 degrees 05 minutes East 211-2/10 feet to a point for the most Northerly corner of said "First Tract";

THENCE departing Baylor Creek with the Northeast line of said "First Tract" South 48 degrees 26 minutes 35 seconds East, at 62-5/10 feet passing an iron rod found in place at a fence corner on the East Bank of said creek, and continuing in all 771-7/10 feet to the place of beginning, containing in all some 8-94/100 acres, more or less, of land.

All bearings are grid, Texas Plane Coordinate System, South Central Zone. Rotate bearings 1 degree 06 minutes clockwise to be compatible with true bearings.

VOL 483 PAGE 816

D-1-8

Z48120

FILED FOR RECORD

At 4:45 O'clock P.M.

The 8th. Day of September, 1975.

JOHN A. KUBENA

Clerk County Court, Fayette County, Texas

By Gillian Walker, Deputy

Recording...$8.50 Due.
Bill to: Coates Field Service,
La Grange, Texas. 78945
Return to: Richard Halpain, Atty.
LaGrange, Texas. 78945
(FILED BY RUTH LEHMANN)

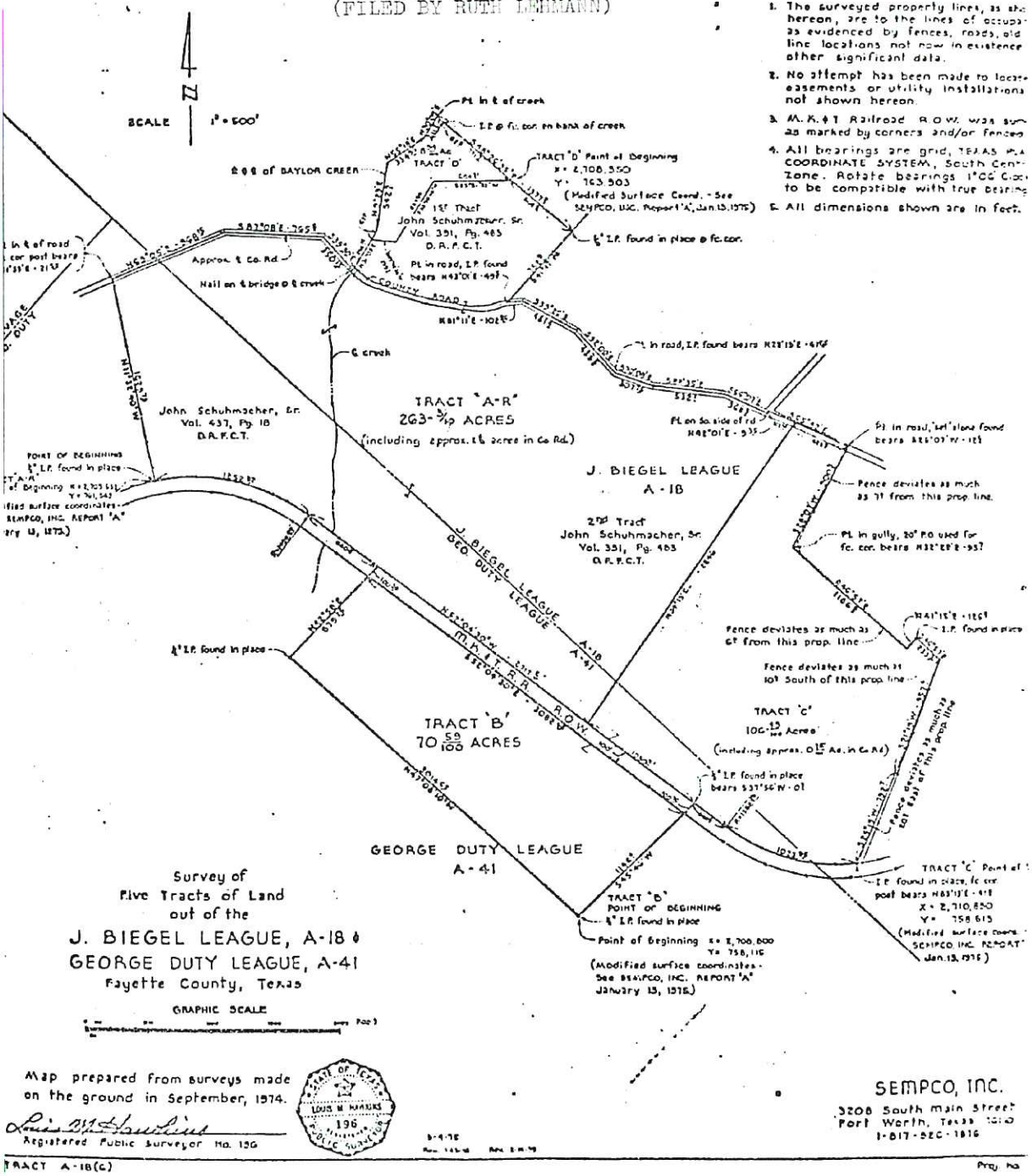


EXHIBIT A, PAGE 5 OF 5 PAGES
LOWER COLORADO RIVER AUTHORITY AND CITY OF AUSTIN -
JOHN SCHUMACHER, SR., ET AL

100456

THE STATE OF TEXAS
County of Fayette,

I, John A. Kubena, Clerk of the County Court of said County, do hereby certify that the foregoing and attached instrument of writing (with its authentications) bearing the date 4 day of September A. D. 1975, was filed for record in my office at 4:45 o'clock P. M., on the 8 day of Sept. A.D. 1975, and recorded in vol. 483 upon pages 809 - 816 of Record of Deeds for said County at 3:00 o'clock P. M., on the 9 day of Sept. A.D. 1975

To certify all of which I here to sign my name and affix my seal of office in the City of La Grange this the 9 day of September A.D. 1975.

John A. Kubena

Clerk County Court, Fayette County, Texas

By Patsy Hess Deputy

100457

Z43121

COMPARED

RECORDED

6-1-0

A-18(09)

D-1-1

Z43398 VOL 479 PAGE 597

THE STATE OF TEXAS §

COUNTY OF FAYETTE §

KNOW ALL MEN BY THESE PRESENTS, that we, SHERWOOD G. STEPHENS and wife, U. KRISTINA STEPHENS, of Harris County, Texas, for and in consideration of the sum of TEN AND NO/100 ($10.00) DOLLARS cash and other good and valuable considerations to us in hand paid by LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, the receipt of which is hereby acknowledged and confessed, and for which no lien, either express or implied, is retained, or shall exist, have GRANTED, SOLD and CONVEYED, and by these presents do GRANT, SELL and CONVEY unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, all that certain tract or parcel of land, lying and being situated in Fayette County, Texas, described as follows, to-wit:

All that certain lot, tract or parcel of land out of the J. Biegel League, Abstract 18, in Fayette County, Texas, being all that certain tract conveyed to Sherwood G. Stephens, et ux, by a deed recorded in Volume 397, Page 112, Deed Records of Fayette County, Texas, and being more particularly described by metes and bounds as follows:

BEGINNING at the Northeast corner of said Stephens tract, a point on the North side of a public road running along the North line of said Stephens tract, from which point a fence corner on the North edge of said road bears North 0° 41' East 42.6 feet and another fence corner on the North edge of said road bears North 38° 24' East 12.5 feet; said beginning point having grid coordinates of X = 2,712,262 and Y = 762,756;

THENCE with the East line of said Stephens tract, and departing said road, South 7° 57' East 322.2 feet to a point in a gulley, South 62° 39' West 864.3 feet to a point in a fence, South 49° 53' East, with said fence, 91.7 feet to a fence corner, and South 40° 07' West, with a fence, 481.3 feet to a fence corner at the Southeast corner of said Stephens tract and in the North edge of a public road running along the South line of said Stephens tract;

THENCE with the South line of said Stephens tract, in said public road, North 67° 38' West 283.4 feet to the Southwest corner of said Stephens tract in the intersection of said public road running along the South line of said Stephens tract with a public road running along the West line of said Stephens tract;

THENCE with the West line of said Stephens tract, in the public road, North 42° 01' East 873.6 feet to a nail under a fence on the North edge of the public road running along the North line of said Stephens tract, for the Northwest corner of said tract;

THENCE with the North line of said Stephens tract, North 88° 12' East 1399.8 feet to the place of beginning, containing

046 0015.16

in all 30.54 acres of land, more or less, including approximately 2.2 acres of land in said public roads.

LESS, HOWEVER AND SUBJECT TO certain rights granted to the Fayette Electric Co-operative, Inc., by C. W. & Mary Harlfinger by an instrument in writing dated October 24, 1947, and recorded in Volume 217, Page 43, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

LESS, ALSO, AND SUBJECT TO an Oil and Gas Lease granted to W. J. Mechura by Charles W. Harlfinger by an instrument dated July 1, 1965, and recorded in Volume 105, Page 235, Oil and Gas Lease Records of Fayette County, Texas, to which refer for any and all relevant purposes.

TO HAVE AND TO HOLD the above described premises, together with all and singular the rights and appurtenances thereto in anywise belonging unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, their successors and assigns forever. And we do hereby bind ourselves, our heirs, executors and administrators to Warrant and Forever Defend, all and singular, the said premises unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, their successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof.

IN TESTIMONY WHEREOF, witness our hands this the 21st day of April, A. D. 1975.

Sherwood G. Stephens
SHERWOOD G. STEPHENS

U. Kristina Stephens
U. KRISTINA STEPHENS

THE STATE OF TEXAS)
COUNTY OF FAYETTE)

BEFORE ME, the undersigned authority, on this day personally appeared SHERWOOD G. STEPHENS and his wife, U. KRISTINA STEPHENS, both known to me to be the persons whose names are subscribed to the foregoing instrument, and acknowledged to me that they each executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this the 21st day of April, A. D. 1975.

Ruth Lehmann
Ruth Lehmann, Notary Public in and for Fayette County, Texas

FILED FOR RECORD
At 3 O'clock P. M.
This 25th. Day of April A.D. 1975.
JOHN A. KUBENA
Clerk County Court, Fayette County, Texas
By Irene Gratka Deputy

$2.50 due
Chg. & return Charles Rhodes
Coates Field Service
La Grange, Texas
78945

(Filed by Ruth Lehmann)

THE STATE OF TEXAS
County of Fayette, } I, John A. Kubena, Clerk of the County Court of said County, do hereby certify that the foregoing and attached instrument of writing (with its authentications) bearing the date 21 day of April A. D. 1975, was filed for record in my office at 2:00 o'clock P. M., on the 25 day of April A.D. 19 75, and recorded in vol. 479 upon pages 597-598 of Record of Deeds for said County at 10:30 o'clock A. M., on the 28 day of April A.D. 19 75

To certify all of which I here to sign my name and affix my seal of office in the City of La Grange this the 28 day of April A.D. 19 75

John A. Kubena

Clerk County Court, Fayette County, Texas

By Sylvia Floyd Deputy

Z43400

RECORDED IMPRINTED

DO NOT ERASE

A-18(11)

VINSON, ELKINS, SEARLS, CONNALLY & SMITH
ATTORNEYS AT LAW
FIRST CITY NATIONAL BANK BUILDING
HOUSTON, TEXAS 77002

D-1-1
A-18(11)

RETURN TO CENTRAL FILES

VOL 499 PAGE 20

NO. 6

784897

LOWER COLORADO RIVER AUTHORITY and THE CITY OF AUSTIN	§	PROCEEDINGS IN EMINENT DOMAIN
	§	
	§	IN THE
	§	
VS.	§	155TH JUDICIAL DISTRICT COURT
	§	
CHARLES W. HARLFINGER	§	OF FAYETTE COUNTY, TEXAS

158

FINAL JUDGMENT

On this day came on to be heard the Joint Motion for Agreed Judgment of Lower Colorado River Authority and City of Austin, plaintiffs, and Charles W. Harlfinger, defendant, and the Court, finding that it has jurisdiction over the subject matter and all parties hereto and being of the opinion that judgment should be entered in accordance with the Joint Motion of the parties, it is, therefore,

ORDERED, ADJUDGED and DECREED that the plaintiffs Lower Colorado River Authority and City of Austin do have and recover of and from the defendant Charles W. Harlfinger the fee simple title in and to the real property described in Exhibit "A" attached hereto and made a part hereof for all purposes.

It is further ORDERED, ADJUDGED and DECREED that the defendant Charles W. Harlfinger do have and recover of and from the plaintiffs Lower Colorado River Authority and City of Austin the sum of Forty-Seven Thousand Two Hundred and Thirty-Two and 65/100 Dollars ($47,232.65).

It further appearing to the Court that plaintiffs have heretofore deposited said sum of $47,232.65 into the Registry of the Court subject to the Order of Withdrawal by defendant, and that defendant has withdrawn said sum from the Registry of the

Z84898

VOL 499 PAGE 21 D-1-2

Court, it is, therefore, further

ORDERED, ADJUDGED and DECREED that the defendant Charles W. Harlfinger is and shall be entitled to have and retain said sum withdrawn from the Registry of the Court in the amount of $47,232.65 in full satisfaction of the damages awarded to him in this Judgment, and plaintiffs shall be and are hereby released and discharged from further liability by reason of this action in condemnation and this Judgment.

It is further ORDERED, ADJUDGED and DECREED that plaintiffs pay all costs of Court in this behalf expended.

SIGNED, RENDERED and ENTERED this 16th day of May, 1975.

Paul Huser
JUDGE

AGREED TO AND APPROVED,
BOTH AS TO SUBSTANCE AND FORM:

SMALL, CRAIG & WERKENTHIN
900 Perry-Brooks Building
Austin, Texas 78701

Mac Umstattd, General Counsel
LOWER COLORADO RIVER AUTHORITY
P. O. Box 220
Austin, Texas 78767

Don R. Butler, City Attorney
P. O. Box 1088
Austin, Texas 78767

HART & HALPAIN
P. O. Box 369
La Grange, Texas 78945

By: Richard T. Halpain
Richard T. Halpain
ATTORNEYS FOR PLAINTIFFS

VINSON, ELKINS, SEARLS, CONNALLY & SMITH

By: Irving Werlein, Jr.

First City National Bank Building
Houston, Texas 77002 236-2376

ATTORNEYS FOR DEFENDANT CHARLES W. HARLFINGER

FILED FOR RECORD

At 2:00 O'clock P. M.

The 10th. Day of December 19 76.

JOHN A. KUBENA
Clerk County Court, Fayette County, Texas

By Irene Pratka Deputy

$4.50 due
Chg. & return to
Coates Field Service
P.O. Box 121
La Grange, Texas 78945

345 000598

Lower Colorado River Authority and City of Austin
Vs. Charles W. Harlfinger

Z84899

All that certain lot, tract or parcel of land out of the J. Biegel League, Abstract 18, Fayette County, Texas, being all that certain tract described in a deed to Charles W. Harlfinger recorded in Volume 185, Page 305, Deed Records of Fayette County, Texas, and being more particularly described by metes and bounds as follows:

BEGINNING at a fence corner post for the North corner of said Harlfinger tract; said fence corner post having grid coordinates of X = 2,711,677 and Y = 765,660;

THENCE with the Northeast line of the Harlfinger tract South 47 degrees 55 minutes East 1771-0/10 feet to a point for its East corner, a post oak fence corner post bears North 40 degrees 51 minutes East 1-5/10 feet;

THENCE with the Southeast line of the Harlfinger tract South 40 degrees 51 minutes West, at 910-7/10 feet a fence corner, and continuing in all 933-7/10 feet to a point in the center of a small branch;

THENCE downstream with the meanders of said branch:
South 32 degrees 01 minute East 109-3/10 feet,
and South 88 degrees 25 minutes East 115-4/10 feet,
and South 10 degrees 30 minutes East 105-8/10 feet,
and South 32 degrees 28 minutes East 61-9/10 feet,
and South 36 degrees 02 minutes East 37-9/10 feet to the Southeast corner of the Harlfinger tract, a fence corner bears South 79 degrees 37 minutes West 28-6/10 feet;

THENCE South 79 degrees 37 minutes West 464-8/10 feet to a fence corner post for the most Southerly corner of the Harlfinger tract;

THENCE North 65 degrees 44 minutes West, at 757-9/10 feet passing a fence angle point, continuing in all 898-3/10 feet to a point for the Southwest corner of the Harlfinger tract, a fence corner bears North 9 degrees 44 minutes East 51 feet;

THENCE North 9 degrees 44 minutes East 1918-1/10 feet to the place of beginning, containing some 47-47/100 acres of land, more or less.

All bearings are grid, Texas Plane Coordinates System, South Central Zone. Rotate bearings 1 degree 06 minutes clockwise to be compatible with true bearings.

EXHIBIT A, PAGE 1 of 2
Lower Colorado River Authority and City of Austin Vs.
Charles W. Harlfinger

784900

VOL 499 PAGE 23

DISTRICT CLERK'S CERTIFICATE

THE STATE OF TEXAS I
COUNTY OF FAYETTE I

I, WALTER SCHAEFER, Clerk of the District Court, in and for Fayette County, Texas, do hereby certify that the above and foregoing is a full and correct copy of Final Judgment as the same appears of record in my office, in ~~Volume~~ Book, ~~Page~~ No. 6, of the ~~Civil Minutes~~ condemnation District Court, Fayette County, Texas.

WITNESS My hand and seal of office, at office in La Grange, Texas, this the 7th day of December, 1976.

Walter Schaefer
Walter Schaefer, Clerk District Court of Fayette County, Texas
by: Virginia Wied, Deputy

FILED FOR RECORD

At 2:00 O'clock P. M.
The 10th. Day of December 19 76.
JOHN A. KUBENA
Clerk County Court, Fayette County, Texas
By Irene Bratka Deputy

$4.50 due
Chg. & return to
Coates Field Service
P.O. Box 121
La Grange, Texas 78945

THE STATE OF TEXAS
County of Fayette,

I, John A. Kubena, Clerk of the County Court of said County, do hereby certify that the foregoing and attached instrument of writing (with its authentications) bearing the date 7 day of December A. D. 1976, was filed for record in my office at 2:00 o'clock P M., on the 10 day of December A.D. 19 76, and recorded in vol. 499 upon pages 20-23 of Record of Deeds for said County at 8:45 o'clock A M., on the 14 day of December A.D. 19 76

To certify all of which I here to sign my name and affix my seal of office in the City of La Grange this the 14 day of December A.D. 19 76

John A. Kubena
Clerk County Court, Fayette County, Texas
By Patsy Hess Deputy

COMPARED

RECORDED

045. DEEDED

h-1-9

NO. Z84906

LOWER COLORADO RIVER AUTHORITY AND THE CITY OF AUSTIN	X	PROCEEDING IN EMINENT DOMAIN
	X	IN THE 155TH JUDICIAL DISTRICT
VS.	X	
	X	COURT OF
CHARLES W. HARLFINGER	X	
	X	FAYETTE COUNTY, TEXAS

AWARD OF COMMISSIONERS

(1) On 13 March, 1975, the above designated cause, after due notice to the parties, came on for hearing before the undersigned freeholders of Fayette County, Texas, duly appointed by the Judge of the 155th Judicial District Court, Fayette County, Texas, as Special Commissioners to assess the damages arising from the intended condemnation herein.

(2) Plaintiffs were represented by their attorneys, and the following named Defendant property owners appeared:

Charles W. Harlfinger with his attorney, Ewing Werlein.

(3) After presentation of the testimony, evidence, and arguments of counsel, the Special Commissioners found that Plaintiffs are entitled to condemn and acquire the fee simple title to the tracts of land located in Fayette County, Texas described in Exhibit "A" attached hereto and to which reference is hereby made for all purposes.

(4) In conformity with the rules of damages as set forth by Revised Civil Statutes, Article 3265, and as interpreted in prior court decisions, the Special Commissioners hereby assess the damages to be paid by Plaintiffs to each Defendant as follows:

(a) Values of the tracts to be condemned: 995 pr. acres

~~plus~~ Total Amount #47,222.65

(b) Diminution of the values of the remainders by reason of the severances: _____; less

(c) Offsets comprising special benefits to the remainders by reason of the improvement: _____; leaving

(d) Adjusted total damages due to each Defendant as follows: _____

(5) Cost, in conformity with Revised Civil Statutes, Article 3267, are adjudged against the Plaintiffs.

(6) Costs that have accrued to date are:

(a) $_____ for the expense of serving notices on Defendants which costs have been previously paid by Plaintiffs, and

(b) The following fees due to the Special Commissioners as set by the Court:

Will C. Moore	$100.00
C. W. Meyer	$100.00
Joe Grieve	$100.00

SIGNED 13 March, 1975.

Will C. Moore

C. W. Meyer

Joe Grieve

Special Commissioners

The foregoing Award was filed with me on March 19, 1975.

Paul Huser

JUDGE
155th Judicial District Court
of Fayette County, Texas

EXHIBIT A

Lower Colorado River Authority and City of Austin
Vs. Charles W. Harlfinger

All that certain lot, tract or parcel of land out of the J. Biegel League, Abstract 18, Fayette County, Texas, being all that certain tract described in a deed to Charles W. Harlfinger recorded in Volume 185, Page 305, Deed Records of Fayette County, Texas, and being more particularly described by metes and bounds as follows:

BEGINNING at a fence corner post for the North corner of said Harlfinger tract; said fence corner post having grid coordinates of X = 2,711,677 and Y = 765,660;

THENCE with the Northeast line of the Harlfinger tract South 47 degrees 55 minutes East 1771-0/10 feet to a point for its East corner, a post oak fence corner post bears North 40 degrees 51 minutes East 1-5/10 feet;

THENCE with the Southeast line of the Harlfinger tract South 40 degrees 51 minutes West, at 910-7/10 feet a fence corner, and continuing in all 933-7/10 feet to a point in the center of a small branch;

THENCE downstream with the meanders of said branch:
South 32 degrees 01 minute East 109-3/10 feet,
and South 88 degrees 25 minutes East 115-4/10 feet,
and South 10 degrees 30 minutes East 105-8/10 feet,
and South 32 degrees 28 minutes East 61-9/10 feet,
and South 36 degrees 02 minutes East 37-9/10 feet to the Southeast corner of the Harlfinger tract, a fence corner bears South 79 degrees 37 minutes West 28-6/10 feet;

THENCE South 79 degrees 37 minutes West 464-8/10 feet to a fence corner post for the most Southerly corner of the Harlfinger tract;

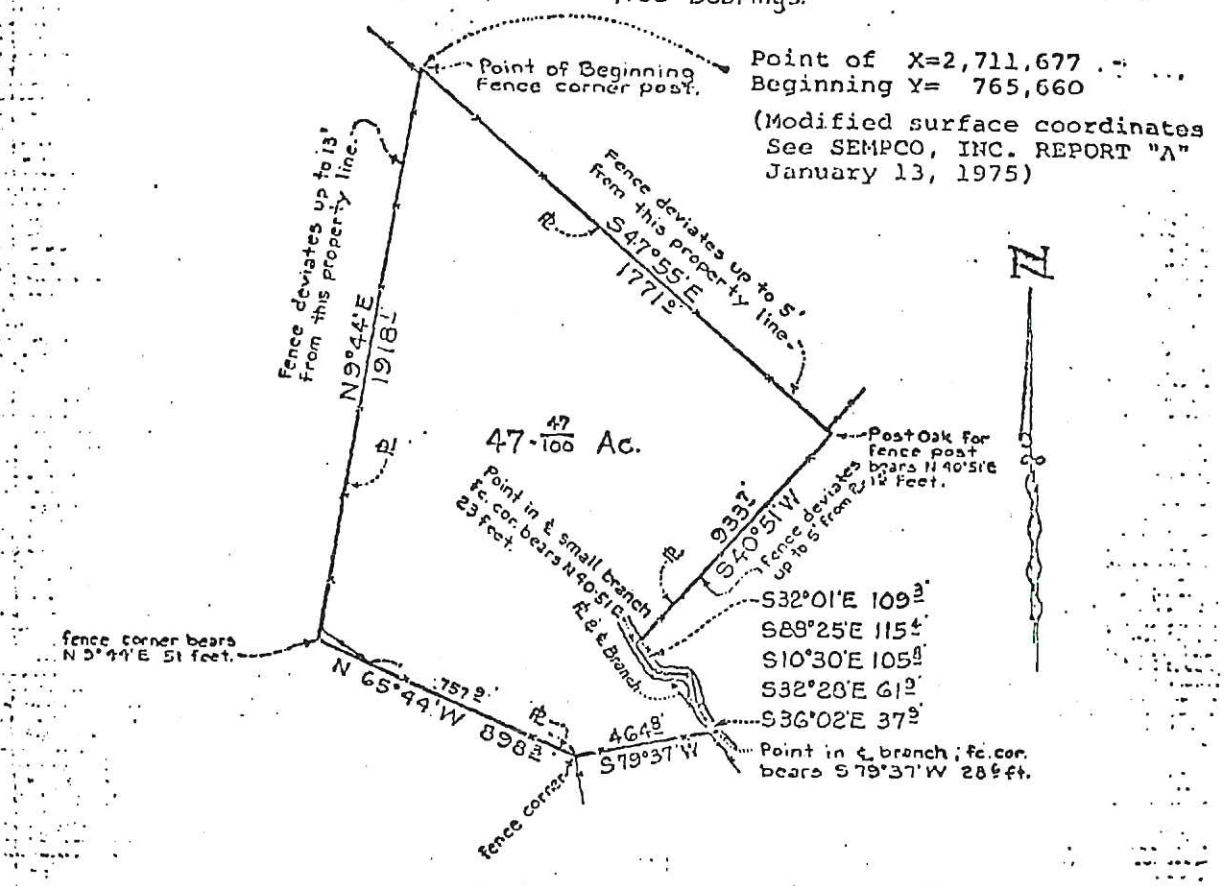
THENCE North 65 degrees 44 minutes West, at 757-9/10 feet passing a fence angle point, continuing in all 898-3/10 feet to a point for the Southwest corner of the Harlfinger tract, a fence corner bears North 9 degrees 44 minutes East 51 feet;

THENCE North 9 degrees 44 minutes East 1918-1/10 feet to the place of beginning, containing some 47-47/100 acres of land, more or less.

All bearings are grid, Texas Plane Coordinates System, South Central Zone. Rotate bearings 1 degree 06 minutes clockwise to be compatible with true bearings.

Z84909

NOTE: All bearings are grid, Texas Plane Coordinates System, South Central Zone. Rotate bearings 1°06' clockwise to be compatible with true bearings.



Survey of
A Tract of Land
out of the
J. BIEGEL LEAGUE, A-18
Fayette County, Texas

STATE OF TEXAS
No. 156
REGISTERED PUBLIC SURVEYOR

SCALE 1" = 500'

Prepared from a survey made on the ground

Rev. 1-25-75 Date July 1974

SEMPCO, INC.
• SURVEYING • ENGINEERING • MAPPING • PLANNING
P O Box 1778 Phone WA 6-7375
3203 SOUTH MAIN FORT WORTH — TEXAS

TRACT A-18(11) No. 1613

EXHIBIT A, PAGE 2 of 2
Lower Colorado River Authority and the City of Austin
Vs.
Charles W. Harlfinger

045 000709

Z84910

NO.

LOWER COLORADO RIVER AUTHORITY AND THE CITY OF AUSTIN	X	PROCEEDING IN EMINENT DOMAIN
	X	IN THE 155TH JUDICIAL DISTRICT
VS.	X	
	X	COURT OF
CHARLES W. HARLFINGER	X	
	X	FAYETTE COUNTY, TEXAS

NOTICE OF HEARING

TO:
CHARLES W. HARLFINGER

On 17th of February, 1975, the Lower Colorado River Authority and the City of Austin filed with the Judge of the above designated court a condemnation petition with regard to the property therein described. The petition is attached hereto and by reference made a part hereof for all purposes.

The undersigned, duly appointed as Special Commissioners herein, have set the hearing at 10:00 o'clock, A. M. on March 13, 1975 at the courtroom of the 155th Judicial District Court in the courthouse of Fayette County in the city of La Grange, Fayette County, Texas.

You are hereby notified to appear at the time and place aforesaid to offer any evidence you desire on the issue of the damages to be assessed against the condemnors and to be paid to the property owners concerned.

SIGNED 20 February, 1975.

Joe Linam

R W Meyer

Otis C. Moore

Special Commissioners

045 000710

RETURN OF NOTICE

Z84911

Came to hand on the 21 day of February, 1975, and served by delivering a copy of the foregoing notice of hearing together with a copy of the Statement and Petition heretofore filed in this proceeding to each of the following:

~~R. S. Parker~~, Date: ~~2-21-75~~ Time: ~~2:45 p.m.~~

Charles W. Hurlings, Date: 2/21/75 Time: 2:45 p.m.

_____, Date: _____ Time: _____

R. S. Parker

THE STATE OF TEXAS)

COUNTY OF FAYETTE)

Before me, the undersigned authority, on this day personally appeared R. S. Parker, known to me to be the person whose name is subscribed to the foregoing return, and on oath stated that the facts set out in such return are true and correct, and that he is a person competent to testify.

WITNESS my hand, this the 21 day of February, 1975.

Jack Abercrombie
Notary Public in and for
Harris County, Texas

Robert Patterson
2424 Winrock # 292
77057

Cause 16306

HARRIS COUNTY TEXAS
FEB 21 2 23 PM 1975
RECEIVED
CONSTABLE

045-00011

Exh. 2

NO. 284912

LOWER COLORADO RIVER AUTHORITY AND THE CITY OF AUSTIN	X	PROCEEDING IN EMINENT DOMAIN
	X	
	X	IN THE 155TH JUDICIAL DISTRICT
VS.	X	
	X	COURT OF
CHARLES W. HARLFINGER	X	
	X	
	X	FAYETTE COUNTY, TEXAS

NOTICE OF HEARING

TO:
CHARLES W. HARLFINGER

On 17th of February, 1975, the Lower Colorado River Authority and the City of Austin filed with the Judge of the above designated court a condemnation petition with regard to the property therein described. The petition is attached hereto and by reference made a part hereof for all purposes.

The undersigned, duly appointed as Special Commissioners herein, have set the hearing at 10:00 o'clock, A. M. on March 13, 1975 at the courtroom of the 155th Judicial District Court in the courthouse of Fayette County in the city of La Grange, Fayette County, Texas.

You are hereby notified to appear at the time and place aforesaid to offer any evidence you desire on the issue of the damages to be assessed against the condemnors and to be paid to the property owners concerned.

SIGNED 20 February, 1975.

Special Commissioners

Z84904

NO. 6

LOWER COLORADO RIVER AUTHORITY AND THE CITY OF AUSTIN	§	PROCEEDINGS IN EMINENT DOMAIN
	§	
	§	IN THE
	§	
VS.	§	155TH JUDICIAL DISTRICT COURT
	§	
CHARLES W. HARLFINGER	§	OF FAYETTE COUNTY, TEXAS

OBJECTIONS TO AWARD OF COMMISSIONERS

TO THE HONORABLE JUDGE OF SAID COURT:

COMES NOW Charles W. Harlfinger, hereinafter called defendant in this condemnation proceeding commenced by the Lower Colorado River Authority and the City of Austin, hereinafter called plaintiffs, and excepts and objects to the decision and award of the Special Commissioners in response to the Petition and Notice of Hearing for Condemnation in this cause, and would respectfully show to the Court and to the Jury herein:

I.

Defendant objects to the award of the Special Commissioners because it is inadequate to compensate the defendant for his damages, and the defendant hereby takes his appeal to this Honorable Court.

II.

Defendant would show the Court and the Jury that the land herein sought to be condemned by plaintiffs is situated in Fayette County, Texas, and more particularly described in plaintiffs' statement on file herein.

The location of said property and the use to which it is and can be adapted give it a market value of at least SEVENTY THOUSAND DOLLARS ($70,000.00)

Plaintiffs' offer for said property is so low and so out of proportion to its market value as well as to its real value that it is and would be unjust, unfair and unreasonable for plaintiffs to take, condemn and receive said property at said figure, to the great and unjust loss and damage to defendant. Such a forced acquisition by plaintiffs as here referred to is in violation of the laws and Constitution of the State of Texas.

WHEREFORE, premises considered, defendant prays that plaintiffs be cited as required by law, and upon final hearing hereof that the market value of said land and premises and the improvements thereon sought to be condemned by plaintiffs, together with damages, be fixed at not less that $70,000.00, together with interest thereon as provided by law; that defendant be further awarded all costs of court herein expended, and that he have such other and further relief, both general and special, at law and in equity, to which he may show himself justly entitled.

Respectfully submitted,

VINSON, ELKINS, SEARLS,
CONNALLY & SMITH

By: /S/
F. Russell Kendall

By: /S/
Ewing Werlein, Jr.

First City National Bank Building
Houston, Texas 77002 (713) 236-2344
ATTORNEYS FOR DEFENDANT:
CHARLES W. HARLFINGER

CFS-7-73

CERTIFICATE OF TITLE

STATE OF TEXAS
COUNTY OF FAYETTE } SS.

784914

The undersigned **Coates Field Service, Inc.** hereby certifies that it has examined the records pertaining to the title to the following described real estate in said County and State, to-wit:

48.7 Acres

Joseph Biegel League

(SEE ATTACHED FOR DESCRIPTION)

That from such examination it appears that the record title to such land is in

Charles W. Harlfinger
1144 W. 24th Street
Houston, Texas
77008

FROM: Mary Schroeder, et vir

by a deed dated 18th day of October 19 41 ,recorded in Book 185 , Page 305 ; and that said land is subject to no liens, mortgages, deeds of trust, judgments, mechanic's liens, attachments, foreign executions, suits pending, or unpaid taxes, other than:

C.W. Harlfinger to Fayette Electric Co-operative, Inc., Easement, 10/24/47, Volume 217, Page 43.

C.W. Harlfinger to W.J. Mechura, Oil & Gas Lease, 10 years 7/1/65 to 7/1/75, Volume 105, Page 235.

W.J. Mechura to Hunt Oil Company, Assignment Oil & Gas Lease, 7/10/65, Volume 108, Page 291, Retains 1/32 of 8/8 ORR Int.

W.J. Mechura to R.E. Bendley, J.B. Whatley and T.L.W. Corp., Assignment to each 1/4 of 1/32 of 8/8 ORR Int., 8/28/67, Volume 109, Page 63.

(CONTINUED ON ATTACHED SHEET)

This certificate is made upon the mutual understanding that the maker herof has not examined all instruments and proceedings in the chain of title of the above described real estate; that the same is not intended to cover the legality or the sufficiency of any of the instruments or proceedings in the chain of title, and does not cover any instruments filed as a chattel only.

Dated at La Grange, Texas this 24th day of June , 1974 at o'clock, . M.

Records Examined as of:
December 12, 1974

Dorothy V. Jones
Dorothy Jones

COATES FIELD SERVICE, INC.

By _____
Coleman Bennett

MAP _____ TRACT A-18 (11)

Revised July 12, 1974
Feb. 6, 1975

045 000?

Dana Morris

Z84915

CHAIN OF TITLE - 1941 - 1974

DEED - Mary Schroeder, et vir, to Charles W. Harlfinger, 48.7 Acres, 10/18/41, Volume 185, Page 305

EASEMENT - C.W. Harlfinger to Fayette Electric Co-operative, Inc., 10/24/47, Volume 217, Page 43

OIL & GAS LEASE - C.W. Harlfinger to W.J. Mechura, 10 years, 7/1/65 to 7/1/75, Volume 105, Page 235

ASSIGNMENT OF OIL & GAS LEASE - W.J. Mechura to Hunt Oil Company, 7/10/65, Volume 108, Page 291, Retains 1/32 of 8/8 ORR Int.

ASSIGNMENT OF ORR INT. - W.J. Mechura to R.E. Pendley, J.B. Whatley and T. L. L. Corporation, Assignment to each of 1/4 of 1/32 of 8/8 ORR Int., 8/28/67, Volume 109, Page 63

ABSTRACTOR'S NOTE:

In the Mineral Deed to Texas Osage Co-operative Royalty Pool in Volume 150, Page 84, the field notes referred to in Volume 82, Page 550 will not close and cannot be located. The 34-54/100 acres sold to Jacob Meyer cannot be located, as the deed cannot be located and was probably not recorded.

Since the Oil and Gas Lease Volume 105, Page 235 included the subject 48.7 acres among many others, and the rentals recited (at $1.00 per acre) are the same as the acreage total of the Tracts listed. We made all Tracts shown subject to Texas Osage Mineral Deed. Tract Sixth of 19 acres, Tract Seventh of 50 acres, Tract eighth of 12.15 acres were all mentioned specifically in the Mineral Deed. Yet, rentals were paid as if Harlfinger owned a full interest.

784916

DESCRIBED AS FOLLOWS:

It being a part of the Joseph Biegel League and part of the 328 acres homestead tract of the East corner of the same about eight miles East of the Town of La Grange and is bounded as follows, to-wit:

BEGINNING at the East corner of said tract, a stake from which a P. O. marked E bears South 80° East 15 varas, a ditto marked H bears North 76° 15' West 4 9/10 varas; THENCE South 43° West with Kroll's line to his West corner a pile of rocks from which a post marked K bears South 23° East 15 2/5 varas; THENCE down a branch with its meanderings to Helbles North corner a stake from which a Post Oak marked X bears North 50° West 9 varas; THENCE South 82° West 104 varas to a small Live Oak marked for corner from which a Post Oak marked B. bears North 20° East 17 2/5 varas; THENCE North 65° West 330 varas to a stake from which a Black Jack marked X bears North 47° East 1 vara and a Post Oak marked X bears North 32° West 14 9/10 (varas); THENCE North 12½° East 690 varas to a Post Oak marked H. bears South 8° East 24 2/5 varas, a ditto marked H. bears North 71° West 9 1/5 varas; THENCE South 46° East 633 varas with said division line to the place of beginning, containing within said limits forty-eight and 7/10 acres of land, more or less.

LESS, ALSO, AND SUBJECT TO an undivided ½ interest in the oil, gas, sulphur, and other minerals described in that deed from Charles W. Warlfinger, et ux, to Texas Osage Co-operative Royalty Pool, et al, dated February 19, 1930, and recorded in Volume 150, Pages 84-86, Deed Records of Fayette County, Texas.

Z84917

CHAIN OF TITLE - A-18 (11) - C. W. HARLFINGER

Catherine Biegel, wife of Joseph Biegel, deceased to Lewis Raymond conveyed 48.7 acres, 4/26/1879, at Volume 4 Page 494.

Louis Raymond to Mrs Barbara Raymond conveyed 48.7 acres at Volume 4, Page 494, 5/7/1880, at Volume 12, Page 486.

Mrs Barbara Raymond to Mrs. widow Catherine Biegel 48.7 acres referred to in deed at Volume 4, Page 494, 5/17/1883, at Volume 19, Page 313.

J. Baptist December, Administrator of Estate of Catherine Biegel, deceased, to Rudolph December 48.7 acres referred to the deed at Volume 4, Page 494, 7/28/1884, at Volume 23, Page 128.

3812 - Estate of Amalie December - Will filed 3/10/32, to Mary Schroeder 48.7 acres other daughters mentioned in Will are Louise Koehl, wife of E. J. Koehl, and Tinnie Koehl, wife of Frank Koehl.

From Mary Schroeder, nee December, joined by her husband, Walter A. Schroeder, 10/18/41, at Volume 185, Page 305, Louise Koehl, nee December, and husband, Tinnie Loehl, nee December, and husband to Charles W. Harlfinger.

EASEMENT - C. W. Harlfinger to Fayette Electric Co-operative, Inc., 10/24/1947, Volume 217, Page 43.

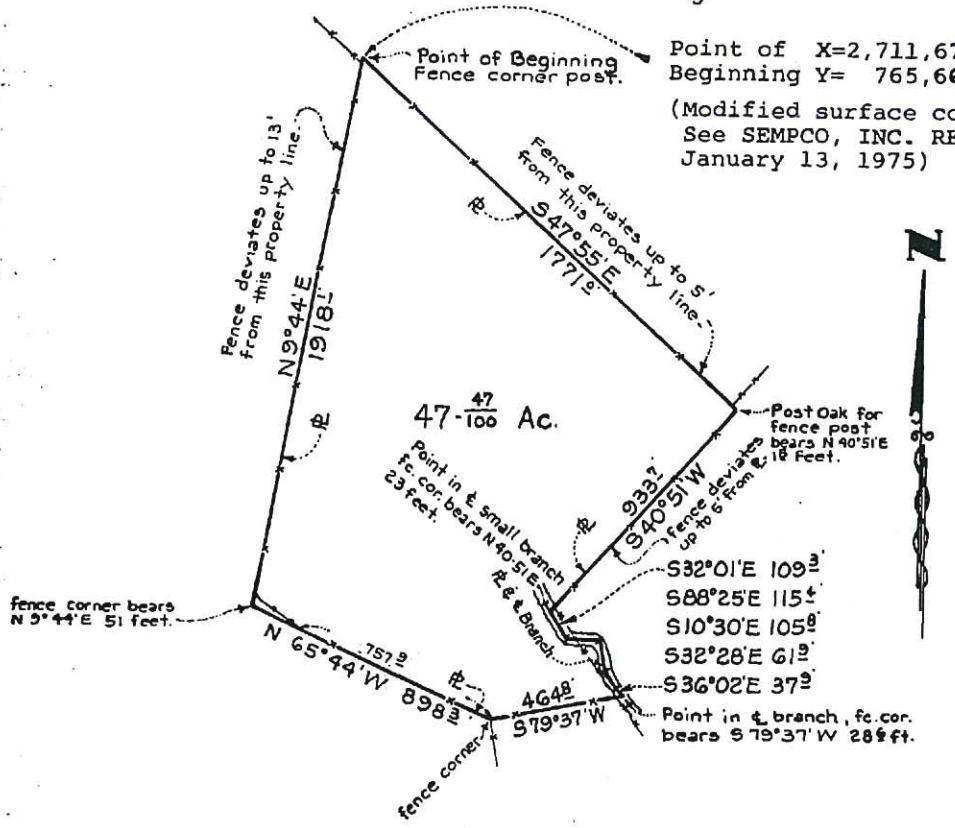
OIL & GAS LEASE - C. W. Harlfinger to M. J. Mechura, 10 years, 7/1/1965, to 7/1/1975, Volume 105, Page 235.

ASSIGNMENT OF OIL & GAS LEASE - W. J. Mechura to Hunt Oil Company, 7/10/1965, Volume 108, Page 291, Retains 1/32 of 8/8 ORR Int.

ASSIGNMENT OF ORR INT. - W. J. Mechura to R. E. Fendley, J. B. Whatley & T.L.M. Corporation, Assignment to each of 1/4 of 1/32 of 8/8 ORR Int., Volume 109, Page 63.

784918

NOTE: All bearings are grid, Texas Plane Coordinates System, South Central Zone. Rotate bearings 1°06' clockwise to be compatible with true bearings.



Survey of
A Tract of Land
out of the
J. BIEGEL LEAGUE, A-18
Fayette County, Texas
Being all that certain tract conveyed to
Charles W. Harlfinger
by a deed recorded in Vol. 185, Pg. 305,
Deed Records, Fayette County, Texas

STATE OF TEXAS
No. 196
REGISTERED PUBLIC SURVEYOR

SCALE 1" = 500'

○ ---------- STEEL ROD
□ ------- BOIS D'ARC STK.

Prepared from a survey made on the ground.

Date July 1974

Rev. 1-23-75

SEMPCO, INC.
· SURVEYING · ENGINEERING · MAPPING · PLANNING
P O Box 1776 Phone WA6-7876
3208 SOUTH MAIN FORT WORTH – TEXAS

TRACT A-18(11)

No. 1613

Z84919

SEMPCO, INC. 3208 SOUTH MAIN STREET, Fort Worth, Texas 76110

SURVEYING - ENGINEERING - MAPPING - PLANNING

Phone 926-7876
Area Code 817

Louis M. Hawkins, R.S.
Fred A. Barnett, R.S.
David A. Watson, R.S.
Don M. Wood, R.S.
John L. Hawkins, R.S.
David A. White, R.S.

Hobert Bartlett, R.S., 1922-1970

August 14, 1974

All bearings are grid, Texas Plane Coordinates System, South Central Zone. Rotate bearings 1 degree 06 minutes clockwise to be compatible with true bearings.

FIELD NOTES

Charles W. Harlfinger Property - Tract A-18 (11)

All that certain lot, tract or parcel of land out of the J. Biegel League, Abstract 18, Fayette County, Texas, being all that certain tract conveyed to Charles W. Harlfinger by a deed recorded in Volume 185, Page 305, Deed Records of Fayette County, Texas, and being more particularly described by metes and bounds as follows:

BEGINNING at a fence corner post for the North corner of said Harlfinger tract;

THENCE with the Northeast line of the Harlfinger tract South 47 degrees 55 minutes East 1771-0/10 feet to a point for its East corner, a post oak fence corner post bears North 40 degrees 51 minutes East 1-5/10 feet;

THENCE with the Southeast line of the Harlfinger tract South 40 degrees 51 minutes West, at 910-7/10 feet a fence corner, and continuing in all 933-7/10 feet to a point in the center of a small branch;

THENCE downstream with the meanders of said branch:
South 32 degrees 01 minute East 109-3/10 feet,
and South 88 degrees 25 minutes East 115-4/10 feet,
and South 10 degrees 30 minutes East 105-8/10 feet,
and South 32 degrees 28 minutes East 61-9/10 feet,
and South 36 degrees 02 minutes East 37-9/10 feet to the Southeast corner of the Harlfinger tract, a fence corner bears South 79 degrees 37 minutes West 28-6/10 feet;

THENCE South 79 degrees 37 minutes West 464-8/10 feet to a fence corner post for the most Southerly corner of the Harlfinger tract;

THENCE North 65 degrees 44 minutes West, at 757-9/10 feet passing a fence angle point, continuing in all 898-3/10 feet to a point for the Southwest corner of the Harlfinger tract, a fence corner bears North 9 degrees 44 minutes East 51 feet;

Z84920

Field Notes
Charles W. Harlfinger Property
Sempco, Inc., Fort Worth, Texas

August 14, 1974

THENCE North 9 degrees 44 minutes East 1918-1/10 feet to the place of beginning, containing some 47-47/100 acres of land.

Prepared from surveys made on the ground in July, 1974.

Louis M. Hawkins
R.P.S. No. 196

The point of beginning of these field notes has the following coordinated value:

X = 2,711,677
Y = 765,660

(Modified surface coordinates, See SEMPCO, INC. REPORT "A" January 13, 1975.)

STATE OF TEXAS
196
PUBLIC SURVEYOR

Rev. 1-23-75

P-1045—Temporary Restraining Order—Rule 680—Rules Civil Procedure — Clarke & Courts, Inc.

A-18(11)

THE STATE OF TEXAS,

To CHARLES W. HARLFINGER 284921

Greeting:

WHEREAS, Lower Colorado River Authority

filed its petition in the District Court of Fayette County, Texas,

on the 2nd day of July, A. D., 1974, in a suit numbered 12,150 on the Docket of

said Court, wherein Lower Colorado River Authority is

plaintiff and Bennie H. Schmidt, Adolph F. Schmidt, Howard C. Mills, E. A. Barker, Sherwood G. Stephens and wife, U. Kristina Stephens, Charlie Polasek, Jr. and wife, Lorina Polasek, and Charles W. Harlfinger are

defendants alleging the necessity for plaintiff and its agents and employees to have access to certain lands now owned by defendants for the purpose of making surveys and conducting core drilling tests,

all of which is more fully shown by a true and correct copy of plaintiff's petition which is attached hereto;

and upon presentation of said petition to him and consideration thereof, the Honorable PAUL HUSER Judge of said court, made the following order thereon: Ordered the Clerk of this Court to issue a temporary restraining order restraining and enjoining the defendants from denying plaintiff, its agents, employees or independent contractors the right of ingress and egress over, on and through certain lands described herein for the purpose of making surveys, obtaining necessary information to acquire such properties for the purpose of building a steam generating plant and related facilities, including the right to core drill upon said properties and further restraining defendants from removing any stakes placed upon said properties or from interfering with plaintiff's work in conducting such tests; all of which is shown by a true and correct copy of the Judge's Fiat attached hereto.

You are therefore commanded to desist and refrain from denying plaintiff, its agents, employees or independent contractors the right of ingress and egress over, on and through the lands described herein, for the purpose of surveying and for the purpose of conducting necessary tests and investigations, including core drilling, and further from removing any stakes or other markers placed upon said properties as a result of such tests, and further from interfering with plaintiff, its agents, employees and independent contractors in conducting such tests, all as set out in the Judge's Fiat, until and pending the hearing of such petition upon plaintiff's application for a temporary injunction before the judge of said court at 9:00 A.M. on the 8th day of July 19 74, in the District court room in the court house of Fayette County, in the City of La Grange, Texas when and where you will appear to show cause why injunction should not be granted upon such petition effective until final decree in such suit.

Issued the 3rd day of July A. D., 19 74

Given under my hand and seal of said Court, at office in La Grange, Texas

this 3rd day of July, A. D., 19 74

Dallie Schaefer Clerk,

District Court, Fayette County.

By Deputy.

D15 Dun, Ty

TAX CERTIFICATE

Z84930

THE STATE OF TEXAS,
COUNTY OF FAYETTE

I, Leonard Dominey, Tax Assessor-Collector in and for Fayette County, Texas, hereby certify that I have made a careful examination of the Tax Records of Fayette County, Texas on file in my office, and find that all taxes for state, county, road and school district ..... purposes assessed against

48.70 Acres, part of the J. Biegel League, Abstract 18

situated in Fayette County, Texas, appearing now in the name of Harlfinger, C. W. and Anna Mae ..... on the Tax Rolls of said county, have been paid, including the taxes for the year 1974 ..... and all prior years, being all the taxes said property is subject to, except None.

Given under my hand and seal of office, at office in La Grange, Texas, this the 7th ..... day of March ..... A. D. 19 75 ...

(L. S.) Leonard Dominey,

Tax Assessor-Collector, Fayette County, Texas.

By Leonard Dominey ..... Deputy.

045 000728

A-18(12)

VINSON, ELKINS, SEARLS,
CONNALLY & SMITH
ATTORNEYS AT LAW
FIRST CITY NATIONAL BANK BUILDING
HOUSTON, TEXAS 77002

D-1-L
A-18(12)

VOL 499 PAGE 132

CAUSE NO. 12,252

(Condemnation Proceeding No. 15)

LOWER COLORADO RIVER AUTHORITY and THE CITY OF AUSTIN	§	PROCEEDINGS IN EMINENT DOMAIN
	§	
	§	IN THE
	§	
Vs.	§	155TH JUDICIAL DISTRICT COURT
	§	
HOWARD C. MILLS, ET UX	§	OF FAYETTE COUNTY, TEXAS

FINAL JUDGMENT 76742

BE IT REMEMBERED that on the 29th day of September, 1975, came on to be heard the above entitled and numbered cause, wherein the Lower Colorado River Authority and The City of Austin are plaintiffs, and Howard C. Mills and wife, Sydney Mills, are defendants, and came the plaintiffs by and through their attorneys of record and, in open Court and all parties having announced ready for trial and a jury having been demanded, there came a lawful jury which was duly impaneled and sworn for the trial of said cause, whereupon the Court directed the trial to proceed upon the issue of damages which all parties stipulated was the sole remaining issue to be determined.

During the trial one juror became disabled by illness and, with the consent of all parties, was excused by the Court from further jury service. Subsequently, when the evidence for all parties had been submitted to the Court and jury, and when both sides had rested their cause, the Court, on October 2, 1975, submitted the same to the jury with instructions as required by Rule 226A, Texas Rules of Civil Procedure, and with special instructions and definitions as contained in the Charge, and one special issue, as follows:

"SPECIAL ISSUE NO. 1

"From a preponderance of the evidence, what do you find to be the market value of Mr. and Mrs. Mills' 178.7 acres of land, together with the improvements thereon, condemned by the Lower Colorado River Authority and City of Austin on May 7, 1975?

"Answer by stating an amount in dollars and cents:

786743

$_____"

After hearing argument of counsel on both sides, the jury retired to consider their verdict and, after due deliberation, returned into open Court their verdict, duly signed by ten (10) jurors, which answered the sole special issue as follows: "$365,000.00."

And the Court, having examined the verdict, signed by Ms. Leslie Greive, Mrs. A. F. Earley, Ms. Elaura Neumann, Milton H. Gabler, Sterling Jackson, Nolan L. Havemann, Jerry Faltisek, Ms. Marvin L. Freytag, Edgar Brunner, and Marc Wolfram, received the said finding and filed and entered it of record in the minutes of the Court, and being of the opinion that judgment should be entered upon the verdict of the jury, it is, therefore,

ORDERED, ADJUDGED and DECREED that Lower Colorado River Authority and the City of Austin do have and recover of and from the aforesaid defendants the fee simple title in and to that certain real property consisting of 178.70 acres, more particularly described in Exhibit "A" attached hereto and made a part hereof as if set out in full at this place in the judgment.

It is further ORDERED, ADJUDGED and DECREED that the defendants, Howard C. Mills and wife, Sydney Mills, do have and recover of and from the Lower Colorado River Authority and City of Austin, plaintiffs, the sum of Three Hundred and Sixty-Five

FILED RECORDED

Thousand and 00/100 Dollars ($365,000.00); and it appearing to the Court that the plaintiffs have heretofore deposited into the Registry of the Court the sum of Three Hundred and Thirty-Three Thousand, Two Hundred and Fifty and 00/100 Dollars ($333,250.00), being the Award of the Special Commissioners, which sum has heretofore been withdrawn by the defendants, it is, therefore, further

ORDERED, ADJUDGED and DECREED that the aforesaid sum of Three Hundred and Thirty-Three Thousand, Two Hundred and Fifty and 00/100 Dollars ($333,250.00), be and the same is hereby credited against the aforesaid sum of Three Hundred and Sixty-Five Thousand and 00/100 Dollars ($365,000.00), recovered herein, leaving an unpaid balance of said recovery in the sum of Thirty-One Thousand, Seven Hundred and Fifty and 00/100 Dollars ($31,750.00), and

It is further ORDERED, ADJUDGED and DECREED that the defendants Howard C. Mills and wife, Sydney Mills, do have and recover of and from the Lower Colorado River Authority and City of Austin, plaintiffs, interest on said sum of Thirty-One Thousand, Seven Hundred and Fifty and no/100 Dollars ($31,750.00) at the rate of six percent (6%) per annum thereon from May 7, 1975, until the date of this Judgment, which interest on the date of Judgment totals Eight Hundred and Eighty-Seven and 26/100 Dollars ($887.26).

It is further ORDERED, ADJUDGED and DECREED that this Judgment for said sum of $31,750.00, and interest to date of Judgment in the amount of $887.26, which sums total Thirty-Two Thousand, Six Hundred and Thirty-Seven and 26/100 Dollars ($32,637.26), constitute the total unpaid principal balance of

FILED, RECORDED

defendants' recovery hereunder on the date of Judgment, which total sum shall bear interest at the rate of nine percent (9%) per annum from and after the date of this Judgment until paid, for all of which let execution issue.

It is further ORDERED, ADJUDGED and DECREED that all costs of Court are taxed against the plaintiffs, for which let execution issue if not seasonably paid; to which such action of the Court and the action of the Court in entering a money judgment in favor of defendants, the plaintiffs duly excepted.

SIGNED, RENDERED and ENTERED this 24th day of October, 1975.

Paul Huser
JUDGE

APPROVED AS TO FORM:

SMALL, CRAIG & WERKENTHIN
900 Perry-Brooks Building
Austin, Texas 78701

Mac Umstattd, General Counsel
LOWER COLORADO RIVER AUTHORITY
P. O. Box 220
Austin, Texas 78767

Don R. Butler, City Attorney
P. O. Box 1088
Austin, Texas 78767

HART & HALPAIN
P. O. Box 369
La Grange, Texas 78945

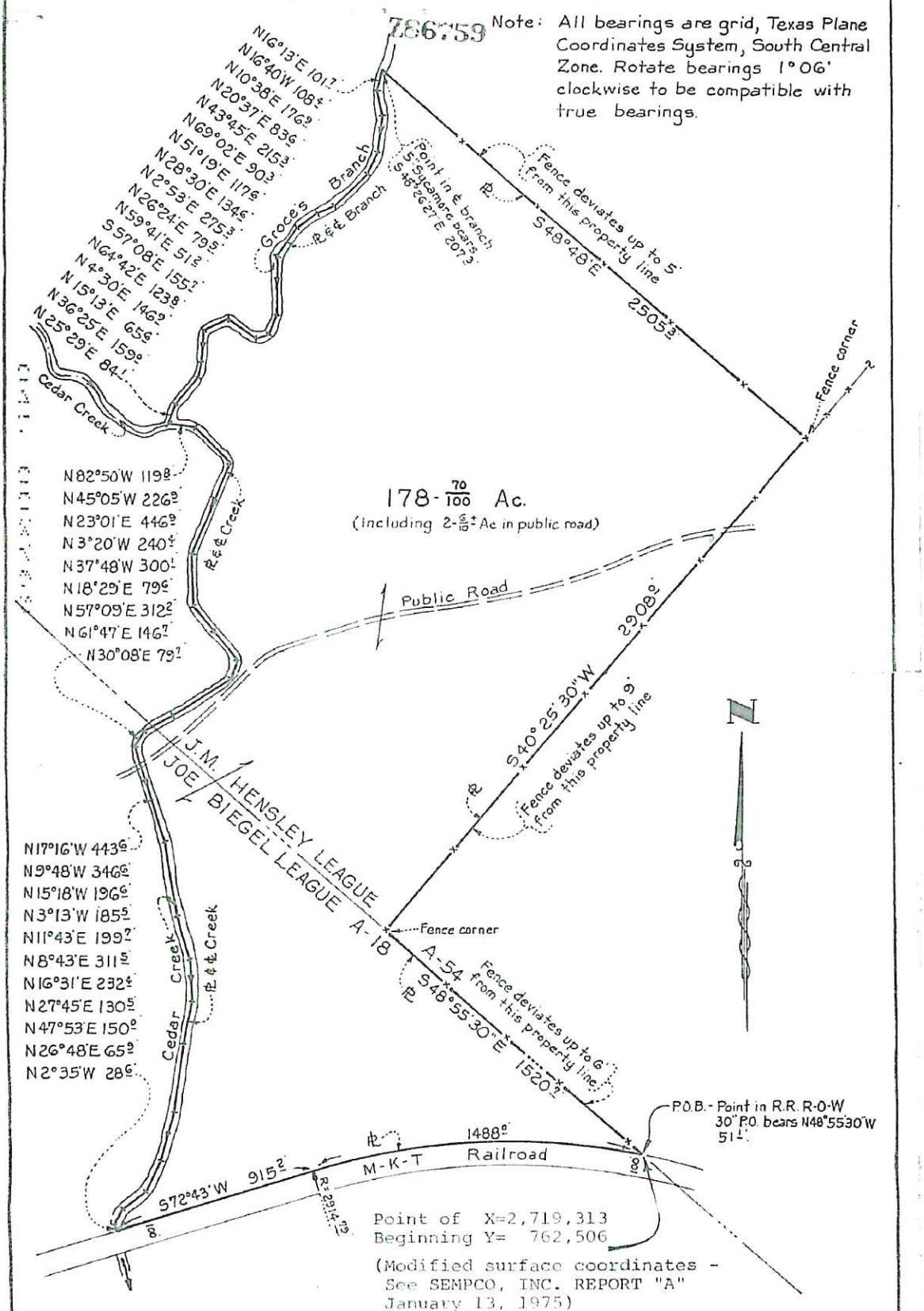
By: Paul B. Schmidt

ATTORNEYS FOR PLAINTIFFS

FILED
At 2:20 o'clock P M.
OCT 28 1975
Dolly Schaefer
Clerk District Court, Fayette County, Texas
By ..... Deputy

FILED RECORDED

D-1-7



Survey of
A Tract of Land
out of the
J. BIEGEL, A-18 & J. M. HENSLEY, A-54, LEAGUES
Fayette County, Texas

Being all that certain tract conveyed to Howard C. Mills by a deed recorded in Vol. 373, Pg 550 D.R. Fayette Co. Texas

STATE OF TEXAS
196
REGISTERED PUBLIC SURVEYOR

SCALE 1" = 500'

- - - - - - - - - - STEEL ROD
□ - - - - - - - BOIS D'ARC STK.

Prepared from a survey made on the ground.

July 1974

VOL 499 PAGE 135

VINSON, ELKINS, SEARLS,
CONNALLY & SMITH

By: Ewing Werlein, Jr.
F. Russell Kendall
Ewing Werlein, Jr.
First City National Bank Building
Houston, Texas 77002 236-2376

Of Counsel:
Dan R. Beck
Fayette County Courthouse
La Grange, Texas 78945

ATTORNEYS FOR DEFENDANTS HOWARD C.
MILLS and wife, SYDNEY MILLS

Z86746

FILED, RECORDED

EXHIBIT A
Lower Colorado River Authority and City of Austin vs.
HOWARD C. MILLS, ET UX

PROPERTY DESCRIPTION 726747

All that certain lot, tract, or parcel of land out of the J. Biegel, Abstract 18 and J. M. Hensley, Abstract 54, Leagues, Fayette County, Texas, being all that certain tract conveyed to Howard C. Mills by a deed recorded in Volume 373, Page 550, Deed Records of Fayette County, Texas, and being more particularly described by metes and bounds as follows:

BEGINNING at the most Southerly East corner of said Mills tract, a point in the line common to said Biegel and Hensley Leagues, and in the North right-of-way line of the M-K-T Railroad, from which point a 30 inch Post Oak bears North 48 degrees 55 minutes 30 seconds West 51-1/10 feet; said point of beginning having grid coordinates of X = 2,719,313 and Y = 762,506;

THENCE with the South line of said Mills tract and the North right-of-way line of the M-K-T Railroad, in a Westerly direction around the arc of a curve to the left having a radius of 2914-79/100 feet, a distance of 1488-0/10 feet to the end of said curve, and South 72 degrees 43 minutes West 915-2/10 feet to a point at the intersection of said right-of-way line with the centerline of Cedar Creek, said point being the Southwest corner of said Mills tract;

THENCE with the West line of said Mills tract and up the centerline of Cedar Creek, North 2 degrees 35 minutes West 28-6/10 feet, North 26 degrees 48 minutes East 65-9/10 feet, North 47 degrees 53 minutes East 150-0/10 feet, North 27 degrees 45 minutes East 130-5/10 feet, North 16 degrees 31 minutes East 232-4/10 feet, North 8 degrees 43 minutes East 311-5/10 feet, North 11 degrees 43 minutes East 199-7/10 feet, North 3 degrees 13 minutes West 185-5/10 feet, North 15 degrees 18 minutes West 196-6/10 feet, North 9 degrees 48 minutes West 346-6/10 feet, North 17 degrees 16 minutes West, crossing a public road, in all 443-6/10 feet, North 30 degrees 08 minutes East 79-7/10 feet, North 61 degrees 47 minutes East, crossing the line common to said Biegel and Hensley Leagues, in all 146-7/10 feet, North 57 degrees 09 minutes East 312-2/10 feet, North 18 degrees 29 minutes East 79-6/10 feet, North 37 degrees 48 minutes West 300-1/10 feet, North 3 degrees 20 minutes West 240-4/10 feet, North 23 degrees 01 minute East 446-9/10 feet, North 45 degrees 05 minutes West 226-9/10 feet, and North 82 degrees 50 minutes West 119-8/10 feet to the junction of the centerline of Cedar Creek with the centerline of Groce's Branch;

THENCE continuing with the West line of said Mills tract and up the centerline of Groce's Branch, North 25 degrees 29 minutes East 84-1/10 feet, North 36 degrees 25 minutes East 159-0/10 feet, North 15 degrees 13 minutes East 65-6/10 feet, North 4 degrees 30 minutes East 146-9/10 feet, North 64 degrees 42 minutes East 123-8/10 feet, South 57 degrees 08 minutes East

North 26 degrees 24 minutes East 79-5/10 feet, North 2 degrees 53 minutes East 275-3/10 feet, North 28 degrees 30 minutes East 134-6/10 feet, North 51 degrees 19 minutes East 117-6/10 feet, North 69 degrees 02 minutes East 90-3/10 feet, North 43 degrees 45 minutes East 215-3/10 feet, North 20 degrees 37 minutes East 83-6/10 feet, North 10 degrees 38 minutes East 176-9/10 feet, North 16 degrees 40 minutes West 108-4/10 feet, and North 16 degrees 13 minutes East 101-7/10 feet to the North corner of said Mills tract, from which a 5 inch Sycamore bears South 48 degrees 26 minutes 27 seconds East 207-3/10 feet;

THENCE with the most Northerly Northeast line of said Mills tract, crossing and re-crossing a meandering fence, South 48 degrees 48 minutes East 2505-3/10 feet to a fence corner at the most Northerly East corner of said Mills tract;

THENCE with the Southeast line of said Mills tract, crossing and re-crossing a meandering fence, South 40 degrees 25 minutes 30 seconds West, crossing a public road, in all 2908-0/10 feet to a fence corner in the line common to said Biegel and Hensley Leagues, being a re-entrant corner of said Mills tract:

THENCE with the most Southerly Northeast line of said Mills tract and the line common to said Biegel and Hensley Leagues, crossing and re-crossing a meandering fence, South 48 degrees 55 minutes 30 seconds East 1520-7/10 feet to the place of beginning, containing in all 178-70/100 acres of land, more or less, of which 47-6/10 acres, more or less, are in the Biegel League and 131-1/10 acres, more or less, are in the Hensley League, including 2-6/10 acres, more or less, in the public road.

All bearings are grid, Texas Plane Coordinate System, South Central Zone. Rotate bearings 1 degree 06 minutes clockwise to be compatible with true bearings.

FILED RECORDED

D-1-8

Z86749 VOL 499 PAGE 139

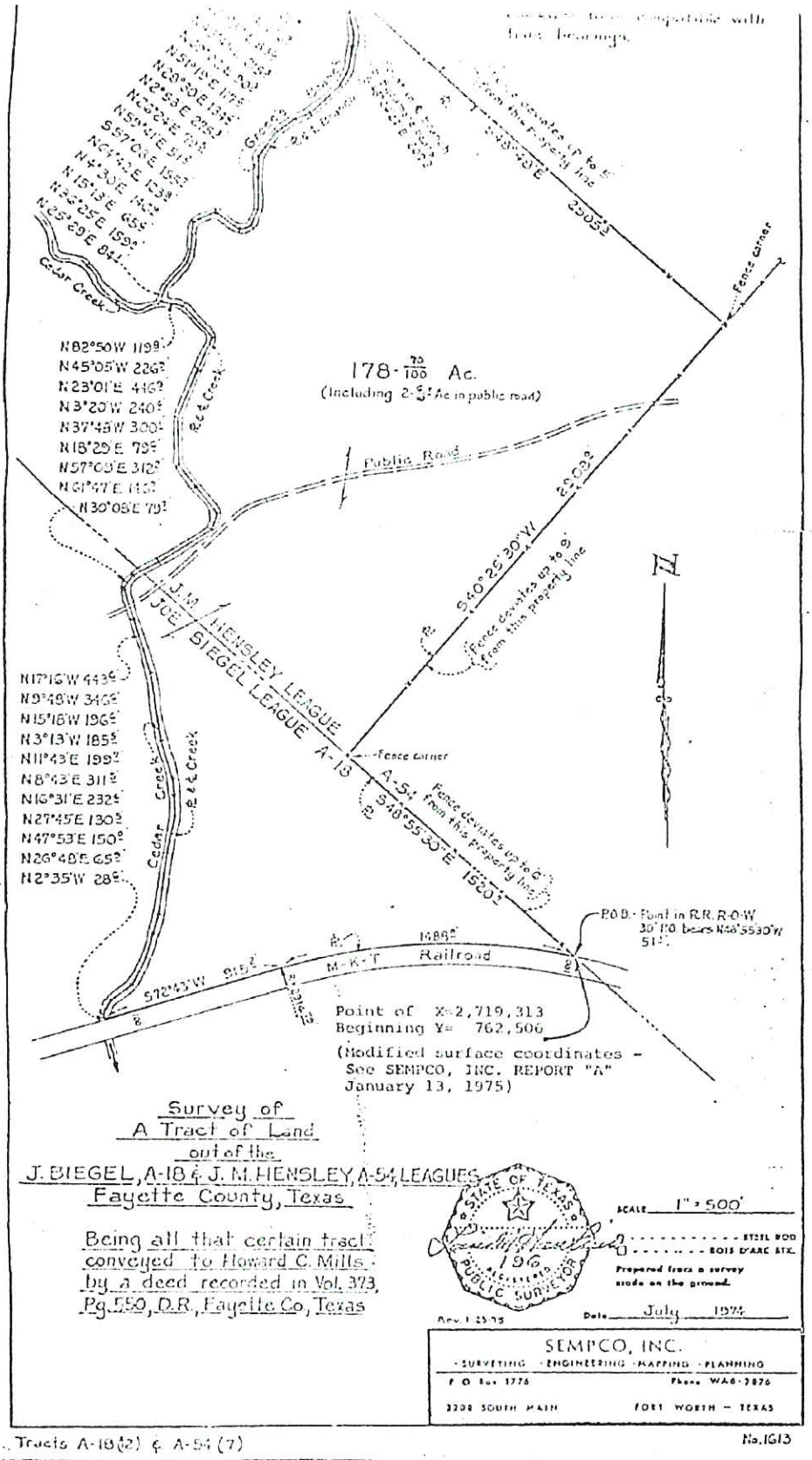


EXHIBIT A, PAGE 3 of 3
Lower Colorado River Authority and City of Austin vs.
HOWARD C. MILLS, ET UX

Vol 16 P 87-90

VOL 499 PAGE 140

DISTRICT CLERK'S CERTIFICATE

THE STATE OF TEXAS }
COUNTY OF FAYETTE }

I, WALTER SCHAEFER, Clerk of the District Court, in and for Fayette County, Texas, do hereby certify that the above and foregoing is a full and correct copy of Final Judgment as the same appears of record in my office, in Volume 16, Page 81-90, of the Civil Minutes District Court, Fayette County, Texas.

WITNESS My hand and seal of office, at office in La Grange, Texas, this the 7th day of December, 1976.

Walter Schaefer
Walter Schaefer, Clerk District Court of
Fayette County, Texas

by: Virginia Wied

FILED FOR RECORD

At 2:00 O'clock P. M.

The 10th. Day of December 19 76.

JOHN A. KUBENA

Clerk, County Court, Fayette County, Texas

By Irene Watka Deputy

$9.50 due
Chg. & return to
Coates Field Service
P.O. Box 121
La Grange, Texas 78945

78750

COMPARED

THE STATE OF TEXAS }
County of Fayette, } I, John A. Kubena, Clerk of the County Court of said County, do hereby certify that the foregoing and attached instrument of writing (with its authentications) bearing the date 7 day of December A. D. 1976, was filed for record in my office at 2:00 o'clock P. M., on the 10 day of December A.D. 1976, and recorded in vol. 499 upon pages 132-140 of Record of Deeds for said County at 9:50 o'clock A. M., on the 14 day of December A.D. 1976.

To certify all of which I here to sign my name and affix my seal of office in the City of La Grange this the 14 day of December A.D. 1976

John A. Kubena

Clerk County Court, Fayette County, Texas

By Patsy Hess Deputy

RECORDED

6-1-0

A-18(014)

D-1-(

RETURN TO CENTRAL FILES

VOL 482 PAGE 128

THE STATE OF TEXAS ◊

COUNTY OF FAYETTE ◊

KNOW ALL MEN BY THESE PRESENTS, that we, LEONARD L. BACA and wife, MILDRED N. BACA, of Fayette County, Texas, for and in consideration of the sum of TEN AND NO/100 ($10.00) DOLLARS cash and other good and valuable considerations to us in hand paid by LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, the receipt of which is hereby acknowledged and confessed, and for which no lien, either express or implied, is retained, or shall exist, have GRANTED, SOLD and CONVEYED, and by these presents do GRANT, SELL and CONVEY unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, all that certain tract or parcel of land, lying and being situated in Fayette County, Texas, described as follows, to-wit:

> All that certain lot, tract or parcel of land out of the J. Biegel League, Abstract 18, in Fayette County, Texas, being all that certain tract conveyed to Leonard L. Baca and wife, Mildred N. Baca, in the deed recorded in Volume 464, Page 432, Deed Records of Fayette County, Texas, and being more particularly described by metes and bounds as follows:
>
> BEGINNING at a 5/8 inch iron pin found in place at an old fence corner, in a branch, for a point in the East line of the above described Leonard L. Baca, et ux, tract; said point of beginning haveing grid coordinates of X = 2,714.562 and Y = 763,047;
>
> THENCE with said East line, Southwesterly and downstream with the center of said branch, South 4° 17' 30" West 92.85 feet to a 3/8 inch iron pin found in place for the South corner of the Baca tract;
>
> THENCE with the fenced West line of the Baca tract, North 31° 52' West 121.23 feet to an angle point in said line, and continuing North 26° 58' West, at 452.8 feet passing a 3/8 inch iron pin found in place on the South side of County Road No. 120, and continuing in all 490.0 feet to a point in the South line of that certain 8 acre tract conveyed to Charles Polasek, et ux, in the deed recorded in Volume 330, Page 604, Deed Records of Fayette County, Texas, for the Northwest corner of the Baca tract;
>
> THENCE with the South line of the Charles Polasek, et ux, tract, along the North side of County Road No. 120, for the North line of the tract herein described, North 78° 00' East, at 440.3 feet passing the fenced East corner of the Polasek tract, in all 471.42 feet to a point on the North side of County Road No. 120 and the West side of County Road No. 119 for the Northeast corner of the Baca tract;
>
> THENCE South 17° 07' 30" West, at 53.9 feet passing a 3/4 inch pipe found in place on the South side of County Road No. 120, and continuing in all 570.42 feet to the place of beginning, containing in all some 3.102 acres of land, including approximately 0.4 of an acre in County Road No. 120.

Z33157

All bearings are grid, Texas Plane Coordinate System, South Central Zone. Rotate bearings 1° 06' clockwise to be compatible with true bearings.

LESS, HOWEVER, AND SUBJECT TO certain rights granted to Fayette Electric Co-operative, Inc. by Charles Polasek, et ux, by an instrument in writing dated September 17, 1945, and recorded in Volume 217, Page 190, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

TO HAVE AND TO HOLD the above described premises, together with all and singular the rights and appurtenances thereto in anywise belonging unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, their successors and assigns forever. And we do hereby bind ourselves, our heirs, executors and administrators to Warrant and Forever Defend, all and singular, the said premises unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, their successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof.

IN TESTIMONY WHEREOF, witness our hands this the 27th day of June, A. D. 1975.

Leonard L. Baca
LEONARD L. BACA

Mildred N. Baca
MILDRED N. BACA

THE STATE OF TEXAS)

COUNTY OF FAYETTE)

BEFORE ME, the undersigned authority, on this day personally appeared LEONARD L. BACA and his wife, MILDRED N. BACA, both known to me to be the persons whose names are subscribed to the foregoing instrument, and acknowledged to me that they each executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this the 27th day of June, A. D. 1975.

Ruth Lehmann
Ruth Lehmann, Notary Public in and for Fayette County, Texas

FILED FOR RECORD

At 10 O'clock A. M.

The 30th. Day of June 1975.

JOHN A. KUBENA

Clerk County Court, Fayette County, Texas

By Irene Prather Deputy

$2.50 due
Chg. Charles Rhodes
Coates Field Service
La Grange, Texas 78945
Filed by & return to
Richard T. Halpain, Atty.
P.O. Box 369
La Grange, Texas 78945

044 00345Z Z33158

233159

THE STATE OF TEXAS
County of Fayette,

I, John A. Kubena, Clerk of the County Court of said County, do hereby certify that the foregoing and attached instrument of writing (with its authentications) bearing the date 27 day of June A. D. 1975, was filed for record in my office at 10 o'clock A. M., on the 30 day of June A.D. 19 75, and recorded in vol. 482 upon pages 128-129 of Record of Deeds for said County at 3:45 o'clock P. M., on the 1 day of July A.D. 19 75

To certify all of which I here to sign my name and affix my seal of office in the City of La Grange this the 1 day of July A.D. 19 75

John A. Kubena

Clerk County Court, Fayette County, Texas

By Lyfil Floyd Deputy

233159

E-1-0

A-18(14A)

D-1-1

VOL 482 PAGE 248

THE STATE OF TEXAS ()

COUNTY OF FAYETTE ()

WHEREAS, by an Order of the County Court of Fayette County, Texas, sitting in matters of probate, made on the 23rd day of June, 1975, directing the sale of the land hereinafter mentioned, belonging to the Estates of Angela Wallace, Donna Wallace and Marianna Wallace, Minors, which was then and is now pending in said court, pursuant to an application for an order to sell land belonging to s said estates made to said court on the 17th day of June, 1975, I, Mildred Baca, Guardian of the Estates of Angela Wallace, Donna Wallace and Marianna Wallace, Minors, did on the 27th day of June, 1975, sell at private sale, at La Grange, in the County of Fayette, the said land to LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, for the sum of FORTY ONE THOUSAND THREE HUNDRED SEVENTY SIX AND 30/100 ($41,376.30) DOLLARS, on these terms, viz.: For cash, in accordance with said Order of Sale: and WHEREAS, the report of said sale, having been filed on the 27th day of June, 1975, and made to said Court, such sale was, on the 2nd day of July, 1975, in all respects confirmed by the Decree of said Court, which Decree read and reads and was and is as follows:

"NO. 7,503

IN THE GUARDIANSHIP OF	IN THE COUNTY COURT
ANGELA WALLACE, DONNA	
WALLACE AND MARIANNA	OF
WALLACE, MINORS	FAYETTE COUNTY, TEXAS

This the 2nd day of July, 1975, came on to be heard in the above entitled and numbered proceeding, at a regular term of the above court, the report of sale of Mildred Baca, Guardian of the Estates of Angela Wallace, Donna Wallace and Marianna Wallace, Minors, hereinafter called the "representative", of the following described property belonging to said estates, to-wit:

All that certain tract or parcel of land out of the J. Biegel League, Abstract 18, in Fayette County, Texas, being all of that certain tract, lying North of the M. K. & T. Railroad right-of-way, conveyed to Mildred Baca in Volume 396, Page 503, Deed Records of Fayette County, Texas, and being more particularly described by metes and bounds as follows:

BEGINNING at an iron rod found in place at a fence corner the most Northerly corner of said Baca tract; said point of beginning having grid coordinates of X = 2,714,561 and Y = 763,048;

Z06928

045 00258

THENCE generally with a fence, South 47° 13' 45" East 1798.1 feet to a point in the fenced North line of the M. K. & T. Railroad right-of-way, a 1 inch iron pipe bears South 47° 13' 45" East 1.7 feet;

THENCE with said fenced North right-of-way line, South 72° 47" West 615.78 feet, to a point at the beginning of a curve to the left, having a radius of 1482.69 feet;

THENCE continuing with said North right-of-way line, and the arc of said curve to the left, 1060.0 feet to a point where the centerline of a creek intersects said right-of-way line, a nail in the centerline of railroad trestle bears South 71° 18' East 52.8 feet;

THENCE departing said right-of-way, and up said creek with its meanders, North 71° 18' West 89.5 feet to a point, and North 17° 21' West 138.0 feet to a point, and North 71° 55' West 293.8 feet to a point, and North 38° 37' West 137.2 feet to a point, and North 7° 27' West 165.1 feet to a point where a branch joins the creek from the Northeast;

THENCE in a Northeasterly direction, up said branch with its meanders, North 65° 10' East 127.5 feet to a point, and North 48° 35' East 226.7 feet to a point, and North 22° 11' East 205.3 feet to a point, and North 39° 44' East 151.2 feet to a point, and North 10° 00' East 129.1 feet to a point, and North 17° 24' East 173.0 feet to a point, and North 3° 44' West 112.6 feet to a point, and North 32° 17' East 112.4 feet to a point, and North 0° 07' East 105.4 feet to a point, and North 23° 36' East 86.9 feet to a point, and North 6° 56' West 230.4 feet to an iron rod found in said branch, for corner;

THENCE North 4° 19' East 92.85 feet to the place of beginning, containing some 35.70 acres of land, more or less.

All bearings are grid, Texas Plane Coordinate System, South Central Zone. Rotate bearings 1° 06' clockwise to be compatible with true bearings.

LESS, HOWEVER, AND SUBJECT TO the mineral reservation reserved in the deed of conveyance from E. J. Koehl, et al, to J. A. Novosad, dated April 1, 1942, and recorded in Volume 186, Page 257, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

LESS, ALSO, AND SUBJECT TO certain rights granted to Taylor, Bastrop and Houston Railway Company by B. December, by an instrument in writing dated April 30, 1887, and recorded in Volume 35, Page 347, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

LESS, ALSO, AND SUBJECT TO an Oil and Gas Lease from Emily Novosad to W. J. Mechura, dated July 9, 1965, and recorded in Volume 105, Page 297, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

And further a conveyance of a permanent easement for use as a roadway over and across the following described property:

All that certain tract or parcel of land out of the Joseph Biegel League, Abstract 18, in Fayette County, Texas, being a portion of that certain tract conveyed to Angela Wallace, et al, by a deed recorded in Volume 465, Page 409, Deed Records of Fayette County, Texas, and being more particularly described by metes and bounds as follows:

BEGINNING at a point in the West line of said Wallace, et al tract in the center of a creek at its intersection with the curved Southeast right-of-way line of the M.K.T. Railroad; said point of beginning having grid coordinates of X = 2,714,548 and Y = 760,942;

THENCE Northeasterly with said right-of-way line and with the arc of a curve to the right having a radius of 1382.69 feet a distance of 200.0 feet to a point;

THENCE, departing said right-of-way line, South 50° 39' East 100.0 feet to a point;

THENCE South 12° 38' West, 283.1 feet to a point in the center of a creek, for the West line of said Wallace, et al tract and the East line of that certain property conveyed to Annie Cude under "First Tract" in the deed recorded in Volume 363, Page 378, Deed Records of Fayette County, Texas;

THENCE with the line common to the Wallace, et al, tract and the Annie Cude tract, and upstream with the meanders of the center of said creek the following courses and distances:

North 19° 39' West 72.8 feet to a point;
North 60° 47' West 81.8 feet to a point; and
North 27° 09' West 76.2 feet to the place of beginning,

containing in all some 0.77 acre of land, more or less;

made on the 27th day of June, 1975, in obedience to the order of this court made on the 23rd day of June, 1975, and entered upon the minutes of this court; and it appearing to the Court that five days have expired after the day of the filing of said report and that on the 16 day of June, 1975, the representative heretofore gave and filed herein a good and sufficient general bond as required by law, which bond is sufficient to protect the estates after the proceeds of the sale are received, and which said bond was on the 16 day of June, 1975, in all things approved by this Court, and the Court, having venue and jurisdiction in all respects, inquired into the manner in which said sale was made, and having heard evidence in support of and against said report, is satisfied that such report is true and correct, that the sale was properly made and after due notice and in conformity with law and was made for a fair price and is satisfactory and in conformity with all provisions of Texas Probate Code applying thereto and that it should be confirmed, it is therefore ORDERED, ADJUDGED and DECREED by the Court that the said sale be, and the same is here now, in all respects approved and confirmed. It is further ORDERED that the said report be recorded by the Clerk of this Court, and that the proper conveyance of the above described property be made by said representative to said LOWER COLORADO RIVER AUTHORITY and THE CITY OF AUSTIN, TEXAS, the purchasers named in said report, upon their compliance with the terms of said sale, which terms are as follows, viz.: That LOWER COLORADO RIVER AUTHORITY and THE CITY OF AUSTIN, TEXAS, the purchasers, pay and deliver to the representative the sum of FORTY ONE THOUSAND THREE HUNDRED SEVENTY SIX AND 30/100 ($41,376.30) DOLLARS in cash for the said wards' lands;

And it appearing, on this the same day, viz.: The 2nd day of July, 1975, that said purchasers have fully and in all things complied with such terms of sale and the law and that the representative has fully complied with what is above and under the law required of her and that same ought to be and are hereby approved, it is fully and finally ORDERED, ADJUDGED and DECREED that such sale be, and the same is hereby, approved and confirmed and the representative is ordered to execute and deliver to the purchaser a proper deed conveying the wards' lands to LOWER COLORADO RIVER AUTHORITY and THE CITY OF AUSTIN, TEXAS, upon their compliance with the terms of said sale.

/s/ Fritz Lobpries
Judge of the County Court of
Fayette County, Texas."

706930

and whereas, such purchasers have complied with such terms of sale:

NOW, THEREFORE, in consideration of the premises and of FORTY ONE THOUSAND THREE HUNDRED SEVENTY SIX AND 30/100 ($41,376.30) DOLLARS cash to me in hand paid by said LOWER COLORADO RIVER AUTHORITY and THE CITY OF AUSTIN, TEXAS, hereinafter called "purchaser", I, Mildred Baca, Guardian of the Estates of Angela Wallace, Donna Wallace and Marianna Wallace, Minors, have GRANTED, SOLD and CONVEYED, and by these presents do GRANT, SELL and CONVEY unto the said LOWER COLORADO RIVER AUTHORITY and THE CITY OF AUSTIN, TEXAS, all the right, title and interest of the said estates in and to all that certain tract or parcel of land situated in the County of Fayette and State of Texas, more particularly described as follows, to-wit:

All that certain tract or parcel of land out of the J. Biegel League, Abstract 18, in Fayette County, Texas, being all of that certain tract, lying North of the M. K. & T. Railroad right-of-way, conveyed to Mildred Baca in Volume 396, Page 503, Deed Records of Fayette County, Texas, and being more particularly described by metes and bounds as follows:

BEGINNING at an iron rod found in place at a fence corner the most Northerly corner of said Baca tract; said point of beginning having grid coordinates of X = 2,714,561 and Y = 763,048;

THENCE generally with a fence, South 47° 13' 45" East 1798.1 feet to a point in the fenced North line of the M. K. & T. Railroad right-of-way, a 1 inch iron pipe bears South 47° 13' 45" East 1.7 feet;

THENCE with said fenced North right-of-way line, South 72° 47' West 615.78 feet to a point at the beginning of a curve to the left, having a radius of 1482.69 feet;

THENCE continuing with said North right-of-way line, and the arc of said curve to the left, 1060.0 feet to a point where the centerline of a creek intersects said right-of-way line, a nail in the centerline of railroad trestle bears South 71° 18' East 52.8 feet;

THENCE departing said right-of-way, and up said creek with its meanders, North 71° 18' West 89.5 feet to a point,and North 17° 21' West 138.0 feet to a point, and North 71° 55' West 293.8 feet to a point, and North 38° 37' West 137.2 feet to a point, and North 7° 27' West 165.1 feet to a point where a branch joins the creek from the Northeast;

THENCE in a Northeasterly direction, up said branch with its meanders, North 65° 10' East 127.5 feet to a point, and North 48° 35' East 226.7 feet to a point, and North 22° 11' East 205.3 feet to a point, and North 39° 44' East 151.2 feet to a point, and North 10° 00' East 129.1 feet to a point, and North 17° 24' East 173.0 feet to a point, and

North 3° 44' West 112.6 feet to a point, and North 32° 17' East 112.4 feet to a point, and North 0° 07' East 105.4 feet to a point, and North 23° 36' East 86.9 feet to a point, and North 6° 56' West 230.4 feet to an iron rod found in said branch, for corner;

THENCE North 4° 19' East 92.85 feet to the place of beginning, containing some 35.70 acres of land, more or less.

All bearins are grid, Texas Plane Coordinate System, South Central Zone. Rotate bearings 1° 06' clockwise to be compatible with true bearings.

LESS, HOWEVER, AND SUBJECT TO the mineral reservation reserved in the deed of conveyance from E. J. Koehl, et al, to J. A. Novosad, dated April 1, 1942, and recorded in Volume 186, Page 257, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

LESS, ALSO, AND SUBJECT TO certain rights granted to Taylor, Bastrop and Houston Railway Company by B. December, by an instrument in writing dated April 30, 1887, and recorded in Volume 35, Page 347, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

LESS, ALSO, AND SUBJECT TO an Oil and Gas Lease from Emily Novosad to W. J. Mechura, dated July 9, 1965, and recorded in Volume 105, Page 297, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

TO HAVE AND TO HOLD the above described right and title, together with all and singular the rights and appurtenances thereto in anywise belonging, unto the said LOWER COLORADO RIVER AUTHORITY and THE CITY OF AUSTIN, TEXAS, their successors and assigns forever.

In addition thereto and in consideration of the premises as above described, I, Mildred Baca, Guardian of the Estates of Angela Wallace, Donna Wallace and Marianna Wallace, Minors, have GRANTED and CONVEYED, and by these presents do GRANT and CONVEY, unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, their successors and assigns, the free and uninterrupted use, liberty, privilege and easement of passing in and along a certain way across a certain .77 of an acre tract of land, said way being described by metes and bounds as follows:

All that certain tract or parcel of land out of the Joseph Biegel League, Abstract 18, in Fayette County, Texas, being a portion of that certain tract conveyed to Angela Wallace, et al, by deed recorded in Volume 465, Page 409, Deed Records of Fayette County, Texas, and being more particularly described by metes and bounds as follows:

BEGINNING at a point in the West line of said Wallace, et al tract in the center of a creek at its intersection with the curved Southeast right-of-way line of the M.K.T. Railroad; said point of beginning having grid coordinates of X = 2,714,548 and Y = 760,942;

THENCE Northeasterly with said right-of-way line and with the arc of a curve to the right having a radius of 1382.69 feet a distance of 200.0 feet to a point;

THENCE, departing said right-of-way line, South 50° 39' East 100.0 feet to a point;

THENCE South 12° 38' West, 283.1 feet to a point in the center of a creek, for the West line of said Wallace, et al tract and the East line of that certain property conveyed to Annie Cude under "First Tract" in the deed recorded in Volume 363, Page 378, Deed Records of Fayette County, Texas;

THENCE with the line common to the Wallace, et al, tract and the Annie Cude tract, and upstream with the meanders of the center of said creek the following courses and distances:

North 19° 39' West 72.8 feet to a point;
North 60° 47' West 81.8 feet to a point; and
North 27° 09' West 76.2 feet to the place of beginning,

containing in all some 0.77 acre of land, more or less;

together with free ingress, egress, regress to and for the said Grantees, their successors and assigns, and their successors, assigns and tenants, by foot, with carts, wagons, carriages, automobiles and other veicles, horses, mules or cattle, as by them shall be necessary or convenient at all times and seasons forever, in, along, upon and out of said way, in common with them, the said Angela Wallace, Donna Wallace and Marianna Wallace, their heirs and assigns, and their tenants;

TO HAVE AND TO HOLD all and singular, the rights and privileges aforesaid to them, the said LOWER COLORADO RIVER AUTHORITY and THE CITY OF AUSTIN, TEXAS, their successors and assigns, to their proper use and behoof, in common with them, the said Angela Wallace, Donna Wallace and Marianna Wallace, their heirs and assigns and their tenants.

IN TESTIMONY WHEREOF, witness my hand this the 3rd day of July, 1975.

Mildred Baca
MILDRED BACA
Guardian of the Estates of
Angela Wallace, Donna Wallace
and Marianna Wallace, Minors.

Z06933

THE STATE OF TEXAS ()

COUNTY OF FAYETTE ()

BEFORE ME, the undersigned authority, on this day personally appeared MILDRED BACA, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that she executed the same as Guardian of the Estates of Angela Wallace, Donna Wallace and Marianna Wallace, Minors, for the purposes and consideration therein expressed and in the capacity therein stated.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this the 3rd day of July, A. D. 1975.

Ruth Lehmann
Ruth Lehmann, Notary Public in and for Fayette County, Texas.

FILED FOR RECORD

At 10 O'clock A. M.

The 8th. Day of July 1975.

JOHN A. KUBENA

Clerk County Court, Fayette County, Texas

By Irene Kratka Deputy

$7.50 due
Chg. Charles Rhodes
Coates Field Service
La Grange, Texas 78945

Filed by & return to
Richard T. Halpain, Atty.
P.O. Box 369
La Grange, Texas 78945

THE STATE OF TEXAS }
County of Fayette, } I, John A. Kubena, Clerk of the County Court of said County, do hereby certify that the foregoing and attached instrument of writing (with its authentications) bearing the date 3 day of July A. D. 1975, was filed for record in my office at 10:00 o'clock A. M., on the 8 day of July A.D. 1975 and recorded in vol. 482 upon pages 248-254 of Record of Deeds for said County at 10:40 o'clock A. M., on the 10 day of July A.D. 1975

To certify all of which I here to sign my name and affix my seal of office in the City of La Grange this the 10 day of July A.D. 1975.

John A. Kubena

Clerk County Court, Fayette County, Texas

By Patsy Hentschel Deputy

Z06934

A-18(15)

D-1-1

783667

THE STATE OF TEXAS §

COUNTY OF FAYETTE §

VOL 478 PAGE 867

KNOW ALL MEN BY THESE PRESENTS, that we, FRED E. ERDMAN and wife, ANNIE H. ERDMAN, of Fayette County, Texas, for and in consideration of the sum of TEN AND NO/100 ($10.00) DOLLARS cash and other good and valuable considerations to us in hand paid by LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, the receipt of which is hereby acknowledged and confessed, and for which no lien, either express or implied, is retained, or shall exist, have GRANTED, SOLD and CONVEYED, and by these presents do GRANT, SELL and CONVEY unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, all that certain tract or parcel of land, lying and being situated in Fayette County, Texas, described as follows, to-wit:

All that certain lot, tract or parcel of land out of the J. Biegel League, Abstract 18, Fayette County, Texas, being a portion of that certain tract conveyed to Fred E. Erdman in Volume 241, Page 411, Deed Records of Fayette County, Texas, and being more particularly described by metes and bounds as follows:

BEGINNING at a point in the curved Northwest right-of-way line of the M. K. & T. Railroad, at its intersection with the East line of County Road No. 121, from which an iron rod at a fence corner bears North 46° 19' West 1.2 feet, said rod having grid coordinates of X = 2,713,977 and Y = 759,771;

THENCE departing said M. K. & T. right-of-way with the fenced East line of County Road No. 121, North 46° 19' West, at 1.2 feet passing an iron rod at a fence corner, continuing in all 271.47 feet to an iron rod found in place 1.5 feet Northeast of said fence;

THENCE departing said county road, North 88° 30' East at 310.23 feet passing an iron rod Northwest of a right-of-way fence, continuing in all 312.93 feet to a point for corner in said fence, on the curved North right-of-way line of the M. K. & T. Railroad;

THENCE Southwesterly with said right-of-way line and with the arc of a curve to the right, having a radius of 1370-85/100 feet a distance of 227.75 feet to the place of beginning, containing some 0.71 acre of land.

LESS, HOWEVER, AND SUBJECT TO certain rights granted to the Taylor, Bastrop and Houston Railway Company by C. Niederauer by an instrument in writing dated May 7, 1887, and recorded in Volume 35, Page 342, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

LESS, ALSO, AND SUBJECT TO certain rights granted to the Fayette Electric Cooperative, Inc., by Elo C. Drawe, et ux, by an instrument in writing dated January 14, 1948, and recorded in Volume 221, Page 175, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes

TO HAVE AND TO HOLD the above described premises, together with all and singular the rights and appurtenances thereto in anywise belonging unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, their successors and assigns forever. And we do hereby bind ourselves, our heirs, executors and administrators to Warrant and Forever Defend, all and singular, the said premises unto the said LOWER COLORADO RIVER AUTHORITY and the City of AUSTIN, TEXAS, their successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof.

IN TESTIMONY WHEREOF, witness our hands this the 11th day of March, A. D. 1975.

Fred E Erdman
FRED E. ERDMAN

Annie H. Erdman
ANNIE H. ERDMAN

THE STATE OF TEXAS (

COUNTY OF FAYETTE (

BEFORE ME, the undersigned authority, on this day personally appeared FRED E. ERDMAN and his wife, ANNIE H. ERDMAN, both known to me to be the persons whose names are subscribed to the foregoing instrument, and acknowledged to me that they each executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this the 11th day of March, A. D. 1975.

Richard T. Halpain
Richard T. Halpain, Notary Public in and for Fayette County, Texas.

FILED FOR RECORD
At 11:45 O'clock A. M.
The 18th Day of March 19 75.
JOHN A. KUBENA
Clerk County Court Fayette County, Texas
By Irene Protka Deputy

$2.50 due
Chg. Charles Rhodes
Coates Field Service
La Grange, Texas 78945
Filed by & return to
Richard T.Halpain, Atty.
P.O. Box 369
La Grange, Texas 78945

044 00504

THE STATE OF TEXAS
County of Fayette,

I, John A. Klibena, Clerk of the County Court of said County, do hereby certify that the foregoing and attached instrument of writing (with its authentications) bearing the date 11 day of March A. D. 1975, was filed for record in my office at 11:45 o'clock A. M., on the 18 day of March A.D. 1975, and recorded in vol. 478 upon pages 867 & 868 of Record of Deeds for said County at 9:55 o'clock A. M., on the 19 day of Mar. A.D. 1975

To certify all of which I here to sign my name and affix my seal of office in the City of La Grange this the 19 day of March A.D. 1975

John A. Kubena

Clerk County Court, Fayette County, Texas

By Patsy Hentschel Deputy

283669

C-1-D

A-18(17)

D-1-L

THE STATE OF TEXAS §

COUNTY OF FAYETTE §

283537

VOL 481 PAGE 577

KNOW ALL MEN BY THESE PRESENTS, that we, ANNIE B. CUDE, joined pro forma by her husband, IRA CUDE, of Harris County, Texas, for and in consideration of the sum of TEN AND NO/100 ($10.00) DOLLARS cash and other good and valuable considerations to us in hand paid by LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, the receipt of which is hereby acknowledged and confessed, and for which no lien, either express or implied, is retained, or shall exist, have GRANTED, SOLD and CONVEYED, and by these presents do GRANT, SELL and CONVEY unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, all that certain tract or parcel of land, lying and being situated in Fayette County, Texas, described as follows, to-wit:

All that certain lot, tract or parcel of land in the J. Biegel League, Abstract 18, Fayette County, Texas, being all of those certain four tracts conveyed to Annie Cude in Volume 363, Page 378, Deed Records, Fayette County, Texas, and being more particularly described by metes and bounds as follows:

BEGINNING at an iron pin found in place in the Northeast line of County Road No. 121 for the Southwest corner of the Cude tract described under "First Tract" in said Volume 363, Page 378; said beginning point having grid coordinates of X = 2,713,780 and Y = 759,959;
THENCE with the Southwest line of the Cude property North 49° 35' West 576.42 feet to a point in the approximate center of County Road No. 121;

THENCE continuing with said Southwest line and with the approximate center of said County Road the following courses and distances: North 54° 39' West 425.5 feet to a point, North 55° 12' West 539.9 feet to a point, North 56° 16' West 466.75 feet to a point for the most Westerly corner of the Cude "Third Tract";

THENCE departing the County Road with the fenced Northwest line of said "Third Tract" North 40° 28' East 228.9 feet to an iron pin for its most Northerly corner;

THENCE with the fenced Northeast line of said "Third Tract" South 44° 58' East 261.1 feet to a fence corner, for the Westerly corner of the Cude "Second Tract" described in Volume 363, Page 378, Deed Records of Fayette County, Texas;

THENCE with the fenced Northwest line of said "Second Tract" North 42° 08' East 1405.8 feet to a point in the center of a creek, for the Northerly corner of the Cude property;

THENCE downstream with the meanders of the center of said creek, for the Northeast line of the Cude "Second Tract" and "First Tract" the following courses and distances:

783538

North [illegible]° 48' East 22.5 feet to a point,
South 42° 40' East 101.1 feet to a point,
South 72° 35' East 190.1 feet to a point,
South 23° 33' East 28.2 feet to a point,
South 14° 39' West 123.4 feet to a point,
South 89° 44' East 236.1 feet to a point,
South 76° 43' East 41.9 feet to a point,
South 61° 43' West 167.1 feet to a point,
South 50° 09' West 80.0 feet to a point,
South 47° 16' East 163.0 feet to a point,
North 47° 06' East 113.3 feet to a point,
South 30° 45' East 152.4 feet to a point,
South 76° 36' West 87.0 feet to a point,
South 36° 33' West 49.7 feet to a point,
South 68° 18' East 39.5 feet to a point where a branch joins with said creek,
South 7° 27' East 165.1 feet to a point,
South 38° 37' East 137.2 feet to a point,
South 71° 55' East 293.8 feet to a point,
South 17° 21' East 138.0 feet to a point, and
South 71° 18' East 142.3 feet to a nail set in the center of the M.K.T. Railroad trestle, over the center of the creek;

THENCE continuing downstream with the meanders of the center of the creek, for the Northeast line of the Cude "First Tract" the following courses and distances:
South 27° 09' East 133.1 feet to a point,
South 60° 47' East 81.8 feet to a point,
South 19° 39' East 83.4 feet to a point,
South 43° 22' West 47.1 feet to a point,
South 55° 22' West 51.9 feet to a point,
South 10° 18' West 82.1 feet to a point,
South 51° 23' East 113.5 feet to a point,
South 82° 29' East 74.2 feet to a point,
South 18° 37' East 248.1 feet to a point,
South 89° 15' East 110.5 feet to a point,
South 27° 38' East 16.8 feet to a point, and
South 4° 32' West 125.3 feet to a point;

THENCE South 18° 53' West, at 35.2 feet passing an iron pin found in place at a fence on the Northwest bank of the creek, and continuing in all 166.75 feet to an iron pin found in place at a fence corner for the Southeast corner of the Cude "First Tract";

THENCE with the fenced South line of the Cude "First Tract" South 87° 51' West 688.2 feet to an iron pin found in place at a fence corner on the East side of the M.K.T. Railroad;

THENCE continuing with said South line South 88° 42' West, at 109 feet an iron pin found in place on the West side of the M.K.T. Railroad bears North 1° 18' West 1.1 feet, and continuing in all 422.0 feet to the place of beginning, containing in all some 68.37 acres of land, including approximately 1.0 acre in County Road No. 121, and including approximately 2.46 acres in a 100 foot wide easement for the M. K. T. Railroad. Surveyed in September of 1974 and January of 1975, all bearings are grid, Texas Plane Coordinate System, South Central Zone. Rotate bearings 1° 06' clockwise to be compatible with true bearings.

LESS, HOWEVER, AND SUBJECT TO certain rights granted to the Taylor, Bastrop and Houston Railway by Agreed Judgment dated May 13, 1889, in Cause No. 4068, styled Taylor, Bastrop and Houston Railway vs. D. H. Weber, in the District Court of Fayette County, Texas.

283539

LESS, ALSO, AND SUBJECT TO certain rights granted to Southwestern Bell Telephone Company by Julius Legler, et ux, by an instrument in writing dated April 1, 1930, and recorded in Volume 150, pages 218-219, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

LESS, ALSO, AND SUBJECT TO certain rights granted to Fayette Electric Cooperative, Inc., by Julius Legler, et ux, by an instrument in writing dated September 17, 1945, recorded in Volume 217, pages 23-24, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

TO HAVE AND TO HOLD the above described premises, together with all and singular the rights and appurtenances thereto in anywise belonging unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, their successors and assigns forever. And we do hereby bind ourselves, our heirs, executors and administrators to Warrant and Forever Defend, all and singular, the said premises unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, their successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof.

IN TESTIMONY WHEREOF, witness our hands this the 13th day of May, A. D. 1975.

Annie B Cude
ANNIE B. CUDE

Ira Cude
IRA CUDE

THE STATE OF TEXAS ()

COUNTY OF FAYETTE ()

BEFORE ME, the undersigned authority, on this day personally appeared IRA CUDE and his wife, ANNIE B. CUDE, both known to me to be the persons whose names are subscribed to the foregoing instrument, and acknowledged to me that they each executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this the 13th day of May, A. D. 1975.

Kay Lung
, Notary Public in and for Harris County, Texas.

FILED FOR RECORD

At 2:30 O'clock P. M.

On the 3rd. Day of June 19 75.

JOHN A. KUBENA

Clerk County Court, Fayette County, Texas

By Irene Gratka Deputy

$3.50 due
Chg. Charles Rhodes
Coates Field Serv.
La Grange, Texas 78945

Filed by & return to
Richard T. Halpain, Atty.
P.O. Box 369
La Grange, Texas 78945

044 00487

THE STATE OF TEXAS
County of Fayette,

I, John A. Kubena, Clerk of the County Court of said County, do hereby certify that the foregoing and attached instrument of writing (with its authentications) bearing the date 13 day of May A.D. 1975, was filed for record in my office at 2:30 o'clock P. M. on the 3 day of June A.D. 1975, and recorded in vol. 481 upon pages 577-579 of Record of Deeds for said County at 8:20 o'clock A. M., on the 9 day of June A.D. 1975

To certify all of which I here to sign my name and affix my seal of office in the City of La Grange this the 9 day of June A.D. 1975

John A. Kubena

Clerk County Court, Fayette County, Texas

By Patsy Hentschel Deputy

75340

D-1-9

A-18(18)

A-18(18)
D-1-1

CAUSE NO. 12,317
ADMINISTRATIVE NO. 11

LOWER COLORADO RIVER AUTHORITY and THE CITY OF AUSTIN, TEXAS	§	PROCEEDINGS IN EMINENT DOMAIN
VS.	§	IN THE 155TH JUDICIAL
ADOLPH F. SCHMIDT, ET AL	§	DISTRICT COURT OF FAYETTE COUNTY, TEXAS

FINAL JUDGMENT

On this day came on to be considered the above entitled and numbered cause, and came the plaintiffs Lower Colorado River Authority and The City of Austin, Texas, by and through their respective attorneys of record and came the defendants, Adolph F. Schmidt and wife, Elvira, and Bennie H. Schmidt, by and through their respective attorneys of record, whereupon the parties announced in open Court that all matters in controversy had been compromised and settled, whereupon the plaintiffs and defendants jointly moved for entry of this agreed Final Judgment.

And the Court, having found that it has jurisdiction of the subject matter and of the parties and being of the opinion that such Final Judgment should be entered, it is, therefore,

ORDERED, ADJUDGED and DECREED that the plaintiffs, Lower Colorado River Authority and The City of Austin, Texas, do have and recover from the defendants, Adolph F. Schmidt and wife, Elvira, and Bennie H. Schmidt, all of that certain real property consisting in the aggregate of 912.91 acres, more or less, and described in two tracts denominated as Tract "A-R" and Tract "B" in Exhibit "A"

(including the reversionary interests of fondulac city street, if any, in and to State Highway 159 insofar as such highway abuts any of said Tract "A-B" and Tract "B"), said Exhibit "A" being attached hereto and included as a part of this Final Judgment for the purpose of setting forth all legal descriptions referred to herein; and

It is further ORDERED, ADJUDGED and DECREED that the plaintiffs, Lower Colorado River Authority and The City of Austin, Texas, do have and recover from the defendants, Adolph F. Schmidt and wife, Elvira, and Bennie H. Schmidt, an easement consisting of 6.89 acres of land, more or less, more particularly described on Page 8 of Exhibit "A" attached hereto, the terms of such easement being for the construction, maintenance, repair, replacement, removal and operation of electric transmission lines and communication lines to be utilized in connection with the Fayette County Power Project; and within such easement plaintiffs have the rights to construct, maintain, repair, replace, remove and operate electric transmission lines and communication lines, each consisting of a variable number of wires and all necessary and desirable appurtenances and attachments, including poles, "H" frames, metal towers, guy wires and guy anchorages. This Judgment vests in plaintiffs no other ownership rights or title in Tract "C", described on Page 6 of Exhibit "A" attached hereto, consisting of 31.94 acres of land, more or less, except for the above described easement consisting of 6.89 acres, and all of the defendants' other ownership rights and title to said Tract "C" are retained by said defendants.

FILED, RECORDED

Z42779

VOL 499 PAGE 33

the defendants, [illegible] and Bennie H. Schmidt, do have and recover of and from the plaintiffs, Lower Colorado River Authority and the City of Austin, Texas, the total sum of $1,314,310.00, of which sum $1,286,755.00 constitutes full payment for the land and improvements and the easement, and the remaining sum of $27,555.00 constitutes full payment of damages to the remainder of the defendants' property, the same described as Tract "C" in Exhibit "A" attached hereto, subject to the above described easement herein adjudged to plaintiffs; and it appearing to the Court that the plaintiffs have heretofore deposited said total sum of $1,314,310.00 into the Registry of the Court, which total sum has heretofore been withdrawn by the defendants, it is, therefore, further

ORDERED, ADJUDGED and DECREED that the defendants Adolph F. Schmidt and wife, Elvira, and Bennie H. Schmidt, are and shall be entitled to have and retain said total sum withdrawn from the Registry of the Court in the amount of $1,314,310.00 in full satisfaction of the damages awarded to them in this Judgment, and plaintiffs shall be and are hereby released and discharged from further liability by reason of this action in condemnation and this Judgment.

It is further ORDERED, ADJUDGED and DECREED that plaintiffs pay all costs of Court in this behalf expended.

SIGNED, RENDERED and ENTERED this 21st day of May, 1976.

FILED
At 11:55 o'clock A M.
MAY 26 1976
Clerk District Court, Fayette County, Texas
By ..... Deputy

Judge of the District Court
of Fayette County, Texas

D-1-4

VOL 499 PAGE 34

Z42780

AGREED TO AND APPROVED,
BOTH AS TO FORM AND SUBSTANCE:

SMALL, CRAIG & WERKENTHIN
900 Perry-Brooks Building
Austin, Texas 78701

By: E. Small

Mac Umstattd, General Counsel
LOWER COLORADO RIVER AUTHORITY
P. O. Box 220
Austin, Texas 78767

Jan L. Kubicek, Acting City Attorney
P. O. Box 1088
Austin, Texas 78767

HART & HALPAIN
P. O. Box 369
La Grange, Texas 78945

By: Richard T. Halpain
Richard T. Halpain
ATTORNEYS FOR PLAINTIFFS

VINSON, ELKINS, SEARLS, CONNALLY & SMITH
First City National Bank Building
Houston, Texas 77002

By: Ewing Werlein, Jr.
Ewing Werlein, Jr.
ATTORNEYS FOR DEFENDANTS

Adolph F. Schmidt
Adolph F. Schmidt

Elvira H. Schmidt
Elvira Schmidt

Bennie H. Schmidt
Bennie H. Schmidt

END OF EVIDENCE

D-1-S

Z42781

VOL 499 PAGE 35

EXHIBIT A
Lower Colorado River Authority and City of Austin vs.
ADOLPH F. SCHMIDT, ET AL

Tracts "A-R", "B" and "C" together constitute all those certain tracts of land out of Joseph Biegel League, Abstract 18, and the J. M. Hensley League, Abstract 54, both in Fayette County, Texas, conveyed to Bennie H. Schmidt, et al, in the following deed references: First Tract 0-35/100 acre and Third Tract 2-8/10 acres, Volume 218, Pages 454 and 455; 58 acres, Volume 218, Page 456; 159-2/10 acres, Volume 313, Page 437; First Tract 320 acres, Second Tract (A) 34 acres, Second Tract (B) 53 acres, Third Tract (A) 104 acres, Third Tract (B) 50 acres, Volume 384, Page 163; and First Tract 40-5/10 acres, Second Tract 53-5/10 acres, Third Tract 59-27/100 acres, Volume 405, Page 105, all references being within the Deed Records of Fayette County, Texas, and being more particularly described by metes and bounds in three tracts as follows:

TRACT "A-R"

BEGINNING at a point in said HENSLEY LEAGUE, from which a fence corner bears South 40 degrees 55 minutes West 1-3/10 feet, said point being the East corner of said 2-8/10 acre tract in the Southwest right-of-way of State Highway No. 159 (old S.H. No. 73);

THENCE with the Southeast line of said 2-8/10 acre tract and said 104 acre tract, South 40 degrees 55 minutes 30 seconds West 2681-2/10 feet to a fence corner for the North corner of said 50 acre tract:

THENCE with the Northeast and Southeast lines of said 50 acre tract, South 48 degrees 51 minutes East 890-9/10 feet to a 3/4" x 1 1/2" steel bar found at a fence corner and South 40 degrees 47 minutes 30 seconds West 1892-0/10 feet to a fence corner for the North corner of said 59-27/100 acre tract;

FILED RECORDED

D-1-L

742782

VOL 499 PAGE 36

THENCE with the Northeast and Southeast lines of said 59-27/100 acre tract, South 49 degrees 10 minutes East 2262-2/10 feet to a fence corner and South 39 degrees 23 minutes West 559-1/10 feet to a point in a fence line from which a fence corner bears South 39 degrees 23 minutes West 62-7/10 feet, said point being on the line common to said HENSLEY and BIEGEL LEAGUES, as occupied on the ground;

THENCE with said Survey Line and a Northeast line of said 59-27/100 acre tract, South 49 degrees 10 minutes East 235-6/10 feet to the most Southerly East corner thereof and the North corner of said 53-5/10 acre tract, said point being a 5/8" steel rod set in County Road No. 119 from which a fence corner bears North 63 degrees 42 minutes West 12-7/10 feet and South 42 degrees 45 minutes West 5-2/10 feet;

THENCE with the Northeast line of said 53-5/10 acre tract and said Survey Line, as occupied, South 47 degrees 58 minutes 30 seconds East 1452-0/10 feet to a point in said road on a projection of the Northwest line of said Road where it turns Southwest, from which a fence corner bears South 47 degrees 58 minutes 30 seconds East 34-5/10 feet;

THENCE departing said Survey Line, and with the Northwest line of said County Road No. 119, and the Southeast line of said 53-5/10 acre tract and said 40-5/10 acre tract; South 15 degrees 27 minutes 30 seconds West 2401-1/10 feet to a point, for the most Easterly South corner of said 40-5/10 acre tract, from which an 18" post oak tree bears South 15 degrees 28 minutes West 6-5/10 feet, said point also being at the Northwest intersection of County Roads 119 and 120;

THENCE with the North line of said County Road No. 120, South 78 degrees 00 minutes West 30-1/10 feet to a fence corner for the most Southerly West corner of said 40-5/10 acre tract;

THENCE with the Southwest line of said 40-5/10 acre tract, North 48 degrees 19 minutes West 750-9/10 feet to a fence corner and North 47 degrees 29 minutes 30 seconds West 1105-4/10 feet to a post oak tree at a fence corner for a point in the Southeast line of said 53 acre tract;

THENCE with a Southeast line of said 53 acre tract, South 45 degrees 19 minutes West 489-9/10 feet to a point from which a fence corner bears South 45 degrees 19 minutes West 1-0/10 feet, said point being the South corner of said tract and in the approximate centerline of an old road;

THENCE with a fence along said old road, North 47 degrees 55 minutes West, passing the West corner of said 53 acre tract at

1542-1/10 feet, and continuing in all, 1749-0/10 feet to a fence corner in the Southwest line of said 320 acre tract;

THENCE South 45 degrees 43 minutes West 13-1/10 feet to a fence corner and North 47 degrees 38 minutes West 748-2/10 feet to a point in a gully from which a fence corner bears South 47 degrees 38 minutes East 191-5/10 feet and South 64 degrees 13 minutes West 183-6/10 feet;

THENCE South 64 degrees 13 minutes West 449-0/10 feet to a point from which a fence corner bears North 47 degrees 26 minutes West 29-0/10 feet and a 20" post oak tree bears North 64 degrees 13 minutes East 10-4/10 feet, said point also being in the Southwest line of an apparent abandoned road;

THENCE with said Southwest line, approximately as fenced, North 47 degrees 26 minutes West 958-3/10 feet to a point in said road, and North 57 degrees 38 minutes West, passing a fence corner at 1014-7/10 feet where said old road turns Southwest to cross Baylor Creek, and continuing on a projection Northwesterly of said old road West line, in all 1395-0/10 feet to a point in the centerline of Baylor Creek, said point being the most Westerly Southwest corner of said 320 acre tract;

THENCE upstream with the centerline of Baylor Creek and the West line of said 320 acre tract, the following courses and distances:

North 5 degrees 48 minutes East 263-4/10 feet,
North 40 degrees 54 minutes West 317-9/10 feet,
North 34 degrees 30 minutes East 569-8/10 feet,
North 9 degrees 58 minutes East 400-0/10 feet,
North 28 degrees 30 minutes East 557-7/10 feet,
North 21 degrees 47 minutes West 241-9/10 feet,
North 85 degrees 35 minutes West 733-6/10 feet,
North 40 degrees 23 minutes West 394-9/10 feet,
North 0 degrees 51 minutes West 295-0/10 feet,
North 67 degrees 04 minutes East 100-0/10 feet,
South 26 degrees 44 minutes East 313-9/10 feet,
North 48 degrees 36 minutes East 624-8/10 feet,
North 22 degrees 06 minutes West 163-0/10 feet,
North 73 degrees 42 minutes West 184-3/10 feet,
North 5 degrees 44 minutes West 308-9/10 feet,
North 35 degrees 39 minutes East 311-1/10 feet,
North 30 degrees 29 minutes West 314-9/10 feet,
and North 53 degrees 34 minutes East 372-8/10 feet to a point for the intersection of said creek centerline with a fence, said point also being in the line common to said BIEGEL and HENSLEY LEAGUES, as fenced;

THENCE departing said creek centerline and with a fence, South 49 degrees 22 minutes East 472-2/10 feet to a fence corner;

THENCE departing said common Survey Line, North 57 degrees 23 minutes East 404-8/10 feet to a point in a gully in line with a Northwest-Southeast fence, said point being a North corner of said 320 acre tract in the Southwest line of said 159-2/10 acre tract;

THENCE with the Southwest line of said 159-2/10 acre tract, North 47 degrees 48 minutes West 587-7/10 feet to a fence corner for the West corner thereof;

THENCE with the Northwest line of said 159-2/10 acre tract, North 39 degrees 43 minutes 30 seconds East 1582-3/10 feet to a steel rod in concrete found in a fence, and North 40 degrees 19 minutes East 825-7/10 feet to a point;

THENCE departing said Northwest line, across the 159-2/10 acre tract the following courses:

South 43 degrees 02 minutes East 248-65/100 feet,
South 24 degrees 16 minutes 30 seconds West 410-0/10 feet;
South 74 degrees 40 minutes 30 seconds East 645-0/10 feet,
North 52 degrees 08 minutes East 380-75/100 feet,
North 12 degrees 16 minutes East 365-0/10 feet,
North 37 degrees 01 minute East 339-9/10 feet,
North 15 degrees 25 minutes East 307-2/10 feet,
North 37 degrees 28 minutes West 252-9/10 feet,
North 6 degrees 58 minutes West 453-35/100 feet,

and North 88 degrees 35 minutes East 392-15/100 feet to a point in the fenced Northeast line of said 159-2/10 acre tract;

THENCE with said Northeast line, South 48 degrees 50 minutes East 288-6/10 feet to a fence corner for a re-entrant corner in said line;

THENCE North 39 degrees 55 minutes East 266-8/10 feet to a fence corner for the Easterly Northwest corner of the 159-2/10 acre tract, and the Southwest right-of-way line of State Highway No. 15

THENCE with said Highway right-of-way as fenced and/or monumented and the Northeast line of said 159-2/10 acre tract, South 49 degrees 10 minutes East 336-1/10 feet to a Texas Highway Department concrete monument found for the beginning of a curve to the left having a radius point which bears North 41 degrees 09 minutes East 11,509-16/100 feet, and around the arc of said curve, in a Southeasterly direction 274-5/10 feet to a T.H.D. concrete monument found for the end of said curve, at which point said radius point bears North 39 degrees 47 minutes East 11,509-16/100 feet, and South 50 degrees 20 minutes East 321-8/10 feet to a fence corner for the East corner of said 159-2/10 acre tract;

THENCE departing said Highway right-of-way, and with the fenced Southeast line of said 159-2/10 acre tract, South 41 degrees 06 minutes West 3910-7/10 feet to a fence corner;

242785

VOL 499 PAGE 39

THENCE with a Northeast line of said 320 acre tract, South 49 degrees 20 minutes East 1144-9/10 feet to a fence corner, said point being in the Northwest line of said 104 acre tract;

THENCE with said Northwest line, as fenced, North 41 degrees 21 minutes 30 seconds East 3923-3/10 feet to a fence corner for the North corner of said 104 acre tract, said point also being in the Southwest line of said 0-35/100 acre tract;

THENCE with said Southwest line as fenced, North 46 degrees 35 minutes West 393-5/10 feet to a fence corner in the curved Southwest right-of-way of State Highway No. 159, said point also being the Northwest corner of said 0-35/100 acre tract;

THENCE around the arc of said curve, having a radius of 2505-53/100 feet, to the left and in a Southeasterly direction, 18-1/10 feet to a T.H.D. concrete monument for the end of said curve, from which the radius point of said curve bears North 32 degrees 23 minutes East 2505-53/100 feet;

THENCE continuing with said Highway right-of-way, South 57 degrees 44 minutes East, passing a T.H.D. concrete monument at 389-1/10 feet for the East corner of said 0-35/100 acre tract and the North corner of a 60 foot lane, and continuing with the Northeast line of said lane and the Northeast line of said 2-8/10 acre tract, in all, 1302-2/10 feet to the place of beginning, containing some 853-83/100 acres of land, including approximately 0-3/10 of an acre in County Road No. 119.

TRACT "B"

BEGINNING at a point from which a fence corner bears North 40 degrees 06 minutes East 1-3/10 feet, said point being in the Northeast right-of-way of State Highway No. 159 (old Highway No. 73), said point also being the South corner of said 58 acre tract, which bears South 67 degrees 36 minutes East 583-9/10 feet from the East corner of said 2-8/10 acre tract, and the point of beginning for Tract "A-R" as previously described herein;

THENCE with said Highway right-of-way, North 57 degrees 44 minutes West 1877-4/10 feet to a Texas Highway Department concrete monument found for the beginning of a curve to the right, having a radius point which bears North 32 degrees 08 minutes East 2405-53/100 feet, and around the arc of said curve, in a Northwesterly direction, 41-6/10 feet to a point from which a fence corner bears North 41 degrees 55 minutes East 1-0/10 foot, said point being the West corner of said 58 acre tract;

THENCE departing said Highway right-of-way, and with the fenced Northwest line of said tract, North 41 degrees 55 minutes 30 seconds East 1572-1/10 feet to a fence corner at the North corner thereof;

D-1-16

Z42786

THENCE with the Southeast line of said tract, South 22 degrees 01 minute West 797-0/10 feet to a fence corner and South 40 degrees 06 minutes 30 seconds West 521-1/10 feet to the point of beginning, containing some 59-08/100 acres of land.

TRACT "C"

Tract "C" is the balance of the Bennie Schmidt, et al property lying Southwest of State Highway No. 159, the hereinabove described Tract "A-R" and Tract "C" together constituting all of the Bennie Schmidt, et al property lying Southwest of State Highway No. 159, said Tract "C" being described by metes and bounds as follows:

BEGINNING at a fence corner for the most Northerly corner of the 159-2/10 acre tract described in Volume 313, Page 437, Deed Records of Fayette County, Texas, said fence corner being on the Southeast side of a private road running along the Northwest line of said 159-2/10 acre tract;

THENCE with the fenced Northeast line of the 159-2/10 acre tract South 48 degrees 50 minutes East 384-7/10 feet to a point;

THENCE departing said Northeast line, across the 159-2/10 acre tract, the following courses:
South 88 degrees 35 minutes West 392-15/100 feet,
South 6 degrees 58 minutes East 453-35/100 feet,
South 37 degrees 28 minutes East 252-9/10 feet,
South 15 degrees 25 minutes West 307-2/10 feet,
South 37 degrees 01 minute West 339-9/10 feet,
South 12 degrees 16 minutes West 365-0/10 feet,
South 52 degrees 08 minutes West 380-75/100 feet,
North 74 degrees 40 minutes 30 seconds West 645-0/10 feet,
North 24 degrees 16 minutes 30 seconds East 410-0/10 feet,
and North 43 degrees 02 minutes West 248-65/100 feet to a point in the Northwest line of the 159-2/10 acre tract;

THENCE with said Northwest line, North 40 degrees 19 minutes East 296-4/10 feet to a steel rod in concrete found in place in a fence line, a fence corner bears North 74 degrees 30 minutes East 13-0/10 feet, said steel rod being at the Southwest end and in the approximate center of a private road;

THENCE continuing with said Northwest line, down said private road, North 41 degrees 28 minutes East 1494-6/10 feet to the place of beginning, containing in all some 31-94/100 acres of land.

The three tracts herein described contain a total of some 944-85/100 acres of land, more or less.

The points of beginning of these field notes have the following coordinated values:

Tract "A-R"	Tract "B"	Tract "C"
X = 2,715,077	X = 2,715,617	X = 2,711,967
Y = 772,988	Y = 772,766	Y = 775,013

All bearings are grid, Texas Plane Coordinate System, South Central Zone. Rotate bearings 1 degree 06 minutes clockwise to be compatible with true bearings.

FILED, RECORDED

D-1-12

142787

VOL 499 PAGE 41

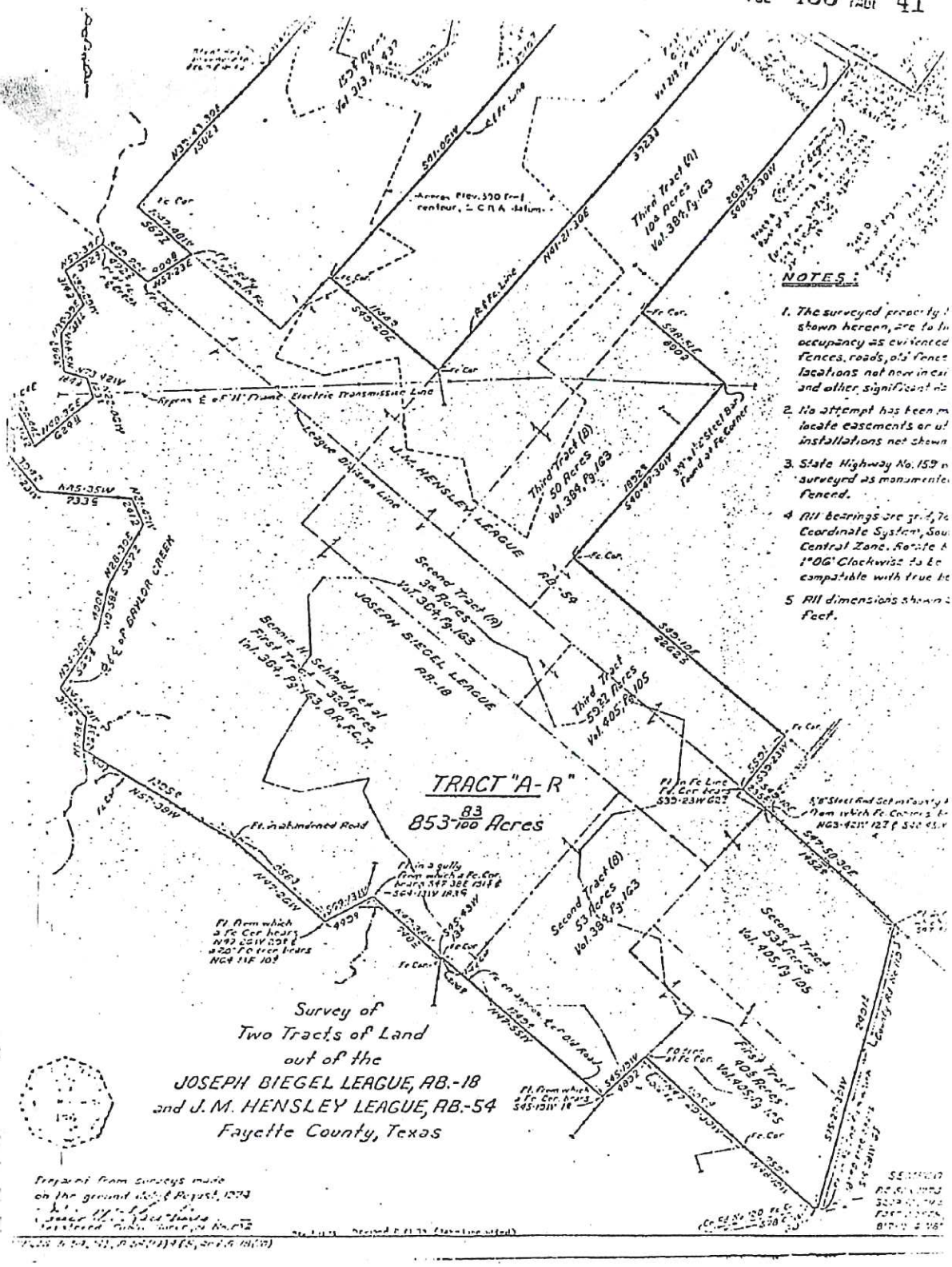


EXHIBIT A, PAGE 7 of 9
Lower Colorado River Authority and City of Austin vs.
ADOLPH F. SCHMIDT, ET AL

FILED RECORDED

D-1-11

Z42788

VOL 499 PAGE 42

EASEMENT ACROSS TRACT "C"

A strip of land 200 feet wide across the tract of land hereinabove previously described as Tract "C" being also across a certain 159-2/10 acre tract out of the J. M. HENSLEY LEAGUE, Abstract 54, Fayette County, Texas, originally conveyed to Bennie H. Schmidt, et al, by deed recorded in Volume 313, Page 437, Deed Records, Fayette County, Texas, such strip being more particularly described by metes and bounds as follows:

BEGINNING at a point on the Northwest line of said 159-2/10 acre tract in a private road, said point being South 41 degrees 28 minutes West 432-35/100 feet from a fence corner found for the most Northerly Northeast corner of said 159-2/10 acre tract; said point of beginning having grid coordinate of X= 2,711,681 and Y = 774,689.

THENCE, departing said Northwest line, SOUTH 1536-31/100 feet to a point;

THENCE South 52 degrees 08 minutes West 253-34/100 feet to a point;

THENCE NORTH 1465-51/100 feet to a point on said Northwest property line in said private road, said point being North 41 degrees 28 minutes East 760-23/100 feet from a steel rod found in concrete for an angle point in the Northwest line of said 159-2/10 acre tract;

THENCE, with said Northwest line, and with said private road, North 41 degrees 28 minutes East 302-02/100 feet to the place of beginning, containing 6-89/100 acres of land, more or less.

All bearings are grid, Texas Plane Coordinate System, South Central Zone. Rotate bearings 1 degree 06 minutes clockwise to be compatible with true bearings.

FILED: [illegible]

A-18(19)

D-1-1

VOL 485 PAGE 930

THE STATE OF TEXAS §

743241

COUNTY OF FAYETTE §

KNOW ALL MEN BY THESE PRESENTS, that I, BETTY BENNETT ANDREWS ADAMS SHEARER, of Harris County, Texas, for and in consideration of the sum of TEN AND NO/100 ($10.00) DOLLARS cash and other good and valuable considerations to me in hand paid by LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, the receipt of which is hereby acknowledged and confessed, and for which no lien, either express or implied, is retained, or shall exist, have GRANTED, SOLD and CONVEYED, and by these presents do GRANT, SELL and CONVEY unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, except as below stated, all that certain tract or parcel of land, lying and being situated in Fayette County, Texas, described as follows, to-wit:

All that certain tract or parcel of land out of the Joseph Biegel League, Abstract 18, in Fayette County, Texas, being all that certain tract conveyed to Betty Bennett Andrews Adams by deed from the Veterans Land Board of Texas recorded in Volume 485, upon page 927, Deed Records of Fayette County, Texas, and being more particularly described by metes and bounds as follows:

BEGINNING at a 5/8 inch iron pin found in place for the North corner of said tract, from which a fence corner bears North 41° 37' East 33.3 feet; said point of beginning having grid coordinates of X = 2,709,963 and Y = 763,553;

THENCE with the Northeast line of said tract, South 46° 57' 30" East 1230.9 feet to a nail set under a fence for the East corner of said tract at an angle point in County Road No. 120;

THENCE with the Southeast line of said tract in said County Road, South 42° 01' West 882.95 feet to the South corner of said tract on the South side of said County Road;

THENCE with the Southwest line of said tract in County Road No. 120, North 66° 07' West 368.9 feet, North 82° 35' West 532.1 feet and North 70° 08' West 307.75 feet to the West corner of said tract in said County Road, from which an iron pin found in place bears North 28° 19' East 41.65 feet;

THENCE with the Northwest line of said tract and with a fence, North 28° 16' East 621.5 feet to an iron pin found in place, and North 41° 22' East 834.25 feet to the place of beginning, containing some 32.18 acres of land, including approximately 1.2 acres in said County Road No. 120.

All bearings are grid, Texas Plane Coordinate System, South Central Zone. Rotate bearings 1° 06' clockwise to be compatible with true bearings.

D-1-D

VOL 485 PAGE 931

Z 43242

LESS, HOWEVER, AND SUBJECT TO an undivided one-half (1/2) interest in the oil, gas, sulphur and other minerals described in a deed from Charles W. Harlfinger, et ux, to Texas Osage Co-operative Royalty Pool, et al, dated February 19, 1930, and recorded in Volume 150, Pages 84-86, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

LESS, ALSO AND SUBJECT TO certain rights granted to Fayette Electric Co-operative, Inc. by an instrument in writing from Mary Harlfinger, et al, dated October 24, 1947, and recorded in Volume 217, Page 43, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

LESS, ALSO, AND SUBJECT TO certain rights granted to Southwestern Bell Telephone Co. by an instrument in writing from R. December, dated April 1, 1930, and recorded in Volume 150, Page 217, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

LESS, ALSO, AND SUBJECT TO an Oil and Gas Lease from Charles W. Harlfinger to W. J. Mechura, dated July 1, 1965, and recorded in Volume 105, Page 235, of the Oil and Gas Lease Records of Fayette County, Texas, to which refer for any and all relevant purposes.

LESS, ALSO, AND SUBJECT TO the rights of the public and Fayette County to any part of the premises that lie in a public road.

LESS, ALSO, AND SUBJECT TO an undivided one-half (1/2) mineral interest described in a deed from Charles W. Harlfinger to Elbert Hill, et al, dated July 2, 1966, and recorded in Volume 38, Page 303, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

TO HAVE AND TO HOLD the above described premises, together with all and singular the rights and appurtenances thereto in anywise belonging unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, their successors and assigns forever. And I do hereby bind myself, my heirs, executors and administrators to Warrant and Forever Defend, all and singular, the said premises unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, their successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof.

IN TESTIMONY WHEREOF, witness my hand this the 22nd day of October, A. D. 1975.

Betty Bennett Andrews Adams Shearer

BETTY BENNETT ANDREWS ADAMS SHEARER

FILED FOR RECORD

D-1-3

VOL 485 PAGE 932 -3-

242243

THE STATE OF TEXAS §

COUNTY OF FAYETTE §

BEFORE ME, the undersigned authority, on this day personally appeared BETTY BENNETT ANDREWS ADAMS SHEARER, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that she executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this the 23rd day of October, A. D. 1975.

Ruth Lehmann
Ruth Lehmann, Notary Public in and for Fayette County, Texas.

FILED FOR RECORD

At 3:00 o'clock P. M.

The 23rd Day of October, 1975

JOHN A. KUBENA

Clerk County Court, Fayette County, Texas

By Patsy Hess Deputy (FILED BY RUTH LEHMANN)

$3.50-Due
Charge to: Coates Field Service
La Grange, Texas 78945
Return to: Hart & Halpain, Attys.
P.O. Box 369
La Grange, Texas 78945

THE STATE OF TEXAS
County of Fayette, } I, John A. Kubena, Clerk of the County Court of said County, do hereby certify that the foregoing and attached instrument of writing (with its authentications) bearing the date 23 day of October A. D. 1975, was filed for record in my office at 3:00 o'clock P. M., on the 23 day of October A.D. 1975, and recorded in vol. 485 upon pages 930-932 of Record of Deed for said County at 11:00 o'clock A. M., on the 24 day of October A.D. 1975

To certify all of which I here to sign my name and affix my seal of office in the City of La Grange this the 24 day of October A.D. 1975.

John A. Kubena

Clerk County Court, Fayette County, Texas

By Patsy Hess Deputy

A-18(20)

D-1-1

741502

VOL 482 PAGE 367

THE STATE OF TEXAS §

COUNTY OF FAYETTE §

KNOW ALL MEN BY THESE PRESENTS, that I, J. DICKSON ROGERS, Trustee, of Harris County, Texas, for and in consideration of the sum of TEN AND NO/100 ($10.00) DOLLARS cash and other good and valuable considerations to me in hand paid by LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, the receipt of which is hereby acknowledged and confessed, and for which no lien, either express or implied, is retained, or shall exist, have GRANTED, SOLD and CONVEYED, and by these presents do GRANT, SELL and CONVEY unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, except as below stated, all that certain tract or parcel of land, lying and being situated in Fayette County, Texas, described as follows, to-wit:

All that certain tract or parcel of land out of the Jospeh Biegel League, Abstract 18, in Fayette County, Texas, being all that certain tract conveyed to J. Dickson Rogers, Trustee, by a deed recorded in Volume 461, Page 841, Deed Records of Fayette County, Texas, and being more particularly described by metes and bounds as follows:

BEGINNING at a ½ inch iron pin in a rock pile found in place for the North corner of said Rogers tract, from which a fence corner bears North 34° 32' West 7.0 feet; said point of beginning having grid coordinates of X = 2,709,352 and Y = 764,124;

THENCE with the Northeast line of said Rogers tract, South 46° 57' 30" East 836.9 feet to a 5/8 inch iron pin found in place for the East corner of said Rogers tract, from which a fence corner bears North 41° 37' East 33.3 feet;

THENCE with the Southeast line of said Rogers tract and with a fence, South 41° 22' West 834.25 feet to an iron pin found in place, and South 28° 16' West 621.5 feet to the South corner of said Rogers tract in County Road No. 120, from which an iron pin found in place bears North 28° 19' East 41.65 feet;

THENCE with the Southwest line of said Rogers tract in said County Road, North 42° 00' West 439.5 feet, North 59° 26' West 481.4 feet, and South 81° 11' West 102.85 feet to the West corner of said Rogers tract in said County Road, from which an iron pin found in place bears North 43° 01' East 49.5 feet;

THENCE with the Northwest line of said Rogers tract and the remains of an old fence, North 41° 17' East 752.9 feet to a 5/8 inch iron pin found in place at a fence corner, and North 41° 18' East 829.6 feet to the place of beginning, containing some 28.63 acres of land, including approximately 0.6 of an acre in said County Road No. 120.

FILED FOR RECORD

D-1-2

241503

VOL 482 PAGE 368

All bearings are grid, Texas Plane Coordinate System, South Central Zone. Rotate bearings 1° 06' clockwise to be compatible with true bearings.

LESS, HOWEVER, AND SUBJECT TO an undivided one-half interest in the oil, gas, sulphur and other minerals described in a deed from Charles W. Harlfinger, et ux, to Texas Osage Cooperative Royalty Pool, et al, dated February 19, 1930, and recorded in Volume 150, Pages 84-86, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

LESS, ALSO, AND SUBJECT TO certain rights granted to Fayette Electric Cooperative, Inc., by an instrument in writing from Mary Harlfinger, et al, dated October 24, 1947, and recorded in Volume 217, Page 43, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

LESS, ALSO, AND SUBJECT TO certain rights granted to Southwestern Bell Telephone Co., by an instrument in writing from R. December, dated April 1, 1930, and recorded in Volume 150, Page 217, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

LESS, ALSO, AND SUBJECT TO an Oil and Gas Lease from Charles W. Harlfinger to W. J. Mechura, dated July 1, 1965, and recorded in Volume 105, Page 235, of the Oil and Gas Lease Records of Fayette County, Texas, to which refer for any and all relevant purposes.

TO HAVE AND TO HOLD the above described premises, together with all and singular the rights and appurtenances thereto in anywise belonging unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, their successors and assigns forever. And I do hereby bind myself, my heirs, executors and administrators to Warrant and Forever Defend, all and singular, the said premises unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, their successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof.

IN TESTIMONY WHEREOF, witness my hand this the 10th day of July, A. D. 1975.

J. DICKSON ROGERS, Trustee

THE STATE OF TEXAS ()
COUNTY OF ~~HARRIS~~ FAYETTE ()

BEFORE ME, the undersigned authority, on this day personally appeared J. DICKSON ROGERS, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purposes and consideration therein expressed, and in the capacity therein stated.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this the 10th day of July, A. D. 1975.

Richard T. Halpain, Notary Public in and for Fayette County, Texas.

FILED FOR RECORD
12:30 O'clock P. M.
the 10th Day of July 1975.
JOZEN A. KUDERA
Fayette County, Court, Fayette County, Texas
By Bruce Wattle Deputy

$2.50 due
Chg. Charles Rhodes
Coates Field Service
La Grange, Texas 78945
Filed by & return to Richard T. Halpain, Atty.
P.O. Box 369
La Grange, Texas 78945

THE STATE OF TEXAS
County of Fayette, } I, John A. Kubena, Clerk of the County Court of said County, do hereby certify that the foregoing and attached instrument of writing (with its authentications) bearing the date 10 day of July A.D. 1975, was filed for record in my office at 2:30 o'clock P. M., on the 10 day of July A.D. 1975, and recorded in vol. 482 upon pages 367 & 368 of Record of Deeds for said County at 11:50 o'clock A. M., on the 11 day of July A.D. 1975

To certify all of which I here to sign my name and affix my seal of office in the City of La Grange this the 11 day of July A.D. 1975

John A. Kubena

Clerk County Court, Fayette County, Texas

By Patsy Hentschel Deputy

741503

E-10

A-18(24)

D-1-1

VOL. 481 PAGE 593

WARRANTY DEED

THE STATE OF TEXAS]
] KNOW ALL MEN BY THESE PRESENTS:
COUNTY OF FAYETTE]

That we, Morris E. Albers and wife, Vivian Albers of Bexar County, Texas, and Wilburn F. Albers and wife, Marilyn Albers, of Harris County, Texas, for and in consideration of the sum of TEN DOLLARS ($10.00) and other valuable consideration to the undersigned paid by the Grantees herein named, the receipt of which is hereby acknowledged, have GRANTED, SOLD and CONVEYED, and by these presents do GRANT, SELL and CONVEY unto the LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, all of the land described in Exhibits 1 and 2 attached hereto and made a part hereof for all purposes, such land lying and being situated in Fayette County, Texas, SAVE AND EXCEPT, HOWEVER, oil, gas, sulphur and all other minerals of whatsoever kind or nature (hereinafter referred to as "minerals"), except sand, rock, limestone and gravel [redacted], in and under and which may be produced therefrom, such mineral estate being reserved to Grantors, their successors and assigns, and not conveyed hereby, PROVIDED, HOWEVER, that such reservation shall not include any right or easement to the use of the surface of such land for the exploration, development or production of such minerals or for any other purpose in connection with such reserved mineral interests and PROVIDED FURTHER, that Grantors, their successors and assigns, shall have no right to use the subsurface of such land or the mineral estate reserved hereby in such a manner as to interfere with, tend to

044 [illegible] 732798

interfere with, jeopardize, or diminish the full use and enjoyment of the lands conveyed to Grantors hereby, and any use of such reserved mineral estate shall be subservient to all rights, titles and interests conveyed hereby to Grantees.

TO HAVE AND TO HOLD the rights, titles and interests conveyed hereby in the premises described in Exhibit 1 attached hereto together with all and singular the rights and appurtenances thereto in anywise belonging unto Grantees, their successors and assigns forever, and TO HAVE AND TO HOLD the rights, titles and interests conveyed hereby in the premises described in Exhibit 2 attached hereto, together with all and singular the rights and appurtenances thereto in anywise belonging unto Grantees, their successors and assigns, for a period of five (5) years from the date hereof and so long thereafter as a roadway for vehicular traffic is maintained thereon, provided that after such period of time and upon the cessation of use of said premises described in Exhibit 2 for such purpose, the same shall revert to Grantors, their successors and assigns.

EXECUTED this 19th day of May, 1975.

Morris E. Albers

Morris E. Albers

Vivian Albers

Vivian Albers

Wilburn F. Albers

Wilburn F. Albers

Marilyn Albers

Marilyn Albers

THE STATE OF TEXAS]

COUNTY OF FAYETTE]

BEFORE ME, the undersigned authority, on this day personally appeared MORRIS E. ALBERS and his wife, VIVIAN ALBERS, BOTH known to me to be the persons whose names are subscribed to the foregoing instrument and acknowledged to me that they executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this 19th day of May, 1975.

Ruth Lehmann (Ruth Lehmann)
Notary Public in and for
Fayette County, Texas

THE STATE OF TEXAS]

COUNTY OF FAYETTE]

BEFORE ME, the undersigned authority, on this day personally appeared WILBURN F. ALBERS and his wife, MARILYN ALBERS, both known to me to be the persons whose names are subscribed to the foregoing instrument and acknowledged to me that they executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this 19th day of May, 1975.

Ruth Lehmann (Ruth Lehmann)
Notary Public in and for
Fayette County, Texas

Z32800

D-1-4

EXHIBIT 1
MORRIS E. ALBERS, ET AL. TO
LOWER COLORADO RIVER AUTHORITY AND CITY OF AUSTIN

PROPERTY DESCRIPTION OF TRACT A

All that certain lot, tract, or parcel of land out of the J. Biegel League, Abstract 18, Fayette County, Texas, being the fee simple interest in all of those certain tracts, lying North of the M.K.&T. right-of-way, described in a deed to Morris E. and Wilburn F. Albers in Volume 266, Page 152, Deed Records, Fayette County, Texas, and being more particularly described by metes and bounds as follows:

BEGINNING at a point in the curved and fenced North right-of-way line of aforesaid M.K.&T. Railroad right-of-way, from which an iron rod found bears North 46 degrees 19 minutes West 1-2/10 feet, said point of beginning being further described as being in the Northeast line of a 40 acre tract described in Volume 266, Page 152, Deed Records, Fayette County, Texas, said beginning point having grid coordinates of X=2,713,977 and Y=759,771;

THENCE in a Southwesterly direction, with said North right-of-way and arc of said curve to the right, having a radius of 1370-85/100 feet, 867-57/100 feet to the end of said curve;

THENCE continuing with said fenced North right-of-way line, South 71 degrees 40 minutes 30 seconds West 2185-2/10 feet to the beginning of a curve to the right, having a radius of 1382-69/100 feet;

THENCE in a Westerly direction, with said fenced right-of-way and arc of said curve to the right, 331-5/10 feet to an iron rod found in place, from which a fence corner post bears North 83 degrees 13 minutes East 41-8/10 feet;

THENCE West of an existing fence, North 24 degrees 15 minutes East 792-7/10 feet to a point, and North 21 degrees 19 minutes East 957-4/10 feet to a point for a corner;

THENCE North 46 degrees 57 minutes West 233-3/10 feet to an iron rod found in place, for a corner;

THENCE South 41 degrees 15 minutes West 125-0/10 feet to a point for a corner;

THENCE generally with a fence, North 46 degrees 57 minutes West 1186-9/10 feet to a point in a gully, from which a 20 inch Post Oak, used for a fence corner, bears North 32 degrees 29 minutes East 93-7/10 feet;

THENCE along a fence, North 28 degrees 07 minutes East at 887-9/10 feet passing a 'set' stone found, continuing in all 900-3/10 feet to a point in County Road No. 121;

THENCE with said county road South 65 degrees 42 minutes East 186-05/100 feet to a point, and South 67 degrees 38 minutes East 283-4/10 feet to a fence corner in the East or North line of said road;

Z32801

THENCE departing said East or North line of said road, and continuing with same, South 61 degrees 37 minutes East 982-1/10 feet to a point, and South 56 degrees 16 minutes East 466-75/100 feet to a point, and South 55 degrees 12 minutes East 539-9/10 feet to a point, and South 54 degrees 39 minutes East 425-5/10 feet to a point, and South 49 degrees 35 minutes East 576-42/100 feet to an iron rod found in place, in the fenced East line of said road;

THENCE with said East line, South 46 degrees 19 minutes East 271-47/100 feet to the place of beginning, containing some 125-41/100 acres of land, more or less, including approximately 2 acres in County Road No. 121.

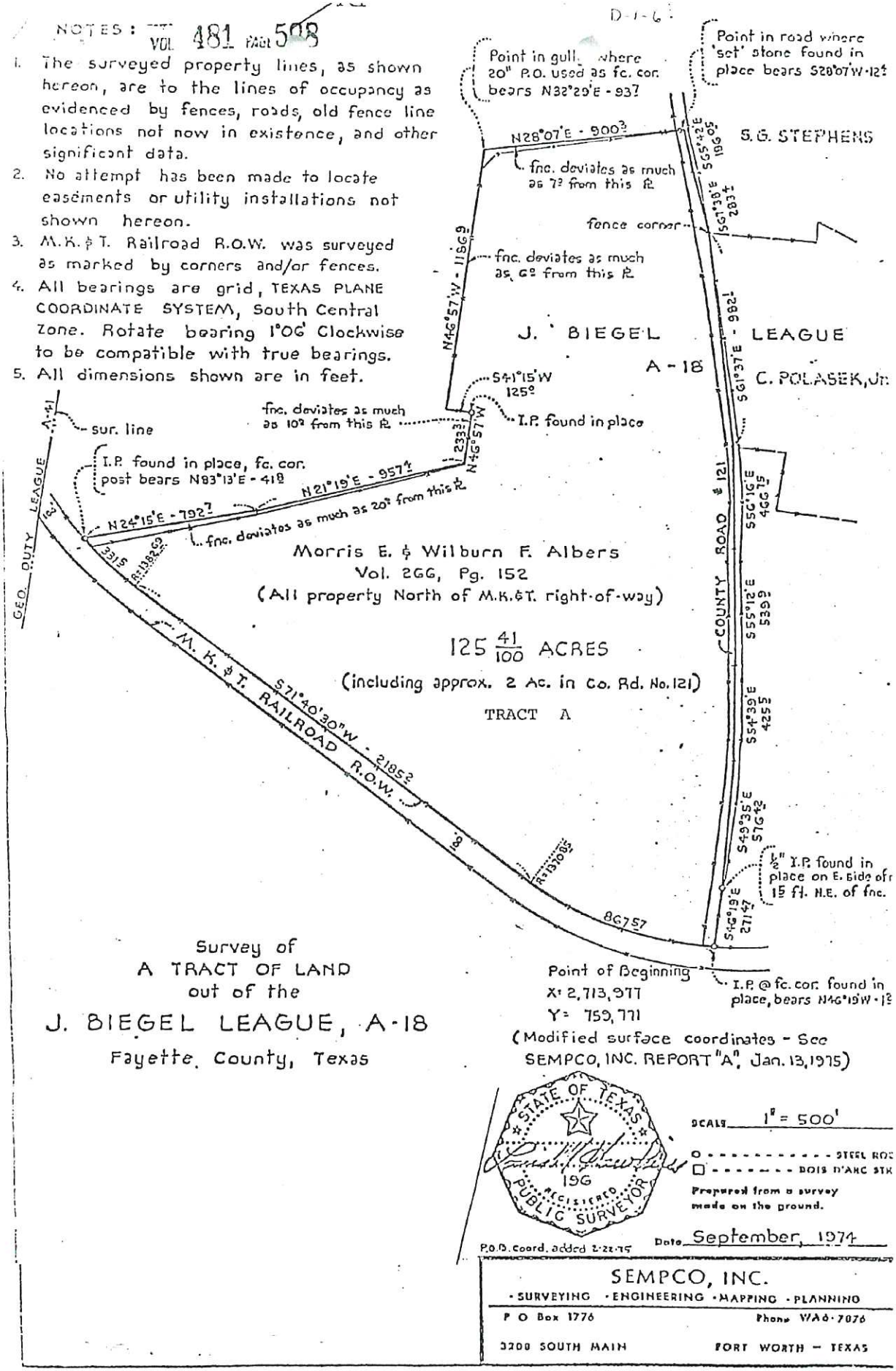
All bearings are grid, Texas Plane Coordinates System, South Central Zone. Rotate bearings 1 degree 06 minutes clockwise to be compatible with true bearings.

Z32802

D-1-6

NOTES: VOL 481 PAGE 508

1. The surveyed property lines, as shown hereon, are to the lines of occupancy as evidenced by fences, roads, old fence line locations not now in existence, and other significant data.
2. No attempt has been made to locate easements or utility installations not shown hereon.
3. M.K.&T. Railroad R.O.W. was surveyed as marked by corners and/or fences.
4. All bearings are grid, TEXAS PLANE COORDINATE SYSTEM, South Central Zone. Rotate bearing 1°06' Clockwise to be compatible with true bearings.
5. All dimensions shown are in feet.



Survey of
A TRACT OF LAND
out of the
J. BIEGEL LEAGUE, A-18
Fayette, County, Texas

STATE OF TEXAS
1966
REGISTERED PUBLIC SURVEYOR

SCALE 1" = 500'

O - - - - - - - - - - STEEL ROD
□ - - - - - - - BOIS D'ARC STK

Prepared from a survey made on the ground.

Date September, 1974

P.O.B. Coord. added 2-22-75

SEMPCO, INC.
· SURVEYING · ENGINEERING · MAPPING · PLANNING
P O Box 1776 Phone WA6-7076
3200 SOUTH MAIN FORT WORTH — TEXAS

EXHIBIT 2
MORRIS E. ALBERS, ET AL. TO
LOWER COLORADO RIVER AUTHORITY AND CITY OF AUSTIN

FIELD NOTES TO TRACTS B AND C

Boundary description of a 100 foot wide strip and a 60 foot wide strip of land in the JOSEPH BIEGEL LEAGUE, Abstract 18, Fayette County, Texas, said 100 foot wide strip of land being across a portion of that certain property conveyed to Morris E. and Wilburn F. Albers under "(a) SECOND TRACT" in the deed recorded in Volume 266, Page 152, Deed Records of Fayette County, Texas, and said 60 foot wide strip of land being portions of the residue of the following:

(a) SECOND TRACT, (b) THIRD TRACT, (c) THIRD TRACT, and (e) a 40 ACRE TRACT, all of which were conveyed to Morris E. and Wilburn F. Albers in the deed recorded in Volume 266, Page 152, Deed Records of Fayette County, Texas, and being more particularly described by metes and bounds in two tracts as follows:

TRACT "B"

A 100 foot wide strip of land across a portion of the Morris E. and Wilburn F. Albers property.

BEGINNING at a point in the curved South right-of-way line of the M. K.&T. Railroad, said point being Easterly along said right-of-way line and along the arc of a curve to the left having a radius of 1482-69/100 feet a distance of 257-7/10 feet from a fence corner post used for the intersection of the Southwest line of the Albers tract with said curved South right-of-way line, the radius point of the curve bears North 7 degrees 34 minutes West from said point of beginning;

THENCE departing said railroad right-of-way line and crossing the Albers property South 5 degrees 50 minutes 20 seconds East 133-0/10 feet to the beginning of a curve to the right having a radius of 945-04/100 feet, AND CONTINUING Southerly with the arc of said curve 137-1/10 feet to a point in the Southwest line of the Albers property;

THENCE with the Southwest line of the Albers property North 46 degrees 42 minutes West 138-6/10 feet to a point;

THENCE Northerly across the Albers property and with the arc of a curve to the left having a radius of 845-04/100 feet a distance of 31-8/10 feet to its point of tangency, AND CONTINUING North 5 degrees 50 minutes 20 seconds West 133-4/10 feet to a point in the curved South right-of-way line of the M.K.&T. Railroad;

THENCE Easterly with said right-of-way line and with the arc of a curve to the left having a radius of 1482-69/100 feet a distance of 100-0/10 feet to the place of beginning, containing in all some 0-50/100 acre of land.

Z32804

TRACT "C"

A 60 foot wide strip of land across a portion of the Morris E. and Wilburn F. Albers property.

BEGINNING at a point in the curved South right-of-way line of the M.K.&T. Railroad, said point being Easterly along said right-of-way line and along the arc of a curve to the left having a radius of 1482-69/100 feet a distance of 257-7/10 feet from a fence corner post used for the intersection of the Southwest line of the Albers tract with said curved South right-of-way line, the radius point of the curve bears North 7 degrees 34 minutes West from said point of beginning;

THENCE Easterly along said right-of-way line and with the arc of a curve to the left having a radius of 1482-69/100 feet a distance of 278-1/10 feet to the end of the curve;

THENCE continuing with the South right-of-way line of the M.K.&T. Railroad North 71 degrees 40 minutes 30 seconds East 2185-2/10 feet to the beginning of a curve to the left whose radius point bears North 18 degrees 13 minutes West 1470-85/100 feet, AND CONTINUING Northeasterly with the arc of said curve a distance of 925-5/10 feet to a point in the Northeast line of the above described "(e) 40 acre tract", a ½ inch iron pin found in place bears North 48 degrees 06 minutes West 2-3/10 feet;

THENCE with said Northeast line South 48 degrees 06 minutes East 60-3/10 feet to a point;

THENCE Southwesterly with the arc of a curve to the right having a radius of 1530-85/100 feet, concentric with and 60 feet Southeasterly from the Southeast line of the M.K.&T. Railroad right-of-way, a distance of 956-7/10 feet to the end of the curve;

THENCE South 71 degrees 40 minutes 30 seconds West, parallel with and 60 feet Southeasterly from said right-of-way line a distance of 2185-2/10 feet to the beginning of a curve to the right having a radius of 1542-69/100 feet AND CONTINUING Westerly with the arc of said curve a distance of 215-0/10 feet to a point;

THENCE South 38 degrees 46 minutes West 108-3/10 feet to a point in the East line of Tract "A" hereinabove described;

THENCE with said East line North 5 degrees 50 minutes 20 seconds West 133-0/10 feet to the place of beginning, containing in all some 4-76/100 acres of land.

The two tracts hereinabove described contain a total of some 5- 26/100 acres of land.

The points of beginning of these field notes have the following coordinated values:

TRACTS A and B

X = 2,710,976
Y = 758,422

(Modified surface coordinates - See SEMPCO, INC. REPORT "A", January 13, 1975)

Z12905

D-1-9

$9.50 due
Chg. Charles Rhodes
Coates Field Service
La Grange, Texas 78945

FILED FOR RECORD

At 2:30 O'clock P. M.

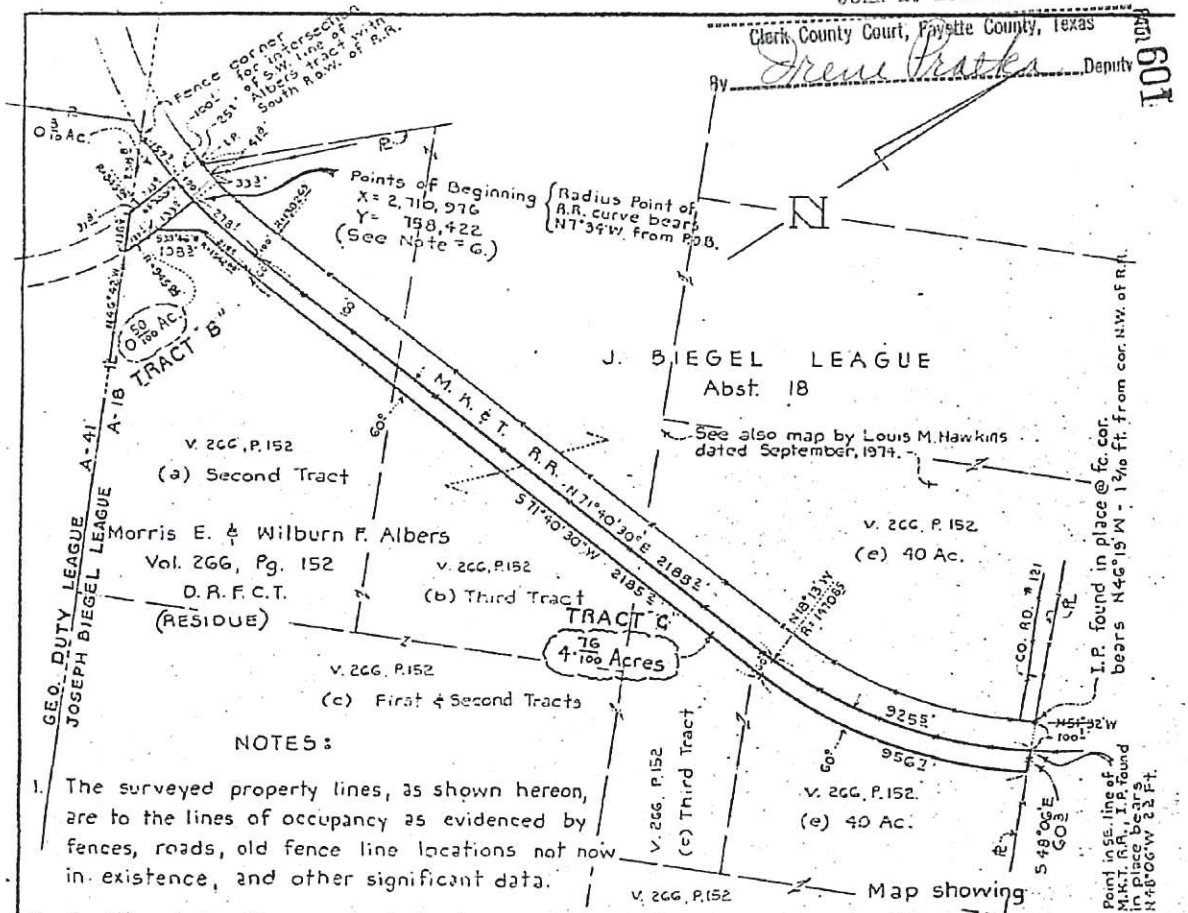
The 3rd. Day of June 19 75

JOHN A. KUBENA

Clerk County Court, Fayette County, Texas

By Irene Stokes Deputy

VOL 481 PAGE 601



NOTES:

1. The surveyed property lines, as shown hereon, are to the lines of occupancy as evidenced by fences, roads, old fence line locations not now in existence, and other significant data.
2. No attempt has been made to locate easements or utility installations not shown hereon.
3. M. K. & T. Railroad R.O.W. was surveyed as marked by corners and/or as fenced.
4. All bearings are grid, TEXAS PLANE COORDINATE SYSTEM, South Central Zone. Rotate bearings 1°06' clockwise to be compatible with true bearings.
5. All distances shown are in feet.
6. Modified surface coordinates - See SEMPCO, INC. - REPORT 'A' Jan. 13, 1975

(SEE ATTACHED FIELD NOTES)

Map showing two tracts of land in the JOSEPH BIEGEL LEAGUE Abst. 18 Fayette County, Texas

STATE OF TEXAS
Daniel A. Hale
1756
REGISTERED PUBLIC SURVEYOR

Scale 1" = 500'

Compiled from a survey made on the ground & records.

Date Sept., 1974 & Jan., 1975

Revised 5-8-75
Revised 5-3-75

SEMPCO, INC.
· SURVEYING · ENGINEERING · MAPPING · PLANNING
P O Box 1776 Phone WA6-7876
3208 SOUTH MAIN FORT WORTH — TEXAS

TRACT A-18 (24)

Proj. No. 1613

Filed by & return to
Richard T. Halpain, Atty.
P.O. Box 369
La Grange, Texas 78945

Z32806

EXHIBIT 2, Page 3 of 3
MORRIS E. ALBERS, ET AL. TO
LOWER COLORADO RIVER AUTHORITY AND CITY OF AUSTIN

L0&EZ

THE STATE OF TEXAS
County of Fayette, } I, John A. Kubena, Clerk of the County Court of said County, do hereby certify that the foregoing and attached instrument of writing (with its authentications) bearing the date 19 day of May A. D. 1975, was filed for record in my office at 2:30 o'clock P. M., on the 3 day of June A.D. 1975, and recorded in vol. 481 upon pages 593-601 of Record of Deeds for said County at 8:40 o'clock A. M., on the 9 day of June A.D. 1975

To certify all of which I here to sign my name and affix my seal of office in the City of La Grange this the 9 day of June A.D. 1975

John A. Kubena

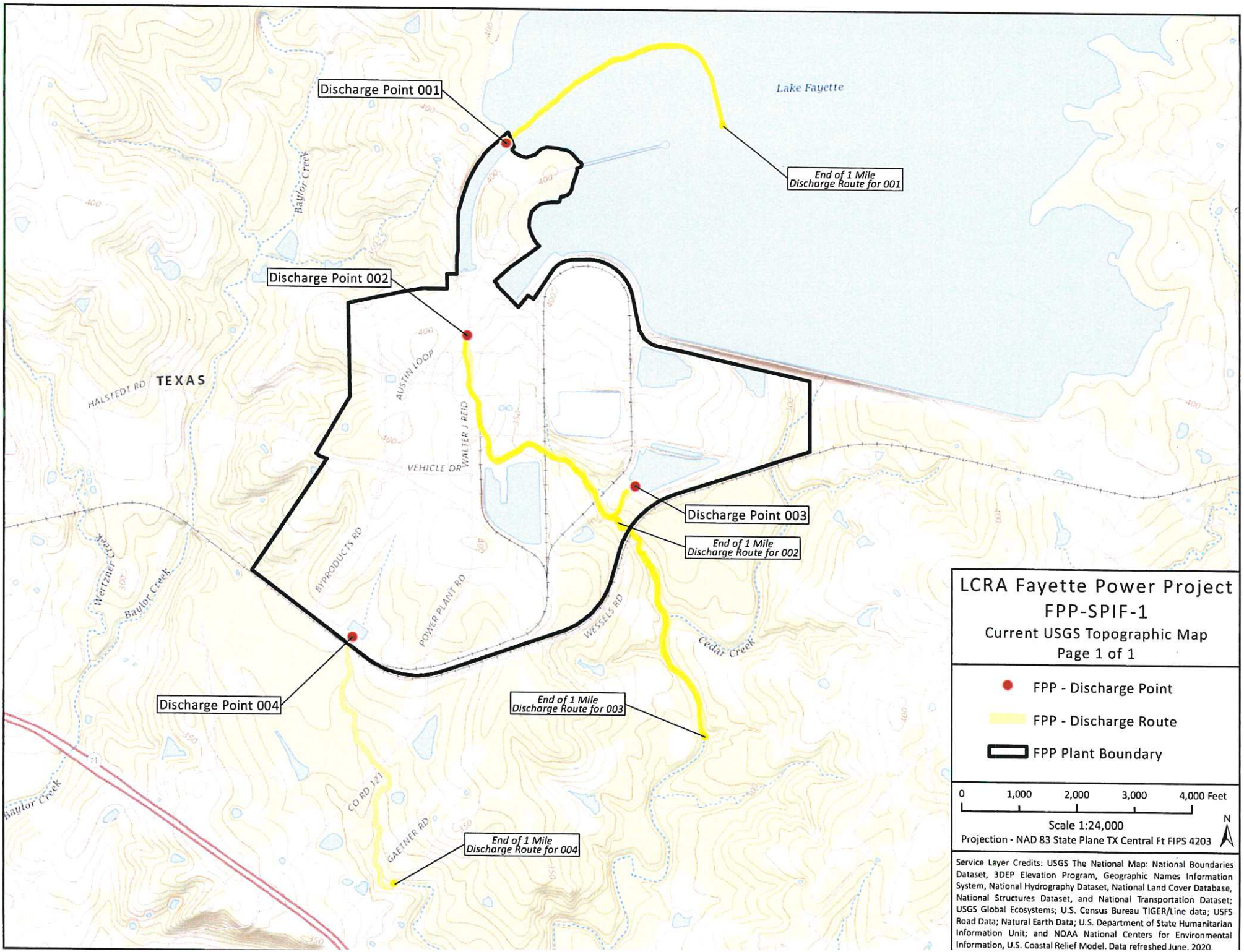
Clerk County Court, Fayette County, Texas

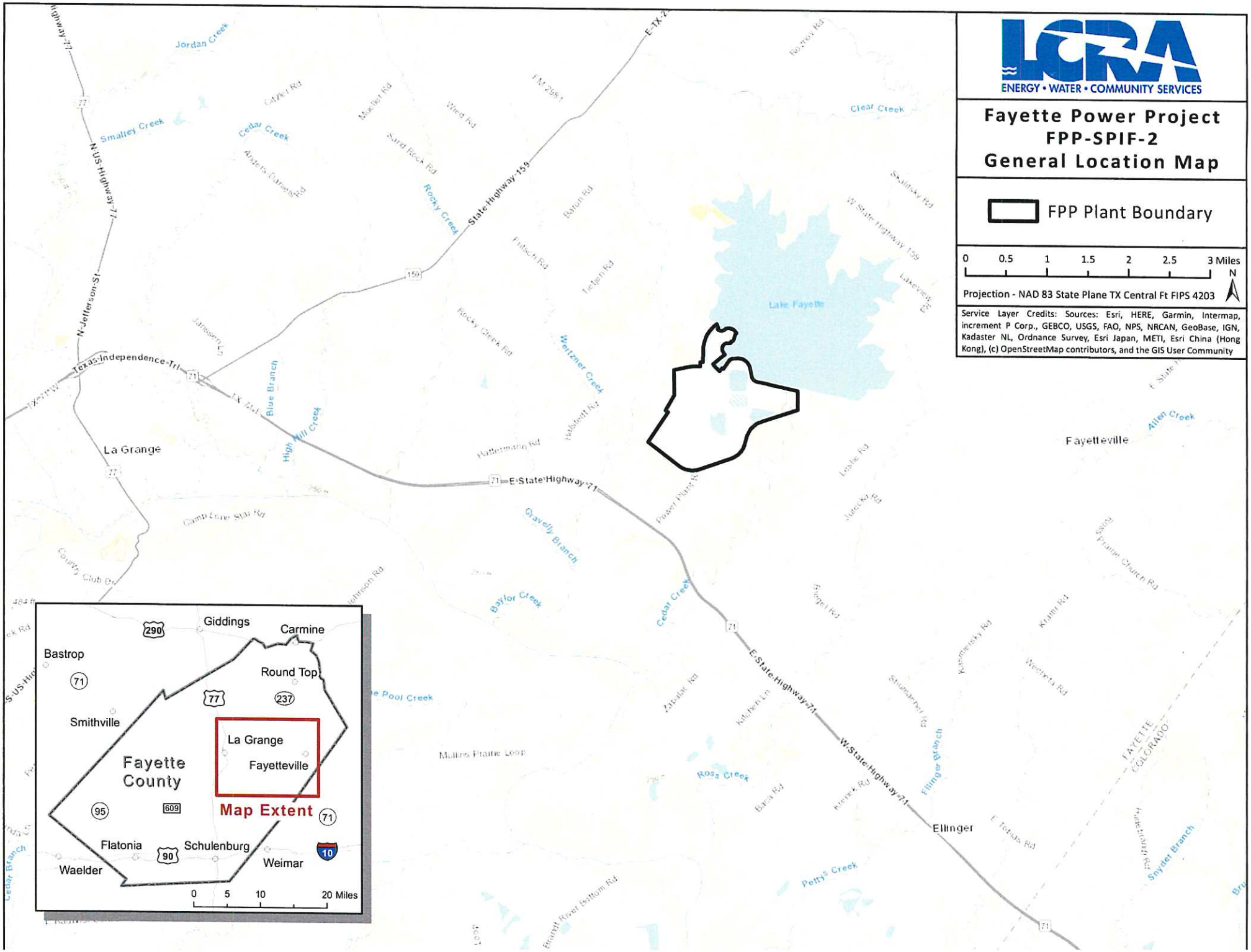
By Patsy Hentschel Deputy

COMPARED

RECORDED

01-1-0


Discharge Point 001
End of 1 Mile Discharge Route for 001
Lake Fayette
Discharge Point 002
Discharge Point 003
End of 1 Mile Discharge Route for 002
Discharge Point 004
End of 1 Mile Discharge Route for 003
End of 1 Mile Discharge Route for 004
TEXAS
HALSTED RD
AUSTIN LOOP
WALTER J REID
VEHICLE DR
BYPRODUCTS RD
POWER PLANT RD
WESSELS RD
CO RD 121
GAETNER RD
Baylor Creek
Wertzner Creek
Cedar Creek
LCRA Fayette Power Project
FPP-SPIF-1
Current USGS Topographic Map
Page 1 of 1
FPP - Discharge Point
FPP - Discharge Route
FPP Plant Boundary
0 1,000 2,000 3,000 4,000 Feet
Scale 1:24,000
Projection - NAD 83 State Plane TX Central Ft FIPS 4203
N
Service Layer Credits: USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census Bureau TIGER/Line data; USFS Road Data; Natural Earth Data; U.S. Department of State Humanitarian Information Unit; and NOAA National Centers for Environmental Information, U.S. Coastal Relief Model. Data refreshed June, 2020.


LCRA
ENERGY • WATER • COMMUNITY SERVICES
Fayette Power Project
FPP-SPIF-2
General Location Map
FPP Plant Boundary
0 0.5 1 1.5 2 2.5 3 Miles
N
Projection - NAD 83 State Plane TX Central Ft FIPS 4203
Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community
Lake Fayette
La Grange
Fayetteville
Ellinger
E State Highway 71
W State Highway 71
State Highway 159
N US Highway 77
N Jefferson St
Texas Independence Trl
Jordan Creek
Smalley Creek
Cedar Creek
Rocky Creek
Blue Branch
High Hill Creek
Wentzner Creek
Gravelly Branch
Baylor Creek
Clear Creek
Allen Creek
Ross Creek
Petty's Creek
Giddings
Carmine
Bastrop
Round Top
Smithville
Fayette County
La Grange
Fayetteville
Map Extent
Flatonia
Schulenburg
Weimar
Waelder
0 5 10 20 Miles



Attachment : FPP-SPIF-3 Original Photographs of
Structures 50 years or older

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

INDUSTRIAL WASTEWATER PERMIT APPLICATION TECHNICAL REPORT 1.0

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

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

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

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

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

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

Fayette Power Project is a steam electric generating station. SIC code is 4911.

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

Refer to Attachment: FPP-TECH-1 Wastewater Processes.

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

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

Materials List

Raw Materials	Intermediate Products	Final Products
Coal	Steam	Electricity
Limestone		Coal Combustion Byproducts
Water		
Activated Carbon		

Attachment: Click to enter text.

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

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

Attachment: FPP-TECH-2 Facility Map

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

☐ Yes ☒ No

If **yes**, provide background discussion: Click to enter text.

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

☒ Yes ☐ No

List source(s) used to determine 100-year frequency flood plain: Federal Emergency Management Agency; 48149C0270C (10/17/2006)

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

Attachment: Click to enter text.

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

☐ Yes ☒ No ☐ N/A (renewal only)

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

☐ Yes ☐ No N/A

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

If **no**, provide an approximate date of application submittal to the USACE: Click to enter text.

Item 2. Treatment System (Instructions, Page 40)

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

Wastewater Treatment Processes:

Gravity Oil Water Separator/Dissolved Air Flotation: separates oil from water
--Used for some low volume waste sources
--Discharges through Outfall 003 or 301

Coal Pile Runoff Pond: allows settling
--Used for coal pile runoff, stormwater, low volume waste sources, truck wash water, dust suppression water from coal pile and plant area, and coal handling wash down
--Discharges through Outfall 003 or 301; alternative route is to Reclaim Pond or can be used for dust suppression

Combustion Byproducts Landfill (CBL) Pond : allows settling
--Used for low volume waste sources, stormwater runoff from CBL, and truck wash water
--Discharges through Outfall 004; alternative route is to Reclaim Pond, can be transferred to Cell 2D pond, or can be used as dust suppression.

Domestic Wastewater Treatment Plant: primary and secondary treatment
--Used for domestic wastewater
--Does not discharge off-site; routed to Reclaim Pond, which is used for internal plant processes

Water Treatment Processes:

Cooling water (once-through and auxiliary): chemical treatment to reduce biofouling and scaling, includes chlorination.
--Used for once-through circulating water and auxiliary cooling water
--Discharges through Outfall 001, 002, and 003/301.

High purity feed water: reverse osmosis (RO) and ion exchange systems
--Treatment processes include chemical additives, filtration, reverse osmosis, and demineralization to produce steam make-up water
--RO brine discharges through Outfall 201. Alternate routes for the RO brine are to Coal Pile Runoff Pond and to Reclaim Pond

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

Attachment: FPP-TECH-3 Water Balance

Item 3. Impoundments (Instructions, Page 40)

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

☒ Yes ☐ No

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

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

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

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

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

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

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

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

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

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

Impoundment Information

Parameter	Reclaim Pond	Coal Pile Runoff Pond	Combustion Byproducts Landfill Pond	Ash Loading Runoff Pond	Cell 2D Pond
Use Designation: (T) (D) (C) or (E)	C	T	T	T	C
Associated Outfall Number	None	003, 301	004	None	None
Liner Type (C) (I) (S) or (A)	See FPP-TECH-4 for liner description	See FPP-TECH-4 for liner description	See FPP-TECH-4 for liner description	See FPP-TECH-4 for liner description	A

Parameter	Reclaim Pond	Coal Pile Runoff Pond	Combustion Byproducts Landfill Pond	Ash Loading Runoff Pond	Cell 2D Pond
Alt. Liner Attachment Reference	N/A	N/A	N/A	N/A	FPP-TECH-5
Leak Detection System, Y/N	N	N	N	N	N
Groundwater Monitoring Wells, Y/N	Y	N	Y	N	Y
Groundwater Monitoring Data Attachment	See Attachment FPP-TECH-6	N/A	See Attachment FPP-TECH-6	N/A	See Attachment FPP-TECH-6
Pond Bottom Located Above The Seasonal High-Water Table, Y/N	Y	Y	Y	Y	Y
Length (ft)	irregular	irregular	~430	~170	~290
Width (ft)	irregular	irregular	~300	~115	~240
Max Depth From Water Surface (ft), Not Including Freeboard	19	21	8	6	~9
Freeboard (ft)	2	2	2	2	2
Surface Area (acres)	25	16	N/A	N/A	N/A
Storage Capacity (gallons)	~98,000,000	~100,000,000	~5,600,000	~1,000,000	~2,600,000
40 CFR Part 257, Subpart D, Y/N	N	N	N	N	N
Date of Construction	~1988	~1978	~1988	~1988	2015

Attachment: See FPP-TECH-4 Pond Liner Information, FPP-TECH-5 Cell 2D Pond Information, and FPP-TECH-6 Groundwater Monitoring Plan

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

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

1. Liner data

☐ Yes ☐ No ☐ Not yet designed

2. Leak detection system or groundwater monitoring data

☐ Yes ☐ No ☐ Not yet designed

3. Groundwater impacts

☐ Yes ☐ No ☐ Not yet designed

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

Attachment: N/A

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

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

Attachment: N/A

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

Attachment: N/A

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

Attachment: N/A

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

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

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

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

Outfall Longitude and Latitude

Outfall No.	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)
001	29.92641	-96.75111
002*	29.91673042	-96.75335322
003	29.90958037	-96.74479325
004	29.90263591	-96.76049755
201	29.91784183	-96.75299468

Outfall No.	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)
301	29.91152979	-96.74447260
* Outfall 002 consists of multiple sources. Only one latitude/longitude is provided here.		

Outfall Location Description

Outfall No.	Location Description
001	End of the discharge canal
002	End of pipe or hose from Units 1, 2, or 3
003	Coal pile runoff pond spillway
004	Combustion byproducts landfill pond at end of spillway
201	Reverse osmosis water treatment system
301	Coal pile runoff pond

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

Outfall No.	Description of sampling point
001	Same as outfall location
002	Sampling occurs in multiple locations from sources of non-contact cooling water from Units 1, 2, or 3 condensers and circulating water pipes.
003	Same as outfall location
004	Sampling occurs either at pump (on southwest side of pond) or at spillway
201	Same as outfall location
301	Pump at outfall location

Outfall Flow Information – Permitted and Proposed

Outfall No.	Permitted Daily Avg Flow (MGD)	Permitted Daily Max Flow (MGD)	Proposed Daily Avg Flow (MGD)	Proposed Daily Max Flow (MGD)	Anticipated Discharge Date (mm/dd/yy)
001	1165*	1165*	N/A	N/A	Existing
002	2.5	Report	N/A	N/A	Existing
003	Report	Report	N/A	N/A	Existing
004	Report	Report	N/A	N/A	Existing
201	Report	Report	N/A	N/A	Existing
301	Report	Report	N/A	N/A	Existing
* Permitted flow will increase to 1509 MGD upon start-up of Unit 4					

Outfall Discharge – Method and Measurement

Outfall No.	Pumped Discharge? Y/N	Gravity Discharge? Y/N	Type of Flow Measurement Device Used
001	Y	N	Pump Curve

Outfall No.	Pumped Discharge? Y/N	Gravity Discharge? Y/N	Type of Flow Measurement Device Used
002	Y	Y	Pump Curve (when pumped) or Estimate (when gravity)
003	Y (siphon pump)	Y (from siphon pump or spillway)	Totalizer (Pump) or Estimate (Spillway)
004	Y (pump)	Y (spillway)	Totalizer and/or Pump Capacity (Pump) or Estimate (Spillway)
201	Y	N	Totalizer
301	Y	N	Totalizer

Outfall Discharge – Flow Characteristics

Outfall No.	Intermittent Discharge? Y/N	Continuous Discharge? Y/N	Seasonal Discharge? Y/N	Discharge Duration (hrs/day)	Discharge Duration (days/mo)	Discharge Duration (mo/yr)
001	N	Y	N	24	31	12
002	Y	N	N	Varies	Varies	Varies
003	Y	N	N	Varies	Varies	Varies
004	Y	N	N	Varies	Infrequent	Infrequent
201	Y	N	N	Varies	Varies	Varies
301	Y	N	N	Varies	Varies	Varies

Outfall Wastestream Contributions

Outfall No. **001***

Contributing Wastestream	Volume (MGD)	Percent (%) of Total Flow
Once-through cooling water and other cooling water	946.75	99.9%
Internal Outfall 201 (Previously Monitored Effluent)	0.13	0.01%
Internal Outfall 301 (Previously Monitored Effluent)	0.94	0.10%
Stormwater runoff (based on average annual rainfall of 38 inches)	0.03	<0.01
*Make up water from the Colorado River enters at the beginning of the discharge canal, which contributes an intermittent non-wastewater flow to Outfall 001.		

Outfall No. **002**

Contributing Wastestream	Volume (MGD)	Percent (%) of Total Flow
Once-through cooling water and cooling water from other sources (intermittent)	0.004	100%

Outfall No. **003**

Contributing Wastestream	Volume (MGD)	Percent (%) of Total Flow
Coal pile runoff	0.34	57%
Low volume waste sources, including but not limited to, oily waste treatment system, blowdown, condenser drains, coal handling equipment wash down, and reject stream from reverse osmosis system	0.21	36%
Stormwater runoff (based on annual average rainfall of 38 inches)	0.04	7%

Attachment: FPP-TECH-7 Wastestream Contributions for Outfalls 004, 201, and 301

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

a. Indicate if the facility currently or proposes to:

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

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

☒ Yes ☐ No Discharge once-through cooling water

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

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

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

- Concentration of whole product or active ingredient, as appropriate, in wastestream.

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

Attachment: FPP-Tech-8 Chemical Information

c. Cooling Towers and Boilers

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

Cooling Towers and Boilers

Type of Unit	Number of Units	Daily Avg Blowdown (gallons/day)	Daily Max Blowdown (gallons/day)
Cooling Towers	0	-	-
Boilers	3	~125,280	~187,920

Item 6. Stormwater Management (Instructions, Page 44)

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

☒ Yes ☐ No

If yes, briefly describe the industrial processes and activities that occur outdoors or in a manner which may result in exposure of the activities or materials to stormwater: Coal is handled in outdoor piles. Coal handling facilities are outdoors. Combustion byproducts are disposed of in a landfill and/or stored in areas exposed to rain. Boiler bottom ash is exposed to rain. Limestone handling facilities are located outdoors. Equipment that requires lubes/grease/oil, such as pumps and compressors are exposed to rain. All runoff from above is routed to TPDES wastewater outfall or reclaimed and used in plant processes.

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

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

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

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

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

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

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

☐ Facility is a POTW. Complete Worksheet 5.0.

☐ Domestic sewage is not generated on-site.

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

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

Domestic Sewage Plant/Hauler Name

Plant/Hauler Name	Permit/Registration No.
Domestic sewage routed to on-site wastewater treatment facility	Treated domestic wastewater is routed to Reclaim Pond (no discharge pond)
Domestic sludge is transported by S&M Vacuum and Waste Service, LTD	20089
Domestic sludge is received by Grandy Ranch, LTD	WQ0004458000

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

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

☐ Yes ☒ No

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

☐ Yes ☒ No

c. If **yes** to either 8.a **or** 8.b, provide a brief summary of the requirements and a status update: Click to enter text.

Item 9. Toxicity Testing (Instructions, Page 45)

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

☒ Yes ☐ No

If **yes**, identify the tests and describe their purposes: TPDES Permit No. WO0002105000 requires that whole effluent testing (biomonitoring) be performed on Outfall 001. Requirements include the chronic static renewal survival and reproduction test using the water flea and chronic static renewal 7-day larval survival and growth test using the fathead minnow. Results are sent to TCEQ.

Additionally, attach a copy of all tests performed which **have not** been submitted to the TCEQ or EPA. **Attachment:** N/A

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

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

☐ Yes ☒ No

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

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

b. Attach the following information to the application:

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

Attachment: N/A

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

☐ Yes ☒ No

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

Attachment: N/A

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

☐ Yes ☒ No

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

Item 11. Radioactive Materials (Instructions, Page 46)

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

☒ Yes ☐ No

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

Radioactive Materials Mined, Used, Stored, or Processed

Radioactive Material Name	Concentration (pCi/L)
The Lower Colorado River Authority is authorized by the Texas Department of State Health Services to store and use radioactive material in fixed measuring devices and gauges. The measuring devices and gauges contain a sealed source of radioactive material (C-137).	N/A

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

☐ Yes ☒ No

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

Radioactive Materials Present in the Discharge

Radioactive Material Name	Concentration (pCi/L)
N/A	

Item 12. Cooling Water (Instructions, Page 46)

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

☒ Yes ☐ No

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

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

☐ Yes ☒ No

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

c. Cooling Water Supplier

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

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

CWIS ID	001	River Pump (make up water)		
Owner	LCRA	LCRA		
Operator	LCRA	LCRA		

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

☐ Yes ☒ No

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

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

☐ Yes ☒ No

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

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

☐ Yes ☒ No

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

Click to enter text.

d. 316(b) General Criteria

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

☒ Yes ☐ No

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

☒ Yes ☐ No

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

☒ Yes ☐ No

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

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

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

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

☐ Yes ☐ No

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

f. Oil and Gas Exploration and Production

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

☐ Yes ☒ No

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

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

☐ Yes ☐ No

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

g. Compliance Phase and Track Selection

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

☐ Yes ☒ No

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

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

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

☐ Track I – AIF greater than 10 MGD

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

☐ Track II

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

Attachment: Click to enter text.

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

☒ Yes ☐ No

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

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

☐ Yes ☒ No

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

☐ Track I – Fixed facility

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

☐ Track I – Not a fixed facility

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

☐ Track II – Fixed facility

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

Attachment: Click to enter text.

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

This item is only applicable to existing permitted facilities.

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

☒ Yes ☐ No

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

Permittee requests the following major amendments:

1.) Remove selenium limits from external Outfalls 003 and 004 and internal Outfall 301;

2.) Amend Other Requirement 3 (G) from "10-year, 24-hour rainfall event" to a longer duration event (up to a 10-year, 10-day rainfall event);

3.) Amend Other Requirement 3 (G) to include coal pile runoff from Outfall 301, which is the same effluent as Outfall 003;

4.) Reduce sampling frequency from weekly to monthly for Outfall 201 for TSS, oil and grease, and pH

See Attachment **FPP-TECH-9 Amendment Requests** for details on these amendment requests.

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

☒ Yes ☐ No

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

Permittee requests the following minor amendments:

1.) On page 2d of Permit, remove reference to Footnote 1 from Outfall 002's minimum self-monitoring requirement for temperature. When discharging multiple sources, it is not possible to prepare a physical flow-weighted sample that can be used for analysis because daily flow cannot be determined until the flows are completed for the day.

2.) On page 2d of Permit, modify Footnote 3 to read "...into the west plant drainage ditch system prior to entering the unnamed tributary of Cedar Creek" and update Note 4 to use the same language. This change is requested to improve the accuracy of the sample location description and to make Footnote 3 and Note 4 consistent.

These minor amendment requests do not change the quantity or quality of the existing discharge.

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

☐ Yes ☒ No

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

Item 14. Laboratory Accreditation (Instructions, Page 49)

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

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

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

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

CERTIFICATION:

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

Printed Name: Andrew Valencia, PE

Title: Sr. VP Generation

Signature: _____

Date: 5/19/2025

INDUSTRIAL WASTEWATER PERMIT APPLICATION WORKSHEET 1.0: EPA CATEGORICAL EFFLUENT GUIDELINES

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

Item 1. Categorical Industries (Instructions, Page 53)

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

☒ Yes ☐ No

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

40 CFR Effluent Guideline

Industry	40 CFR Part
Steam Electric Power Generating	40 CFR Part 423

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

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

a. Production Data

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

Production Data

Subcategory	Actual Quantity/Day	Design Quantity/Day	Units
N/A			

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

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

Percentage of Total Production

Subcategory	Percent of Total Production	Appendix A and B - Metals	Appendix A - Cyanide
N/A			

Subcategory	Percent of Total Production	Appendix A and B - Metals	Appendix A - Cyanide

c. Refineries (40 CFR Part 419)

Provide the applicable subcategory and a brief justification.

N/A

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

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

Process wastewater (discharged via permit):
—once through circulating water (used to cool main condensers)
—auxiliary cooling water (used to cool equipment)
—coal pile and coal area runoff
—reverse osmosis reject
—low volume waste

Process wastewater (sent to Reclaim Pond for recirculating through plant processes; not discharged)
—leachate from capped and closed ash pond (pond was closed and capped and converted to a landfill in 2012)
—flue-gas desulfurization (FGD) wastewater
—metal cleaning waste
—low volume waste

Other
—industrial stormwater (discharged under the plant's TCEQ Multisector General Permit for Industrial Facilities authorization).
—other wastewaters (disposed of as solid waste using a third-party vendor, as needed)

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

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

Wastewater Generating Processes Subject to Effluent Guidelines

Process	EPA Guideline Part	EPA Guideline Subpart	Date Process/ Construction Commenced
Once through cooling water	40 CFR Part 423	12	1978
Low volume waste	40 CFR Part 423	12	1978
Metal cleaning waste	40 CFR Part 423	12	1978
Coal pile runoff	40 CFR Part 423	12	1978

INDUSTRIAL WASTEWATER PERMIT APPLICATION WORKSHEET 2.0: POLLUTANT ANALYSIS

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

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

a. Provide the date range of all sampling events conducted to obtain the analytical data submitted with this application (e.g., 05/01/2018-05/30/2018): October 29, 2024 - March 11, 2025

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

c. Read the general testing requirements in the instructions for important information about sampling, test methods, and MALs. If a contact laboratory was used, attach a list which includes the name, contact information, and pollutants analyzed for each laboratory/firm. **Attachment:** FPP-TECH-10 Laboratory Contract List

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

Attach correspondence from TCEQ approving submittal of less than the required number of samples, if applicable. **Attachment:** FPP-TECH-11 TCEQ Correspondence Approving Sampling

TABLE 1 and TABLE 2 (Instructions, Page 58)

Completion of Tables 1 and 2 is required for all external outfalls for all TPDES permit applications. See Attachment FPP-TECH-12 Pollutant Analysis for Outfalls 002, 003, and 004

Table 1 for Outfall No.: 001 Samples are (check one): ☒ Composite ☒ Grab (indicated with *)

Pollutant	Sample 1 (mg/L)	Sample 2 (mg/L)	Sample 3 (mg/L)	Sample 4 (mg/L)
BOD (5-day)	5	5	8	11
CBOD (5-day)	4	4	5	5
Chemical oxygen demand	47.3	39.9	39.2	54.0
Total organic carbon	12.5	12.1	11.7	12.3
Dissolved oxygen*	5.8	5.64	4.22	6.33
Ammonia nitrogen	<0.02	0.249	0.185	0.132
Total suspended solids	13.5	11.0	34.8	23.8
Nitrate nitrogen	<0.01	0.137	0.362	0.0967
Total organic nitrogen	3.46	3.27	2.38	4.18
Total phosphorus	0.137	0.168	0.243	0.354
Oil and grease*	<2.50	<2.50	<2.50	<2.50

Pollutant	Sample 1 (mg/L)	Sample 2 (mg/L)	Sample 3 (mg/L)	Sample 4 (mg/L)
Total residual chlorine*	0.06	0.05	0.01	0.06
Total dissolved solids	781	779	795	759
Sulfate	139	135	137	136
Chloride	217	211	210	212
Fluoride	1.10	1.06	1.07	1.02
Total alkalinity (mg/L as CaCO3)	235	234	232	236
Temperature (°F)*	88.57	78.44	81.77	77.05
pH (standard units)*	8.64	8.54	8.42	8.25

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

Pollutant	Sample 1 (µg/L)	Sample 2 (µg/L)	Sample 3 (µg/L)	Sample 4 (µg/L)	MAL (µg/L)
Aluminum, total	67.5	88.4	59.7	236	2.5
Antimony, total	<5.00	<5.00	<5.00	<5.00	5
Arsenic, total	8.45	8.33	7.88	7.57	0.5
Barium, total	108	102	104	110	3
Beryllium, total	<0.500	<0.500	<0.500	<0.500	0.5
Cadmium, total	<1.00	<1.00	<1.00	<1.00	1
Chromium, total	1.19	<3.00	<0.625	0.980	3
Chromium, hexavalent	<3.00	<3.00	<3.00	<3.00	3
Chromium, trivalent	<3.62	<3.00	<3.62	<3.62	N/A
Copper, total	7.27	6.92	10.8	13.1	2
Cyanide, ~~available~~ (amenable)*	2.20	<2.20	<2.20	<2.20	2/10
Lead, total	<0.500	<0.500	<0.500	<0.500	0.5
Mercury, total	0.000452	0.00014	0.000925	0.000323	0.005/0.0005
Nickel, total	4.49	4.43	4.59	4.86	2
Selenium, total	<5.00	<5.00	<5.00	<5.00	5
Silver, total	<0.500	<0.500	<0.500	<0.500	0.5
Thallium, total	<0.500	<0.500	<0.500	<0.500	0.5
Zinc, total	<5.00	<5.00	<5.00	<5.00	5.0

TABLE 3 (Instructions, Page 58)

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

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

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

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
Acrylonitrile	<3.00	<3.00	<3.00	<3.00	50
Anthracene	<1.01	<1.01	<0.993	<0.993	10
Benzene	<1.00	<1.00	<1.00	<1.00	10
Benzidine	<20.2	<20.2	<19.9	<19.9	50
Benzo(a)anthracene	<1.01	<1.01	<0.993	<0.993	5
Benzo(a)pyrene	<1.01	<1.01	<0.993	<0.993	5
Bis(2-chloroethyl)ether	<1.01	<1.01	<0.993	<0.993	10
Bis(2-ethylhexyl)phthalate	<7.56	<7.56	<7.45	<7.45	10
Bromodichloromethane [Dichlorobromomethane]	<1.00	<1.00	<1.00	<1.00	10
Bromoform	<1.00	<1.00	<1.00	<1.00	10
Carbon tetrachloride	<1.00	<1.00	<1.00	<1.00	2
Chlorobenzene	<1.00	<1.00	<1.00	<1.00	10
Chlorodibromomethane [Dibromochloromethane]	<1.00	<1.00	<1.00	<1.00	10
Chloroform	<1.00	<1.00	<1.00	<1.00	10
Chrysene	<1.01	<1.01	<0.993	<0.993	5
m-Cresol [3-Methylphenol] reported as m&p-Cresol	<6.25	<6.25	<6.16	<6.16	10
o-Cresol [2-Methylphenol]	<5.24	<5.24	<5.16	<5.16	10
p-Cresol [4-Methylphenol] reported as m&p-Cresol	<6.25	<6.25	<6.16	<6.16	10
1,2-Dibromoethane	<1.00	<1.00	<1.00	<1.00	10
m-Dichlorobenzene [1,3-Dichlorobenzene]	<1.01	<1.01	<0.993	<0.993	10
o-Dichlorobenzene [1,2-Dichlorobenzene]	<1.01	<1.01	<0.993	<0.993	10
p-Dichlorobenzene [1,4-Dichlorobenzene]	<1.01	<1.01	<0.993	<0.993	10
3,3'-Dichlorobenzidine	<5.00	<5.00	<4.97	<4.97	5

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
1,2-Dichloroethane	<1.00	<1.00	<1.00	<1.00	10
1,1-Dichloroethene [1,1-Dichloroethylene]	<1.00	<1.00	<1.00	<1.00	10
Dichloromethane [Methylene chloride]	<2.50	<2.50	<2.50	<2.50	20
1,2-Dichloropropane	<1.00	<1.00	<1.00	<1.00	10
1,3-Dichloropropene [1,3-Dichloropropylene] reported as cis and trans	<1.00	<1.00	<1.00	<1.00	10
2,4-Dimethylphenol	<2.42	<2.42	<2.38	<2.38	10
Di-n-Butyl phthalate	<7.56	<7.56	<7.45	<7.45	10
Ethylbenzene	<1.00	<1.00	<1.00	<1.00	10
Fluoride	0.0011	0.00106	0.00107	0.00102	500
Hexachlorobenzene	<1.01	<1.01	<0.993	<0.993	5
Hexachlorobutadiene	<1.01	<1.01	<0.993	<0.993	10
Hexachlorocyclopentadiene	<9.07	<9.07	<8.94	<8.94	10
Hexachloroethane	<1.01	<1.01	<0.993	<0.993	20
Methyl ethyl ketone [2-Butanone]	<15.0	<15.0	<15.0	<15.0	50
Nitrobenzene	<1.01	<1.01	<0.993	<0.993	10
N-Nitrosodiethylamine	<1.01	<1.01	<0.993	<0.993	20
N-Nitroso-di-n-butylamine	<1.01	<1.01	<0.993	<0.993	20
Nonylphenol	<29.8	<29.0	<30.3	<30.1	333
Pentachlorobenzene	<1.01	<1.01	<0.993	<0.993	20
Pentachlorophenol	<1.01	<1.01	<0.993	<0.993	5
Phenanthrene	<1.01	<1.01	<0.993	<0.993	10
Polychlorinated biphenyls (PCBs) (**)	<0.196	<0.198	<1.94	<0.20	0.2
Pyridine	<5.44	<5.44	<5.36	<5.36	20
1,2,4,5-Tetrachlorobenzene	<1.01	<1.01	<0.993	<0.993	20
1,1,2,2-Tetrachloroethane	<1.00	<1.00	<1.00	<1.00	10
Tetrachloroethene [Tetrachloroethylene]	<1.00	<2.00	<2.00	<2.00	10
Toluene	<2.00	<2.00	<2.00	<2.00	10
1,1,1-Trichloroethane	<1.00	<1.00	<1.00	<1.00	10
1,1,2-Trichloroethane	<1.00	<1.00	<1.00	<1.00	10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
Trichloroethene [Trichloroethylene]	<1.00	<1.00	<1.00	<1.00	10
2,4,5-Trichlorophenol	<1.01	<1.01	<0.993	<0.993	50
TTHM (Total trihalomethanes)	<5.00	<5.00	<5.00	<5.00	10
Vinyl chloride	<1.00	<1.00	<1.00	<1.00	10

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

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

TABLE 4 (Instructions, Pages 58-59)

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

a. **Tributyltin**

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

☐ Yes ☒ No

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

☐ Manufacturers and formulators of tributyltin or related compounds.

☐ Painting of ships, boats and marine structures.

☐ Ship and boat building and repairing.

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

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

☐ Facilities engaged in wood preserving.

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

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

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

☐ Yes ☒ No

Domestic wastewater is/will be discharged.

☐ Yes ☒ No

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

c. E. coli (discharge to freshwater)

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

☐ Yes ☒ No

Domestic wastewater is/will be discharged.

☐ Yes ☒ No

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

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

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

TABLE 5 (Instructions, Page 59)

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

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

☒ N/A

Table 5 for Outfall No.: **N/A** Samples are (check one): ☐ Composite ☐ Grab

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

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
Diuron					0.090
Endosulfan I (*alpha*)					0.01
Endosulfan II (*beta*)					0.02
Endosulfan sulfate					0.1
Endrin					0.02
Guthion [Azinphos methyl]					0.1
Heptachlor					0.01
Heptachlor epoxide					0.01
Hexachlorocyclohexane (*alpha*)					0.05
Hexachlorocyclohexane (*beta*)					0.05
Hexachlorocyclohexane (*gamma*) [Lindane]					0.05
Hexachlorophene					10
Malathion					0.1
Methoxychlor					2.0
Mirex					0.02
Parathion (ethyl)					0.1
Toxaphene					0.3
2,4,5-TP [Silvex]					0.3

* Indicate units if different from µg/L.

TABLE 6 (Instructions, Page 59)

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

Table 6 for Outfall No.: **001**

Samples are (check one): ☒ Composite ☐ Grab

Pollutants	Believed Present	Believed Absent	Sample 1 (mg/L)	Sample 2 (mg/L)	Sample 3 (mg/L)	Sample 4 (mg/L)	MAL (µg/L)*
Bromide	☒	☐	3.79	--	--	--	400
Color (PCU) true	☒	☐	10	--	--	--	—
Nitrate-Nitrite (as N)	☒	☐	<0.02	--	--	--	—
Sulfide (as S)	☒	☐	<0.01	--	--	--	—
Sulfite (as SO3)	☐	☒	--				—
Surfactants (MBAS)	☒	☐	0.3690	--	--	--	—
Boron, total	☒	☐	0.516	--	--	--	20
Cobalt, total	☒	☐	<0.0003	--	--	--	0.3
Iron, total	☒	☐	0.191	--	--	--	7
Magnesium, total	☒	☐	62.10	--	--	--	20
Manganese, total	☒	☐	0.0279	--	--	--	0.5
Molybdenum, total	☒	☐	0.00186	--	--	--	1
Tin, total	☒	☐	<0.005	--	--	--	5
Titanium, total	☒	☐	0.150	--	--	--	30

TABLE 7 (Instructions, Page 60)

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

☐ N/A

Table 7 for Applicable Industrial Categories

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

* Test if believed present.

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

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

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

Table 8 for Outfall No.: 001

Samples are (check one): ☐ Composite ☒ Grab

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Acrolein	<15.0	<15.0	<15.00	<15.00	50
Acrylonitrile	<3.00	<3.0	<3.00	<3.00	50
Benzene	<1.00	<1.00	<1.00	<1.00	10
Bromoform	<1.00	<1.00	<1.00	<1.00	10
Carbon tetrachloride	<1.00	<1.00	<1.00	<1.00	2
Chlorobenzene	<1.00	<1.00	<1.00	<1.00	10
Chlorodibromomethane	<1.00	<1.00	<1.00	<1.00	10
Chloroethane	<2.00	<2.00	<2.00	<2.00	50
2-Chloroethylvinyl ether	<6.00	<6.00	<6.00	<6.00	10
Chloroform	<1.00	<1.00	<1.00	<1.00	10
Dichlorobromomethane [Bromodichloromethane]	<1.00	<1.00	<1.00	<1.00	10
1,1-Dichloroethane	<1.00	<1.00	<1.00	<1.00	10
1,2-Dichloroethane	<1.00	<1.00	<1.00	<1.00	10
1,1-Dichloroethylene [1,1-Dichloroethene]	<1.00	<1.00	<1.00	<1.00	10
1,2-Dichloropropane	<1.00	<1.00	<1.00	<1.00	10
1,3-Dichloropropylene [1,3-Dichloropropene] reported as cis and trans	<1.00	<1.00	<1.00	<1.00	10
Ethylbenzene	<1.00	<1.00	<1.00	<1.00	10
Methyl bromide [Bromomethane]	<5.00	<5.00	<5.00	<5.00	50
Methyl chloride [Chloromethane]	<1.00	<1.00	<1.00	<1.00	50
Methylene chloride [Dichloromethane]	<2.50	<2.50	<2.50	<2.50	20
1,1,2,2-Tetrachloroethane	<1.00	<1.00	<1.00	<1.00	10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Tetrachloroethylene [Tetrachloroethene]	<2.00	<2.00	<2.00	<2.00	10
Toluene	<2.00	<2.00	<2.00	<2.00	10
1,2-Trans-dichloroethylene [1,2-Trans-dichloroethene]	<1.00	<1.00	<1.00	<1.00	10
1,1,1-Trichloroethane	<1.00	<1.00	<1.00	<1.00	10
1,1,2-Trichloroethane	<1.00	<1.00	<1.00	<1.00	10
Trichloroethylene [Trichloroethene]	<1.00	<1.00	<1.00	<1.00	10
Vinyl chloride	<1.00	<1.00	<1.00	<1.00	10

* Indicate units if different from µg/L.

Table 9 for Outfall No.: **001**

Samples are (check one): ☒ Composite ☐ Grab

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
2-Chlorophenol	<1.01	<1.01	<0.993	<0.993	10
2,4-Dichlorophenol	<1.01	<1.01	<0.993	<0.993	10
2,4-Dimethylphenol	<2.42	<2.42	<2.38	<2.38	10
4,6-Dinitro-o-cresol	<8.06	<8.06	<7.94	<7.94	50
2,4-Dinitrophenol	<9.07	<9.07	<8.94	<8.94	50
2-Nitrophenol	<1.01	<1.01	<0.993	<0.993	20
4-Nitrophenol	<1.01	<1.01	<0.993	<0.993	50
p-Chloro-m-cresol	<2.42	<2.42	<2.38	<2.38	10
Pentachlorophenol	<1.01	<1.01	<0.993	<0.993	5
Phenol	<1.51	<1.51	<1.49	<1.49	10
2,4,6-Trichlorophenol	<1.01	<1.01	<0.993	<0.993	10

* Indicate units if different from µg/L.

Table 10 for Outfall No.: **N/A** Samples are (check one): ☐ Composite ☐ Grab

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Acenaphthene					10
Acenaphthylene					10
Anthracene					10
Benzidine					50

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Benzo(a)anthracene					5
Benzo(a)pyrene					5
3,4-Benzofluoranthene [Benzo(b)fluoranthene]					10
Benzo(ghi)perylene					20
Benzo(k)fluoranthene					5
Bis(2-chloroethoxy)methane					10
Bis(2-chloroethyl)ether					10
Bis(2-chloroisopropyl)ether					10
Bis(2-ethylhexyl)phthalate					10
4-Bromophenyl phenyl ether					10
Butylbenzyl phthalate					10
2-Chloronaphthalene					10
4-Chlorophenyl phenyl ether					10
Chrysene					5
Dibenzo(a,h)anthracene					5
1,2-Dichlorobenzene [o-Dichlorobenzene]					10
1,3-Dichlorobenzene [m-Dichlorobenzene]					10
1,4-Dichlorobenzene [p-Dichlorobenzene]					10
3,3'-Dichlorobenzidine					5
Diethyl phthalate					10
Dimethyl phthalate					10
Di-n-butyl phthalate					10
2,4-Dinitrotoluene					10
2,6-Dinitrotoluene					10
Di-n-octyl phthalate					10
1,2-Diphenylhydrazine (as Azobenzene)					20
Fluoranthene					10
Fluorene					10
Hexachlorobenzene					5
Hexachlorobutadiene					10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Hexachlorocyclopentadiene					10
Hexachloroethane					20
Indeno(1,2,3-cd)pyrene					5
Isophorone					10
Naphthalene					10
Nitrobenzene					10
N-Nitrosodimethylamine					50
N-Nitrosodi-n-propylamine					20
N-Nitrosodiphenylamine					20
Phenanthrene					10
Pyrene					10
1,2,4-Trichlorobenzene					10

* Indicate units if different from µg/L.

Table 11 for Outfall No.: **N/A** Samples are (check one): ☐ Composite ☐ Grab

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

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Heptachlor					0.01
Heptachlor epoxide					0.01
PCB 1242					0.2
PCB 1254					0.2
PCB 1221					0.2
PCB 1232					0.2
PCB 1248					0.2
PCB 1260					0.2
PCB 1016					0.2
Toxaphene					0.3

* Indicate units if different from µg/L.

Attachment: N/A

TABLE 12 (DIOXINS/FURAN COMPOUNDS)

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

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

- ☐ 2,4,5-trichlorophenoxy acetic acid (2,4,5-T) CASRN 93-76-5
- ☐ 2-(2,4,5-trichlorophenoxy) propanoic acid (Silvex, 2,4,5-TP) CASRN 93-72-1
- ☐ 2-(2,4,5-trichlorophenoxy) ethyl 2,2-dichloropropionate (Erbon) CASRN 136-25-4
- ☐ 0,0-dimethyl 0-(2,4,5-trichlorophenyl) phosphorothioate (Ronnel) CASRN 299-84-3
- ☐ 2,4,5-trichlorophenol (TCP) CASRN 95-95-4
- ☐ hexachlorophene (HCP) CASRN 70-30-4
- ☐ None of the above

Description: N/A

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

☐ Yes ☒ No

Description: N/A

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

Table 12 for Outfall No.: N/A Samples are (check one): ☐ Composite ☐ Grab

Compound	Toxicity Equivalent Factors	Wastewater Concentration (ppq)	Wastewater Toxicity Equivalents (ppq)	Sludge Concentration (ppt)	Sludge Toxicity Equivalents (ppt)	MAL (ppq)
2,3,7,8-TCDD	1					10
1,2,3,7,8-PeCDD	1.0					50
2,3,7,8-HxCDDs	0.1					50
1,2,3,4,6,7,8-HpCDD	0.01					50
2,3,7,8-TCDF	0.1					10
1,2,3,7,8-PeCDF	0.03					50
2,3,4,7,8-PeCDF	0.3					50
2,3,7,8-HxCDFs	0.1					50
2,3,4,7,8-HpCDFs	0.01					50
OCDD	0.0003					100
OCDF	0.0003					100
PCB 77	0.0001					500
PCB 81	0.0003					500
PCB 126	0.1					500
PCB 169	0.03					500
Total						

TABLE 13 (HAZARDOUS SUBSTANCES)

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

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

☐ Yes ☒ No See Attachment: FPP-TECH-12 for Table 13 for Outfall 003.

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

☐ Yes ☒ No

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

Table 13 for Outfall No.: N/A Samples are (check one): ☐ Composite ☐ Grab

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

INDUSTRIAL WASTEWATER PERMIT APPLICATION WORKSHEET 4.0: RECEIVING WATERS

This worksheet **is required** for all TPDES permit applications. Outfall 001

(See FPP-TECH-13 Receiving Waters for Outfall 002, 003, and 004)

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

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

☐ Yes ☒ No

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

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

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

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

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

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

a. Width of the receiving water at the outfall: Click to enter text. feet

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

☐ Yes ☐ No

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

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

☐ Yes ☐ No

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

Item 3. Classified Segment (Instructions, Page 80)

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

☐ Yes ☒ No

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

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

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

a. Name of the immediate receiving waters: **Lake Fayette (Outfall 001)**

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

☒ Lake or Pond

- Surface area (acres): 2400 (approximate)
- Average depth of the entire water body (feet): 20 (estimate)
- Average depth of water body within a 500-foot radius of the discharge point (feet): 20 (estimate)

☐ Man-Made Channel or Ditch

☐ Stream or Creek

☐ Freshwater Swamp or Marsh

☐ Tidal Stream, Bayou, or Marsh

☐ Open Bay

☐ Other, specify:

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

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

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

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

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

☐ Perennial (normally flowing)

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

☐ USGS flow records

☐ personal observation

☐ historical observation by adjacent landowner(s)

☐ other, specify: Click to enter text.

d. List the names of all perennial streams that join the receiving water within three miles downstream of the discharge point: Click to enter text.

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

☐ Yes ☐ No

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

f. General observations of the water body during normal dry weather conditions: Click to enter text.

Date and time of observation: Click to enter text.

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

☐ Yes ☐ No

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

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

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

☐ oil field activities
☐ agricultural runoff
☐ upstream discharges
☐ urban runoff
☐ septic tanks
☒ other, specify: None applicable

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

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

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

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

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

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

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

INDUSTRIAL WASTEWATER PERMIT APPLICATION WORKSHEET 4.1: WATERBODY PHYSICAL CHARACTERISTICS

Not required for Outfall 001 (lake). See Attachment FPP-TECH-13 Receiving Waters for Outfall 002, 003, and 004.

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

Complete the transects downstream of the existing or proposed discharges.

Item 1. Data Collection (Instructions, Page 82)

a. Date of study: Click to enter text. Time of study: Click to enter text.

Waterbody name: Click to enter text.

General location: Click to enter text.

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

☐ perennial ☐ intermittent with perennial pools ☐ impoundment

c. No. of defined stream bends:

Well: Click to enter text. Moderately: Click to enter text. Poorly: Click to enter text.

d. No. of riffles: Click to enter text.

e. Evidence of flow fluctuations (check one):

☐ Minor ☐ Moderate ☐ Severe

f. Provide the observed stream uses and where there is evidence of channel obstructions/modifications: Click to enter text.

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

Stream Transect Data

Transect Location	Habitat Type*	Water Surface Width (ft)	Stream Depths (ft)**								

Transect Location	Habitat Type*	Water Surface Width (ft)	Stream Depths (ft)**								

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

Item 2. Summarize Measurements (Instructions, Page 83)

Provide the following information regarding the transect measurements:

Streambed slope of entire reach (from USGS map in ft. /ft.): Click to enter text.

Approximate drainage area above the most downstream transect from USGS map or county highway map (square miles): Click to enter text.

Length of stream evaluated (ft): Click to enter text.

Number of lateral transects made: Click to enter text.

Average stream width (ft): Click to enter text.

Average stream depth (ft): Click to enter text.

Average stream velocity (ft/sec): Click to enter text.

Instantaneous stream flow (ft^3/sec): Click to enter text.

Indicate flow measurement method (VERY IMPORTANT – type of meter, floating chip timed over a fixed distance, etc.): Click to enter text.

Flow fluctuations (i.e., minor, moderate, or severe): Click to enter text.

Size of pools (i.e., large, small, moderate, or none): Click to enter text.

Maximum pool depth (ft): Click to enter text.

Total number of stream bends: Click to enter text.

Number well defined: Click to enter text.

Number moderately defined: Click to enter text.

Number poorly defined: Click to enter text.

Total number of riffles: Click to enter text.

INDUSTRIAL WASTEWATER PERMIT APPLICATION WORKSHEET 5.0: SEWAGE SLUDGE MANAGEMENT AND DISPOSAL

The following information **is required** for all TPDES permit applications that meet the conditions as outlined in Technical Report 1.0, Item 7.

Item 1. Sewage Sludge Solids Management Plan (Instructions, Page 84)

a. Is this a new permit application or an amendment permit application?

☒ Yes ☐ No

b. Does or will the facility discharge in the Lake Houston watershed?

☐ Yes ☒ No

If **yes** to either Item 1.a **or** 1.b, attach a solids management plan. **Attachment:** FPP-TECH-14 Solids Management Plan

Item 2. Sewage Sludge Management and Disposal (Instructions, Page 84)

a. Check the box next to the sludge disposal method(s) authorized under the facility's existing permit (check all that apply).

☐ Permitted landfill

☐ Marketing and distribution by the permittee, attach Form TCEQ-00551

☐ Registered land application site, attach Form TCEQ-00565

☐ Processed by the permittee, attach Form TCEQ-00744

☐ Surface disposal site (sludge monofill), attach Form TCEQ-00744

☒ Transported to another WWTP (Note: site is permitted for land application)

☐ Beneficial land application, attach Form TCEQ-10451

☐ Incineration, attach Form TCEQ-00744

Based on the selection(s) made above, complete and attach the required TCEQ forms as directed. Failure to submit the required TCEQ form will result in delays in processing the application

Attachment: N/A

b. Provide the following information for each disposal site:

Disposal site name: Grandy Ranch Ltd

TCEQ Permit/Registration Number: WQ0004458000

County where disposal site is located: Bell County

c. Method of sewage sludge transportation:

☒ truck ☐ train ☐ pipe ☐ other: Click to enter text.

TCEQ Hauler Registration Number: S&M Vacuum and Waste Ltd (Sludge registration: 200089)

d. Sludge is transported as a:

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

e. Purpose of land application: ☐ reclamation ☒ soil conditioning ☐ N/A

f. If sewage sludge is transported to another WWTP for treatment, attach a written statement or copy of contractual agreements confirming that the WWTP identified above will accept and be responsible for the sludge from this facility for the life of the permit (at least 5 years).

Attachment: N/A – sludge is transported to the site for disposal but not treatment

Item 3. Authorization for Sewage Sludge Disposal (Instructions, Page 85)

If this is a new or major amendment application which requests authorization of a new sewage sludge disposal method, check the new sewage disposal method(s) requested for authorization (check all that apply):

☐ Marketing and distribution by the permittee, attach Form TCEQ-00551

☐ Processed by the permittee, attach Form TCEQ-00744

☐ Surface disposal site (sludge monofill), attach Form TCEQ-00744

☐ Beneficial land application, attach Form TCEQ-10451

☐ Incineration, attach Form TCEQ-00744

Based on the selection(s) made above, complete and attach any required TCEQ forms, as directed. Failure to submit the required TCEQ form will result in delays in processing the application.

Attachment: Click to enter text.

NOTE: New authorization for beneficial land application, incineration, processing, or disposal in the TPDES permit or TLAP **requires a major amendment to the permit.** New authorization for composting may require a major amendment to the permit. See the instructions to determine if a major amendment is required or if authorization for composting can be added through the renewal process.

INDUSTRIAL WASTEWATER PERMIT APPLICATION WORKSHEET 11.0: COOLING WATER SYSTEM INFORMATION

This worksheet **is required** for all TPDES permit applications **that meet the conditions outlined in Technical Report 1.0, Item 12.**

Item 1. Cooling Water System Data (Instructions, Page 104)

a. Complete the following table with information regarding the cooling water system.

Cooling Water System Data

Parameter	Volume (include units)
Total DIF	1157 million gallons per day (MGD)
Total AIF	916 million gallons per year (average AIF from 2002-2024)
Intake Flow Use(s) (%)	--
Contact cooling	0%
Non-contact cooling	99.9%
Process Wastewater	0.10%
Other	0%

b. Attach the following information:

1. A narrative description of the design and annual operation of the facility's cooling water system and its relationship to the CWIS(s).

2. A scaled map depicting the location of each CWIS, impoundment, intake pipe, and canals, pipes, or waterways used to convey cooling water to, or within, the cooling water system. Provide the latitude and longitude for each CWIS and any intake pipe(s) on the map. Indicate the position of the intake pipe within the water column.

3. A description of water reuse activities, if applicable, reductions in total water withdrawals, if applicable, and the proportion of the source waterbody withdrawn (on a monthly basis).

4. Design and engineering calculations prepared by a qualified professional and data to support the information provided in above item a.

5. Previous year (a minimum of 12 months) of AIF data.

6. A narrative description of existing or proposed impingement and entrainment technologies or operation measures and a summary of their performance, including, but not limited to, reductions in impingement mortality and entrainment due to intake location and reductions in total water withdrawals and usage.

Attachment: FPP-TECH-15 Cooling Water

Item 2. Cooling Water Intake Structure(s) Data (Instructions, Page 105)

a. Complete the following table with information regarding each cooling water intake structure (this includes primary and make-up CWIS(s)).

Cooling Water Intake Structure(s) Data

CWIS ID	001 (Primary)	River Pump (Make up)		
DIF (include units)	1157 MGD	~40 MGD		
AIF (include units)	916 million gallons per year (average AIF from 2002-2024)	5.3 million gallons per year (average AIF from 2002-2024)		
Intake Flow Use(s) (%)	--	--		
Contact cooling	0%	0%		
Non-contact cooling	99.9%	100% (pond make up water)		
Process Wastewater	0.10%	0%		
Other	0%	0%		
Latitude (decimal degrees)	29.91913306	29.86834209		
Longitude (decimal degrees)	-96.75134521	-96.77563328		

b. Attach the following information regarding the CWIS(s):

1. A narrative description of the configuration of each CWIS, annual and daily operation, including any seasonal changes, and where it is located in the water body and in the water column.

2. Engineering calculations for each CWIS.

Attachment: FPP-TECH-15: Cooling Water

Item 3. Source Water Physical Data (Instructions, Page 105)

a. Complete the following table with information regarding the CWIS(s) source waterbody (this includes primary and make-up CWIS(s)).

Source Waterbody Data

CWIS ID	001	River Pump		
Source Waterbody	Lake Fayette	Colorado River		
Mean Annual Flow	No flow (impoundment)	2189 cfs (1989-2024)		
Source	LCRA	USGS Surface Water Annual Statistics		

b. Attach the following information regarding the source waterbody.

1. A narrative description of the source water for each CWIS, including areal dimensions, depths, salinity and temperature regimes, and other documentation that supports this determination of the water body type where each cooling water intake structure is located.

2. A narrative description of the source waterbody's hydrological and geomorphological features.

3. Scaled drawings showing the physical configuration of all source water bodies used by the facility, including the source waterbody's hydrological and geomorphological features. NOTE: The source waterbody's hydrological and geomorphological features may be included on the map submitted for item 1.b.ii of this worksheet.

4. A description of the methods used to conduct any physical studies to determine the intake's area of influence within the waterbody and the results of such studies.

Attachment: FPP-TECH-15 Cooling Water

Item 4. Operational Status (Instructions, Page 106)

a. Is this application for a power production or steam generation facility?

☒ Yes ☐ No

If **no**, proceed to Item 4.b. If **yes**, provide the following information as an attachment:

1. Describe the operating status of each individual unit, including age, capacity utilization rate (or equivalent) for the previous five years (a minimum of 60 months), and any seasonal changes in operation.

2. Describe any extended or unusual outages or other factors which significantly affect current data for flow, impingement, entrainment.

3. Identify any operating unit with a capacity utilization rate of less than 8 percent averaged over a contiguous period of two years (a minimum of 24 months).

4. Describe any major upgrades completed within the last 15 years, including but not limited to boiler replacement, condenser replacement, turbine replacement, or changes of fuel type.

Attachment: FPP-TECH-15 Cooling Water

b. Process Units

1. Is this application for a facility which has process units that use cooling water (other than for power production or steam generation)?

☐ Yes ☒ No

If **no**, proceed to Item 4.c. If **yes**, continue.

2. Does the facility use or intend to use reductions in flow or changes in operations to meet the requirements of *40 CFR § 125.94(c)*?

☐ Yes ☒ No

If **no**, proceed to Item 4.c. If **yes**, attach descriptions of the following information:

- Individual production processes and product lines
- The operating status, including age of each line and seasonal operation
- Any extended or unusual outages that significantly affect current data for flow, impingement, entrainment, or other factors
- Any major upgrades completed within the last 15 years and plans or schedules for decommissioning or replacement of process units or production processes and product lines.

Attachment: Click to enter text.

c. Is this an application for a nuclear power production facility?

☐ Yes ☒ No

If **no**, proceed to Item 4.d. If **yes**, attach a description of completed, approved, or scheduled upgrades and the Nuclear Regulatory Commission relicensing status for each unit at the facility.

Attachment: Click to enter text.

d. Is this an application for a manufacturing facility?

☐ Yes ☒ No

If **no**, proceed to Worksheet 11.1. If **yes**, attach descriptions of current and future production schedules and any plans or schedules for any new units planned within the next five years (a minimum of 60 mos)

Attachment: Click to enter text.

INDUSTRIAL WASTEWATER PERMIT APPLICATION WORKSHEET 11.1: IMPINGEMENT MORTALITY

This worksheet **is required** for all TPDES permit applications **that meet the conditions outlined in Technical Report 1.0, Item 12.** Complete one copy of this worksheet for **each** individual CWIS the facility uses or proposes to use.

CWIS ID: 001

Item 1. Impingement Compliance Technology Selection (Instructions, Page 107)

Check the box next to the method of compliance for the Impingement Mortality Standard selected by the facility.

- ☒ Closed-cycle recirculating system(CCRS) [*40 CFR § 125.94(c)(1)*]
- ☐ 0.5 ft/s Through-Screen Design Velocity [*40 CFR § 125.94(c)(2)*] - Proceed to Worksheet 11.2
- ☐ 0.5 ft/s Through Screen Actual Velocity [*40 CFR § 125.94(c)(3)*]
- ☐ Existing offshore velocity cap [*40 CFR § 125.94(c)(4)*] - Proceed to Worksheet 11.2
- ☐ Modified traveling screens [*40 CFR § 125.94(c)(5)*]
- ☐ System of technologies [*40 CFR § 125.94(c)(6)*]
- ☐ Impingement mortality performance standard [*40 CFR § 125.94(c)(7)*]
- ☐ De minimis rate of impingement [*40 CFR § 125.94(c)(11)*]
- ☐ Low capacity utilization power-generation facilities [*40 CFR § 125.94(c)(12)*]

If 0.5 ft/s Through-Screen Design Velocity [*40 CFR § 125.94(c)(2)*] or existing offshore velocity cap [*40 CFR § 125.94(c)(4)*] was selected, proceed to Worksheet 11.2. Otherwise, continue to Item 2.

Item 2. Impingement Compliance Technology Information (Instructions, Page 107)

Complete the following sections based on the selection made for item 1 above.

a. CCRS [*40 CFR § 125.94(c)(1)*]

☒ Check this box to confirm the CWS meets the definition of CCRS located at *40 CFR § 125.91(c)* and provide a response to the following questions.

1. Does the facility use or propose to use a CWIS to replenish water losses to the CWS?

   ☒ Yes ☐ No

   If **no**, proceed to item a.2. If **yes**, provide the following information as an attachment and continue.

   - CWIS ID
   - 12 months of intake flow data for any CWIS used for make-up intake flows to replenish cooling water losses, excluding intakes for losses due to blowdown, drift, or evaporation.

- A narrative description of any physical or operational measures taken to minimize make-up withdraws.

Attachment: FPP-TECH-15 Cooling Water

NOTE: Do not complete a separate Worksheet 11.1 for a make-up CWIS.

2. Does the facility use or propose to use cooling towers?

☐ Yes ☒ No

If **no**, proceed to Worksheet 11.2. If **yes**, provide the following information and proceed to Worksheet 11.2.

- Average number of cycles of concentration (COCs) prior to blowdown:

Average COCs Prior to Blowdown

Cooling Tower ID				
COCs				

- Attach COC monitoring data for each cooling tower from the previous year (a minimum of 12 months): Click to enter text.
- Maximum number of COCs each cooling tower can accomplish based on design of the system.

Calculated COCs Prior to Blowdown

Cooling Tower ID				
COCs				

- Describe conditions that may limit the number of COCs prior to blowdown, if any, including but not limited to permit conditions: Click to enter text.

b. 0.5 ft/s Through Screen Actual Velocity [*40 CFR § 125.94(c)(3)*]

Provide daily intake flow measurement monitoring data from the previous year (a minimum of 12 months) as an attachment and proceed to Worksheet 11.2.

Attachment: Click to enter text.

c. Modified traveling screens [*40 CFR § 125.94(c)(5)*]

Provide the following information as an attachment and proceed to Worksheet 11.2.

1. A description of the modified traveling screens and associated equipment.
2. A site-specific impingement technology performance optimization study that includes a narrative description of the biological data collection methods
3. Biological sampling data from the previous two years (a minimum of 24 months).

Attachment: Click to enter text.

d. System of technologies [*40 CFR § 125.94(c)(6)*] or impingement mortality performance standard [*40 CFR § 125.94(c)(7)]*

Provide the following information as an attachment and proceed to Worksheet 11.2.

1. A description of the system of technologies used or proposed for use by the facility to achieve compliance with the impingement mortality standard.

2. A site-specific impingement technology performance optimization study that includes a narrative description of the biological data collection methods.

3. Biological sampling data from the previous two years (a minimum of 24 months).

Attachment: Click to enter text.

e. De minimis rate of impingement [*40 CFR § 125.94(c)(11)*]

Provide the following information and proceed to Worksheet 11.2.

1. Attach monitoring data from the previous year (a minimum of 12 months) of intake flow measured at a frequency of 1/day on days of operation.

   Attachment: Click to enter text.

2. If the rate of impingement caused by the CWIS is extremely low (at an organism or age-one equivalent count), attach supplemental information to Worksheet 11.0, item 1.b.6. to support this determination.

   Attachment: Click to enter text.

f. Low capacity utilization power-generation facilities [*40 CFR § 125.94(c)(12)*]

Attach monthly utilization data from the previous 2 years (a minimum of 24 months) for each operating unit and proceed to Worksheet 11.2.

Attachment: Click to enter text.

INDUSTRIAL WASTEWATER PERMIT APPLICATION WORKSHEET 11.2: SOURCE WATER BIOLOGICAL DATA

This worksheet **is required** for all TPDES permit applications that **meet the conditions outlined in Technical Report 1.0, Item 12**. Complete one copy of this worksheet for **each** source waterbody of a CWIS for which a facility has selected an Impingement Mortality Technology Option described at *40 CFR §§ 125.94(c)(1)-(7)*.

Name of source waterbody: Lake Fayette

Item 1. Species Management (Instructions, Page 109)

a. The facility has obtained an incidental take permit for its cooling water intake structure(s) from the USFWS or the NMFS.

☐ Yes ☒ No

If yes, attach any information submitted in order to obtain that permit, which may be used to supplement the permit application information requirements of paragraph *40 CFR § 125.95(f)*.

Attachment: Click to enter text.

b. Is the facility requesting a waiver from application requirements at *40 CFR § 122.21(r)(4)* in accordance with *40 CFR § 125.95* for any CWIS(s) that withdraw from a man-made reservoir that is stocked and managed by a state or federal natural resources agency or the equivalent?

☒ Yes ☐ No

If **yes**, attach a copy of the most recent managed fisheries report to TPWD, or equivalent.

Attachment: FPP-TECH-16 TPWD Fisheries Report

c. There are no federally listed threatened or endangered species or critical habitat designations within the source water body.

☒ True ☐ False

Item 2. Source Water Biological Data (Instructions, Page 109)

New Facilities (Phase I, Track I and II)

- Provide responses to all items in this section and stop.

Existing Facilities (Phase II)

- If the answer to **1.b.** above was **no**, provide responses to all items in this section and proceed to Worksheet 11.3.
- If the answer to **1.b.** was **yes** and **1.c.** was **true**, do not complete any items in this section and proceed to Worksheet 11.3.
- If the answer to **1.b.** was **yes** and **1.c.** was **false**, attach a response for any item in this section that is not contained within the most recent TPWD, or equivalent and proceed to Worksheet 11.3.

Attachment: Click to enter text.

a. A list of the data requested at *40 CFR § 122.21(r)(4)(ii)* through *(vi)* that are not available, and efforts made to identify sources of the data.

b. Provide a list of species (or relevant taxa) in the vicinity of the CWIS and identify the following information regarding each species listed.
   - all life stages and their relative abundance,
   - identification of all species and life stages that would be most susceptible to impingement and entrainment,
   - forage base,
   - significance to commercial fisheries,
   - significance to recreational fisheries,
   - primary period of reproduction,
   - larval recruitment, and
   - period of peak abundance for relevant taxa.

c. Data representative of the seasonal and daily activities (e.g., feeding and water column migration) of biological organisms in the vicinity of the CWIS(s).

d. Identify all threatened, endangered, and other protected species that might be susceptible to impingement and entrainment at the CWIS(s).

e. Documentation of any public participation or consultation with federal or state agencies undertaken.

The following is required for existing facilities only. Include the following information with the above listed attachment.

f. Identify any protective measures and stabilization activities that have been implemented and provide a description of how these measures and activities affected the baseline water condition in the vicinity of the intake.

g. A list of fragile species, as defined at *40 CFR § 125.92(m)*, at the facility. The applicant need only identify those species not already identified as fragile at *40 CFR § 125.92(m)*.

NOTE: New units at an existing facility are not required to resubmit this information if the cooling water withdrawals for the operation of the new unit are from an existing intake.

INDUSTRIAL WASTEWATER PERMIT APPLICATION WORKSHEET 11.3: ENTRAINMENT

This worksheet **is required** for all TPDES permit applications that **meet the conditions outlined in Technical Report 1.0, Item 12.** Complete one copy of this worksheet for **each** individual CWIS the facility uses or proposes to use.

CWIS ID: 001

Item 1. Applicability (Instructions, Page 111)

Is the AIF of the CWIS identified above greater than, or equal to, 125 MGD?

☒ Yes ☐ No

- If **no** or the facility has selected **CCRS** [*40 CFR § 125.94(c)(1)*] for the impingement mortality compliance method, complete Item 2 and stop here.
- If **yes** and the facility is **seeking a waiver** from application requirements in accordance with *40 CFR § 125.95* for any CWIS(s) that withdraw from a man-made reservoir that is stocked and managed by a state or federal natural resources agency or the equivalent, complete item 2 and stop.
- If **yes** and the facility is **not seeking a waiver** from application requirements in accordance *with 40 CFR § 125.95*, complete item 2 and provide any required and completed studies listed in item 3. For any required studies in item 3 that are not complete, provide a detailed explanation for the delay and an anticipated schedule for completion and submittal.

Item 2. Existing Entrainment Performance Studies (Instructions, Page 111)

Attach any previously conducted studies or studies obtained from other facilities addressing technology efficacy, through-facility entrainment survival, and other entrainment studies.

Attachment: FPP-TECH-17 Existing Entrainment Studies

Item 3. Facility Entrainment Performance Studies (Instructions, Page 111)

a. Attach an entrainment characterization study, as described at *40 CFR § 122.21(r)(9)*: Click to enter text.

b. Attach a comprehensive feasibility study, as described as *40 CFR § 122.21(r)(10)*: Click to enter text.

c. Attach a benefits valuation study, as described as *40 CFR § 122.21(r)(11)*: Click to enter text.

d. Attach a non-water quality environmental and other impacts study, as described as *40 CFR § 122.21(r)(12)*: Click to enter text.

e. Attach a peer review analysis, as described as *40 CFR § 122.21(r)(13)*: Click to enter text.

TECHNICAL REPORT

ATTACHMENTS

1. FPP-TECH-1 Wastewater Processes
2. FPP-TECH-2 Facility Map
3. FPP-TECH-3 Water Balance
4. FPP-TECH-4 Pond Liner Information
5. FPP-TECH-5 Alternative Liner Information (Cell 2D Pond)
6. FPP-TECH-6 Groundwater Monitoring Plan
7. FPP-TECH-7 Wastestream Contributions for Outfalls 004, 201, and 301
8. FPP-TECH-8 Chemical Information
9. FPP-TECH-9 Amendment Requests
10. FPP-TECH-10 Laboratory Contract List
11. FPP-TECH-11 TCEQ Correspondence Approving Sampling
12. FPP-TECH-12 Pollutant Analysis for Outfall 002, 003, and 004
13. FPP-TECH-13 Receiving Waters for Outfall 002, 003, and 004
14. FPP-TECH-14 Solids Management Plan
15. FPP-TECH-15 Cooling Water
16. FPP-TECH-16 TPWD Fisheries Management Survey Report
17. FPP-TECH-17 Existing Entrainment Studies
18. FPP-TECH-18 Engineering Calculations and Pump Curves

ATTACHMENT FPP–TECH-1

Wastewater Generation Processes

The Fayette Power Project (FPP) is a steam electric power generating station. This facility has three coal fired generating units. The three coal-fired boilers have a total gross generation capacity of approximately 1,760 megawatts. Unit 1 came online for commercial use in 1979; Unit 2 in 1980; and Unit 3 in 1988. Units 1 and 2 are jointly owned by the Lower Colorado River Authority (LCRA) and the City of Austin, Texas. Unit 3 is wholly owned by the LCRA. The entire facility is operated by the LCRA.

FPP is located on the shores of Cedar Creek Reservoir/ Lake Fayette, in Fayette County, Texas about 7 1/2 miles east of La Grange, Texas. Cedar Creek Reservoir/Lake Fayette is a man-made reservoir, built for the specific purpose of providing cooling water for the plant's generating units. A river pumping station is installed on the Colorado River approximately 4.3 air miles from FPP, which intermittently pumps water into the beginning of the FPP discharge canal as make-up water for the reservoir. Wastewaters generated at the plant are authorized to be discharged by Texas Pollutant Discharge Elimination System (TPDES) Individual Permit No. WQ0002105000. This permit authorizes discharges from four external outfalls (001, 002, 003, and 004) and two internal outfalls (201 and 301).

Coal is delivered to FPP by rail and stored in outdoor piles. Activated carbon is delivered to FPP by truck and stored in silos. The carbon is pneumatically conveyed into Units 1, 2 and 3. The carbon is injected into each unit's flue gas stream.

Circulating and cooling water is pumped from the intake structure, treated with chemicals as necessary to reduce scale deposits and algae, used for cooling, and returned to the reservoir via Outfall 001. Circulating water travels through the unit condensers and cooling water (also known as auxiliary water) is used to cool the auxiliary equipment and for fire protection.

Units 1, 2 and 3 are equipped with wet limestone flue gas desulfurization (FGD) scrubbers. Limestone rock is transported to the plant via truck and stored in an enclosed building. The limestone rock is conveyed and then crushed and mixed with water to form slurry which is pumped to each unit's scrubber. In the scrubbers, the limestone slurry reacts with the flue gas to produce gypsum slurry which is pumped to a dewatering system where the solids and liquids are separated. The liquid portion is sent to the Reclaim Pond and to other holding tanks where it is reused in the scrubber and limestone preparation area. The solids are conveyed to a covered dome and then either sold or transported by truck to the Combustion Byproduct Landfill (CBL) or to a temporary storage building.

Fly ash is pneumatically transported to silos where it is loaded into trucks via telescoping chutes for sale or for transfer to the CBL for disposal or sale. Storm water runoff and truck wash water from the area around the Units 1 and 2 ash silos drain to the Ash Loading Runoff Pond and then is pumped to the Reclaim Pond. Storm water and truck wash water from the Unit 3 ash silo area drain directly to the Reclaim Pond.

Bottom ash is moved via a chain conveyor system and collected in concrete bunkers and then is transported via truck to the CBL for disposal or sale. Storm water at the U1 and U2 bottom ash bunkers

drains to a sump which is routed to the Reclaim Pond. Storm water at the U3 bottom ash bunker goes to the Unit 3 boiler area sump and then to the Reclaim Pond.

The Coal Pile Runoff (CPR) Pond receives storm water runoff from the coal pile and adjacent areas, low volume wastes, and stormwater from fuel storage, lube oil storage, transformers and other plant areas. Flocculent is added to the runoff prior to entering the CPR Pond. The CPR Pond has a settling chamber to allow the solids to settle out prior to entering the main body of the pond. This pond also receives wastewater from an oil-water separator, which receives wastewater from the turbine building drains. During maintenance or outages when plant equipment and piping must be drained, once-through cooling water, non-contact cooling water, or condensate water may be routed to this pond either via turbine floor drains (and oily water separator) or via surface drainage ditches. Water from this pond may be discharged via Outfall 003 to an unnamed tributary of Cedar Creek, discharged via Outfall 301 to the discharge canal (Outfall 001), or transferred to the Reclaim Pond.

The CBL Pond receives low volume wastes, truck wash water, and contact storm water from within the active areas of the CBL and from the Cell 2D storm water retention pond. Water from the CBL Pond can be discharged via Outfall 004 to an unnamed tributary of Cedar Creek, transferred to the Reclaim Pond, or used for dust suppression within the active area of the CBL.

The Cell 2D storm water retention pond receives contact storm water from the CBL Cell 2D and is transferred to the CBL Pond. Cell 2D pond water is used for mixing with materials in the landfill to create saleable products or can be used for dust suppression in the landfill. The CBL pond may also transfer water back to the Cell 2D pond.

Outfall 201 discharges the reject stream from the Reverse Osmosis (RO) water treatment system. The RO system reject streams may include chemicals used to protect and clean the RO membranes. Outfall 201 discharges into the discharge canal (Outfall 001). The reject stream from the RO can also be sent to the Reclaim Pond or the CPR Pond.

Outfall 002 discharges once-through cooling water or non-contact cooling water that is drained from plant equipment and piping during maintenance or unit outage. The equipment is drained, and the water then flows through a drainage system (i.e. west plant drainage ditch system) to an unnamed tributary to Cedar Creek. The location of Outfall 002 includes multiple locations where the various sources of water enter the drainage system within the plant.

Domestic wastewater is treated by a domestic wastewater package plant and the effluent is routed to the Reclaim Pond. A second wastewater treatment plant is currently not in use.

The Reclaim Pond is a process pond that recirculates wastewater for use in the plant's scrubber system. The Reclaim Pond receives wastewaters from various sources including, but not limited to, cooling water, coal pile runoff, low volume waste sources, treated domestic wastewater, boiler blowdown, metal cleaning waste, stormwater, wastewater from the Ash Loading Runoff Pond, CBL Pond, CPR Pond, and leachate from the Ash Pond (closed and capped and converted to a landfill in 2012) via the lateral drain sump. The Reclaim Pond is a no-discharge pond.

Stormwater runoff from the industrial areas of the Fayette Power Plant not covered under this industrial wastewater permit is authorized under the industrial stormwater Texas Pollutant Discharge Elimination System (TPDES) General Permit No. TXR050000.

ATTACHMENT: FPP-TECH-4 Pond Liner Information

Reclaim Pond

- Bottom: 12 inches of recompacted clay topped by 12 inches of Type II fill.
- Side Slopes: 12 inches of recompacted clay, topped by 12 inches of Type II fill, topped by 6 inches of Class 5 riprap bedding, topped by 12 inches of Class 12 riprap.

Coal Pile Runoff Pond (CPR) Pond

- Bottom: 12 inches of clay and sandy clay recompacted to 95% of maximum density within 2% of optimum moisture content.
- Side Slopes: Embankment of Type I and II cohesive fill in 8-inch lift recompacted to 95% of maximum density within 2% of optimum moisture content. In 2024, riprap was added to the south slope of the embankment to address an area of erosion. The project was assessed by an engineer to ensure design permeability was maintained.

Combustion Byproducts Landfill (CBL) Pond

- Bottom and side slopes: 12 inches of recompacted clay, topped by 12 inches of Type II fill.

Ash Silo Pond (also known as Ash Loading Runoff Pond)

- Bottom: 12 inches of recompacted clay, topped by 12 inches of Type II fill.
- Side Slopes: 12 inches of recompacted clay, topped by 6 inches of Class 5 riprap bedding, topped by 12 inches of Class 12 riprap. The bottom and side slopes have also been lined with a flexible membrane liner.

Liner Permeability Data:

Liners for the impoundments, most of which were built in the late 1970s, were constructed to meet a criterion of a minimum three feet of cohesive soil with a permeability of 1×10^{-7} cm/sec. The thickness of the liner was adjusted for the permeability of the liner material. For example, to achieve an equivalent seepage control in the Ash Pond (now closed and capped and converted to a landfill) a liner thickness of 4.8 feet was used to adjust for the average permeability of in-situ soils of 1.6×10^{-7} cm/sec. (National Soil Services, Inc. Report No. 7767, August 12, 1977).

In-Situ Soils Data:

The geology of the power plant site is generally described as follows: Clay units of the basal Willis Formation overlying interbedded sand, sandy clay and clay layers of the uppermost Oakville Formation. On the east side of the plant, the Ash Pond (now closed and capped and converted to a landfill) and the Coal Pile Runoff Pond are underlain by firm sandy clay of variable thickness, with an average permeability of 1.6×10^{-7} cm/sec (range: 0.04 x 10-7 cm/sec to 5.92 x 10-7 cm/sec). Beneath the surficial clay is a transmissive layer of dense silty sand and fine sand about 10 to 20 feet thick. This is the shallowest water-bearing unit, but it is not an aquifer used for water supply in the area. Underlying the sand unit is a hard gray clay about 40 to 50 feet thick, which effectively forms a confining bed preventing downward percolation of groundwater to major aquifers at the power plant.

ATTACHMENT: FPP-TECH-5 Alternative Liner Information (Cell 2D Pond)

TCEQ Interoffice Memorandum

To: Karen V. Holligan, -Industrial Permit Writer

Thru: Mike Lindner, Industrial Permits Team Leader

From: Louis C. Herrin, III, P.E., Water Quality Division

Date: March 10, 2014

Subject: **Alternate Pond Liner Proposal, LCRA Fayette power Plant WQ0002105-005**

RE: **Log Number 0114/092**

I have review the information that was submitted by Nancy Overesch, from Lower Colorado River Authority (LCRA) on the alternate pond liner proposal. LCRA is proposing to construct a new pond Sub cell 2D Contact Water Retention Pond (pond). The pond is approximately 1.6 surface acres, a working depth of 9 feet with two feet of freeboard. The operating capacity of the pond is approximately 2.6 million gallons. The proposed alternate liner consist of a 60-mil thick high density polyethylene (HDPE) and 2 foot thick clay liner with a permeability equal to or less than $1x10^{-7}$ cm/sec.

Based on the information that I review, I would grant the alternate pond liner proposal.

02/4/002

TCEQ Interoffice Memorandum

To: Louis C. Herrin, III, P.E. Engineer - Wastewater Permitting Section

James Moore, P.E., Engineer - Water Quality Assessment Section

From: David W. Hastings, P.G. Geologist - Water Quality Assessment Team

Date: February 5, 2014

RECEIVED
JAN 31 2014
WATER QUALITY DIVISION
TCEQ

Subject: **Alternate Pond Liner Proposal, LCRA Fayette Power Plant, WQ0002105-000**

Summary:

On January 31, 2014, the Water Quality Assessment (WQA) Team received a plan for the contact water retention pond for Subcell 2D of their existing Combustion Byproduct Landfill (CBL) at the LCRA's Fayette Power Plant (FPP) in La Grange. The plan was submitted by Ms. Nancy Overesch, of LCRA, and is entitled "2012 Annual Groundwater Monitoring Plan". The document includes a "Proposed Alternate Liner (Geomembrane/Compacted Soil Composite Liner)" for Subcell 2D Contact Water Retention Pond. The plan was signed and sealed by M. Zahirul Islam, Ph.D., P.E. and Beth A. Gross, Ph.D., P.E., both State of Texas licensed, under a Texas licensed Engineering Firm.

LCRA has submitted a minor amendment to the TCEQ for expansion of their CBL and TCEQ Water Quality Division permit writer has included the standard permit language for liners for new ponds:

All wastewater ponds must be lined in compliance with one of the following requirements:

(1) Soil Liner: The soil liner must contain clay-rich soil material (at least 30% of the liner material passing through a #200 mesh sieve, liquid limit greater than or equal to 30, and plasticity index greater than or equal to 15) along the sides and bottom of the pond. The liner material must be compacted in lifts of no more than 8 inches to 95% standard proctor density at the optimum moisture content in accordance with ASTM D 698 to achieve a permeability equal to or less than 1 × 10-7 cm/sec. The liner must be a minimum thickness of 2.0 feet for water depths less than or equal to 8.0 feet and a minimum thickness of 3.0 feet for water depths greater than 8.0 feet.

(2) Synthetic/Plastic/Rubber Liner: The liner must be either a plastic or rubber membrane liner at least 40 mils in thickness which completely covers the sides and the bottom of the pond and which is not subject to degradation due to reaction with wastewater with which it will come into contact. If this lining material is vulnerable to ozone or ultraviolet deterioration it must be covered with a protective layer of soil of at least six inches. A wastewater pond with a membrane liner must include an underdrain with a leachate detection and collection system.

(3) Alternate Liner: The permittee shall submit plans for any other pond lining method. Pond liner plans must be approved in writing by the Executive Director of the Texas Commission on Environmental Quality (TCEQ) prior to pond construction.

The alternate liner plan proposed by LCRA consists of a 60-mil thick HDPE geomembrane liner overlying a 2-foot thick compacted soil (clay-rich) liner to achieve a hydraulic conductivity of

equal to or less than 1 x 10-7 cm/sec. No underdrain with leachate detection and collection system is proposed. The operating depth of the pond is 9 feet with a freeboard of 2 feet. The capacity of the pond is approximately 2,600,000 gallons.

An alternate moisture-density range is proposed using the Proctor compaction test (ASTM D 1557), with the soil liner to be compacted to meet a maximum dry density equal to or greater than 1 percentage point dry of optimum as determined by the modified Proctor compaction test (ASTM D 1557). The proposal indicates the standard Proctor compaction test (ASTM D 698) or alternate approach (ASTM D 1557) is allowed by TCEQ for construction of compacted soil liners for MSW and hazardous waste landfills.

Issue(s) for WQD engineer

- Is the alternate approach (ASTM D 1557) for moisture-density and compaction allowed to meet the liner requirements?
- Would the proposal require leak detection? No leak detection system was proposed for the synthetic liner, although monitor wells are in place.

Local Geology:
The Lower Colorado River Authority (LCRA) property lies over the Oakville Sandstone and the Willis Formation. The Oakville Sandstone is composed of sandstone and clay and is 200 to 500 feet thick. The Fleming Formation is composed of clay and sandstone and is approximately 1200 feet thick. The Willis Formation is composed of gravel, sand, silt, and clay; mostly gravel inland. The Willis Formation is approximately 100 feet thick.

Groundwater:
The facility is located on the Gulf Coast aquifer, designated a major aquifer by the Texas Water Development Board (TWDB). The Gulf Coast aquifer consists of complex interbedded clays, silts, sands, and gravels of Cenozoic age, which are hydrologically connected to form a large, leaky artesian aquifer system. Water well drillers reports indicate an alternating sequence of sand, sandstone, clay, shale, and some gravel. Well depths range from 26 (upper Oakville) to 800 feet (Oakville) below ground level (bgl). Static water levels range from 17 to 200 feet bgl.

LCRA identifies three groundwater bearing units underlying the facility, the Upper, Middle, and Lower Sand units. The Upper Sand unit is discontinuous on the property with a thickness of 5 to 20 feet. LCRA states that water infiltrating into this unit probably drains out through seeps along a hill side within the facility boundaries. The Middle Sand unit is a laterally-contiguous groundwater unit that occurs under most of the facility. The unit is approximately 20 to 30 feet thick and thins to the south and southwest. A clay-rich layer separates the Upper and Middle sands. The Middle sands are thought to be in communication with Cedar Creek Reservoir. This unit is thought to extend beyond the property boundaries. A 50 to 70 foot clay layer separates the Middle and Lower sand units.

The facility has been performing semi-annual routine groundwater monitoring for several years and some contaminants of concern (COCs) have been identified in the groundwater at levels exceeding either a drinking water maximum contaminant level or

a protective contaminant level under the Texas Risk Reduction Program (TRRP). LCRA is working with TCEQ Remediation Division (Gary Beyer) to identify the remedial activities required for the site and to initiate closing the ash pond (likely source of groundwater contamination).

Two monitor wells appear to be down-gradient to the pond, CBL-3061 and CBL-3. Both wells monitor the intermediate sand. The upper sand appears to thin and/or "pinch out" in the subsurface in the area of the proposed pond as shown in Figure 6 "Potentiometric Surface Map of the Upper Sand". It is possible that these monitor wells might be suitable to monitor the retention pond for leaks to groundwater and could be used as the leak detection system.

The facility collected additional geotechnical and hyrdrogeologic information as part of the development of the Cell 2 plan and specifically in the area of Subcell 2D. It appears that the intermediate sand units are not present within 5 feet of the base of the proposed liner system.

Existence of any perched groundwater:
Literature does not indicate the existence of a perched groundwater table.

Groundwater use (irrigation, stock, drinking, rig supply, etc:
The Gulf Coast Aquifer is the principal aquifer for this area. Groundwater use appears to be mostly domestic, and for stock and irrigation.

Identification of local soil types (from Web Soil Survey):
According to the Web Soil Survey, the retention pond appears to be located on a soil type mapped as Straber gravelly loam fine sand, 2 to 5 percent slopes. No shallow water table was noted for this soil type. This soil is rated as somewhat limited for use as a retention pond and as a pond reservoir due to slope.

Drastic rating:
95 - 109

ATTACHMENT: FPP-TECH-6 Groundwater Monitoring Plan

Per the TCEQ TPDES Permit Conditions, FPP submits an annual and semi-annual groundwater monitoring report to the TCEQ Water Monitoring Division. The most recent report was submitted on March 14, 2025 to Ms. April Hoh, Water Quality Assessment Team, TCEQ.

ATTACHMENT: FPP-TECH-7 Wastestream Contributions for Outfalls 004, 201, and 301

Industrial Wastewater Permit Application Technical Report, Item 4

Outfall No.: 004

Contributing Wastestreams	Volume (MGD)	% of Total Flow
Stormwater runoff and low volume waste sources, including truck wash water from combustion byproducts landfill area	0.00*	100%
*has not discharged since 2021		

Outfall No.: 201

Contributing Wastestreams	Volume (MGD)	% of Total Flow
Low volume wastes including reject stream from reverse osmosis system	0.13	100%

Outfall No.: 301

Contributing Wastestreams	Volume (MGD)	% of Total Flow
Coal pile runoff	0.54	57%
Low volume waste sources, including but not limited to, oily waste treatment system, blowdown, condenser drains, coal handling equipment wash down, and reject stream from reverse osmosis system	0.34	36%
Stormwater runoff	0.06	7%

Univar Solutions

Safety Data Sheet
SODIUM HYPOCHLORITE 12.5% LIQUICHLOR®

Version 1.14 Revision Date: 03/31/2021

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : SODIUM HYPOCHLORITE 12.5% LIQUICHLOR®

Recommended use of the chemical and restrictions on use

Recommended use : Industrial chemical
Disinfectant.

Manufacturer or supplier's details

Company : Univar Solutions USA, Inc.
Address 3075 Highland Pkwy Suite 200
Downers Grove, IL 60515
United States of America (USA)

Emergency telephone number:
Transport North America: CHEMTREC (1-800-424-9300)
CHEMTREC INTERNATIONAL Tel # 703-527-3887

Additional Information: : Responsible Party: Product Compliance Department
E-mail: SDSNA@univarsolutions.com
SDS Requests: 1-855-429-2661
Website: www.univarsolutions.com

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Corrosive to metals : Category 1

Skin corrosion : Category 1

Serious eye damage : Category 1

GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.

Precautionary statements : **Prevention:**
P234 Keep only in original container.
P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately

all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
P363 Wash contaminated clothing before reuse.
P390 Absorb spillage to prevent material damage.
Storage:
P405 Store locked up.
P406 Store in corrosive resistant container with a resistant inner liner.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

CAS-No.	Chemical name	Weight percent
7681-52-9	Sodium hypochlorite	12.5
1310-73-2	Sodium hydroxide	0 - 5

Actual concentration is withheld as a trade secret
Any Concentration shown as a range is due to batch variation.

SECTION 4. FIRST AID MEASURES

General advice : Show this safety data sheet to the doctor in attendance.
Move out of dangerous area.
Consult a physician.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.

If inhaled : Take victim immediately to hospital.

Move to fresh air.

If breathing has stopped, apply artificial respiration.

If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician.

In case of skin contact : In case of contact, immediately flush skin with plenty of water

for at least 15 minutes while removing contaminated clothing and shoes.
Remove contaminated clothing. If irritation develops, get medical attention.
Burns must be treated by a physician.

Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.
If on skin, rinse well with water.
If on clothes, remove clothes.

In case of eye contact : In case of eye contact
Immediately flush eye(s) with plenty of water.
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
If easy to do, remove contact lens, if worn.
If eye irritation persists, consult a specialist.
Take victim immediately to hospital.

Small amounts splashed into eyes can cause irreversible tissue damage and blindness.
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Continue rinsing eyes during transport to hospital.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.

If swallowed : Take victim immediately to hospital.
Do NOT induce vomiting.
Rinse mouth with water.
If victim is fully conscious, give a cupful of water.
If a person vomits when lying on his back, place him in the recovery position.

Clean mouth with water and drink afterwards plenty of water.
Keep respiratory tract clear.
Do NOT induce vomiting.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.
Take victim immediately to hospital.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Keep containers and surroundings cool with water spray.
Carbon dioxide (CO2)
Water spray
Foam
Dry powder

Unsuitable extinguishing media	:	High volume water jet
		High volume water jet
Specific hazards during fire-fighting	:	Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	:	No hazardous combustion products are known
Further information	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Special protective equipment for firefighters	:	Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment.
Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Neutralise with acid. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.
Advice on safe handling	:	Do not breathe vapours/dust. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. To avoid spills during handling keep bottle on a metal tray. Dispose of rinse water in accordance with local and national regulations.
Conditions for safe storage	:	Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and

kept upright to prevent leakage.
Observe label precautions.
Electrical installations / working materials must comply with the technological safety standards.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

CAS-No.	Components	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
7681-52-9	Sodium hypochlorite	STEL	2 mg/m3	US WEEL
1310-73-2	Sodium hydroxide	C	2 mg/m3	ACGIH
		C	2 mg/m3	NIOSH REL
		TWA	2 mg/m3	OSHA Z-1
		C	2 mg/m3	OSHA P0

Personal protective equipment

Respiratory protection : General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

Hand protection

Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Eye wash bottle with pure water
Tightly fitting safety goggles
Wear face-shield and protective suit for abnormal processing problems.

Skin and body protection : Impervious clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures : When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Colour	:	clear yellow
Odour	:	Chlorine
Odour Threshold	:	No data available
pH	:	11.5 - 13
Freezing Point (Melting point/freezing point)	:	-20 - -15 °C (-4 - 5 °F)
Boiling Point ()	:	230 °F (230 °F) Decomposition: Decomposition temperature
Flash point	:	Not Flammable
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Upper explosion limit	:	No data available
Lower explosion limit	:	No data available
Vapour pressure	:	12 - 17.5 mmHg @ 20 °C (68 °F)
Relative vapour density	:	No data available
Relative density	:	1.17 @ 20 °C (68 °F) Reference substance: (water = 1)
Density	:	No data available
Solubility(ies) Water solubility	:	completely soluble
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Thermal decomposition	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No decomposition if stored and applied as directed.

Chemical stability	:	No decomposition if stored and applied as directed.
Possibility of hazardous reactions	:	No decomposition if stored and applied as directed.
Conditions to avoid	:	No data available
Incompatible materials	:	Acids Combustible material Halogenated compounds Metals metal salts Organic materials organic nitro compounds Zinc

SECTION 11. TOXICOLOGICAL INFORMATION

Skin corrosion/irritation

Product:
Remarks: Extremely corrosive and destructive to tissue.

Components:
7681-52-9:
Species: Rabbit
Result: Causes burns.

1310-73-2:
Species: Rabbit
Result: Causes severe burns.

Serious eye damage/eye irritation

Product:
Remarks: May cause irreversible eye damage.

Components:
7681-52-9:
Species: Rabbit
Result: Risk of serious damage to eyes.

1310-73-2:
Species: Rabbit
Result: Risk of serious damage to eyes.

Carcinogenicity

IARC	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.
NTP	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

STOT - single exposure

Components:

7681-52-9:
Assessment: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

Further information

Product:

Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

7681-52-9:

Toxicity to fish	:	LC50 (Salmo gairdneri (Rainbow Fish)): 0.06 mg/l Exposure time: 96 h Test Type: flow-through test LC50 (Pimephales promelas (fathead minnow)): 5.9 mg/l Exposure time: 96 h Test Type: static test
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0.141 mg/l Exposure time: 48 h Test Type: flow-through test EC50 (Ceriodaphnia dubia): 0.035 mg/l Exposure time: 48 h Test Type: flow-through test
Toxicity to algae	:	IC50: 0.023 mg/l Exposure time: 7 d Test Type: flow-through test
M-Factor (Acute aquatic toxicity)	:	10

Acute aquatic toxicity- Assessment	:	Very toxic to aquatic life.
Chronic aquatic toxicity- Assessment	:	Toxic to aquatic life with long lasting effects.

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

Product:

Ozone-Depletion Potential	:	Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).
Additional ecological information	:	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic life. Harmful to aquatic life with long lasting effects.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company.
Contaminated packaging	:	Empty remaining contents. Dispose of as unused product. Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

DOT (Department of Transportation):
UN1791, Hypochlorite solutions, 8, III , Marine Pollutant (SODIUM HYPOCHLORITE)

IATA (International Air Transport Association):
UN1791, Hypochlorite solution, 8, III

IMDG (International Maritime Dangerous Goods):
UN1791, HYPOCHLORITE SOLUTION, 8, III, Marine Pollutant (SODIUM HYPOCHLORITE)

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Sodium hypochlorite	7681-52-9	100	800
Sodium hydroxide	1310-73-2	1000	20000

SARA 304 Extremely Hazardous Substances Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Corrosive to metals
Skin corrosion or irritation
Serious eye damage or eye irritation

SARA 302 : This material does not contain any components with a section 302 EHS TPQ.

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

7681-52-9 Sodium hypochlorite
1310-73-2 Sodium hydroxide

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

7681-52-9 Sodium hypochlorite
1310-73-2 Sodium hydroxide

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

Massachusetts Right To Know

7681-52-9 Sodium hypochlorite
1310-73-2 Sodium hydroxide

Pennsylvania Right To Know

7732-18-5	Water
7681-52-9	Sodium hypochlorite
1310-73-2	Sodium hydroxide

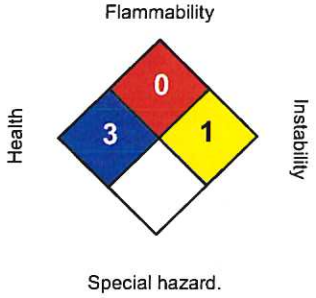
California Prop 65 : This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

The components of this product are reported in the following inventories:

TSCA	: On TSCA Inventory
DSL	: All components of this product are on the Canadian DSL
AICS	: On the inventory, or in compliance with the inventory
NZIoC	: Not in compliance with the inventory
ENCS	: On the inventory, or in compliance with the inventory
KECI	: On the inventory, or in compliance with the inventory
PICCS	: On the inventory, or in compliance with the inventory
IECSC	: On the inventory, or in compliance with the inventory

SECTION16. OTHER INFORMATION

NFPA:



HMIS III:

HEALTH	3/
FLAMMABILITY	0
PHYSICAL HAZARD	1

0 = not significant, 1 =Slight,
2 = Moderate, 3 = High
4 =Extreme, * = Chronic

The information accumulated is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made become available subsequently to the date hereof, we do not assume any responsibility for the results of its use. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This SDS has been prepared by Univar Solutions Product Compliance Department (1-855-429-2661) SDSNA@univarsolutions.com.

Revision Date : 03/31/2021

Legacy SDS: : R0004191

Material number:
16164756, 16164762, 16164766, 16173035, 16172686, 16173104, 16164347, 16164592, 16164731, 16164730, 16164686, 16164337, 16172598, 16147922, 16146040, 16151002, 16149524, 16158615, 16145640, 16148059, 16144666, 16147989, 16163791, 16160423, 16160441, 16158853, 16151253, 16149870, 16148071, 16148060, 16147684, 16147117, 16146776, 16146856, 16146855, 16146854, 16145965, 16145895, 16145890, 16145584, 16145260, 16145144, 16145142, 16145140, 16145138, 16145137, 16145133, 16145130, 16145079, 16163854, 16159810, 16150495, 16149123, 16147041, 16145471, 16144665, 16145772, 16145833, 16148433, 16148183, 16148162, 16145145, 16145046, 16143737, 16135287, 16163624, 16161401, 16148721, 16155765, 16158840, 16145484, 16166710, 16148748, 16148260, 16166763, 16166591, 16145834, 16166014, 16159793, 16162934, 16165524, 16165444, 16165066, 16137963, 16137823, 16137455, 16137753, 16147687, 16144215, 16149245, 16150496, 16149504, 16145673, 16149243, 16136536, 16153596, 16156860, 16160599, 16160181, 16160290

Key or legend to abbreviations and acronyms used in the safety data sheet			
ACGIH	American Conference of Government Industrial Hygienists	LD50	Lethal Dose 50%
AICS	Australia, Inventory of Chemical Substances	LOAEL	Lowest Observed Adverse Effect Level
DSL	Canada, Domestic Substances List	NFPA	National Fire Protection Agency
NDSL	Canada, Non-Domestic Substances List	NIOSH	National Institute for Occupational Safety & Health
CNS	Central Nervous System	NTP	National Toxicology Program
CAS	Chemical Abstract Service	NZIoC	New Zealand Inventory of Chemicals
EC50	Effective Concentration	NOAEL	No Observable Adverse Effect Level
EC50	Effective Concentration 50%	NOEC	No Observed Effect Concentration
EGEST	EOSCA Generic Exposure Scenario Tool	OSHA	Occupational Safety & Health Administration
EOSCA	European Oilfield Specialty Chemicals Association	PEL	Permissible Exposure Limit
EINECS	European Inventory of Existing Chemical Substances	PICCS	Philippines Inventory of Commercial Chemical Substances
MAK	Germany Maximum Concentration Values	PRNT	Presumed Not Toxic
GHS	Globally Harmonized System	RCRA	Resource Conservation Recovery Act
>=	Greater Than or Equal To	STEL	Short-term Exposure Limit
IC50	Inhibition Concentration 50%	SARA	Superfund Amendments and Reauthorization Act.
IARC	International Agency for Research on Cancer	TLV	Threshold Limit Value
IECSC	Inventory of Existing Chemical Substances in China	TWA	Time Weighted Average
ENCS	Japan, Inventory of Existing and	TSCA	Toxic Substance Control Act

	New Chemical Substances		
KECI	Korea, Existing Chemical Inventory	UVCB	Unknown or Variable Composition, Complex Reaction Products, and Biological Materials
<=	Less Than or Equal To	WHMIS	Workplace Hazardous Materials Information System
LC50	Lethal Concentration 50%		

SAFETY DATA SHEET

Section 1. Chemical Product and Company Identification

Product Name:	Chemical Treatment CL41
Product Use:	Cooling Water Microbiocide
Supplier's Name:	ChemTreat, Inc.
Emergency Telephone Number:	(800)424-9300 (Toll Free)
Address (Corporate Headquarters):	5640 Cox Road Glen Allen, VA 23060
Telephone Number for Information:	(800)648-4579
Date of SDS:	February 7, 2019
Revision Date:	February 7, 2019
Revision Number:	19020701AN

Section 2. Hazard(s) Identification

Signal Word: **None**

GHS Classification(s): Non-Hazardous Substance

Hazard Statement(s): Non-Hazardous Substance

Precautionary Statement(s):

Prevention: P264 Wash thoroughly after handling.

Response: P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing
P301 + 330 + 331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P314 Get medical advice/attention if you feel unwell.

Storage: None.

Disposal: None.

System of Classification Used: Classification under 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Hazards Not Otherwise Classified: None.

Section 3. Composition/Hazardous Ingredients

Component	CAS Registry #	Wt.%
Sodium bromide	7647-15-6	40

Comments If chemical identity and/or exact percentage of composition has been withheld, this information is considered to be a trade secret.

Section 4. First Aid Measures

Inhalation: Call a POISON CENTER or doctor/physician if you feel unwell.

Eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention.

Skin: Call a poison center or doctor/physician if you feel unwell.

Ingestion: Rinse mouth. Call a poison center or doctor/physician if you feel unwell.

Most Important Symptoms: N/D

Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary: Have the product container, label or MSDS with you when calling a poison control center or doctor, or when going for treatment.

Section 5. Fire Fighting Measures

Flammability of the Product: Not flammable.

Suitable Extinguishing Media: Use extinguishing media suitable to surrounding fire.

Specific Hazards Arising from the Chemical: None known.

Protective Equipment:	If product is involved in a fire, wear full protective clothing including a positive-pressure, NIOSH approved, self-contained breathing apparatus.

Section 6. Accidental Release Measures

Personal Precautions:	Use appropriate Personal Protective Equipment (PPE).
Environmental Precautions:	Do not discharge effluent containing this product into lakes, ponds, streams, estuaries, oceans or public waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit, and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.
Methods for Cleaning up:	Contain and recover liquid when possible. Flush spill area with water spray.
Other Statements:	None.

Section 7. Handling and Storage

Handling:	Wear appropriate Personal Protective Equipment (PPE) when handling this product. Do not get in eyes, or on skin and clothing. Wash thoroughly after handling. Do not ingest. Avoid breathing vapors, mist or dust.
Storage:	Store away from incompatible materials (see Section 10). Store at ambient temperatures. Keep container securely closed when not in use. Label precautions also apply to empty container. Recondition or dispose of empty containers in accordance with government regulations. For Industrial use only. Store above Freeze Point.

Section 8. Exposure Controls/Personal Protection

Exposure Limits

Component	Source	Exposure Limits
Sodium bromide	N/E	N/E

Engineering Controls: Use only with adequate ventilation. The use of local ventilation is recommended to control emission near the source.

Personal Protection

Eyes: Wear chemical splash goggles or safety glasses with full-face shield. Maintain eyewash fountain in work area.

Skin: Wear appropriate chemical resistant gloves.

Respiratory: Under normal use conditions, this product does not create airborne exposures above the OSHA PEL for listed constituents.

Section 9. Physical and Chemical Properties

Physical State and Appearance:	Liquid, Colorless, Clear
Specific Gravity:	1.432 @ 20°C
pH:	7.5 @ 20°C, 100.0%
Freezing Point:	<-11°F
Flash Point:	N/D
Odor:	Odorless
Melting Point:	N/D
Initial Boiling Point and Boiling Range:	N/D
Solubility in Water:	N/D
Evaporation Rate:	N/A
Vapor Density:	N/D
Molecular Weight:	N/D
Viscosity:	<100 CPS @ 20°C
Flammability (solid, gas):	N/D
Flammable Limits:	N/A
Autoignition Temperature:	N/A
Density:	11.94 LB/GA
Vapor Pressure:	N/D
% VOC:	0
Odor Threshold	N/D
n-octanol Partition Coefficient	N/D

Decomposition Temperature N/D

Section 10. Stability and Reactivity

Chemical Stability: Stable at normal temperatures and pressures.

Incompatibility with Various Substances: Strong acids, Strong oxidizers.

Hazardous Decomposition Products: Bromine.

Possibility of Hazardous Reactions: None known.

Reactivity: N/D

Conditions To Avoid: N/D

Section 11. Toxicological Information

Acute Toxicity

Chemical Name	Exposure	Type of Effect	Concentration	Species
Sodium bromide	Oral	LD50	3500 MG/KG	Rat
	Dermal	LD50	2000 MG/KG	Rabbit
Chemical Treatment CL41	Oral	LD50	>5000 MG/KG	Rat
	Dermal	LD50	>2000 MG/KG	Rabbit

Carcinogenicity Category

Component	Source	Code	Brief Description
Sodium bromide	N/E	N/E	N/E

Likely Routes of Exposure: N/D

Symptoms

Inhalation: N/D

Eye Contact: N/D

Skin Contact: N/D

Ingestion: N/D

Skin Corrosion/Irritation: N/D

Serious Eye Damage/Eye Irritation: N/D

Sensitization: N/D

Germ Cell Mutagenicity: N/D

Reproductive/Developmental Toxicity: N/D

Specific Target Organ Toxicity

Single Exposure: N/D

Repeated Exposure: N/D

Aspiration Hazard: N/D

Comments: None.

Section 12. Ecological Information

Ecotoxicity

Species	Duration	Type of Effect	Test Results
Ceriodaphnia dubia	48h	LC50	7650 mg/l
Fathead Minnow	96h	LC50	>10000 mg/l
Mysid Shrimp	48h	LC50	>10000 mg/l
Sheepshead Minnow	96h	LC50	>10000 mg/l

Persistence and Biodegradability: N/D

Bioaccumulative Potential: N/D

Mobility In Soil: N/D

Other Adverse Effects: N/D

Comments: Based on active ingredient

Section 13. Disposal Considerations

PESTICIDE DISPOSAL: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.
CONTAINER DISPOSAL: Non-refillable container. Do not reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by procedures approved by state and local authorities.

Section 14. Transport Information

Controlling Regulation	UN/NA#:	Proper Shipping Name:	Technical Name:	Hazard Class:	Packing Group:
DOT	N/A	COMPOUND, INDUSTRIAL WATER TREATMENT, LIQUID	N/A	N/A	N/A
IMDG	N/A	COMPOUND, INDUSTRIAL WATER TREATMENT, LIQUID	N/A	N/A	N/A
TDG	N/A	COMPOUND, INDUSTRIAL WATER TREATMENT, LIQUID	N/A	N/A	N/A
ICAO	N/A	COMPOUND, INDUSTRIAL WATER TREATMENT, LIQUID	N/A	N/A	N/A
ANTT	N/A	COMPOUND, INDUSTRIAL WATER TREATMENT, LIQUID	N/A	N/A	N/A

Note: N/A

Section 15. Regulatory Information

Inventory Status

United States (TSCA): All ingredients listed.
Canada (DSL/NDSL): All ingredients listed.

Federal Regulations

SARA Title III Rules

Sections 311/312 Hazard Classes

Fire Hazard:	No
Reactive Hazard:	No
Release of Pressure:	No
Acute Health Hazard:	No
Chronic Health Hazard:	No

Other Sections

Component	Section 313 Toxic Chemical	Section 302 EHS TPQ	CERCLA RQ
Sodium bromide	N/A	N/A	N/A

Comments: None.

State Regulations

California Proposition 65: None known.

Special Regulations

Component	States
Sodium bromide	None.

Compliance Information

NSF: N/A

Food Regulations: N/A

KOSHER: This product is certified by the Orthodox Union as Kosher for Passover and year-round use.
Only when prepared by the following ChemTreat facilities: Ashland, VA; Eldridge, IA; Nederland, TX; Fontana, CA.

Halal: This product has not been evaluated for Halal approval.

FIFRA: Registered pesticide under 40 CFR 152.10, Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), EPA Registration Number: 15300-26.

Other: PMRA biocide registration NO. 30146.

Comments: None.

Section 16. Other Information

HMIS Hazard Rating

Health:	0
Flammability:	0
Physical Hazard:	0
PPE:	X

Notes: The PPE rating depends on circumstances of use. See Section 8 for recommended PPE.
The Hazardous Material Information System (HMIS) is a voluntary, subjective alpha-numeric symbolic system for recommending hazard risk and personal protection equipment information. It is a subjective rating system based on the evaluator's understanding of the chemical associated risks. The end-user must determine if the code is appropriate for their use.

Abbreviations

Abbreviation	Definition
<	Less Than
>	Greater Than
ACGIH	American Conference of Governmental Industrial Hygienists
EHS	Environmental Health and Safety Dept
N/A	Not Applicable
N/D	Not Determined
N/E	Not Established
OSHA	Occupational Health and Safety Dept
PEL	Personal Exposure Limit
STEL	Short Term Exposure Limit
TLV	Threshold Limit Value
TWA	Time Weight Average
UNK	Unknown

Prepared by: Product Compliance Department; ProductCompliance@chemtreat.com

Revision Date: February 7, 2019

Disclaimer

Although the information and recommendations set forth herein (hereinafter "information") are presented in good faith and believed to be correct as of the date hereof, ChemTreat, Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will ChemTreat, Inc. be responsible for damages of any nature whatsoever resulting from the use or reliance upon information. No representation or warranties, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature are made hereunder with respect to information or the product to which information refers.

Univar USA Inc Safety Data Sheet

SDS No:	
Version No:	002 2015-07-13
Order No:	

3075 Highland Pkwy, Ste 200, Downers Grove, IL 60515
(425) 889 3400

Emergency Assistance

For emergency assistance involving chemicals call
Chemtrec - (800) 424-9300

K-BROM 40

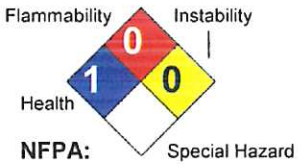
SAFETY DATA SHEET

Printed: 04/08/2015
Revision: 04/08/2015
Supersedes Revision: 09/04/2014

1. PRODUCT AND COMPANY IDENTIFICATION

Product Code:	210814	
Product Name:	K-BROM 40	
Category:	Biocide	
Company Name:	Water Science Technologies, LLC 5520 Parkwood Circle Bessemer, AL 35022	**Phone Number:** (866)284-9244
Emergency Contact:	ChemTel, Inc. (US) ChemTel, Inc. (Int'l)	(800)255-3924 (813)248-0585
Information:	Company EPA #: 88714	

2. HAZARDS IDENTIFICATION

GHS Signal Word:	**None**
GHS Hazard Phrases:	No phrases apply.
GHS Precaution Phrases:	No phrases apply.
GHS Response Phrases:	No phrases apply.
GHS Storage and Disposal Phrases:	No phrases apply.
Hazard Rating System:	
Potential Health Effects (Acute and Chronic):	Chronic: Chronic ingestion may cause central nervous system failure.
Inhalation:	Inhalation of high concentrations may cause central nervous system effects characterized by nausea, headache, dizziness, unconsciousness and coma. May cause respiratory tract irritation. May be harmful if inhaled.
Skin Contact:	May cause skin irritation. May be harmful if absorbed through the skin.
Eye Contact:	Causes mild eye irritation.
Ingestion:	May cause irritation of the digestive tract. Symptoms may include: headache, excitement, fatigue, nausea, vomiting, stupor, and coma. May be harmful if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS #	Ingredient(s)	Concentration
7647-15-6	Sodium bromide	38.8 -41.2 %

K-BROM 40

SAFETY DATA SHEET

Printed: 04/08/2015
Revision: 04/08/2015
Supersedes Revision: 09/04/2014

4. FIRST AID MEASURES

Emergency and First Aid Procedures:

In Case of Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

In Case of Skin Contact: Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

In Case of Eye Contact: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

In Case of Ingestion: Get medical aid immediately. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.

Note to Physician: Treat symptomatically and supportively.

5. FIRE FIGHTING MEASURES

Flash Pt: NA Method Used: Estimate

Explosive Limits: LEL: No data. UEL: No data.

Autoignition Pt: NA

Suitable Extinguishing Media: Use water spray, dry chemical, carbon dioxide, or appropriate foam.

Fire Fighting Instructions: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear.

Flammable Properties and Hazards: No data available.

6. ACCIDENTAL RELEASE MEASURES

Steps To Be Taken In Case Material Is Released Or Spilled: Absorb on sand or vermiculite and place in closed containers for disposal. Use proper personal protective equipment as indicated in Section 8.
Avoid generating dusty conditions. Provide ventilation.

7. HANDLING AND STORAGE

Precautions To Be Taken in Handling: Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation.

Precautions To Be Taken in Storing: Use with adequate ventilation. Store in a cool, dry place. Store in a tightly closed container.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

CAS #	Components (Chemical Name)	OSHA TWA	ACGIH TWA	Other Limits
7647-15-6	Sodium bromide	No data.	No data.	No data.

K-BROM 40

SAFETY DATA SHEET

Printed: 04/08/2015
Revision: 04/08/2015
Supersedes Revision: 09/04/2014

Respiratory Equipment (Specify Type):	Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.
Eye Protection:	Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
Protective Gloves:	Wear appropriate gloves to prevent skin exposure.
Other Protective Clothing:	Wear appropriate protective clothing to minimize contact with skin.
Engineering Controls (Ventilation etc.):	Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical States:	[ ] Gas [X] Liquid [ ] Solid
Appearance and Odor:	colorless. Odorless.
Melting Point:	No data.
Boiling Point:	No data.
Autoignition Pt:	NA
Flash Pt:	NA Method Used: Estimate
Explosive Limits:	LEL: No data. UEL: No data.
Specific Gravity (Water = 1):	1.41+/-0.05
Vapor Pressure (vs. Air or mm Hg):	No data.
Vapor Density (vs. Air = 1):	No data.
Evaporation Rate:	as of water (Ether=1)
Solubility in Water:	100% soluble
pH:	7.0+/-1.0
Percent Volatile:	No data.

10. STABILITY AND REACTIVITY

Stability:	Unstable [ ] Stable [X]
Conditions To Avoid - Instability:	Incompatible materials, heating to decomposition.
Incompatibility - Materials To Avoid:	Strong acids, bromine trifluoride.
Hazardous Decomposition Or Byproducts:	hydrogen bromide. sodium oxide. bromine fumes.
Possibility of Hazardous Reactions:	Will occur [ ] Will not occur [X]
Conditions To Avoid - Hazardous Reactions:	No data available.

K-BROM 40

SAFETY DATA SHEET

Printed: 04/08/2015
Revision: 04/08/2015
Supersedes Revision: 09/04/2014

11. TOXICOLOGICAL INFORMATION

Toxicological Information:

Epidemiology: No information available.
Teratogenicity: No information available. Reproductive Effects: Adverse reproductive effects have occurred in experimental animals.
Mutagenicity: Neurotoxicity:

Carcinogenicity/Other Information:

CAS# 7647-15-6:
Acute toxicity, LD50, Oral, Rat, 3500. MG/KG.
Result:
Liver: Jaundice, other or unclassified.
Kidney, Ureter, Bladder:Interstitial nephritis.
Biochemical:Metabolism (intermediary): Other.
- Journal of Pharmacology and Experimental Therapeutics, Williams & Wilkins Co., 428 E. Preston St., Baltimore, MD 21202, Vol/p/yr: 55,200, 1935

CAS# 7647-15-6: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

CAS #	Ingredient(s)	NTP	IARC	ACGIH	OSHA
7647-15-6	Sodium bromide	n.a.	n.a.	n.a.	n.a.

12. ECOLOGICAL INFORMATION

No data available.

Results of PBT and vPvB assessment:

CAS# 7647-15-6:
LC50, Bluegill (Lepomis macrochirus), 1000. MG/L, 96 H, Mortality, Water temperature: 21.50 C (70.7 F) C, pH: 7.49, Hardness: 36.00 MG/L; The Acute Toxicity of Sodium Bromide to the Bluegill Sunfish Lepomis macrochirus Rafinesque with Attachments and Cover Letter Dated 033178, Union Carbide Corp., 1978

Effective concentration to 50% of test organisms., Water Flea (Daphnia magna), 5800000. UG/L, 24 H, Water temperature: 19.00 C (66.2 F) C; Study on the Toxicity of Sodium Bromide to Different Freshwater Organisms, Canton, J.H., P.W. Wester, and E.A.M. Mathijssen-Spiekman, 1983

Effective concentration to 50% of test organisms., Green Algae (Scenedesmus pannonicus), Exponential Growth Phase, 5800000. UG/L, 24 H, Population, Water temperature: 23.00 C (73.4 F) C; Study on the Toxicity of Sodium Bromide to Different Freshwater Organisms, Canton, J.H., P.W. Wester, and E.A.M. Mathijssen-Spiekman, 1983

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method:

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.
RCRA P-Series: None listed.
RCRA U-Series: None listed.

K-BROM 40

SAFETY DATA SHEET

Printed: 04/08/2015
Revision: 04/08/2015
Supersedes Revision: 09/04/2014

14. TRANSPORT INFORMATION

LAND TRANSPORT (US DOT):

DOT Proper Shipping Name: Not Regulated.
DOT Hazard Class:
UN/NA Number:

LAND TRANSPORT (Canadian TDG):

TDG Shipping Name: Not Regulated.
UN Number:
Hazard Class: **TDG Classification:**

MARINE TRANSPORT (IMDG/IMO):

IMDG/IMO Shipping Name: Not Regulated.

AIR TRANSPORT (ICAO/IATA):

ICAO/IATA Shipping Name: Not Regulated.

15. REGULATORY INFORMATION

EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

CAS #	Ingredient(s)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
7647-15-6	Sodium bromide	No	No	No

This material meets the EPA 'Hazard Categories' defined for SARA Title III Sections 311/312 as indicated:	[ ] Yes [X] No	Acute (immediate) Health Hazard
	[ ] Yes [X] No	Chronic (delayed) Health Hazard
	[ ] Yes [X] No	Fire Hazard
	[ ] Yes [X] No	Sudden Release of Pressure Hazard
	[ ] Yes [X] No	Reactive Hazard

CAS #	Ingredient(s)	Canadian NPRI	Canadian IDL	Canadian DSL
7647-15-6	Sodium bromide	No	Yes	Yes

CAS #	Ingredient(s)	Other US EPA or State Lists
7647-15-6	Sodium bromide	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No

CAS #	Ingredient(s)	International Regulatory Lists
7647-15-6	Sodium bromide	

Canadian WHMIS Classification:

No data available.

Regulatory Information:

US Regulatory information:
Primary EPA Registration # : 88714-3
This product is subject to registration under FIFRA.
All ingredients are reported in the EPA TSCA Inventory.

Canada Regulatory information:
This product complies to the Pest Control Products Act.and is considered exempt from from WHMIS classification.
Registration No.: 31031 Pest Control Products Act.
Canadian regulations: This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the SDS contains all the information required by the CPR.

K-BROM 40

SAFETY DATA SHEET

Printed: 04/08/2015
Revision: 04/08/2015
Supersedes Revision: 09/04/2014

16. OTHER INFORMATION

Revision Date: 04/08/2015

Additional Information About This Product: No data available.

Company Policy or Disclaimer: The information accumulated herein is believed to be accurate based on the information provided, although no guarantee or warranty, either expressed or implied is made as to the accuracy or completeness of this information, whether originating with this company or not. Recipients are advised to confirm in advance of need that the information is correct, applicable and suitable to their circumstances. The conditions or methods of handling, storage, use and disposal of the product and container are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage or use of this information or product. If the product is used as a component in another product, this information may not be applicable.

Univar USA Inc Safety Data Sheet

For Additional Information contact SDS Coordinator during business hours, Pacific time: (425) 889-3400

Notice

Univar USA Inc. ("Univar") expressly disclaims all express or implied warranties of merchantability and fitness for a particular purpose, with respect to the product or information provided herein, and shall under no circumstances be liable for incidental or consequential damages.

Do not use ingredient information and/or ingredient percentages in this SDS as a product specification. For product specification information refer to a product specification sheet and/or a certificate of analysis. These can be obtained from your local Univar sales office.

All information appearing herein is based upon data obtained from the manufacturer and/or recognized technical sources. While the information is believed to be accurate, Univar makes no representations as to its accuracy or sufficiency. Conditions of use are beyond Univar's control and therefore users are responsible to verify this data under their own operating conditions to determine whether the product is suitable for their particular purposes and they assume all risks of their use, handling, and disposal of the product, or from the publication or use of, or reliance upon, information contained herein.

This information relates only to the product designated herein, and does not relate to its use in combination with any other material or in any other process

SAFETY DATA SHEET

Section 1. Chemical Product and Company Identification

Product Name:	ChemTreat CL4635
Product Use:	Scale and Corrosion Inhibitor
Supplier's Name:	ChemTreat, Inc.
Emergency Telephone Number:	(800)424-9300 (Toll Free)
Address (Corporate Headquarters):	5640 Cox Road Glen Allen, VA 23060
Telephone Number for Information:	(800)648-4579
Date of SDS:	February 7, 2019
Revision Date:	February 7, 2019
Revision Number:	19020701AN

Section 2. Hazard(s) Identification

Signal Word: **None**

GHS Classification(s): Non-Hazardous Substance

Hazard Statement(s): Non-Hazardous Substance

Precautionary Statement(s): No significant health risks are expected from exposures under normal conditions of use.

- **Prevention:** None.
- **Response:** None.
- **Storage:** None.
- **Disposal:** None.

System of Classification Used: Classification under 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Hazards Not Otherwise Classified: None.

Section 3. Composition/Hazardous Ingredients

Component	CAS Registry #	Wt.%
Components not listed are either non hazardous or in concentration of less than 1%	N/A	N/A

Comments If chemical identity and/or exact percentage of composition has been withheld, this information is considered to be a trade secret.

Section 4. First Aid Measures

Inhalation: Call a POISON CENTER or doctor/physician if you feel unwell.

Eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention.

Skin: Call a poison center or doctor/physician if you feel unwell.

Ingestion: Rinse mouth. Call a poison center or doctor/physician if you feel unwell.

Most Important Symptoms: N/D

Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary: N/A

Section 5. Fire Fighting Measures

Flammability of the Product: Not flammable.

Suitable Extinguishing Media: Use extinguishing media suitable to surrounding fire.

Specific Hazards Arising from the Chemical: None known.

Protective Equipment: If product is involved in a fire, wear full protective clothing including a positive-pressure, NIOSH approved, self-contained breathing apparatus.

Section 6. Accidental Release Measures

Personal Precautions: Use appropriate Personal Protective Equipment (PPE).

Environmental Precautions: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains, and sewers.

Methods for Cleaning up: Contain and/or absorb spill with inert material then place in suitable container.

Other Statements: None.

Section 7. Handling and Storage

Handling: Wear appropriate Personal Protective Equipment (PPE) when handling this product. Do not get in eyes, or on skin and clothing. Wash thoroughly after handling. Do not ingest. Avoid breathing vapors, mist or dust.

Storage: Store away from incompatible materials (see Section 10). Store at ambient temperatures. Keep container securely closed when not in use. Label precautions also apply to empty container. Recondition or dispose of empty containers in accordance with government regulations. For Industrial use only.
Store above Freeze Point.

Section 8. Exposure Controls/Personal Protection

Exposure Limits

Component	Source	Exposure Limits
Components not listed are either non hazardous or in concentration of less than 1%	N/E	N/E

Engineering Controls: Use only with adequate ventilation. The use of local ventilation is recommended to control emission near the source.

Personal Protection

Eyes:	Safety glasses are recommended if risk of eye contact.
Skin:	Wear butyl rubber or neoprene gloves. Wash them after each use and replace as necessary. If conditions warrant, wear protective clothing such as boots, aprons, and coveralls to prevent skin contact.
Respiratory:	If misting occurs, use NIOSH approved organic vapor/acid gas dual cartridge respirator with a dust/mist prefilter in accordance with 29 CFR 1910.134.

Section 9. Physical and Chemical Properties

Physical State and Appearance:	Liquid, Light Straw, Clear
Specific Gravity:	1.182 @ 20°C
pH:	4.1 @ 20°C, 100.0%
Freezing Point:	28°F
Flash Point:	N/D
Odor:	Mild
Melting Point:	N/A
Initial Boiling Point and Boiling Range:	212°F
Solubility in Water:	Soluble
Evaporation Rate:	N/D
Vapor Density:	N/D
Molecular Weight:	N/D
Viscosity:	N/A
Flammability (solid, gas):	N/D
Flammable Limits:	N/A
Autoignition Temperature:	N/A
Density:	9.86 LB/GA
Vapor Pressure:	N/D
% VOC:	0
Odor Threshold	N/D
n-octanol Partition Coefficient	N/D
Decomposition Temperature	N/D

Section 10. Stability and Reactivity

Chemical Stability: Stable at normal temperatures and pressures.

Incompatibility with Various Substances: Strong oxidizers, Strong bases.

Hazardous Decomposition Products: Oxides of carbon, Acetic acid.

Possibility of Hazardous Reactions: None known.

Reactivity: N/D

Conditions To Avoid: N/D

Section 11. Toxicological Information

Acute Toxicity

Chemical Name	Exposure	Type of Effect	Concentration	Species
N/D	N/D	N/D	N/D	N/D

Carcinogenicity Category

Component	Source	Code	Brief Description
Components not listed are either non hazardous or in concentration of less than 1%	N/E	N/E	N/E

Likely Routes of Exposure: N/D

Symptoms

Inhalation: N/D

Eye Contact: N/D

Skin Contact: N/D

Ingestion: N/D

Skin Corrosion/Irritation: N/D

Serious Eye Damage/Eye Irritation: N/D

Sensitization: N/D

Germ Cell Mutagenicity: N/D

Reproductive/Developmental Toxicity: N/D

Specific Target Organ Toxicity

Single Exposure: N/D

Repeated Exposure: N/D

Aspiration Hazard: N/D

Comments: None.

Section 12. Ecological Information

Ecotoxicity

Species	Duration	Type of Effect	Test Results
Ceriodaphnia dubia	48h	LC50	1005 mg/l
Fathead Minnow	96h	LC50	6325 mg/l

Persistence and Biodegradability: N/D

Bioaccumulative Potential: N/D

Mobility In Soil: N/D

Other Adverse Effects: N/D

Comments: None.

Section 13. Disposal Considerations

Dispose of in accordance with local, state and federal regulations.

Section 14. Transport Information

Controlling Regulation	UN/NA#:	Proper Shipping Name:	Technical Name:	Hazard Class:	Packing Group:
DOT	N/A	COMPOUND, INDUSTRIAL WATER TREATMENT, LIQUID	N/A	N/A	N/A

Note: N/A

Section 15. Regulatory Information

Inventory Status

United States (TSCA): All ingredients listed.
Canada (DSL/NDSL): All ingredients listed.

Federal Regulations

SARA Title III Rules

Sections 311/312 Hazard Classes

Fire Hazard: No
Reactive Hazard: No
Release of Pressure: No
Acute Health Hazard: Yes
Chronic Health Hazard: No

Other Sections

Component	Section 313 Toxic Chemical	Section 302 EHS TPQ	CERCLA RQ
Components not listed are either non hazardous or in concentration of less than 1%	N/A	N/A	N/A

Comments: None.

State Regulations

California Proposition 65: None known.

Special Regulations

Component	States
Components not listed are either non hazardous or in concentration of less than 1%	None.

Compliance Information

NSF: Certified to NSF/ANSI Standard 60
Maximum use rate for potable water – 10 mg/L
This product ships as NSF from:
Ashland, VA
Eldridge, IA
Nederland, TX

Food Regulations: N/A

KOSHER: This product is certified by the Orthodox Union as kosher pareve.
Only when prepared by the following ChemTreat facilities:
Ashland, VA; Eldridge, IA; Nederland, TX.

Halal: This product has not been evaluated for Halal approval.

FIFRA: N/A

Other: None

Comments: None.

Section 16. Other Information

HMIS Hazard Rating

Health:	0
Flammability:	0
Physical Hazard:	0
PPE:	X

Notes:

The PPE rating depends on circumstances of use. See Section 8 for recommended PPE.
The Hazardous Material Information System (HMIS) is a voluntary, subjective alpha-numeric symbolic system for recommending hazard risk and personal protection equipment information. It is a subjective rating system based on the evaluator's understanding of the chemical associated risks. The end-user must determine if the code is appropriate for their use.

Abbreviations

Abbreviation	Definition
<	Less Than
>	Greater Than
ACGIH	American Conference of Governmental Industrial Hygienists
EHS	Environmental Health and Safety Dept
N/A	Not Applicable
N/D	Not Determined
N/E	Not Established
OSHA	Occupational Health and Safety Dept
PEL	Personal Exposure Limit
STEL	Short Term Exposure Limit
TLV	Threshold Limit Value
TWA	Time Weight Average
UNK	Unknown

Prepared by: Product Compliance Department; ProductCompliance@chemtreat.com

Revision Date: February 7, 2019

Disclaimer

Although the information and recommendations set forth herein (hereinafter "information") are presented in good faith and believed to be correct as of the date hereof, ChemTreat, Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will ChemTreat, Inc. be responsible for damages of any nature whatsoever resulting from the use or reliance upon information. No representation or warranties, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature are made hereunder with respect to information or the product to which information refers.

Univar
3075 Highland Pkwy STE 200
Downers Grove, IL 60515
425-889-3400

SAFETY DATA SHEET

1. Identification

Product identifier: AMMONIUM HYDROXIDE 10-35%

Other means of identification

Synonyms:	Aqua Ammonia
CAS NUMBERS:	1336-21-6
SDS number:	000100000133

Recommended use and restriction on use

Recommended use: Reserved for industrial and professional use.

Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information

Univar

3075 Highland Pkwy STE 200

Downers Grove, IL 60515

425-889-3400

Emergency telephone number:For emergency assistance Involving chemicals

call CHEMTREC day or night at: 1-800-424-9300. CHEMTREC INTERNATIONAL Tel# 703-527-3887

2. Hazard(s) identification

Hazard Classification

Health Hazards

Acute toxicity (Oral)	Category 4
Skin Corrosion/Irritation	Category 1B
Serious Eye Damage/Eye Irritation	Category 1
Specific Target Organ Toxicity - Repeated Exposure	Category 2
Environmental Hazards Acute hazards to the aquatic environment	Category 3

Chronic hazards to the aquatic environment	Category 1

Label Elements

Hazard Symbol



Signal Word	Danger
Hazard Statement	May cause damage to organs. Harmful if swallowed. Causes severe skin burns and eye damage. May cause respiratory irritation. Very toxic to aquatic life with long lasting effects.
Precautionary Statements	
Prevention	Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection. Do not breathe dust or mists. Use only outdoors or in a well-ventilated area.
Response	IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. IF SWALLOWED: Call a POISON CENTER/doctor if

	you feel unwell. Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER/doctor. Specific treatment (see on this label). Wash contaminated clothing before reuse.
Storage	Store locked up.
Disposal	Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.
Other hazards which do not result in GHS classification	None.

3. Composition/information on ingredients

Substances

Chemical Identity	Common name and synonyms	CAS number	Content in percent (%)*
Ammonium Hydroxide		1336-21-6	>=10 - <=35%
Water		7732-18-5	>=65 - <=90%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

Composition Comments: The components are not hazardous or are below required disclosure limits.

4. First-aid measures

General information: Get medical advice/attention.

Ingestion: Call a physician or poison control center immediately. Only induce vomiting at the instruction of medical personnel. Never give anything by mouth to an unconscious person.

Inhalation: Move to fresh air. If breathing is difficult, give oxygen. Perform artificial respiration if breathing has stopped. Get medical attention.

Skin Contact:	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately.
Eye contact:	If in eyes, hold eyes open, flood with water for at least 15 minutes and see a doctor.

Most important symptoms/effects, acute and delayed

Symptoms:	No data available.

Indication of immediate medical attention and special treatment needed

Treatment:	No data available.

5. Fire-fighting measures

General Fire Hazards:	No unusual fire or explosion hazards noted.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media:	Use: Carbon dioxide or dry powder. Foam. Water Spray or Fog.
Unsuitable extinguishing media:	No data available.
Specific hazards arising from the chemical:	During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

Special fire fighting procedures:	No data available.
Special protective equipment for fire-fighters:	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:	Ventilate closed spaces before entering them. Keep unauthorized personnel away. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
Methods and material for containment and cleaning up:	Absorb spillage with non-combustible, absorbent material. Prevent runoff from entering drains, sewers, or streams.
Environmental Precautions:	Do not contaminate water sources or sewer.

7. Handling and storage

Precautions for safe handling: Store away from incompatible materials. Use personal protective equipment as required. Do not get in eyes, on skin, on clothing.

Conditions for safe storage, including any incompatibilities: Store locked up.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Exposure Limit Values	Source
Ammonium Hydroxide	TWA	25 ppm	US. ACGIH Threshold Limit Values (03 2013)
	STEL	35 ppm	US. ACGIH Threshold Limit Values (03 2013)
	REL	25 ppm 18 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	STEL	35 ppm 27 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	PEL	50 ppm 35 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	STEL	35 ppm 27 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	AN ESL	17 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (02 2013)
	ST ESL	170 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (02 2013)
	ST ESL	120 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (02 2013)
	AN ESL	12 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (02 2013)
	TWA PEL	25 ppm 18 mg/m3	US. California Code of Regulations,

			Title 8, Section 5155. Airborne Contaminants (02 2012)
	STEL	35 ppm 27 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (02 2012)
Chemical Identity	**Type**	**Exposure Limit Values**	**Source**
Ammonium Hydroxide	TWA	25 ppm	US. ACGIH Threshold Limit Values (03 2013)
	STEL	35 ppm	US. ACGIH Threshold Limit Values (03 2013)
	REL	25 ppm 18 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	STEL	35 ppm 27 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	PEL	50 ppm 35 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	STEL	35 ppm 27 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	AN ESL	17 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (02 2013)
	ST ESL	170 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (02 2013)
	ST ESL	120 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (02 2013)
	AN ESL	12 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (02 2013)
	TWA PEL	25 ppm 18 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (02 2012)
	STEL	35 ppm 27 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (02 2012)

Appropriate Engineering Controls	Adequate ventilation should be provided so that exposure limits are not exceeded.
Individual protection measures, such as personal protective equipment	
General information:	Provide easy access to water supply and eye wash facilities. Use personal protective equipment as required. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned.
Eye/face protection:	Wear goggles/face shield.
Skin Protection	
Hand Protection:	Chemical resistant gloves
Other:	Chemical resistant clothing
Respiratory Protection:	In case of inadequate ventilation use suitable respirator.
Hygiene measures:	Do not eat, drink or smoke when using the product. Wash hands after handling. Do not get in eyes. Observe good industrial hygiene practices. Wash contaminated clothing before reuse. Do not get this material in contact with skin. Wash hands before breaks and immediately after handling the product.

9. Physical and chemical properties

Physical state:	liquid
Form:	liquid
Color:	Clear colorless
Odor:	Pungent, Ammonia odor
Odor threshold:	1 - 50 ppm
pH:	11.6
Melting point/freezing point:	-69 °C
Initial boiling point and boiling range:	37 - 100 °C
Flash Point:	No data available.
Evaporation rate:	No data available.
Flammability (solid, gas):	No data available.
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	28 %(V)
Flammability limit - lower (%):	15 %(V)
Explosive limit - upper (%):	19.8 mg/m3
Explosive limit - lower (%):	10.6 mg/m3

Vapor pressure:	103 hPa (25 °C)
Vapor density:	0.6 AIR=1
Relative density:	0.989
Solubility(ies)	
Solubility in water:	Completely Soluble
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.
Other information	
Minimum ignition temperature:	850 °C

10. Stability and reactivity

Reactivity:	No data available.
Chemical Stability:	Material is stable under normal conditions.
Possibility of hazardous reactions:	Stable
Conditions to avoid:	Avoid heat or contamination.
Incompatible Materials:	Strong oxidizing agents. Strong acids
Hazardous Decomposition Products:	No data available.

11. Toxicological information

Symptoms related to the physical, chemical and toxicological characteristics

Ingestion:	No data available.
Inhalation:	No data available.
Skin Contact:	No data available.
Eye contact:	No data available.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral

Product:	LD 50 (Rat): 350 mg/kg

Dermal

Product:	No data available.

Inhalation

Product: LC L0 (Mouse,): 1,000 mg/l

Repeated dose toxicity

Product: No data available.

Skin Corrosion/Irritation

Product: Causes skin burns.

Serious Eye Damage/Eye Irritation

Product: Serious eye damage

Respiratory or Skin Sensitization

Product: Not a skin sensitizer.

Carcinogenicity

Product: No data available.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:
No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:
No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):
No carcinogenic components identified

Germ Cell Mutagenicity

In vitro

Product: No data available.

In vivo

Product: No data available.

Reproductive toxicity

Product: No data available.

Specific Target Organ Toxicity - Single Exposure

Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Aspiration Hazard

Product: No data available.

Other effects: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product: No data available.

Specified substance(s):

Ammonium Hydroxide	LC 50 (Fathead minnow (Pimephales promelas), 24 h): 17 mg/l Mortality LC 50 (Goldfish (Carassius auratus), 24 h): 17 mg/l Mortality LC 50 (Western mosquitofish (Gambusia affinis), 24 h): 18 mg/l Mortality LC 50 (Channel catfish (Ictalurus punctatus), 24 h): 2.36 mg/l Mortality LC 50 (Fathead minnow (Pimephales promelas), 24 h): 23.02 mg/l Mortality

Aquatic Invertebrates

Product:	No data available.
Specified substance(s):	
Ammonium Hydroxide	LC 50 (Water flea (Daphnia magna), 25 h): 60 mg/l Mortality LC 50 (Water flea (Ceriodaphnia dubia), 48 h): > 0 - < 10 mg/l Mortality LC 50 (Water flea (Daphnia magna), 50 h): 32 mg/l Mortality LC 50 (Water flea (Daphnia magna), 100 h): 20 mg/l Mortality

Chronic hazards to the aquatic environment:

Fish

Product:	No data available.

Aquatic Invertebrates

Product:	No data available.

Toxicity to Aquatic Plants

Product:	No data available.

Persistence and Degradability

Biodegradation

Product:	No data available.

BOD/COD Ratio

Product:	No data available.

Bioaccumulative potential

Bioconcentration Factor (BCF)

Product:	No data available.

Partition Coefficient n-octanol / water (log Kow)

Product:	No data available.
Mobility in soil:	No data available.

Known or predicted distribution to environmental compartments

Ammonia, aqueous solution	No data available.
Water	No data available.

Known or predicted distribution to environmental compartments

Water	No data available.

Known or predicted distribution to environmental compartments

Ammonia, aqueous solution	No data available.
Water	No data available.

Known or predicted distribution to environmental compartments

Ammonia, aqueous solution	No data available.

13. Disposal considerations

Disposal instructions:	Discharge, treatment, or disposal may be subject to national, state, or local laws.
Contaminated Packaging:	Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN Number:	UN 2672
UN Proper Shipping Name:	Ammonia solutions
Transport Hazard Class(es)	
Class:	8
Label(s):	8
Packing Group:	III
Marine Pollutant:	Marine Pollutant
Special precautions for user:	–

IMDG

UN Number:	UN 2672
UN Proper Shipping Name:	AMMONIA SOLUTION
Transport Hazard Class(es)	
Class:	8
Label(s):	8
EmS No.:	F-A, S-B
Packing Group:	III
Marine Pollutant:	Marine Pollutant

Special precautions for user:	–

IATA

UN Number:	UN 2672
Proper Shipping Name:	AMMONIA SOLUTION
Transport Hazard Class(es):	
Class:	8
Label(s):	8
Packing Group:	III
Environmental Hazards	Not regulated.
Special precautions for user:	–
Other information	
Passenger and cargo aircraft:	Allowed.
Cargo aircraft only:	Allowed.

15. Regulatory information

US Federal RegulationsUS. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

Ammonium Hydroxide Reportable quantity: 1000 lbs.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

☐ Acute (Immediate) ☐ Chronic (Delayed) ☐ Fire ☐ Reactive ☐ Pressure Generating

SARA 302 Extremely Hazardous Substance

None present or none present in regulated quantities.

SARA 304 Emergency Release Notification

Chemical Identity	RQ
Ammonium Hydroxide	1000 lbs.

SARA 311/312 Hazardous Chemical

Chemical Identity	Threshold Planning Quantity
Chemical Identity	Threshold Planning Quantity
Chemical Identity	Threshold Planning Quantity
Ammonium Hydroxide	500 lbs

SARA 313 (TRI Reporting)

Chemical Identity	Reporting threshold for other users	Reporting threshold for manufacturing and processing
Ammonium Hydroxide	10000 lbs	25000 lbs.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

Ammonium Hydroxide Reportable quantity: 1000 lbs.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65

No ingredient regulated by CA Prop 65 present.

US. New Jersey Worker and Community Right-to-Know Act

Ammonium Hydroxide Listed

US. Massachusetts RTK - Substance List

Ammonium Hydroxide Listed

US. Pennsylvania RTK - Hazardous Substances

Ammonium Hydroxide Listed

US. Rhode Island RTK

Ammonium Hydroxide Listed

Version: 1.3
Revision Date: 05/20/2019

Inventory Status: Australia AICS:	On or in compliance with the inventory
Canada DSL Inventory List:	On or in compliance with the inventory
EU EINECS List:	On or in compliance with the inventory
EU ELINCS List:	Not in compliance with the inventory.
Japan (ENCS) List:	Not in compliance with the inventory.
EU No Longer Polymers List:	Not in compliance with the inventory.
China Inv. Existing Chemical Substances:	On or in compliance with the inventory
Korea Existing Chemicals Inv. (KECI):	On or in compliance with the inventory
Canada NDSL Inventory:	Not in compliance with the inventory.
Philippines PICCS:	On or in compliance with the inventory
US TSCA Inventory:	On or in compliance with the inventory
New Zealand Inventory of Chemicals:	On or in compliance with the inventory
Japan ISHL Listing:	Not in compliance with the inventory.
Japan Pharmacopoeia Listing:	Not in compliance with the inventory.

16.Other information, including date of preparation or last revision

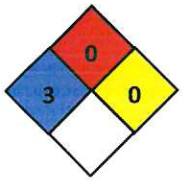
HMIS Hazard ID

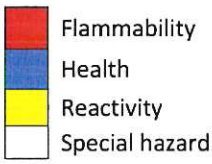


B - Safety Glasses & Gloves

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible; *Chronic health effect

NFPA Hazard ID





Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible

Issue Date:	05/20/2019
Revision Date:	No data available.
Version #:	1.3
Further Information:	No data available.

Version: 1.3
Revision Date: 05/20/2019

Univar USA Inc Safety Data Sheet

For Additional Information contact SDS Coordinator during business hours, Pacific time: (425) 889-3400

Notice

Univar USA Inc. ("Univar") expressly disclaims all express or implied warranties of merchantability and fitness for a particular purpose, with respect to the product or information provided herein, and shall under no circumstances be liable for incidental or consequential damages.

Do not use ingredient information and/or ingredient percentages in this SDS as a product specification. For product specification information refer to a product specification sheet and/or a certificate of analysis. These can be obtained from your local Univar sales office.

All information appearing herein is based upon data obtained from the manufacturer and/or recognized technical sources. While the information is believed to be accurate, Univar makes no representations as to its accuracy or sufficiency. Conditions of use are beyond Univar's control and therefore users are responsible to verify this data under their own operating conditions to determine whether the product is suitable for their particular purposes and they assume all risks of their use, handling, and disposal of the product, or from the publication or use of, or reliance upon, information contained herein.

This information relates only to the product designated herein, and does not relate to its use in combination with any other material or in any other process

ATTACHMENT: FPP-TECH-9 Amendment Requests

1. Remove selenium limits from External Outfalls 003 and 004 and Internal Outfall 301

Introduction

The Lower Colorado River Authority's (LCRA) Sam Seymour Fayette Power Project intermittently discharges from Outfalls 003 and 004 to unnamed tributaries of Cedar Creek, thence to Cedar Creek, thence to Colorado River Below La Grange in Segment No. 1402 of the Colorado River Basin. Outfall 003 is authorized to discharge low-volume waste, coal pile runoff, truck wash water, and stormwater from the Coal Pile Runoff Pond. Outfall 004 is authorized to discharge low-volume waste, truck wash water, and stormwater from the Combustion Byproducts Landfill Pond. Both outfalls have daily average and daily maximum concentration limits for total selenium in the existing TPDES permit. Discharges from Outfalls 003 and 004 are intermittent and generally occur only as a result of major rainfall events. In the last five years[1], LCRA reported discharges from Outfall 003 in four (4) months and no discharges from Outfall 004 during the same time period. The values of the Outfall 003 discharges have been less than detect in these months.

FPP also discharges intermittently from Outfall 301, which is the same effluent authorized at Outfall 003. However, the discharge from 301 is routed to the discharge canal that discharges via Outfall 001. Outfall 001 discharges to Cedar Creek Reservoir/Lake Fayette, thence to Cedar Creek, thence to the Colorado River Below La Grange in Segment No. 1402 of the Colorado River Basin. In the last five years[1], LCRA reported discharges from Outfall 301 most months. The values of the Outfall 301 discharges have been less than detect in these months.

Best Professional Judgement (BPJ) Technology Limits

As described in the Texas Commission on Environmental Quality (TCEQ) Fact Sheet and Executive Director's Preliminary Decision (FS)[2], the total selenium limits for these outfalls are Best Professional Judgement Limits (BPJ) limits. The FS states the following with respect to the history of these limits:

> "The decision to apply a selenium limit to the coal pile runoff discharges via Outfalls 301 and 003 **were made without specific knowledge of whether the coal would be a significant source of selenium or not**. Many years of monitoring data have demonstrated that the coal pile wastestream is **not a significant source of selenium** and the decision to apply the limit was a technical mistake, not borne out by data. However, interim and final effluent limitations for total selenium are continued from the permit issued on June 12, 2009, based on EPA Interim Objection Letter dated August 19, 2010, which stated that no adequate basis for removal of the limitations was provided. Total selenium limitations are continued in accordance with anti-backsliding requirements in 40 CFR Part 122-44(l)" (emphasis added)

As a result of the U.S. Environmental Protection Agency's (EPA) promulgation of updated Effluent Limitation Guidelines (ELG) at 40 CFR Part 423 (80 Fed. Reg. 67838, November 3, 2015), there is no technical basis for the BPJ selenium limits for Outfalls 003, 301, and 004. As discussed in the *Technical*

---

[1] April 2020 – March 2025

[2] The Texas Commission on Environmental Quality (TCEQ) Fact Sheet and Executive Director's Preliminary Decision is for the current FPP TPDES permit, which TCEQ issued on November 20, 2020.

Development Document for the Effluent Limitations Guidelines and Standards for the Steam Electric Power Point Source Category (EPA-821-R15-007, September 2015), EPA concluded that technology-based limits for selenium are not justified or necessary for discharges from coal pile runoff and coal combustion residuals stored in landfills and surface impoundments. Similarly, EPA concluded that no technology-based limits for selenium are appropriate for low-volume wastes.

The EPA's update and revisions to the Part 423 ELG constitute new information relevant to the anti-backsliding exceptions at 40 CFR 122.44(l)(B)(2). The revised ELG study supports the conclusion that the use of BPJ-based technology limitations in the earlier permits constituted a technical mistake because there was no basis for assuming selenium would be present in these discharges at treatable concentrations. The Part 423 ELG have never had technology-based limits for selenium in discharges from landfills and impoundments storing coal combustion residuals and/or coal pile runoff. In addition, the recent EPA review of the Part 423 standards has confirmed that no such limits are necessary. When these facts are taken into consideration, the decision by the then permit writer to include BPJ limits in the TPDES permit constitutes a technical mistake. Therefore, LCRA requests that TCEQ remove the selenium limits at Outfall 003 and 004 and Internal Outfall 301 which were erroneously based on historical BPJ-based limits. The EPA study to support the 2015 revision of the Part 423 ELG resolves EPA's concerns expressed in its 2010 letter.

2. Amend Other Requirement 3 (G) from "10-year, 24-hour rainfall event" to a longer duration event (up to a 10-year, 10-day event)

LCRA's current permit includes Other Requirement 3(G) that states that "untreated overflow from facilities designed, constructed, and operated to treat the volume of coal pile runoff which is associated with a 10-year, 24-hour rainfall event shall not be subject to the total suspended solids limitations specified in page 2e of this permit." This requirement applies to discharges from the Coal Pile Runoff Pond via external Outfall 003; however internal Outfall 301 also discharges from this pond. Outfall 301 is piped back to discharge via external Outfall 001.

LCRA requests that the Other Requirement 3(G) be amended to replace "a 10-year, 24-hour rainfall event" with "a 10-year rainfall event of 24-hour or longer duration (up to a 10-year, 10-day event) when cumulative precipitation exceeds a 10-year event."

When establishing effluent limitation guidelines (ELGs) for steam electric plants, EPA recognized that coal pile runoff ponds used for the settling of sediment may require discharging during high-intensity, infrequent storm events. During these events, the pond may fill to capacity and yet sufficient time has not passed for the sediments to settle. For that reason, the ELGs provide an exception for the discharge of coal pile runoff without the requirement of the TSS limitation after a 10-year, 24-hour rainfall event. A 10-year, 24-hour rainfall event refers to the maximum amount of rain expected to fall at a specific location within a 24-hour period, with a statistical probability of occurring, on average, once every 10 years. According to the National Oceanic and Atmospheric Administration (NOAA) Atlas 14[3], the 10-year, 24-hour rainfall event at FPP is 7.17 inches. Current 10-year rainfall event thresholds for up to 10-days are illustrated in the table below:

[3] National Oceanic and Atmospheric Administration (NOAA) Atlas 14, Volume 11, Version 2 (for Texas)

National Oceanic and Atmospheric Administration (NOAA) Atlas 14, Volume 11, Version 2	
Duration	10-year average recurrence interval (at the FPP location)
24-hour	7.17 inches
2-day	8.37 inches
3-day	9.11 inches
4-day	9.60 inches
7-day	10.5 inches
10-day	11.3 inches

In 2020, when EPA revisited ELGs for steam electric plants for bottom ash (BA) transport water, EPA notably mirrored the coal pile runoff exception but, in further support, added longer duration rainfall (storm) events (e.g. 30-day events) to the 24-hour events. This exception is described in the Preamble and the Final Rule[4].

In 2024, EPA continued this support for longer duration rainfall events in the Final Rule[5] for revising steam electric ELGs applicable to flue gas desulfurization (FGD) wastewater, BA transport water, legacy wastewater, and combustion residual leachate (CRL) and in the Preamble[6], specifically referenced the exception of high-intensity, infrequent storm events related to regulation of coal pile runoff.

> "The EPA is finalizing a definitional change for all the wastewaters for which the Agency is establishing zero-discharge limitations in this final rule: FGD wastewater, BA transport water, and CRL. Specifically, the EPA is excluding from the definitions of these wastewaters any discharges which are necessary (i.e., cannot be managed with existing systems or practices) as the result of high-intensity, infrequent storm events exceeding a 10-year storm event of 24-hour or longer duration (e.g., a 10-year, 30-day storm event). **The EPA is specifically selecting this duration storm event as this is a consistent duration storm event to the storm event described in 40 CFR part 423 with respect to regulation of coal pile runoff** (emphasis added). Due to these definitional exclusions, such discharges would not be subject to the zero-discharge requirements that otherwise apply to FGD wastewater, BA transport water, and CRL under this final rule."

In these latest reiterations of the ELGs, EPA continued the exception for the 10-year rainfall event of 24-hour but also added "or longer duration", which emphasizes EPA's understanding that longer duration rainfall events often cannot be managed by existing treatment systems similar to a 24-hour duration event.

TCEQ has supported a similar understanding related to the effects of large rainfall events when the agency updated permit pond language regarding freeboard. Freeboard in ponds functions as a margin

---

[4] EPA Steam Electric Reconsideration Rule, 85 FR 64707 (October 12, 2020)

[5] 40 CFR 423.13 (k)(2)(i)(A)(1)

[6] EPA Steam Electric Final Rule, 89 FR 40231 (May 9, 2024)

of safety between water level and the top of the pond's embankment to prevent overtopping and potential structural failure. TCEQ updated its requirement in FPP's 2020 industrial wastewater permit to maintain two-foot freeboard in ponds except when "the freeboard requirement temporarily cannot be maintained due to a large storm event that requires the additional retention capacity to be used for a limited period of time."

To ensure freeboard is maintained and to ensure capacity is available during periods of heavy rainfall, FPP manages its ponds closely. Lower water levels are maintained in the ponds prior to anticipated wet seasons and rain events to ensure maximum capacity. Water is transferred between ponds as allowed by the TPDES permit or discharged when permit limits are acceptable. For Outfall 003 and 301 (the outfalls associated with the Coal Pile Runoff Pond), TSS is usually the limiting factor for whether the pond can discharge. While the Coal Pile Runoff Pond is used for settling, rainfall causes turbidity such that often a discharge is not possible for a period of time after a rainfall. Cumulative rainfall that occurs beyond a 24-hour period (e.g., two, three or more days of heavy rainfall) has a similar effect on pond levels as a single significant 24-hour period of rainfall. FPP is constantly trying to maintain the water level to ensure capacity for future rainfall events, which is hampered when rainfall occurs over multiple days or in close succession to other rainfall events.

FPP's challenge of maintaining pond capacity is demonstrated in rainfall and pond information in recent years. Since 2016, FPP has had high-intensity, infrequent rainfall events, several of them multi-day, where rainfall accumulation rose such that the pond had to be discharged via Outfall 003 (or Outfall 301), either using the TSS exception (when the 10-year, 24-hour threshold applied) or causing an exceedance of the TSS limit (when no single 24-hour period exceeded the threshold).

2016 and 2017 Rainfall Events

In April 2016, a slow-moving storm system caused FPP to receive almost 14 inches of rain in one day. In August 2017, Hurricane Harvey stalled over southeast Texas for days, causing FPP and surrounding areas to experience significant rainfall which resulted in catastrophic flooding. Both of these events caused the Coal Pile Runoff Pond to fill to capacity and discharge. The rainfall events easily exceeded the 10-year, 24-hour threshold. Notably, the consequences of these extraordinary rainfall events led Texas Governor Greg Abbott to issue a Disaster Declaration to multiple Texas counties, including Fayette County, where FPP is located.

2021 Storm Event

FPP experienced 4.6 inches of rain from April 29 to May 2, 2021, and then another 19.9 inches from May 16 to June 5. This event illustrates the difficulty of meeting TSS limits following multiple rainfall events. Heavy rainfall will saturate the coal pile, which is acres in size. The runoff from the coal pile drains to the Coal Pile Runoff Pond which increases the turbidity in the pond, but runoff draining to the pond continues for days after the actual rainfall has ended. When multiple rainfall events occur in close succession, there is not sufficient time for the pond contents to settle due to continuous significant flow to the pond which continues to cause turbidity (and high TSS).

In this 2021 rainfall event, no 24-hour period reached the 10-year, 24-hour rainfall threshold. However, the cumulative rainfall amounts occurred in close succession and the pond had to be discharged with a TSS that exceeded the limit and resulted in a non-compliance. The consecutive rainfall data for the 10-day May 16 to May 25 time period included the following:

- May 16: 0.02

- May 17: 2.1 inches
- May 18: 3.79 inches
- May 19: 0.33 inches
- May 20-21: 0 inches
- May 22: 0.51
- May 23: 1.06
- May 24: 3.72

In the ten days following May 16, the rainfall totaled 11.73 inches, which exceeded the NOAA 10-year, 10-day rainfall event threshold, which is 11.3 inches.[7] Consequently, a longer duration TSS exception would have given FPP the necessary flexibility while managing this large and extended duration rainfall event.

2024 Storm Event

In 2024, a three-day period of rain totaled almost 12 inches of rainfall. The rainfall was 7.6 inches for a 24-hour period[8] within the three days and therefore the NOAA 10-year, 24-hour rainfall event threshold was exceeded. In addition, looking at the data below, two consecutive days of rainfall met the NOAA 10-year, 2-day rainfall event threshold at 8.37 inches and the three days of rain surpassed the NOAA 10-year, 3-day rainfall event threshold at 9.11 inches[9].

- January 22: 3.36 inches
- January 23: 5.0 inches
- January 24: 3.55 inches

These examples demonstrate that FPP experiences cumulative rainfall events that can have the same effect as a single 24-hour rain event. Even though pond levels are closely managed so that capacity is available for heavy rainfalls, the 10-year events of any duration can cause them to meet capacity quickly. Because heavy rainfall of any duration stirs up the contents of the pond, FPP cannot discharge the pond without a non-compliance due to TSS limitations on Outfall 003 and Outfall 301. However, to avoid over-topping and to maintain the structural integrity of the Coal Pile Runoff Pond, the pond contents have to be discharged during flood events.

LCRA requests that the authorization to discharge wastewater from the Coal Pile Runoff Pond due to certain large precipitation-related events be amended to allow for longer duration storm events.

3. Amend Other Requirement 3(G) to include coal pile runoff from Outfall 301, which is the same effluent as Outfall 003

LCRA's current permit includes Other Requirement 3(G) that states that "untreated overflow from facilities designed, constructed, and operated to treat the volume of coal pile runoff which is associated with a 10-year, 24-hour rainfall event shall not be subject to the total suspended solids limitations specified in page 2e of this permit." Page 2e refers to the effluent from the Coal Pile Runoff Pond that is discharged via external Outfall 003. However, this same effluent from the Coal Pile Runoff Pond is authorized to be discharged via internal Outfall 301 to the discharge canal (Outfall 001). LCRA requests

---

[7] National Oceanic and Atmospheric Administration (NOAA) Atlas 14, Volume 11, Version 2 (for Texas)

[8] The 24-hour rainfall was calculated from 2:00 pm 1/22/24 to 2:00 pm 1/23/24

[9] See Footnote [5]

that Other Requirement 3(G) be applied to Outfall 301 as well by adding "... and page 2f..." to Other Requirement 3(G).

4. Amend monitoring requirements to allow a reduced frequency for Outfalls 201.

FPP requests to authorize a reduction in sampling frequency at internal Outfall 201 from weekly to monthly basis for TSS, oil and grease, and pH.

The effluent data used as the basis for the determination of monitoring frequency was not available at the time of original permit issuance, which is consistent with anti-backsliding regulations present in 40 CFR §122.44(l)(2)(i)(B)(1).

ATTACHMENT: FPP-TECH-10 Laboratory Contract List

LCRA's contract laboratory is Lower Colorado River Authority - Environmental Laboratory Services (ELS), which is a NELAP accredited laboratory (Certificate Number: T104704218-21-23) for non-potable water. ELS uses subcontractors for certain analytes.

Subcontractors:

- A & B Environmental Services, Inc.- T104704213-22-32
- Aqua-Tech- T104704371-23-27
- DHL Analytical, Inc. - T10470411-23-29
- SPL, Inc. – T104704201

See below for the pollutants analyzed by ELS and subcontractor. The sample type is also listed.

Table 1

Pollutant	Laboratory	Sample Type
BOD (5-day)	AQUA-TECH	Composite
CBOD (5-day)	AQUA-TECH	Composite
Chemical oxygen demand	ELS	Composite
Total organic carbon	ELS	Composite
Dissolved oxygen	ELS	Grab
Ammonia nitrogen	ELS	Composite
Total suspended solids	ELS	Composite
Nitrate nitrogen	ELS	Composite
Total organic nitrogen	ELS	Composite
Total phosphorus	ELS	Composite
Oil and grease	ELS	Grab
Total residual chlorine	ELS	Grab
Total dissolved solids	ELS	Composite
Sulfate	ELS	Composite
Chloride	ELS	Composite
Fluoride	ELS	Composite
Total alkalinity (mg/L as $CaCO_3$)	ELS	Composite
Temperature (°F)	ELS	Grab
pH (standard units)	ELS	Grab

Table 2

Pollutant	Laboratory	Sample Type
Aluminum, total	ELS	Composite
Antimony, total	ELS	Composite
Arsenic, total	ELS	Composite
Barium, total	ELS	Composite
Beryllium, total	ELS	Composite
Cadmium, total	ELS	Composite
Chromium, total	AQUA-TECH	Composite
Chromium, hexavalent	AQUA-TECH	Composite
Chromium, trivalent	AQUA-TECH	Composite
Copper, total	ELS	Composite
Cyanide, ~~available~~ amenable	A&B Laboratory	Composite
Lead, total	ELS	Composite
Mercury, total	A&B Laboratory	Composite
Nickel, total	ELS	Composite
Selenium, total	ELS	Composite
Silver, total	ELS	Composite
Thallium, total	ELS	Composite
Zinc, total	ELS	Composite

Table 3

Pollutant	Laboratory	Sample Type
Acrylonitrile	DHL Analytical	Composite
Anthracene	SPL Labs	Composite
Benzene	DHL Analytical	Composite
Benzidine	SPL Labs	Composite
Benzo(a)anthracene	SPL Labs	Composite
Benzo(a)pyrene	SPL Labs	Composite
Bis(2-chloroethyl)ether	SPL Labs	Composite
Bis(2-ethylhexyl)phthalate	SPL Labs	Composite
Bromodichloromethane [Dichlorobromomethane]	DHL Analytical	Composite
Bromoform	DHL Analytical	Composite
Carbon tetrachloride	DHL Analytical	Composite
Chlorobenzene	DHL Analytical	Composite
Chlorodibromomethane [Dibromochloromethane]	DHL Analytical	Composite
Chloroform	DHL Analytical	Composite
Chrysene	SPL Labs	Composite
m-Cresol [3-Methylphenol]	SPL Labs	Composite
o-Cresol [2-Methylphenol]	SPL Labs	Composite
p-Cresol [4-Methylphenol]	SPL Labs	Composite
1,2-Dibromoethane	DHL Analytical	Composite

Pollutant	Laboratory	Sample Type
m-Dichlorobenzene [1,3-Dichlorobenzene]	SPL Labs	Composite
o-Dichlorobenzene [1,2-Dichlorobenzene]	SPL Labs	Composite
p-Dichlorobenzene [1,4-Dichlorobenzene]	SPL Labs	Composite
3,3'-Dichlorobenzidine	SPL Labs	Composite
1,2-Dichloroethane	DHL Analytical	Composite
1,1-Dichloroethene [1,1-Dichloroethylene]	DHL Analytical	Composite
Dichloromethane [Methylene chloride]	DHL Analytical	Composite
1,2-Dichloropropane	DHL Analytical	Composite
1,3-Dichloropropene [1,3-Dichloropropylene]	DHL Analytical	Composite
2,4-Dimethylphenol	SPL Labs	Composite
Di-n-Butyl phthalate	SPL Labs	Composite
Ethylbenzene	DHL Analytical	Composite
Fluoride	ELS	Composite
Hexachlorobenzene	SPL Labs	Composite
Hexachlorobutadiene	SPL Labs	Composite
Hexachlorocyclopentadiene	SPL Labs	Composite
Hexachloroethane	SPL Labs	Composite
Methyl ethyl ketone	DHL Analytical	Composite
Nitrobenzene	SPL Labs	Composite
N-Nitrosodiethylamine	SPL Labs	Composite
N-Nitroso-di-n-butylamine	SPL Labs	Composite
Nonylphenol	SPL Labs	Composite
Pentachlorobenzene	SPL Labs	Composite
Pentachlorophenol	SPL Labs	Composite
Phenanthrene	SPL Labs	Composite
Polychlorinated biphenyls (PCBs) (**)	SPL Labs	Composite
Pyridine	SPL Labs	Composite
1,2,4,5-Tetrachlorobenzene	SPL Labs	Composite
1,1,2,2-Tetrachloroethane	DHL Analytical	Composite
Tetrachloroethene [Tetrachloroethylene]	DHL Analytical	Composite
Toluene	DHL Analytical	Composite
1,1,1-Trichloroethane	DHL Analytical	Composite
1,1,2-Trichloroethane	DHL Analytical	Composite
Trichloroethene [Trichloroethylene]	DHL Analytical	Composite
2,4,5-Trichlorophenol	SPL Labs	Composite
TTHM (Total trihalomethanes)	DHL Analytical	Composite
Vinyl chloride	DHL Analytical	Composite

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

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

Table 6

Pollutants	Laboratory	Sample Type
Bromide	ELS	Composite
Color (PCU)	AQUA-TECH	Composite
Nitrate-Nitrite (as N)	ELS	Composite
Sulfide (as S)	A&B Laboratory	Composite
Sulfite (as SO3)	A&B Laboratory	N/A
Surfactants	SPL	Composite
Boron, total	ELS	Composite
Cobalt, total	ELS	Composite
Iron, total	ELS	Composite
Magnesium, total	ELS	Composite
Manganese, total	ELS	Composite
Molybdenum, total	ELS	Composite
Tin, total	ELS	Composite
Titanium, total	ELS	Composite

* Indicate units if different from µg/L.

Table 8

Pollutant	Laboratory	Sample Type
Acrolein	DHL Analytical	Composite
Acrylonitrile	DHL Analytical	Composite
Benzene	DHL Analytical	Composite
Bromoform	DHL Analytical	Composite
Carbon tetrachloride	DHL Analytical	Composite
Chlorobenzene	DHL Analytical	Composite
Chlorodibromomethane [Dibromochloromethane]	DHL Analytical	Composite
Chloroethane	DHL Analytical	Composite
2-Chloroethylvinyl ether	DHL Analytical	Composite
Chloroform	DHL Analytical	Composite
Dichlorobromomethane [Bromodichloromethane]	DHL Analytical	Composite
1,1-Dichloroethane	DHL Analytical	Composite
1,2-Dichloroethane	DHL Analytical	Composite
1,1-Dichloroethylene [1,1-Dichloroethene]	DHL Analytical	Composite
1,2-Dichloropropane	DHL Analytical	Composite
1,3-Dichloropropylene [1,3-Dichloropropene]	DHL Analytical	Composite
Ethylbenzene	DHL Analytical	Composite
Methyl bromide [Bromomethane]	DHL Analytical	Composite
Methyl chloride [Chloromethane]	DHL Analytical	Composite
Methylene chloride [Dichloromethane]	DHL Analytical	Composite
1,1,2,2-Tetrachloroethane	DHL Analytical	Composite

Pollutant	Laboratory	Sample Type
Tetrachloroethylene [Tetrachloroethene]	DHL Analytical	Composite
Toluene	DHL Analytical	Composite
1,2-Trans-dichloroethylene [1,2-Trans-dichloroethene]	DHL Analytical	Composite
1,1,1-Trichloroethane	DHL Analytical	Composite
1,1,2-Trichloroethane	DHL Analytical	Composite
Trichloroethylene [Trichloroethene]	DHL Analytical	Composite
Vinyl chloride	DHL Analytical	Composite

* Indicate units if different from µg/L.

Table 9

Pollutant	Laboratory	Sample Type
2-Chlorophenol	SPL Labs	Composite
2,4-Dichlorophenol	SPL Labs	Composite
2,4-Dimethylphenol	SPL Labs	Composite
4,6-Dinitro-o-cresol	SPL Labs	Composite
2,4-Dinitrophenol	SPL Labs	Composite
2-Nitrophenol	SPL Labs	Composite
4-Nitrophenol	SPL Labs	Composite
p-Chloro-m-cresol	SPL Labs	Composite
Pentachlorophenol	SPL Labs	Composite
Phenol	SPL Labs	Composite
2,4,6-Trichlorophenol	SPL Labs	Composite

* Indicate units if different from µg/L.

ATTACHMENT: FPP-TECH-11 TCEQ Correspondence Approving Sampling

Julie Podbielski

From: Matthew Kennington <Matthew.Kennington@tceq.texas.gov>
Sent: Thursday, January 23, 2025 8:32 AM
To: Julie Podbielski
Subject: RE: Question on WQ0002105000 for upcoming renewal application

Categories: Added to Sharepoint

CAUTION - EXTERNAL EMAIL
Phishing? **Click the fish** in Outlook

Good morning,

We approve your requests.

Let me know if you have any further questions,

-M

From: Julie Podbielski <Julie.Podbielski@LCRA.ORG>
Sent: Wednesday, January 22, 2025 11:48 AM
To: Matthew Kennington <Matthew.Kennington@tceq.texas.gov>
Subject: RE: Question on WQ0002105000 for upcoming renewal application

Hi Mr. Kennington,
In response to our conversation, I have listed my questions about taking samples for Worksheet 2.0 for renewal of an industrial wastewater discharge application:

- For Outfall 002, which is a discharge of cooling water during maintenance, LCRA took our first week of sampling in October 2024. We do not plan to have another discharge this year, so we are requesting approval to submit one week of sampling (versus four weeks) for Worksheet 2.0.
- For Outfall 003, which is an impoundment that discharges infrequently, LCRA does not plan to discharge prior to the application submittal. For the application submittal, LCRA is planning to take a sample from effluent stored in the impoundment, which is allowed per the instructions (page 56 of 125).
    - LCRA is requesting approval to submit one week of sampling (versus four weeks). In our last renewal application, TCEQ gave us approval to submit one week of data for Outfall 003.
    - In addition, the instructions state that composite sampling is required for most of the pollutants. We are requesting approval to take a grab sample for all pollutant sampling because we don't anticipate substantive changes to the pond water over an eight hour period (eight hours is required to take the four samples with two hours between each sample to make the composite).

Please let us know if TCEQ approves the above requests. I can be reached by email or phone if you have further questions!
Thank you in advance, Julie

Julie Podbielski
Lower Colorado River Authority | Environmental Advisor
O 512-730-5633 **C** 512-461-4294
Julie.Podbielski@lcra.org

From: Matthew Kennington <Matthew.Kennington@tceq.texas.gov>
Sent: Wednesday, January 22, 2025 10:46 AM
To: Julie Podbielski <Julie.Podbielski@LCRA.ORG>
Subject: RE: Question on WQ0002105000 for upcoming renewal application

CAUTION - EXTERNAL EMAIL
Phishing? **Click the fish** in Outlook

Sure, happy to chat anytime.

-M

From: Julie Podbielski <Julie.Podbielski@LCRA.ORG>
Sent: Wednesday, January 22, 2025 8:39 AM
To: Matthew Kennington <Matthew.Kennington@tceq.texas.gov>
Subject: Question on WQ0002105000 for upcoming renewal application

Hi Mr. Kennington,

LCRA Fayette Power Project (WQ0002105000) will be submitting a renewal application in May, 2025. I have a question regarding sampling requirements. On page 56 of 125 of the current "Instructions for Completing the Industrial Wastewater Permit Application" (last bullet of Item 1), samples of effluent from a final retention impoundment may be used to satisfy analytical requirements for facilities which have an intermittent discharge if a discharge is not foreseen in near future.

LCRA Fayette Power Project has this situation for our Coal Pile Runoff Pond (Outfall 003), so we are planning to use a sample from the pond. Would you have time for a phone call in the next week to clarify a few details regarding this sampling?

Thank you in advance, Julie

Julie Podbielski
Lower Colorado River Authority | Environmental Advisor
O 512-730-5633 **C** 512-461-4294
Julie.Podbielski@lcra.org

ATTACHMENT FPP-TECH-12: Analytical Data for Outfalls 002 and 003 (Outfall 004 - no discharge in the last 365 days)

OUTFALL 002

Table 1 for Outfall 002 Samples are (check one): ☒ Composite ☒ Grab (identified with *)

Pollutant	Sample 1 (mg/L)	Sample 2 (mg/L)	Sample 3 (mg/L)	Sample 4 (mg/L)
BOD (5-day)	4			
CBOD (5-day)	2			
Chemical oxygen demand	35.0			
Total organic carbon	12.3			
Dissolved oxygen*	1.06			
Ammonia nitrogen	0.324			
Total suspended solids	3.5			
Nitrate nitrogen	<0.0100			
Total organic nitrogen	1.71			
Total phosphorus	0.0924			
Oil and grease	<2.5			
Total residual chlorine*	0.00			
Total dissolved solids	773			
Sulfate	128			
Chloride	207			
Fluoride	1.04			
Total alkalinity (mg/L as $CaCO_3$)	230			
Temperature (°F)*	85.9			
pH (standard units)*	8.72			

Table 2 for Outfall 002 Samples are (check one): ☒ Composite ☒ Grab (identified with *)

Pollutant	Sample 1 (µg/L)	Sample 2 (µg/L)	Sample 3 (µg/L)	Sample 4 (µg/L)	MAL (µg/L)
Aluminum, total	14.8				2.5
Antimony, total	<5.00				5
Arsenic, total	7.49				0.5
Barium, total	92.6				3
Beryllium, total	<0.500				0.5
Cadmium, total	<1.00				1
Chromium, total	<0.625				3
Chromium, hexavalent	<3.00				3
Chromium, trivalent	<3.62				N/A
Copper, total	29.8				2
Cyanide, ~~available~~ amenable*	<2.20				2/10
Lead, total	<0.500				0.5
Mercury, total	0.000513				0.005/0.0005

Pollutant	Sample 1 (µg/L)	Sample 2 (µg/L)	Sample 3 (µg/L)	Sample 4 (µg/L)	MAL (µg/L)
Nickel, total	8.72				2
Selenium, total	<5.00				5
Silver, total	<0.500				0.5
Thallium, total	<0.500				0.5
Zinc, total	<5.00				5.0

Table 3 for Outfall 002 **Samples are (check one):** ☒ **Composite** ☐ **Grab**

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
Acrylonitrile	<3.00				50
Anthracene	<1.05				10
Benzene	<1.00				10
Benzidine	<20.9				50
Benzo(a)anthracene	<1.05				5
Benzo(a)pyrene	<1.05				5
Bis(2-chloroethyl)ether	<1.05				10
Bis(2-ethylhexyl)phthalate	<7.85				10
Bromodichloromethane [Dichlorobromomethane]	<1.00				10
Bromoform	5.16				10
Carbon tetrachloride	<1.00				2
Chlorobenzene	<1.00				10
Chlorodibromomethane [Dibromochloromethane]	3.06				10
Chloroform	<1.00				10
Chrysene	<1.05				5
m-Cresol [3-Methylphenol] (reported as m&p cresol)	<6.49				10
o-Cresol [2-Methylphenol]	<5.44				10
p-Cresol [4-Methylphenol] (reported as m&p cresol)	<6.49				10
1,2-Dibromoethane	<1.00				10
m-Dichlorobenzene [1,3-Dichlorobenzene]	<1.05				10
o-Dichlorobenzene [1,2-Dichlorobenzene]	<1.05				10
p-Dichlorobenzene [1,4-Dichlorobenzene]	<1.05				10
3,3'-Dichlorobenzidine	<5.00				5
1,2-Dichloroethane	<1.00				10
1,1-Dichloroethene [1,1-Dichloroethylene]	<1.00				10
Dichloromethane [Methylene chloride]	<2.50				20
1,2-Dichloropropane	<1.00				10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
1,3-Dichloropropene [1,3-Dichloropropylene] (reported as cis and trans)	<1.00				10
2,4-Dimethylphenol	<2.51				10
Di-n-Butyl phthalate	<7.85				10
Ethylbenzene	<1.00				10
Fluoride	1040				500
Hexachlorobenzene	<1.05				5
Hexachlorobutadiene	<1.05				10
Hexachlorocyclopentadiene	<9.41				10
Hexachloroethane	<1.05				20
Methyl ethyl ketone (2-Butanone)	<15.0				50
Nitrobenzene	<1.05				10
N-Nitrosodiethylamine	<1.05				20
N-Nitroso-di-n-butylamine	<1.05				20
Nonylphenol	<30.6				333
Pentachlorobenzene	<1.05				20
Pentachlorophenol	<1.05				5
Phenanthrene	<1.05				10
Polychlorinated biphenyls (PCBs) (**)	<0.197				0.2
Pyridine	<5.65				20
1,2,4,5-Tetrachlorobenzene	<1.05				20
1,1,2,2-Tetrachloroethane	<1.00				10
Tetrachloroethene [Tetrachloroethylene]	<2.00				10
Toluene	<2.00				10
1,1,1-Trichloroethane	<1.00				10
1,1,2-Trichloroethane	<1.00				10
Trichloroethene [Trichloroethylene]	<1.00				10
2,4,5-Trichlorophenol	<1.05				50
TTHM (Total trihalomethanes)	8.23				10
Vinyl chloride	<1.00				10

(*) Indicate units if different from µg/L.
(**) Total of detects for PCB-1242, PCB-1254, PCB-1221, PCB-1232, PCB-1248, PCB-1260, and PCB-1016. If all non-detects, enter the highest non-detect preceded by a "<".

Table 6 for Outfall 002 **Samples are (check one):** ☒ **Composite** ☐ **Grab**

Pollutants	Believed Present	Believed Absent	Sample 1 (mg/L)	Sample 2 (mg/L)	Sample 3 (mg/L)	Sample 4 (mg/L)	MAL (µg/L)*
Bromide	☒	☐	3.88				400
Color (PCU)	☒	☐	10				—
Nitrate-Nitrite (as N)	☒	☐	<0.0200				—
Sulfide (as S)	☒	☐	<0.01				—

Pollutants	Believed Present	Believed Absent	Sample 1 (mg/L)	Sample 2 (mg/L)	Sample 3 (mg/L)	Sample 4 (mg/L)	MAL (µg/L)*
Sulfite (as SO3)	☐	☒	<0.01				—
Surfactants (MBAS)	☒	☐	<0.200 (H)				—
Boron, total	☒	☐	0.651				20
Cobalt, total	☒	☐	<0.0003				0.3
Iron, total	☒	☐	0.150				7
Magnesium, total	☒	☐	71.2				20
Manganese, total	☒	☐	<0.0447				0.5
Molybdenum, total	☒	☐	0.00221				1
Tin, total	☒	☐	<0.005				5
Titanium, total	☒	☐	0.0993				30

* Indicate units if different from µg/L.

H-Lab subcontractor noted "Sample started outside recommended hold time".

Table 8 for Outfall 002 **Samples are (check one):** ☒ **Composite** ☐ **Grab**

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Acrolein	<15.0				50
Acrylonitrile	<3.00				50
Benzene	<1.00				10
Bromoform	5.16				10
Carbon tetrachloride	<1.00				2
Chlorobenzene	<1.00				10
Chlorodibromomethane	3.06				10
Chloroethane	<2.00				50
2-Chloroethylvinyl ether	<6.00				10
Chloroform	<1.00				10
Dichlorobromomethane [Bromodichloromethane]	<1.00				10
1,1-Dichloroethane	<1.00				10
1,2-Dichloroethane	<1.00				10
1,1-Dichloroethylene [1,1-Dichloroethene]	<1.00				10
1,2-Dichloropropane	<1.00				10
1,3-Dichloropropylene [1,3-Dichloropropene] (reported as cis and trans)	<1.00				10
Ethylbenzene	<1.00				10
Methyl bromide [Bromomethane]	<5.00				50
Methyl chloride [Chloromethane]	<1.00				50
Methylene chloride [Dichloromethane]	<2.50				20
1,1,2,2-Tetrachloroethane	<1.00				10
Tetrachloroethylene [Tetrachloroethene]	<2.00				10
Toluene	<2.00				10
1,2-Trans-dichloroethylene [1,2-Trans-dichloroethene]	<1.00				10
1,1,1-Trichloroethane	<1.00				10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
1,1,2-Trichloroethane	<1.00				10
Trichloroethylene [Trichloroethene]	<1.00				10
Vinyl chloride	<1.00				10

* Indicate units if different from µg/L.

Table 9 for Outfall 002 **Samples are (check one):** ☒ **Composite** ☐ **Grab**

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
2-Chlorophenol	<1.05				10
2,4-Dichlorophenol	<1.05				10
2,4-Dimethylphenol	<2.51				10
4,6-Dinitro-o-cresol (....2-methylphenol)	<8.37				50
2,4-Dinitrophenol	<9.41				50
2-Nitrophenol	<1.05				20
4-Nitrophenol	<1.05				50
p-Chloro-m-cresol (3&4 Methylphenol (m&p-Cresol)	<2.51				10
Pentachlorophenol	<1.05				5
Phenol*	<1.57				10
2,4,6-Trichlorophenol	<1.05				10

* Indicate units if different from µg/L.

OUTFALL 003

Table 1 for Outfall 003 **Samples are (check one):** ☐ **Composite** ☒ **Grab*****

Pollutant	Sample 1 (mg/L)	Sample 2 (mg/L)	Sample 3 (mg/L)	Sample 4 (mg/L)
BOD (5-day)	1			
CBOD (5-day)	<1			
Chemical oxygen demand	41.1			
Total organic carbon	7.85			
Dissolved oxygen	8.91			
Ammonia nitrogen	<0.04			
Total suspended solids	4.4			
Nitrate nitrogen	0.307			
Total organic nitrogen	1.10			
Total phosphorus	0.162			
Oil and grease	<2.5			
Total residual chlorine	0.130			
Total dissolved solids	605			
Sulfate	111			
Chloride	165			

Pollutant	Sample 1 (mg/L)	Sample 2 (mg/L)	Sample 3 (mg/L)	Sample 4 (mg/L)
Fluoride	0.715			
Total alkalinity (mg/L as $CaCO_3$)	178			
Temperature (°F)	60.6			
pH (standard units)	8.84			

*** TCEQ approved "grab" for all pollutants. See Attachment FPP-TECH-11 for TCEQ Correspondence

Table 2 for Outfall 003 **Samples are (check one):** ☐ **Composite** ☒ **Grab*****

Pollutant	Sample 1 (µg/L)	Sample 2 (µg/L)	Sample 3 (µg/L)	Sample 4 (µg/L)	MAL (µg/L)
Aluminum, total	247				2.5
Antimony, total	<5.00				5
Arsenic, total	5.32				0.5
Barium, total	224				3
Beryllium, total	<0.500				0.5
Cadmium, total	<1.00				1
Chromium, total	1.54				3
Chromium, hexavalent	3.29				3
Chromium, trivalent	<3.62				N/A
Copper, total	2.56				2
Cyanide, ~~available~~ amenable	<2.20				2/10
Lead, total	<0.500				0.5
Mercury, total	0.00161				0.005/0.0005
Nickel, total	2.67				2
Selenium, total	<5.00				5
Silver, total	<0.500				0.5
Thallium, total	<0.500				0.5
Zinc, total	<5.00				5.0

*** TCEQ approved "grab" for all pollutants. See Attachment FPP-TECH-11 for TCEQ Correspondence

Table 3 for Outfall 003 **Samples are (check one):** ☐ **Composite** ☒ **Grab*****

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
Acrylonitrile	<3.00				50
Anthracene	<0.954				10
Benzene	<1.00				10
Benzidine	<19.1				50
Benzo(a)anthracene	<0.954				5
Benzo(a)pyrene	<0.954				5
Bis(2-chloroethyl)ether	<0.954				10
Bis(2-ethylhexyl)phthalate	<7.16				10
Bromodichloromethane [Dichlorobromomethane]	<1.00				10
Bromoform	<1.00				10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
Carbon tetrachloride	<1.00				2
Chlorobenzene	<1.00				10
Chlorodibromomethane [Dibromochloromethane]	<1.00				10
Chloroform	<1.00				10
Chrysene	<0.954				5
m-Cresol [3-Methylphenol] (reported as m&p cresol)	<5.92				10
o-Cresol [2-Methylphenol]	<4.96				10
p-Cresol [4-Methylphenol] (reported as m&p cresol)	<5.92				10
1,2-Dibromoethane	<1.00				10
m-Dichlorobenzene [1,3-Dichlorobenzene]	<0.954				10
o-Dichlorobenzene [1,2-Dichlorobenzene]	<0.954				10
p-Dichlorobenzene [1,4-Dichlorobenzene]	<0.954				10
3,3'-Dichlorobenzidine	<4.77				5
1,2-Dichloroethane	<1.00				10
1,1-Dichloroethene [1,1-Dichloroethylene]	<1.00				10
Dichloromethane [Methylene chloride]	<2.50				20
1,2-Dichloropropane	<1.00				10
1,3-Dichloropropene [1,3-Dichloropropylene] (reported as cis and trans)	<1.00				10
2,4-Dimethylphenol	<2.29				10
Di-n-Butyl phthalate	<7.16				10
Ethylbenzene	<1.00				10
Fluoride	715				500
Hexachlorobenzene	<0.954				5
Hexachlorobutadiene	<0.954				10
Hexachlorocyclopentadiene	<8.59				10
Hexachloroethane	<0.954				20
Methyl ethyl ketone (2-Butanone)	<15.0				50
Nitrobenzene	<0.954				10
N-Nitrosodiethylamine	<6.68				20
N-Nitroso-di-n-butylamine	<0.954				20
Nonylphenol	<30.2				333
Pentachlorobenzene	<0.954				20
Pentachlorophenol	<0.954				5
Phenanthrene	<0.954				10
Polychlorinated biphenyls (PCBs) (**)	<0.197				0.2
Pyridine	<5.15				20
1,2,4,5-Tetrachlorobenzene	<0.954				20

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
1,1,2,2-Tetrachloroethane	<1.00				10
Tetrachloroethene [Tetrachloroethylene]	<2.00				10
Toluene	<2.00				10
1,1,1-Trichloroethane	<1.00				10
1,1,2-Trichloroethane	<1.00				10
Trichloroethene [Trichloroethylene]	<1.00				10
2,4,5-Trichlorophenol	<0.954				50
TTHM (Total trihalomethanes)	<5.00				10
Vinyl chloride	<1.00				10

(*) Indicate units if different from µg/L.
(**) Total of detects for PCB-1242, PCB-1254, PCB-1221, PCB-1232, PCB-1248, PCB-1260, and PCB-1016. If all non-detects, enter the highest non-detect preceded by a "<".

*** TCEQ approved "grab" for all pollutants. See Attachment FPP-TECH-11 for TCEQ Correspondence

Table 6 for Outfall 003 **Samples are (check one):** ☐ **Composite** ☒ **Grab*****

Pollutants	Believed Present	Believed Absent	Sample 1 (mg/L)	Sample 2 (mg/L)	Sample 3 (mg/L)	Sample 4 (mg/L)	MAL (µg/L)*
Bromide	☒	☐	2.72				400
Color (PCU)	☒	☐	10				–
Nitrate-Nitrite (as N)	☒	☐	0.309				–
Sulfide (as S)	☒	☐	<0.01				–
Sulfite (as SO_3)	☐	☒	--				–
Surfactants (MBAS)	☒	☐	<0.369				–
Boron, total	☒	☐	0.856				20
Cobalt, total	☒	☐	<0.0003				0.3
Iron, total	☒	☐	0.0756				7
Magnesium, total	☒	☐	3.5				20
Manganese, total	☒	☐	0.0447				0.5
Molybdenum, total	☒	☐	0.00202				1
Tin, total	☒	☐	<0.005				5
Titanium, total	☒	☐	<0.030				30

*** TCEQ approved "grab" for all pollutants. See Attachment FPP-TECH-11 for TCEQ Correspondence
H-Lab subcontractor noted "Sample started outside recommended hold time".

Table 8 for Outfall 003 **Samples are (check one):** ☐ **Composite** ☒ **Grab*****

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Acrolein	<15.0				50
Acrylonitrile	<3.00				50
Benzene	<1.00				10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Bromoform	<1.00				10
Carbon tetrachloride	<1.00				2
Chlorobenzene	<1.00				10
Chlorodibromomethane	<1.00				10
Chloroethane	<2.00				50
2-Chloroethylvinyl ether	<6.00				10
Chloroform	<1.00				10
Dichlorobromomethane [Bromodichloromethane]	<1.00				10
1,1-Dichloroethane	<1.00				10
1,2-Dichloroethane	<1.00				10
1,1-Dichloroethylene [1,1-Dichloroethene]	<1.00				10
1,2-Dichloropropane	<1.00				10
1,3-Dichloropropylene [1,3-Dichloropropene] (reported as cis and trans)	<1.00				10
Ethylbenzene	<1.00				10
Methyl bromide [Bromomethane]	<5.00				50
Methyl chloride [Chloromethane]	<1.00				50
Methylene chloride [Dichloromethane]	<2.50				20
1,1,2,2-Tetrachloroethane	<1.00				10
Tetrachloroethylene [Tetrachloroethene]	<2.00				10
Toluene	<2.00				10
1,2-Trans-dichloroethylene [1,2-Trans-dichloroethene]	<1.00				10
1,1,1-Trichloroethane	<1.00				10
1,1,2-Trichloroethane	<1.00				10
Trichloroethylene [Trichloroethene]	<1.00				10
Vinyl chloride	<1.00				10

*** TCEQ approved "grab" for all pollutants. See Attachment FPP-TECH-11 for TCEQ Correspondence

Table 9 for Outfall 003 **Samples are (check one):** ☐ **Composite** ☒ **Grab*****

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
2-Chlorophenol	<0.954				10
2,4-Dichlorophenol	<0.954				10
2,4-Dimethylphenol	<2.29				10
4,6-Dinitro-o-cresol (....2-methylphenol)	<7.63				50
2,4-Dinitrophenol	<8.59				50
2-Nitrophenol	<0.954				20
4-Nitrophenol	<0.954				50
p-Chloro-m-cresol (3&4 Methylphenol (m&p-Cresol)	<5.92				10
Pentachlorophenol	<0.954				5

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Vinyl chloride	<1.00				10

*** TCEQ approved "grab" for all pollutants. See Attachment FPP-TECH-11 for TCEQ Correspondence

Table 9 for Outfall 003 **Samples are (check one):** ☐ **Composite** ☒ **Grab*****

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
2-Chlorophenol	<0.954				10
2,4-Dichlorophenol	<0.954				10
2,4-Dimethylphenol	<2.29				10
4,6-Dinitro-o-cresol (....2-methylphenol)	<7.63				50
2,4-Dinitrophenol	<8.59				50
2-Nitrophenol	<0.954				20
4-Nitrophenol	<0.954				50
p-Chloro-m-cresol (3&4 Methylphenol (m&p-Cresol)	<5.92				10
Pentachlorophenol	<0.954				5
Phenol*	<1.43				10
2,4,6-Trichlorophenol	<0.954				10

*** TCEQ approved "grab" for all pollutants. See Attachment FPP-TECH-11 for TCEQ Correspondence

Table 13 for Outfall No.: 003 **Samples are (check one):** ☐ **Composite** ☒ **Grab**

Pollutant	CASRN	Sample 1 (µg/L)	Sample 2 (µg/L)	Sample 3 (µg/L)	Sample 4 (µg/L)	Analytical Method
Vanadium, Total	7440-62-2	8.73				200.8

OUTFALL 004 Analytical Data

Outfall 004 does not have pollutant analysis results because there has been no discharge in the last 365 days.

INDUSTRIAL WASTEWATER PERMIT APPLICATION WORKSHEET 4.0: RECEIVING WATERS

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

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

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

☐ Yes ☒ No

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

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

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

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

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

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

a. Width of the receiving water at the outfall: Click to enter text. feet

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

☐ Yes ☐ No

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

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

☐ Yes ☐ No

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

Item 3. Classified Segment (Instructions, Page 80)

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

☐ Yes ☒ No

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

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

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

a. Name of the immediate receiving waters: Unnamed tributary to Cedar Creek (Outfall 002)

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

☐ Lake or Pond

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

☒ Man-Made Channel or Ditch

☐ Stream or Creek

☐ Freshwater Swamp or Marsh

☐ Tidal Stream, Bayou, or Marsh

☐ Open Bay

☐ Other, specify:

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

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

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

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

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

☒ Perennial (normally flowing)

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

☐ USGS flow records

☒ personal observation

☐ historical observation by adjacent landowner(s)

☐ other, specify: Click to enter text.

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

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

☒ Yes ☐ No

If **yes**, describe how: Channelized ditch flows into a natural streambed.

f. General observations of the water body during normal dry weather conditions: Outfall 002 discharges into a man-made channelized ditch, which is dry during normal dry weather conditions. Downstream from 002, the channelized ditch flows into a natural streambed, which has a small flow during normal dry weather conditions from sources other than discharges from Outfall 002.

Date and time of observation: November 13, 2018; 1:00 pm

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

☒ Yes ☐ No

If **yes**, describe how: 0.93 inches of rain had fallen at the FPP plant between November 11 and 12 so the receiving water body likely was influenced by stormwater.

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

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

☐ oil field activities
☐ agricultural runoff
☐ upstream discharges
☐ urban runoff
☐ septic tanks
☒ other, specify: N/A

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

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

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

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

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

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

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

INDUSTRIAL WASTEWATER PERMIT APPLICATION WORKSHEET 4.1: WATERBODY PHYSICAL CHARACTERISTICS

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

Complete the transects downstream of the existing or proposed discharges.

Item 1. Data Collection (Instructions, Page 82)

a. Date of study: November 13, 2018 Time of study: 1:00 pm

Waterbody name: Unnamed tributary to Cedar Creek

General location: Outfall 002 discharge

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

☒ perennial ☐ intermittent with perennial pools ☐ impoundment

c. No. of defined stream bends:

Well: 1 Moderately: 3 Poorly: 3

d. No. of riffles: 2

e. Evidence of flow fluctuations (check one):

☒ Minor ☐ Moderate ☐ Severe

f. Provide the observed stream uses and where there is evidence of channel obstructions/modifications: No observed stream uses. Channelized man-made ditch for approximately 3000 ft from Outfall 002, then natural streambed. Channel obstructions/modifications include corrugated pipe culverts constructed under roads and railroad tracks, and some concrete aprons constructed in channel upstream and downstream of culverts.

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

Stream Transect Data

Transect Location	Habitat Type*	Water Surface Width (ft)	Stream Depths (ft)**								
Location 2-1 (~3000 ft downstream from Outfall 002 (beginning of natural streambed)	Riffle	2					0.25"	0.17'	0.08'		
Location 2-2	Pool (small)	7.5					0.5'	1.0'	1.67'	1.83'	1.0'
Location 2-3	Run	2.5					0.25'	0.33'	0.33'	0.25'	

Outfall 002

Transect Location	Habitat Type*	Water Surface Width (ft)	Stream Depths (ft)**								
Location 2-4	Glide	4					0.5'	0.5'	0.58'	0.17'	
Location 2-5	Pool (moderate)	12.5					2.33'	2.83'	2.17'	2.17'	2.25'

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

Item 2. Summarize Measurements (Instructions, Page 83)

Provide the following information regarding the transect measurements:

Streambed slope of entire reach (from USGS map in ft. /ft.): 0.013 (20/1600)

Approximate drainage area above the most downstream transect from USGS map or county highway map (square miles): 0.27

Length of stream evaluated (ft): 1600

Number of lateral transects made: 5

Average stream width (ft): 9.5

Average stream depth (ft): 1.0

Average stream velocity (ft/sec): 0.0434

Instantaneous stream flow (ft^3/sec): 0.1085

Indicate flow measurement method (VERY IMPORTANT - type of meter, floating chip timed over a fixed distance, etc.): SonTek Flowtracker2 Handheld ADV (Acoustic Doppler Velocimeter)

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

Size of pools (i.e., large, small, moderate, or none): 1 large, 4 moderate, 1 small

Maximum pool depth (ft): 2.83'

Total number of stream bends: 7

Number well defined: 1

Number moderately defined: 3

Number poorly defined: 3

Total number of riffles: 2

INDUSTRIAL WASTEWATER PERMIT APPLICATION WORKSHEET 4.0: RECEIVING WATERS

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

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

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

☐ Yes ☒ No

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

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

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

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

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

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

a. Width of the receiving water at the outfall: Click to enter text. feet

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

☐ Yes ☐ No

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

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

☐ Yes ☐ No

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

Item 3. Classified Segment (Instructions, Page 80)

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

☐ Yes ☒ No

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

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

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

a. Name of the immediate receiving waters: Unnamed tributary to Cedar Creek (Outfall 003)

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

☐ Lake or Pond

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

☐ Man-Made Channel or Ditch

☒ Stream or Creek

☐ Freshwater Swamp or Marsh

☐ Tidal Stream, Bayou, or Marsh

☐ Open Bay

☐ Other, specify:

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

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

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

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

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

☒ Perennial (normally flowing)

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

☐ USGS flow records

☒ personal observation

☐ historical observation by adjacent landowner(s)

☐ other, specify: Click to enter text.

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

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

☐ Yes ☒ No

If **yes**, describe how: Note: Outfall 003 flows through a man-made ditch for ~550 feet before flowing into unnamed tributary of Cedar Creek.

f. General observations of the water body during normal dry weather conditions: Outfall 003 discharges into a man-made ditch, which is dry during normal dry weather conditions. The man-made ditch flows into an unnamed tributary of Cedar Creek. The unnamed tributary has a small flow during normal dry weather conditions.

Date and time of observation: November 13, 2018; 11:00 am

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

☒ Yes ☐ No

If **yes**, describe how: There was no rain on the day of observation, but 0.1 inch of rain had fallen the day before and 0.8 inch had fallen two days prior. Water body is regularly observed by plant staff in previous years, which corresponds to this observation.

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

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

☐ oil field activities
☐ agricultural runoff
☐ upstream discharges
☐ urban runoff
☐ septic tanks
☒ other, specify: N/A

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

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

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

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

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

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

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

INDUSTRIAL WASTEWATER PERMIT APPLICATION WORKSHEET 4.1: WATERBODY PHYSICAL CHARACTERISTICS

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

Complete the transects downstream of the existing or proposed discharges.

Item 1. Data Collection (Instructions, Page 82)

a. Date of study: November 13, 2018 Time of study: 11:00 am

Waterbody name: Unnamed tributary to Cedar Creek

General location: Outfall 003

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

☒ perennial ☐ intermittent with perennial pools ☐ impoundment

c. No. of defined stream bends:

Well: 0 Moderately: 5 Poorly: 0

d. No. of riffles: 6

e. Evidence of flow fluctuations (check one):

☐ Minor ☒ Moderate ☐ Severe

f. Provide the observed stream uses and where there is evidence of channel obstructions/modifications: No observed stream uses. Discharge from 003 flows through ~550 feet of man-made ditch before flowing into unnamed tributary. Channel obstructions/ modifications in tributary include culverts constructed under roads and railroad tracks.

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

Stream Transect Data

Transect Location	Habitat Type*	Water Surface Width (ft)	Stream Depths (ft)**								
Location 3-1	Run	5.6					0.5'	0.6'	0.6'	0.5'	
Location 3-2	Pool (small)	2.5					02.25'	2.33'	2.33	2.33'	
Location 3-3	Glide	11					0.58'	0.92'	1.17'	0.75'	
Location 3-4	Riffle	3.0					0.17'	0.25'	0.083"		

* riffle, run, glide, or pool

** channel bed to water surface

Item 2. Summarize Measurements (Instructions, Page 83)

Provide the following information regarding the transect measurements:

Streambed slope of entire reach (from USGS map in ft. /ft.): 0.014

Approximate drainage area above the most downstream transect from USGS map or county highway map (square miles): 0.32

Length of stream evaluated (ft): 350

Number of lateral transects made: 4

Average stream width (ft): 5.5

Average stream depth (ft): 1.02

Average stream velocity (ft/sec): 0.0434

Instantaneous stream flow (ft^3/sec): 0.1085

Indicate flow measurement method (VERY IMPORTANT - type of meter, floating chip timed over a fixed distance, etc.): SonTek Flowtracker2 Handheld ADV (Acoustic Doppler Velocimeter)

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

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

Maximum pool depth (ft): 2.33'

Total number of stream bends: 5

Number well defined: 0

Number moderately defined: 5

Number poorly defined: 0

Total number of riffles: 6

INDUSTRIAL WASTEWATER PERMIT APPLICATION WORKSHEET 4.0: RECEIVING WATERS

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

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

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

☐ Yes ☒ No

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

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

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

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

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

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

a. Width of the receiving water at the outfall: Click to enter text. feet

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

☐ Yes ☐ No

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

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

☐ Yes ☐ No

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

Item 3. Classified Segment (Instructions, Page 80)

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

☐ Yes ☒ No

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

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

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

a. Name of the immediate receiving waters: Unnamed tributary to Cedar Creek (Outfall 004)

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

☐ Lake or Pond

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

☐ Man-Made Channel or Ditch

☒ Stream or Creek

☐ Freshwater Swamp or Marsh

☐ Tidal Stream, Bayou, or Marsh

☐ Open Bay

☐ Other, specify:

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

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

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

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

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

☐ Perennial (normally flowing)

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

☐ USGS flow records

☒ personal observation

☐ historical observation by adjacent landowner(s)

☐ other, specify: Click to enter text.

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

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

☒ Yes ☐ No

If **yes**, describe how: Outfall 004 is the beginning of an intermittent unnamed tributary of Cedar Creek. This unnamed tributary travels for approximately 1.8 miles before intersecting with Cedar Creek, which is a perennial stream.

f. General observations of the water body during normal dry weather conditions: Outfall 004 discharges into an unnamed tributary of Cedar Creek. This unnamed tributary is dry during dry weather conditions.

Date and time of observation: October 8, 2018; 11:00 am

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

☐ Yes ☒ No

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

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

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

☐ oil field activities
☐ agricultural runoff
☐ upstream discharges
☐ urban runoff
☐ septic tanks
☒ other, specify: N/A

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

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

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

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

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

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

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

ATTACHMENT: FPP-TECH-14 Solids Management Plan

LOWER COLORADO RIVER AUTHORITY
FAYETTE POWER PROJECT
UNIT 3

SEWAGE TREATMENT SYSTEM

FILE NO. 10439.93.1920
SYSTEM DESCRIPTION AND OPERATION

CONTENTS

		Page
1.0	SYSTEM FUNCTION AND DESCRIPTION	1-1
1.1	SYSTEM FUNCTION	1-1
1.2	SYSTEM DESCRIPTION	1-1
2.0	MAJOR COMPONENTS	2-1
2.1	SEWAGE PUMPS BA AND BB	2-1
2.2	SEWAGE LIFT STATION GRINDER PUMPS BA AND BB	2-1
2.3	SEWAGE TREATMENT PLANT	2-2
2.4	AIR BLOWERS BA, BB, AND BC	2-2
2.5	CHLORINATOR	2-2
2.6	SEWAGE EFFLUENT WATER SUMP PUMPS BA AND BB	2-3
2.7	SEWAGE TREATMENT SYSTEM CONTROL PANEL	2-3
2.8	SYSTEM CONTROL	2-5
3.0	SYSTEM OPERATION	3-1
3.1	PREREQUISITES	3-1
3.2	PRECAUTIONS	3-1
3.3	PROCEDURES	3-1
4.0	REFERENCE MATERIAL	4-1

APPENDIX A SPECIFICATIONS AND DRAWINGS

LIST OF FIGURES

FIGURE 1-1	SEWAGE TREATMENT SYSTEM FLOW DIAGRAM	1-2
FIGURE 2-1	SEWAGE TREATMENT CONTROL PANEL LAYOUT	2-4
FIGURE 3-1	SETTLOMETER TEST RESULT EXAMPLE CURVES	3-13

LOWER COLORADO RIVER AUTHORITY
FAYETTE POWER PROJECT
UNIT 3

SYSTEM DESCRIPTION AND OPERATION FOR SEWAGE TREATMENT SYSTEM

1.0 SYSTEM FUNCTION AND DESCRIPTION

1.1 SYSTEM FUNCTION

The function of the Sewage Treatment System is to provide for the collection and treatment of all sanitary wastes generated from the operation of Unit 3.

1.2 SYSTEM DESCRIPTION

The Sewage Treatment System includes the following structures and equipment.

(1) One yard sewage lift station, including two sewage lift pumps, level sensors, and a local control panel.

(2) One influent sewage lift station, including two grinder pumps, a diffuser, and level sensors.

(3) One flow splitter box.

(4) One sewage treatment plant, including two parallel aeration tanks with diffusers and bar screen, and two parallel clarifier tanks with stilling chamber, scum and sludge return pumps, and effluent launder.

(5) Three air blowers.

(6) One tablet chlorinator.

(7) One chlorine contact tank with baffles and effluent weir.

(8) One sewage effluent water sump, including two sump pumps and level sensors.

(9) One Sewage Treatment System control panel.

The Sewage Treatment System is shown schematically on Figure 1-1.

The Sewage Treatment System is designed to meet the following criteria.

- Minimum Hydraulic Loading--24,000 gpd.
- Maximum Hydraulic Loading--100,800 gpd.

- Maximum Organic Loading--48 lb BOD_5 (Five-Day Biochemical Oxygen Demand) per day.
- BOD_5 (Five-Day Biochemical Oxygen Demand) Reduction--90 percent.
- Suspended Solids Reduction--90 percent.

Sewage from Units 1 and 2 Fly Ash Building, Service Building, Water Treatment Building, Turbine Generator Building, and the Inspection Office is collected in a common sewer terminating at a yard sewage lift station. The yard sewage lift station also receives sewage from the Disposal Maintenance Building. The lift station is a concrete wet well which accumulates the sewage flow at a low point in the system and boosts it with submerged pumps to a higher elevation to keep the gravity sewer system from becoming too deep. The lift station is located east of the Inspection Office and west of the Vacuum Filter Building.

Effluent from the sewage lift station and sewage from the FGD Dewatering Switchgear Building, Materials Handling Personnel Building, Lignite Stackout Switchgear Building, and Auxiliary Control Building are collected in a common sewer terminating at the sewage treatment plant influent sewage lift station. The influent sewage lift station also receives sewage from Units 1 and 2 buildings.

The influent sewage lift station located adjacent to the sewage treatment plant, includes two grinder pumps which shred the larger solids into small pieces and pump the sewage to the sewage treatment plant. An air diffuser is also provided in the lift station to maintain the sewage aerated and mixed throughout the lift station at all times, preventing the sewage from going septic.

The sewage treatment plant is an extended aeration system. The process makes use of microorganisms under aerobic conditions to capture and metabolize the organic wastes. The treatment plant consists of two independent modules, each consisting of an aeration tank and a clarifier. The sewage treatment plant is located south of the existing sewage treatment plant.

Sewage from the influent sewage lift station is equally divided in the flow splitter box between each of the two sewage treatment plant

modules and the existing sewage treatment plant. Slide gates are provided in the splitter box to isolate either half of the treatment plant or the existing sewage treatment plant. Provision for recirculation of sewage from the flow splitter box to the influent sewage lift station exists to prevent hydraulic overloading when half of the treatment plant or the existing sewage treatment plant is isolated.

Sewage reaching the aeration tank of the sewage treatment plant first passes through a bar screen to prevent leaves and floating objects from flowing into the aeration tank. In the aeration tank, the sewage is detained for approximately 24 hours for the microorganisms, or "bugs," to break down the organics in the sewage. For the bugs to come in contact and digest the organics, oxygen and mixing are required. Air blowers provide compressed air which is piped to the bottom of the aeration tank and distributed through diffusers for aerating and mixing the sewage in the aeration tank.

From the aeration tank, the sewage overflows into the clarifier where the flow rate decreases to allow the solids to settle. The clarified liquid flows over a launder weir which is positioned to allow the wastewater to overflow at a velocity slow enough to avoid disturbing the solids that have settled. Accumulated solids are constantly recycled from the bottom of the clarifier to the aeration tank by an air lift pump. The sludge return air lift pump consists of a pipe placed vertically with the suction end in the sludge. Air from the blowers enters the pipe near the bottom. The rising bubbles cause a low pressure inside the return pipe causing the sludge to be lifted back to the aeration tank. This returned sludge undergoes further digestion in the aeration tank and provides the bugs which digest incoming sewage. A scum pump is also provided in each clarifier to remove any floating scum and return it to the aeration tank. The scum pump consists of a scum cone which is positioned at the water surface. The scum collected is returned to the aeration tank by the scum return air lift pump.

Since aeration tanks and clarifiers do not completely remove disease producing bacteria, the clarified liquid then flows through a tablet

chlorinator and to the chlorine contact tank. The chlorine contact tank provides a retention time of at least 20 minutes for the wastewater before being discharged to the sewage effluent water sump. The sewage effluent sump pumps transfer the treated sewage to the reclaim pond. In the event the level in the reclaim pond starts to rise, excess sewage treatment plant effluent can be transferred to the cooling lake.

2.0 MAJOR COMPONENTS

2.1 SEWAGE PUMPS BA AND BB

The sewage pumps are totally submersible vertical pumps with a built-in moisture detector. The pump motors are induction type designed for across-the-line starting and continuous duty.

The pumps can be pulled from the lift station wet well along permanently installed guide bars without dewatering or removing the lift station from service. The pumps have quick-disconnect flanges with gaskets on the discharge for a fluid-tight connection with the permanently installed discharge elbow. The connection with the discharge elbow is made automatically when the pump is lowered into place. A check valve is provided in the discharge line of each pump to prevent backflow.

The pumps are controlled automatically by liquid level sensors in the wet well or manually from the local control panel provided with the sewage lift station. The pump and motor specifications and performance curve are given in Appendix A, Pages A-4 and A-5.

2.2 SEWAGE LIFT STATION GRINDER PUMPS BA AND BB

The sewage lift station grinder pumps are totally submersible vertical pumps designed to shred the solids contained in the sewage to a slurry that can be pumped under low pressure. The pumps have a two-stage grinder assembly: a primary grinder to macerate the solids and a secondary cutter, cutting in a plane perpendicular to the first, to further reduce the solids to a fine slurry for pumping by the centrifugal impeller. The pump motors are induction type designed for across-the-line starting and continuous duty.

The grinder pumps can be pulled from the lift station wet well along permanently installed guide bars without dewatering or removing the lift station from service. The pumps have hydraulic sealing flanges on the discharge that assure positive sealing with the discharge piping when the pump is lowered into position. A removable, nonclog, ball check valve, integral to the pump piping, prevents backflow in the discharge line.

The grinder pumps are controlled automatically by liquid level sensors in the wet well or manually from the local control panel provided with the sewage treatment plant. The pump and motor specifications and performance curve are given in Appendix A, Pages A-6 and A-7.

2.3 SEWAGE TREATMENT PLANT

Specifications for the aeration tank, clarifier, and chlorine contact tank are listed in Appendix A, Pages A-8, A-9, and A-13.

2.4 AIR BLOWERS BA, BB, AND BC

Each air blower provides 66 cfm of air at 6 psig for aeration of the sewage in the sewage lift station and aeration tanks of the sewage treatment plant and for operation of the clarifier air lift and scum pumps. The blower motor is an induction type designed for across-the-line starting and continuous duty. The air blower and motor specifications and performance curve are given in Appendix A, Pages A-10 and A-11.

Each blower is provided with an inlet filter silencer and an outlet check valve. A diaphragm-actuated, air-pressure relief valve is provided on the common air header. The pressure relief valve is set at 10 psig.

Pressure Indicator B-ST-PI-11 provides local indication of the discharge pressure of the blowers. Flow Element B-ST-FE-11 provides local indication of the airflow rate. Pressure Switches B-ST-PSL-11A, B-ST-PSL-11B, and B-ST-PSL-11C provide signals to the Data Acquisition System (Point Numbers PMB51, PMB52, and PMB53) when the discharge pressure of Air Blowers BA, BB, and BC, respectively, drops below 4.5 psig while operating.

2.5 CHLORINATOR

The chlorinator consists of a housing, an inlet baffle, an outlet weir, and four tablet feed tubes. The chlorinator is mounted above the chlorine contact tank and receives the overflow from the clarifier.

Slow-dissolving chlorine tablets at the bottom of the feed tubes are immersed in the effluent. The rate at which the tablets dissolve is regulated automatically by controlling the liquid height in the chlorinator and by varying the amount of tablets in contact with the liquid.

The outlet weir controls the liquid level inside the chlorinator housing. When the flow of the effluent increases, the liquid level in the chlorinator rises, covering more tablets and releasing more chlorine. When the flow decreases, the liquid level drops and, as a result, fewer chlorine tablets are immersed and less chlorine is released. Therefore, the rate at which the chlorine tablets dissolve is continuously adjusted to the effluent flow.

Specifications for the chlorinator are given in Appendix A, Page A-12.

2.6 SEWAGE EFFLUENT WATER SUMP PUMPS BA AND BB

The sewage effluent water sump pumps are vertical turbine pumps with a self-lubricated discharge column and a bowl assembly. The bowl assembly is furnished with semi-open impellers and is self-priming upon submergence of the first stage. The pump motors are induction type designed for across-the-line starting and continuous duty. A check valve is provided in the discharge piping of each pump to prevent backflow.

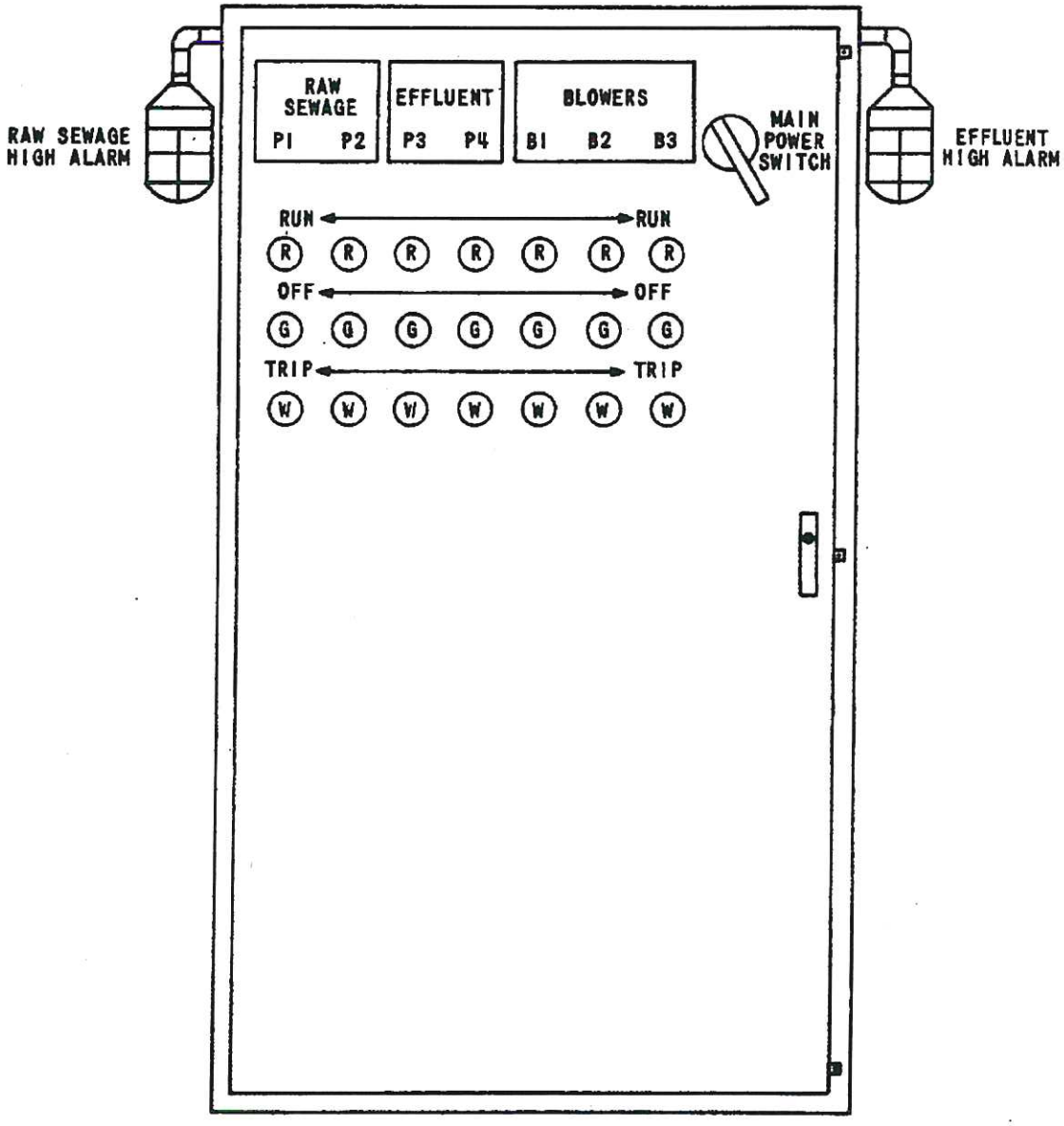
The pumps are controlled automatically by liquid level sensors in the sump or manually from the local control panel provided with the sewage treatment plant. The pump and motor specifications and performance curve are given in Appendix A, Pages A-14 and A-15.

Pressure Indicator B-ST-PI-01 provides local indication of the discharge pressure of the sump pumps.

2.7 SEWAGE TREATMENT SYSTEM CONTROL PANEL

The control panel has a single door on the panel front for access to the panel interior. A layout of the front of the control panel is shown on Figure 2-1.

In addition to the main power switch, status indicating lights for each sewage lift station grinder pump, sewage effluent water sump pump, and air blower are furnished on the panel front. A red light indicates that the corresponding pump or blower is running, a green light indicates that the corresponding pump or blower is off, and a white light indicates that the corresponding motor has tripped. The control panel also has two



NOTE: CONTROL SWITCHES FOR PUMPS AND BLOWERS ARE INTERNALLY LOCATED

SEWAGE TREATMENT
CONTROL PANEL LAYOUT
FIGURE 2-1

flashing red alarm lights: one indicates a high raw sewage level in the inlet sewage lift station, and the other indicates a high effluent level in the sewage effluent water sump. Selector switches for operation of the grinder pumps, blowers, and sump pumps are located inside the control panel.

2.8 SYSTEM CONTROL

In the automatic mode, the operation of the sewage, grinder, and sewage-effluent water sump pumps is controlled by displacement switches in the respective wet well. These switches do not float; they tip as the water level rises about them. The tipping of the case closes a mercury switch inside the case.

The low level ON displacement switch (B-ST-LSL-03), actuated when the water level in the yard sewage lift station wet well is 3 feet 6 inches from the bottom of the wet well (Elevation 352 feet), will start one of the sewage pumps. The pump will pump the wet well level down to the low level OFF displacement switch (B-ST-LSLL-03). The low level OFF switch will open, shutting off the sewage pump when the water level is 1 foot 6 inches from the bottom of the wet well. Should one pump fail to handle the flow to the wet well, the water level will rise to the high level ON displacement switch (B-ST-LSH-03). The high level ON switch will energize the second sewage pump when the water level is 4 feet from the bottom of the wet well. Both pumps will operate until the level in the wet well drops to the low level OFF switch which will stop both pumps. A high level alarm switch (B-ST-LSHH-03) is provided to alarm high level at the control panel and the Data Acquisition System (Point Number LMB-03) when the water level is about 4 feet 6 inches from the bottom of the wet well.

The displacement switches provided in the inlet sewage lift station and sewage effluent water sump control the operation of the grinder pumps and the sewage effluent water sump pumps, respectively, on the same principle as the one previously described for controlling the operation of the

sewage pumps. The corresponding level switches and set elevations are listed below.

	Displacement Switch	Switch Number	Set Elevation
Sewage Lift Station Grinder Pumps	LOW LEVEL ON	B-ST-LSH-02	5'-1"*
	LOW LEVEL OFF	B-ST-LSL-02	6"*
	HIGH LEVEL ON	B-ST-LSHH-02	6'-1"*
	HIGH LEVEL ALARM	B-ST-LSHH-05 (DAS LMB01)	10'-7"*
Sewage Effluent Water Sump	LOW LEVEL ON	B-ST-LSH-01	10'-0"*
	LOW LEVEL OFF	B-ST-LSL-01	6"*
	HIGH LEVEL ON	B-ST-LSHH-01	15'-0"*
	HIGH LEVEL ALARM	B-ST-LSHH-04 (DAS LMB02)	19'-6"*

*Set elevations are distances from the bottom of the wet well. Automatic alternators are provided to change the sequence of operation of the sewage lift station grinder pumps and sewage effluent water sump pumps.

The sewage treatment plant is controlled from the sewage treatment plant control panel. The operation of each air blower is controlled from its respective control panel switch. Each control switch has HAND-OFF-AUTO positions. During normal operation, the three switches will be in the AUTO position. A step sequence programmer will control the on and off operation of each blower according to a preset time schedule and duration. In the event that an operating blower motor overloads and trips, another blower will automatically start.

Individual HAND-OFF-AUTO control switches are provided in the control panel to control the operation of the sewage lift station grinder pumps and sewage effluent water sump pumps. During normal operation, all switches will be in the AUTO position. An alternating relay is provided for each set of pumps to alternate which pump will start first each time the pumps are stopped.

3.0 SYSTEM OPERATION

3.1 PREREQUISITES

- All power supply systems in service.
- All Sewage Treatment System instrumentation and control loops in service and isolation valves open.

3.2 PRECAUTIONS

- Familiarity with the Sewage Treatment System components and controls is essential for safe operation.
- The chlorine tablets are strong oxidizing agents and care should be taken in handling and storing the product. Proper care should be taken to avoid mixing or contamination of the tablets with combustible chemicals which will result in fire or explosion. Do not allow the chlorine tablets to come into contact with eyes, skin, mucous membranes, or clothing. Large quantities of cool water should be used to douse any fires or to wash contacted areas. The chlorine tablets should be handled with rubber gloves or metal utensils.

3.3 PROCEDURES

3.3.1 Startup

3.3.1.1 Sewage Lift Stations. To prevent damage to the pumps, the wet well should be thoroughly cleaned to remove debris before starting the lift station. Check to make sure that the displacement type switches are hanging freely.

To start the lift station, check to be sure that all of the circuit breakers are in the ON position.

Place the HAND-OFF-AUTO pump control switches in the AUTO position. Also, place the pump alternator switch in the ON position. Depending on the level in the wet well, either one or both of the pumps will start. If the sewage level in the wet well is above the low level ON displacement

switch, one of the pumps will begin to run immediately. When the sewage reaches the low level OFF displacement switch, the pump will shut off.

The lift station should be observed for several pumping cycles to ensure that the displacement switches are operating the pumps correctly. (It may be necessary to fill the wet well with a fire hose to observe the operation of the switches and pumps.)

3.3.1.2 Sewage Treatment Plant. Before allowing any liquid to discharge into the plant, be sure that all tanks, channels, launders, piping, and pieces of equipment are clean and are free of any debris such as pieces of wood, concrete, or leaves. Before starting the sewage treatment plant, read the operating and starting instructions carefully, and be sure that all manufacturer's recommendations have been satisfied.

The tanks should be filled with sewage or raw waste. When the system has achieved an effluent flow, all of the mechanical units, valves, piping, and adjustable units should be tested to see if they are performing properly. The blower should be operated at full capacity during establishment of plant effluent quality. (This may be several weeks.) The throttling valves on the air supply lines to the air lift pumps should be fully open during this period. Sludge return should be continuous during establishment of plant effluent quality. At this time, weirs should be adjusted while the plant is in operation. The surface of the liquid can be used as an accurate level. The launder weir should be adjusted so that the base of the notches is 1 inch below the surface of the liquid. The skimmer weir should be adjusted so that the base of the notches is 1-1/4 inch below the liquid level.

Most sewage treatment plants will operate efficiently within a few weeks without seeding. Seeding is the procedure of adding sludge containing activated solids and large numbers of bacteria to the aeration tank. When starting the sewage treatment plant in cold weather, or when the plant is at first not receiving a high percentage of the design load, seeding may be necessary. If the plant is to be seeded, sludge from the Unit 1 and 2 sewage treatment plant may be used. As the seed is being

added to the tank, and for a week thereafter, the aeration system should be operated at maximum capacity with the air lift throttling valves open fully. The aeration tank will foam voluminously during the first four to six weeks of operation. As the solids in the aeration tank build up, this foaming will decrease. Use of a chemical defoamant is recommended with about 0.5 to 1.0 ppm normally required. As the solids build up in the system, the color will change to a dark brown. The accompanying odor will be earthy. These conditions indicate that the sewage treatment plant is in good operating condition.

3.3.2 Normal Operation

3.3.2.1 Sewage Treatment Plant. Once the plant is in good operating condition, the operator need only check the plant on a routine basis, take note of any changes, and run the simple tests recommended herein. If any change in the color of the mixed liquor or other operating characteristic is noted, it should be recognized and steps taken as soon as possible to prevent a more serious condition from becoming established.

A small quantity of suspended solids will discharge continuously with the effluent during normal operation. To maintain the desired effluent quality, it may be necessary from time to time to remove excess solids. Excess solids should be pumped directly from the plant into a tank truck. Solids should be removed when the tests show a high level of sludge in the aeration tank and the presence of settled sludge in the clarifier effluent. The solids in the aeration tank should be reduced as much as possible, but not reduced to the level where foaming or a poor quality effluent will result.

A regular log should be kept of the plant operations indicating maintenance and test results in addition to noting unusual conditions.

The splitter box and bar screen operate without any daily adjustment, provided they are maintained according to manufacturer's recommendations. Check for the following in the routine inspection of the splitter box and bar screen.

- One source of odor may be an accumulation of rags and other debris on the splitter box or bar screen. Frequent removal (daily) and disposal will help to control the odor.

One of the keys to proper activated sludge operation is maintaining the correct dissolved oxygen (DO) concentration throughout the aeration tank. Two items are beneficial in assuring that the aerators supply the correct amount of oxygen. These are alternate sheaves for the blowers to adjust blower capacity and the dissolved oxygen test. As previously discussed, the aeration system should be operated at maximum capacity upon plant startup. This requires use of the belt sheaves which will provide 100 percent blower capacity. The alternate belt sheaves may be required after the sewage treatment plant's operation is established. This decision must be made based on the dissolved oxygen level in the aeration tank and sewage treatment plant performance.

Check for the following points in the routine inspection of the aeration tank.

- Observe the aeration tank surface for turbulence. The extent of surface activity will show if the contents are thoroughly mixed throughout the entire aeration tank. Areas showing no turbulence will indicate that mixing is not uniform throughout the aeration tank.
- The type of foam or scum on the aeration tank surface gives a clue to how well the process is working.
  - -- Only a modest accumulation of white, or at least light colored, crisp appearing foam is usually present on aeration tank surfaces when the plant is operating properly.
  - -- If the aeration tanks are covered by thick billows of white, sudsy foam, the sludge is probably too young. Unless the problem is severe, normal plant operating conditions should be maintained and the problem should resolve itself, although a chemical defoamant may be required to control the foam. Sludge may be added from another plant to offset this condition.

-- A dense and somewhat greasy scummy layer of deep tan to brown foam covering the entire aeration tank surface almost always indicates that the sludge is too old and possibly over oxidized. In this case, the aeration rate should be reduced. If the condition is severe, some of the sludge should be removed.

- At times, a poor quality, extremely dark brown colored sludge releasing hydrogen sulfide odors may be present in the aeration tank. The solution is to increase the aeration rate immediately to provide a 2 to 3 milligrams per liter (mg/l) dissolved oxygen level in the aeration tank.
- If DO level does not increase above 1.0 mg/l when the aeration equipment is operating at maximum capacity, it may be due to plugged air lines or high strength waste. Clean the air lines and diffusers. If this does not increase the DO, there may be some mechanical problems in the aeration system which should be investigated.
- Determine that sludge is being recycled to the aeration tank.

When the system is operating properly, the aeration tank liquor will generally have a dark brown color and will be accompanied by an earthy odor. During normal operation, the dissolved oxygen concentration should be 1 to 2 mg/l.

The final effluent and the clarifier water surface provide a good indicator of overall plant operation. The effluent should appear clear. The following are some of the more common characteristics of the sludge in the clarifier.

- Sludge bulking will appear as a uniform sludge blanket that lies a few inches below the surface of the entire clarifier and may even cause solids to be carried over the final effluent weirs. Sludge bulking is usually associated with young sludge. Sludge bulking may also be the result of deleterious contaminants in the wastewater being treated. Sludge may be added from another source if deemed necessary.

- Excessive sludge washout over the final effluent weirs, when the upper surface of the sludge blanket is more than 3 feet below the clarifier water surface and when sludge settles properly in the laboratory tests, should not be confused with sludge bulking. Solids washout is generally caused by hydraulic overloading. Sludge should be added from another source if the washout is excessive.
- At times, large masses of sludge, possibly 4 inches in diameter, may be seen rising, then bursting, and finally spreading over the clarifier surface. This indicates that the rising sludge is septic and may be the result of inadequate or infrequent scraping of the clarifier walls. The sides of the clarifier should be manually scraped so that the sludge will be picked up by the sludge return pump.
- Smaller sludge particles, usually deep brown to gray in color, may rise and then spread over the tank surface. This occurs when sludge is too old. Unless the condition is severe, normal operating conditions should be maintained and the problem should resolve itself. If the condition is severe, some of the sludge should be wasted. Reducing air discharge rate may also be helpful.
- At times, small, almost transparent, very light fluffy, buoyant sludge particles (1/8 to 1/4 inch in diameter) may rise to the clarifier surface near the outlet weir. This type of straggler floc is an indication that the sludge is too young. Unless the condition is severe, normal operating conditions should be maintained and the problem should resolve itself. If the condition is severe, sludge may be added from another source.
- Very small, compact pin floc, usually less than 1/32 of an inch in diameter, may be observed suspended throughout moderately turbid clarifier tank contents. This is a strong indication

that sludge is too old and that the sludge has become overoxidized. The settlometer test will confirm this if rapidly settling, discrete sludge particles appear as individual "grains" or granular rather than clumping together. The aeration rate should be reduced. If the condition is severe, some of the sludge should be wasted.

The condition of the return activated sludge (RAS) should be observed as it discharges into the aeration tank. A good RAS has a brown color, no offensive odor, and good settling in the clarifier prior to pumping to the aeration tank. A black and odorous sludge indicates that it has turned septic. Two possible causes are an excessively low rate of sludge return and not enough air supplied to the aeration tank. The first results in the sludge remaining in the clarifier too long and, since it does not receive aeration, the sludge turns septic. The throttling valve on the air supply line to the sludge return air lift pump should be adjusted accordingly. The aeration tank should be checked for dissolved oxygen (DO) to see if low DO (less than 1.0 mg/l) is the cause.

There are two air lift pumps, one for sludge return and the other for scum return from the skimming device in the clarifier.

Two possible problems associated with the air lift pumps are as follows.

- The point at which the air pipe joins the suction pipe may become clogged so that there is not sufficient air to operate the air lift.
- The entrance to the suction pipe may become blocked from a large concentration of solids or objects too large to be pumped.

These problems can be corrected by rodding. The lines may also be cleared by blowing back with air or water if rodding is unsuccessful; however, this will agitate the settled sludge in the clarifier which will result in a temporarily poor quality effluent.

The air lift pumps will not operate if the air line control valves vibrate shut. The valves should be checked periodically.

The weirs should be checked and cleaned daily.

The key to good clarifier performance is maintaining calm conditions so that the solids will settle to the bottom. Two things that might upset these calm conditions are as follows.

- Too high a sludge return rate reduces the residence time of the sludge in the clarifier and does not allow adequate settling. The solids will flow out over the effluent weir, resulting in a poor quality effluent.
- If a plant is operating at or above its hydraulic capacity, the wastewater is not detained long enough in the clarifier and the efficiency of the settling is affected.

The return activated sludge should be pumped either continuously at a steady rate or at regular intervals depending on the condition of the sludge. Normal operation will utilize continuous return. Manual control of the sludge return should be a correctional measure. Care must be taken not to pump the sludge so fast that it becomes too thin or disturbs the clarifier. Neither should it be so slow that the sludge blanket builds up and allows the sludge in the clarifier to go septic. The rate of return is adjusted by the throttling valve on the air supply line to the sludge return air lift pump.

All activated sludge plants build up excess sludge and require periodic wasting although extended aeration plants do not produce as much waste as other processes. Control tests, such as the settlometer and mixed liquor suspended solids (MLSS), should be used to determine when and how much to waste. The mixed liquor suspended solids concentration in the aeration tank should be maintained between 2,000 to 5,000 mg/l. It normally will be necessary to vary the amount of sludge as seasons change. Because the sludge is not as active in winter at low temperatures, the MLSS will need to be higher in the winter than in the summer.

Sludge age, which is controlled by the frequency of sludge wasting, indicates the approximate number of days that an average activated sludge particle remains in the system before being wasted. Too much sludge wasting reduces sludge age by increasing the relative amount of newly developed floc in the system. Too little wasting will increase the number

of days the sludge is kept in the system and will increase the relative amount of older sludge.

The following is a method for wasting sludge. Shut the return sludge pump off but still allow the mixed liquor to flow to the clarifier. This action concentrates the solids in the bottom of the clarifier. A portable pump may be used to transfer the sludge to a tank truck (if the tank truck is not equipped with a pump) for hauling to an approved site designated by the regulatory agency. Waste only while the operator is onsite to watch the operation.

If a hydraulic washout or excessive sludge removal causes a low sludge condition, it will be necessary to start over and build new activated sludge. Two options are available.

- See if some sludge can be taken from the neighboring activated sludge plant.
- Start from nothing by setting the return rate at maximum for 2 to 3 days. There will probably be foaming in the aeration tank and the chemical defoamant may be needed to keep it under control. It may take 8 to 12 days to get back to normal.

Sludge bulking may result from "toxic" or poison materials coming to the plant. The source must be found immediately and stopped. Plant startup may be done as described previously after the problem is found and corrected.

Disinfection of the wastewater by chlorine is a continuous process. The chlorinator operates without operator attention other than regular replacement of chlorine tablets and determination of chlorine residual in the effluent. The effluent chlorine residual is controlled by the detention time which is in turn controlled by the adjustment of the effluent weir. The optimum weir height must be determined on a trial and error basis and will be based on the chlorine residual. The chlorine residual should be maintained at approximately 1 mg/l. A low chlorine residual would indicate the need for a slightly longer detention time in the chlorinator, thus the effluent weir should be slightly raised. Conversely, a

high chlorine residual would require a shorter detention thus the weir should be lowered.

3.3.2.2 Tests and Interpretation of Results. The following tests will provide the necessary information required to maintain proper operation of the sewage treatment plant. With some experience, the operator should come to recognize early warning signs of poor operating conditions and prevent discharge of poor quality effluent.

3.3.2.2.1 Settleability test. This test should be conducted daily to assist the operator in routine process control and identification of specific problems. Use one of the following.

- Quart or liter jars (clear glass) marked with a vertical scale from 1 to 10.
- Graduated glass cylinders (1,000 milliliter capacity).

The test procedure is as follows.

(1) Fill one of two containers with mixed liquor (liquid from aeration chamber) and the other with liquid from the clarifier. It should be filled to the upper mark on the scale.

(2) Let container sit for 60 minutes.

(3) At 5, 30, and 60 minutes, record the following for each of the samples.

(a) Scale reading at top of settled sludge.

(b) Density of sludge (thick or light).

(c) Clarity of supernatant (clear or cloudy).

Example Calculations.

- Glass jar.

  (scale reading) x (10) = percent sludge volume.

- 1,000 ml graduated cylinder.

$$\frac{\text{(scale reading)}}{10} = \text{percent sludge volume.}$$

The test results may be interpreted based on the following guidelines.

Poorly Operating Plant

- Mixed liquor.
  - -- Turbid aeration tank supernatant, black sludge, and odor (plant not getting enough air).

-- Reddish color (overaeration).

-- Solids in jar rise within an hour after settling (overaeration).

-- Settleability after 5 minutes either above 80 percent or below 40 percent.

- Clarifier effluent.

-- Turbid clarifier supernatant. The sludge has gone septic due to remaining in clarifier too long. Sludge return line may be plugged.

Properly Operating Plant

- Mixed liquor.

-- Sludge will be dense and will stay settled for at least one hour.

-- The volume of settled sludge should be about 50 to 70 percent at 5 minutes, 35 to 50 percent at 30 minutes, and 30 to 40 percent at 60 minutes.

NOTE: These figures are typical values and will vary from plant to plant.

-- Supernatant should be clear.

- Clarifier effluent.

-- Slight "dusting" of sludge on bottom of jar.

-- Light solids suspended in a clear supernatant.

As time for sludge wasting approaches, the quantity of effluent solids settling will become significant in volume and should correlate with a high mixed liquor suspended solids volume.

3.3.2.2.2 Settlometer test. This weekly test is to observe sludge quality and to give the operator advance warning of the need to change process control.

One glass container equivalent to the 5-inch (13 cm) diameter, 6-inch (15 cm) depth, 2-liter Mallory "Settlometer" that is graduated in hundreds is needed.

The test procedure is as follows.

(1) Fill the container to the upper mark on the scale with a sample from the aeration tank with the least possible amount of additional aeration or disturbance.

(2) Stir contents gently and then dampen immediately with a wide paddle before starting timer.

(3) Read and record the volume occupied by the settled sludge every 5 minutes for the first 30 minutes and at 10-minute intervals for the second 30 minutes of the one-hour test.

NOTE: During the first five minutes, the operator should observe how the sludge particles come together while forming a blanket on the bottom.

Does the sludge compact slowly and uniformly while squeezing clear liquid from the sludge mass? This is an indication of good sludge.

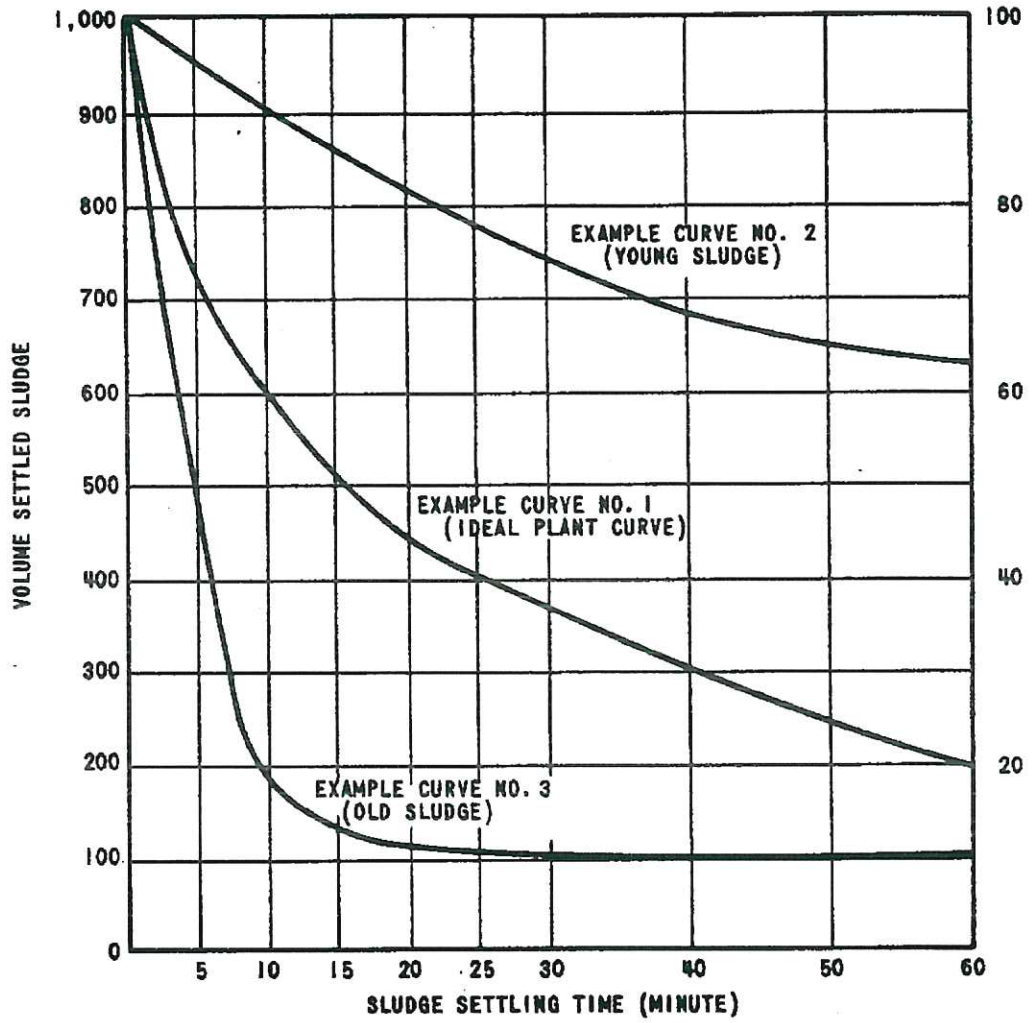
Do tightly knotted sludge particles fall down through a turbid supernatant? This indicates an old sludge in poor condition.

How much and what type of floc (sludge particles) if any, remains in the supernatant above the main sludge mass? Note types on daily log.

(4) At 60 minutes, the sludge characteristics should again be noted as this will show what the sludge will do in the clarifier. A sludge that starts rising again by the 60-minute time may be overaerated.

NOTE: A properly aerated sludge will not start rising to the surface until two to four hours after the test was started.

(5) Plot the sludge settling data as shown in Figure 3-1. A typical plant that is operating properly should develop a curve similar to Example Curve No. 1. In each plant, a particular curve will occur when all phases of the plant are operating well; i.e., clear effluent, good settling in the clarifier, proper color. This curve, reflecting good operation of the plant, becomes the curve that the operator strives to maintain.



NOTE: THIS CURVE WILL BE PARTICULAR FOR A GIVEN PLANT WITH GIVEN SEWAGE CHARACTERISTICS, AND SHOULD BE CONSTRUCTED FROM ACTUAL DATA WHEN ALL FACETS OF THE PLANT ARE OPERATING PROPERLY.

SETTLOMETER TEST RESULT EXAMPLE CURVES
FIGURE 3-1

The test results may be interpreted based on the following.

- Young Sludge--When the curve tends to rise from the ideal plant curve, as depicted in Example Curve No. 2, Figure 3-1 (usually accompanied by excessive white sudsy foam in the aeration tank), the sludge is probably young. If the condition is severe, the plant should be seeded with sludge from another source. No sludge should be removed during this period.

  Possible causes of this condition are too much sludge removed from the system or high organic load.

- Old Sludge--When the resulting curve drops down from the ideal plant curve, as depicted in Example Curve No. 3, Figure 3-1 (usually accompanied by thick, scummy, dark tan foam), the sludge is considered to be too old and the operator should have some of the sludge removed. Possible causes are reduced organic loading, long periods of overaeration, and retaining old sludge for long periods of time.

3.3.2.2.3 pH test. This test is used to determine if the wastewater is acidic or alkaline. The recommended procedures to follow for determination of pH are discussed in ASTM Standards, Part 31, Water; pH of Water, ASTM D1293, Method A.

A neutral pH is 7. Below that, an acidic condition exists and above 7, alkaline conditions exist. The most favorable pH for a biological system is between 6.5 and 7.5, but the aeration tank may have a range of 5 to 8. If the pH changes abnormally, it can be corrected by adding certain chemicals.

Low pH in the mixed liquor in plants with high sludge age may be caused by nitrification depleting alkalinity, particularly if the alkalinity of the raw waste is low (less than 100). Sodium bicarbonate may be added without causing problems. Check with regulatory personnel.

The pH of the mixed liquor should be determined and recorded on a weekly basis.

A low pH following clarification may indicate that the sludge is remaining too long in the clarifier. A low pH after chlorination may

indicate overchlorination. A chlorine residual test should be made to confirm any suspicion of overchlorination.

The pH of the sewage treatment plant effluent shall be tested as required by state and federal regulations and permits.

3.3.2.2.4 Residual chlorine test. This test is used to determine if the chlorinator is operating at a level to kill the bacteria before discharge of the wastewater. The recommended procedures to follow for determination of residual chlorine are discussed in ASTM Standards, Part 31, Water; Residual Chlorine in Wastewater, ASTM D1427.

The chlorine residual will typically be between 0.5 and 1.0 mg/l. If a coliform level is specified by the discharge permits, bacteriological tests should be made to determine the residual needed to achieve that coliform level.

The chlorine residual of plant effluent should be determined weekly, or more frequently if required by the state and federal discharge permits.

3.3.2.2.5 BOD_5 (5-day biochemical oxygen demand). This test is a measurement of the amount of oxygen required in a 5-day period by the microorganisms in digesting the soluble organic material in the wastewater. BOD_5 is used to present historic information on the efficiency of the treatment system in reducing the oxygen demand of the wastewater. The test is run on the effluent. Long-term trends can be observed by studying BOD_5 results. The recommended procedures to follow for determining the biochemical oxygen demand are discussed in Standard Methods for the Examination of Water and Wastewater, Method 507.

The BOD_5 of the sewage treatment plant effluent shall be tested as required by state and federal regulations and permits.

3.3.2.2.6 Suspended solids (SS). This test measures the amount of solids suspended in the wastewater. The SS test is run on the effluent. The recommended procedures to follow for determining the suspended solids concentration are discussed in Standard Methods for the Examination of Water and Wastewater, Method 208D.

The suspended solids of the sewage treatment plant effluent must be tested as required by state and federal regulations and permits.

3.3.2.2.7 Temperature. The temperature of the aeration tank contents should be taken weekly by reading the thermometer while it is submersed in the water. Temperature affects the efficiency of the biological process. Proper recording of the temperature aids the operator in detecting long-term trends.

3.3.2.2.8 Mixed liquor suspended solids (MLSS). The test for MLSS measures the amount of solids in the aeration tank which, in turn, gives an indication of the amount of sludge present. The laboratory procedure for this determination is the same as that for suspended solids. The activated sludge process is controlled by maintaining certain levels of MLSS. In extended aeration plants, the mixed liquor suspended solids concentration should be about 2,000 to 5,000 mg/l. The mixed liquor suspended solids should be determined and recorded on a weekly basis.

3.3.2.2.9 Dissolved oxygen (DO). Dissolved oxygen in the aeration tank should be determined and recorded on a weekly basis. It is important to maintain proper DO levels in the aeration basin for an activated sludge process to work. The recommended procedures to follow for determining the dissolved oxygen concentration are discussed in ASTM Standards, Part 31, Water; Dissolved Oxygen in Wastewater, ASTM D1589 Method C. A dissolved oxygen level between 1 to 2 mg/l should usually be maintained in the aeration tank.

4.0 REFERENCE MATERIAL

- Logic Diagram, B-J-1ST-060.
- Piping and Instrument Diagram, B-M-1ST-060.
- LCRA Drawing 348-I-1.
- Arrangement Drawings, LCRA Drawings 348-A-1 through 348-A-4.
- Equipment Vendor's Instruction Manual, Smith Pump Company, Inc., Instruction Manual for Sewage Treatment System.

APPENDIX A
SPECIFICATIONS AND DRAWINGS

DATA ACQUISITION SYSTEM AND ALARM POINT LIST

DAS Point	Description	Initiating Device	Window Number	Alarm Description
PMB51	SEWAGE TREATMENT BLOWER A TRIP	B-ST-PSL-11A	-	-
PMB52	SEWAGE TREATMENT BLOWER B TRIP	B-ST-PSL-11B	-	-
PMB53	SEWAGE TREATMENT BLOWER C TRIP	B-ST-PSL-11C	-	-
LMB03	SEWAGE LIFT STATION HIGH LEVEL	B-ST-LSHH-03	-	-
LMB02	SEWAGE EFFLUENT SUMP LEVEL HIGH	B-ST-LSHH-04	-	-
LMB01	SEWAGE LIFT STATION GRINDER PUMP SUMP LEVEL HIGH	B-ST-LSHH-05	-	-

BREAKER LOCATIONS

Device	Associated Breaker
Sewage Treatment Panel	480V MCC B1A1

SEWAGE PUMPS SPECIFICATIONS

Equipment Numbers	BP3-A-48 and BP3-B-48
Manufacturer	_____
Model Number	_____
Design Capacity	_____
Materials of Construction	
Shaft	_____
Impeller	_____
Seal Type	_____
Lubrication	_____
Motor	
Equipment Numbers	MBP3-A-48 and MBP3-B-48
Manufacturer	_____
Horsepower	2
Speed	1,800 rpm
Electrical requirements	460 volts, 3-phase, 60 hertz

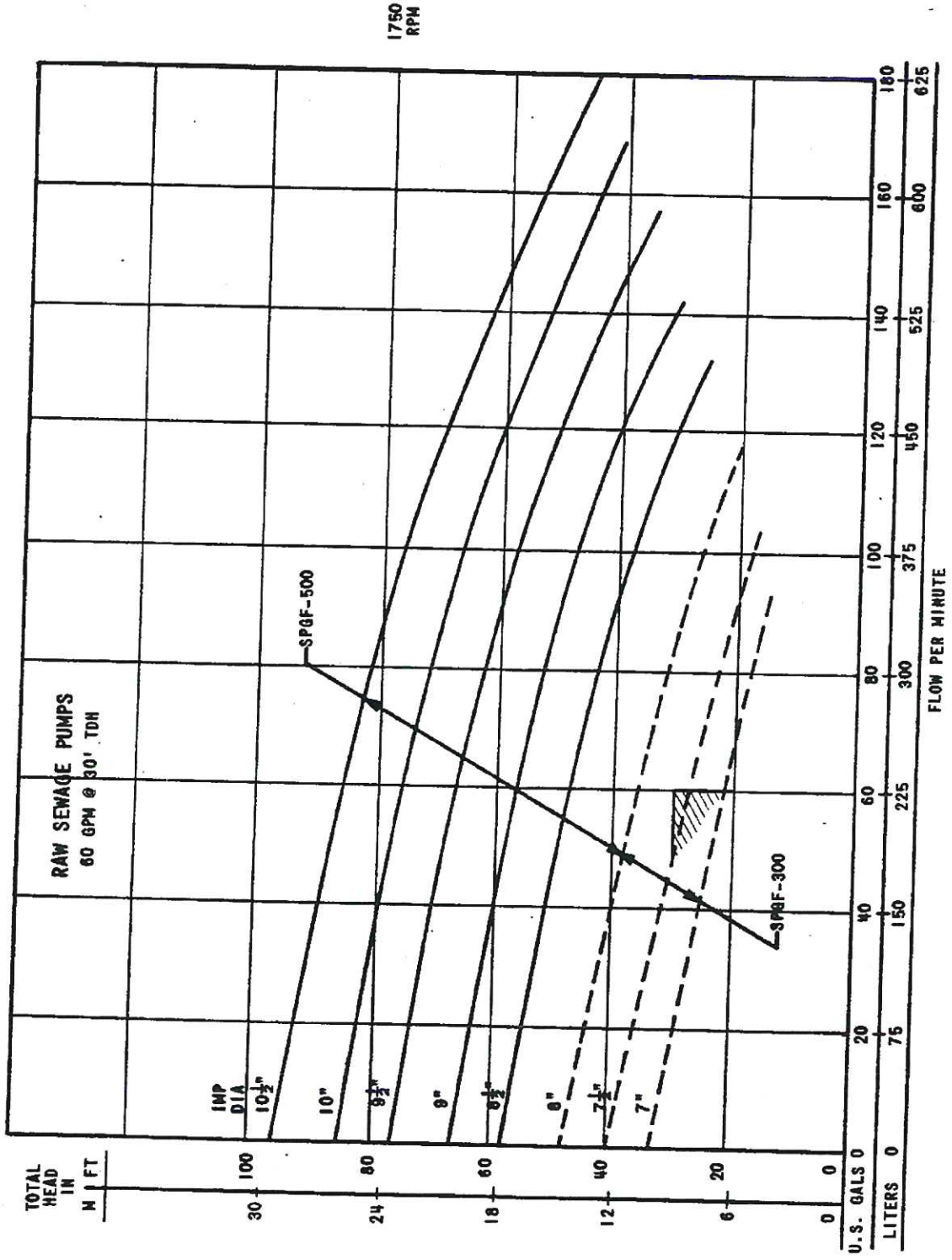
SEWAGE PUMP PERFORMANCE CURVES

(LATER)

SEWAGE LIFT STATION GRINDER PUMP SPECIFICATIONS

Equipment Numbers	BP2-A-48 and BP2-B-48
Manufacturer	Hydromatic
Model Number	SPGF-300
Design Capacity	60 gpm at 30 feet
Materials of Construction	
Shaft	416 SS
Impeller	Bronze
Grinder assembly	Stainless steel
Seal Type	Mechanical
Lubrication	Oil
Motor	
Equipment Numbers	MBP2-A-48 and MBP2-B-48
Manufacturer	Hydromatic
Horsepower	3
Speed	1,800 rpm
Electrical requirements	460 volts, 3-phase, 60 hertz

SEWAGE LIFT STATION GRINDER
PUMP PERFORMANCE CURVE



AERATION TANK SPECIFICATIONS

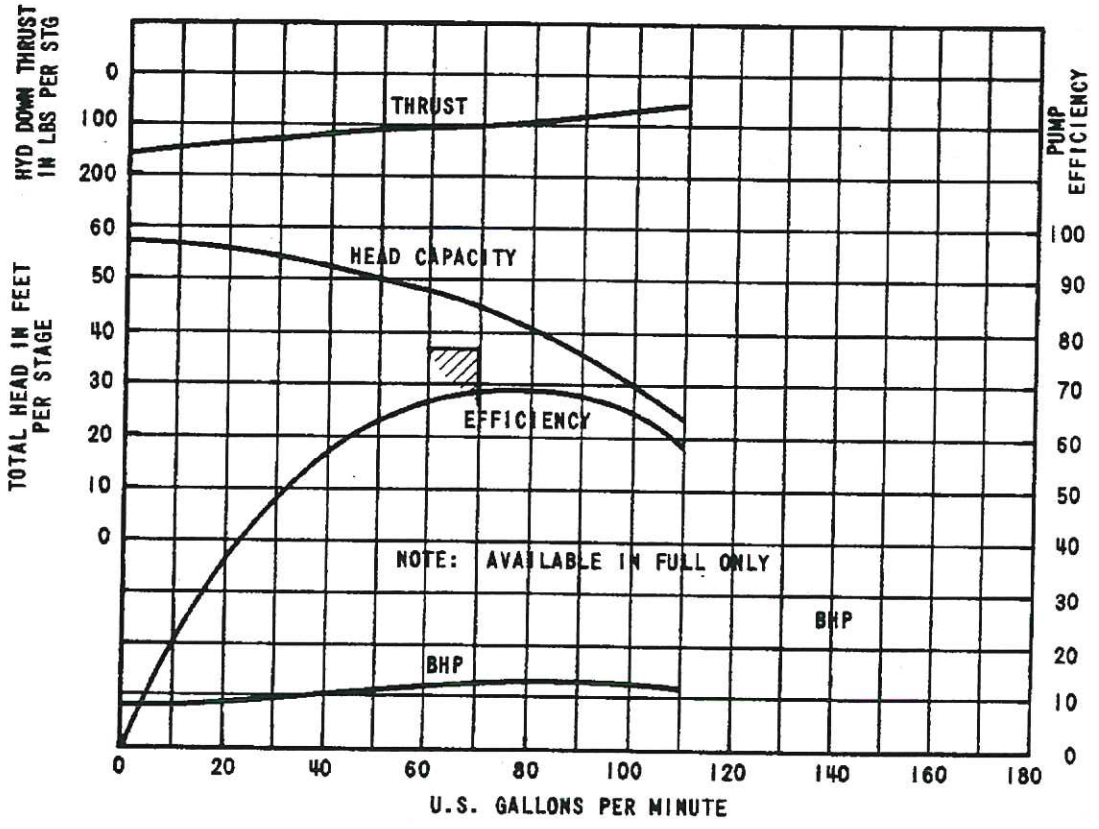
Equipment Numbers	BV2-48 and BV3-48
Tank Size	16'-1" L x 10'-0" W x 11'-6" D
Volumetric Loading	12,000 gallons
Retention Time at Maximum Daily Loading (MDL)	24 hours
Five-Day BOD Concentration at MDL per 1,000 Cubic Feet--Volumetric Load	15
Aeration at MDL, Cubic Feet of Air per Pound of Five-Day BOD	1.4
Features	Inlet bar screen with removable drip tray, air diffusers

CLARIFIER SPECIFICATIONS

Equipment Numbers	BJ2-48 and BJ3-48
Tank Size	10'-1" L x 10'-1" W x 11'-6" D
Capacity	4,075 gallons, each
Surface Area	100.8 square feet, each
Surface Settling Rate at MDL	1,000 gpd per square foot
Effluent Weir Loading at MDL	
Design	2,400 gpd per square foot
Peak	10,080 gpd per square foot
Retention Time at MDL	8.15 hours
Features	
Surface skimmer	
Capacity	60 gph
Discharge pipe diameter	2 inches
Design air requirement	5 cfm
Air lift sludge pump	
Capacity	Adjustable
Discharge pipe diameter	3 inches
Design air requirement	5 cfm
Scum baffle, effluent trough with adjustable weir, adjustable scum cone, stilling baffle	

AIR BLOWER SPECIFICATIONS

Equipment Numbers	BQ1-A-48, BQ1-B-48, and BQ1-C-48
Manufacturer	Roots
Model Number	AF-33
Type	Rotary positive blowers
Design Capacity	66 cfm at 6 psi at 1,720 rpm
Motor	
Equipment Numbers	MBQ1-A-48, MBQ1-B-48, and MBQ1-C-48
Manufacturer	
Horsepower	5
Speed	1,800 rpm
Enclosure	TEFC
Electrical requirements	460 volt, 3-phase, 60 hertz
Features	Inlet air filter silencer, weighted PRV, Technocheck check valve, hinged and louvered fabricated reinforced fiberglass housing



EFFLUENT PUMPS
70 GPM @ 110' (3 - STG)

AIR BLOWER PERFORMANCE CURVE

CHLORINATOR SPECIFICATIONS

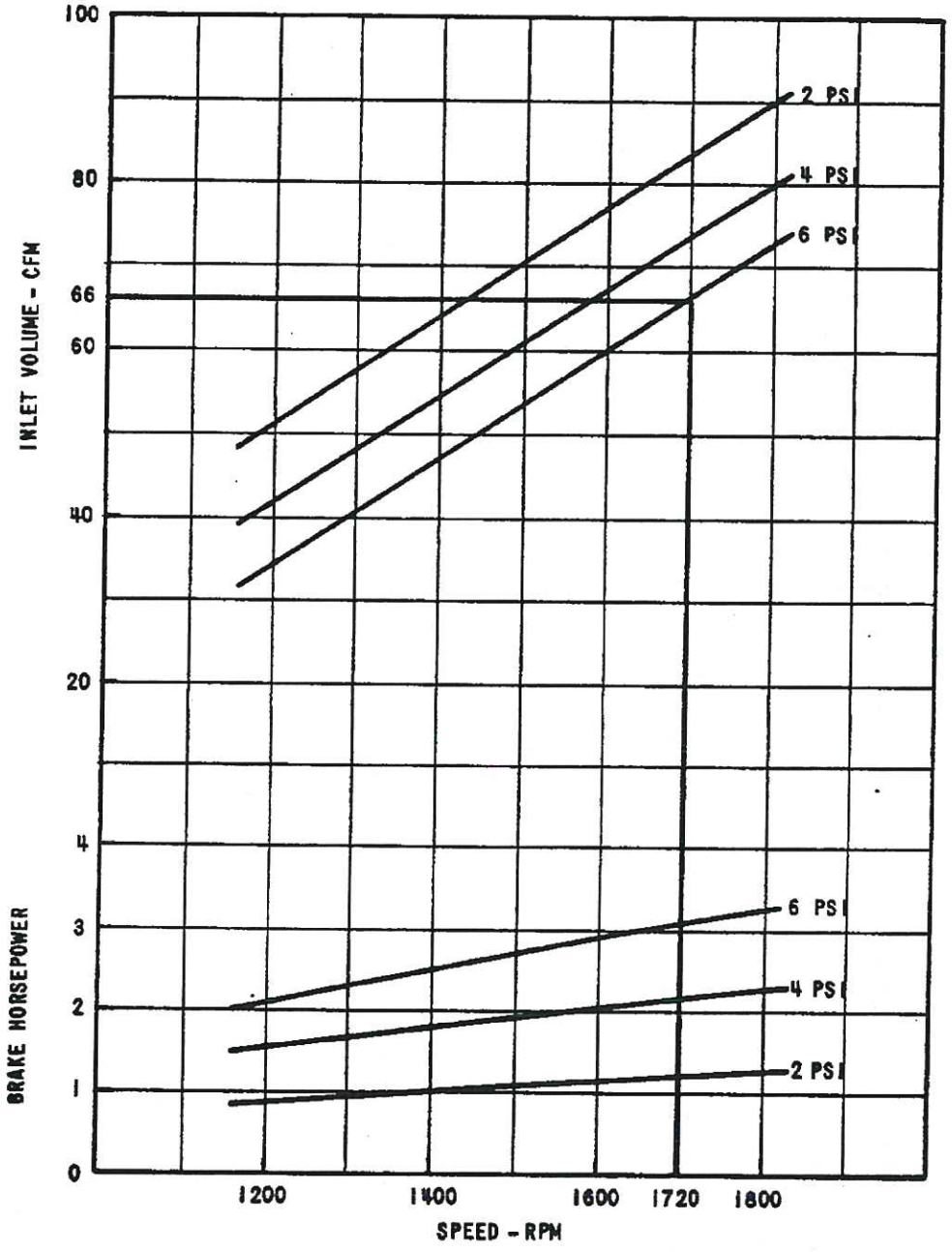
Equipment Number	BW2-48
Manufacturer	Sanuril
Model Number	1000
Capacity	50,000 gpd
Materials of Construction	Fiberglass
Features	Inlet baffle, outlet weir, four tablet feed tubes

CHLORINE CONTACT TANK SPECIFICATIONS

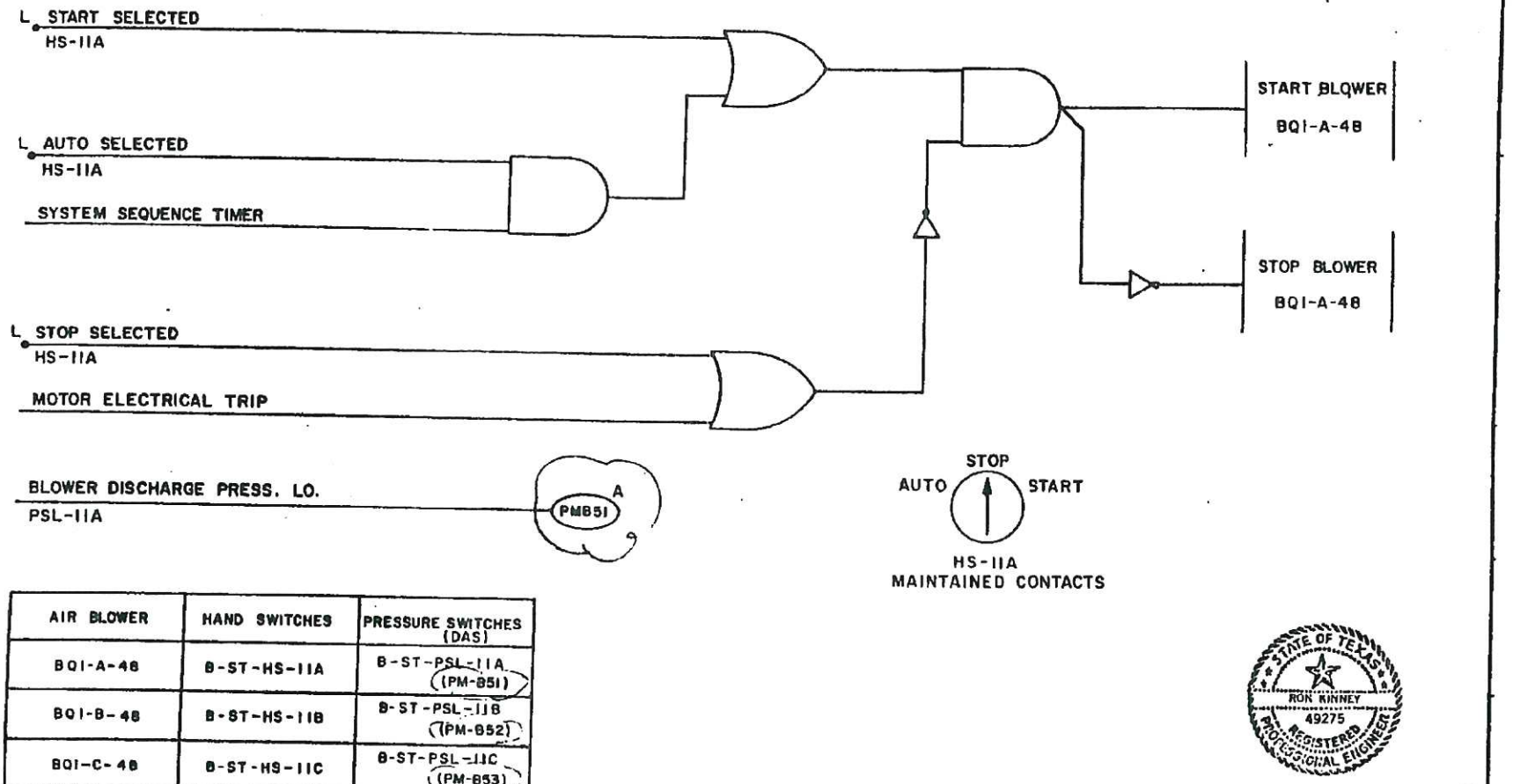
Equipment Number	BV1-48
Tank Size	10'-0" L x 5'-0" W x 3'-9" H
Capacity	1,400 gallons
Diameter Inlet	6 inches
Diameter Outlet	6 inches
Features	Mixing baffles, 22-1/2 degree V-notch weir

SEWAGE EFFLUENT WATER SUMP PUMP SPECIFICATIONS

Equipment Number	BP1-A-48 and BP1-B-48
Manufacturer	Byron Jackson Pump Division
Model Number	5.5 GL
Capacity	70 gpm at 110 feet
Number of Stages	3
Type	Vertical turbine pumps
Materials of Construction	
Impeller	Bronze
Shaft	Carbon steel
Motor	
Equipment Numbers	MBP1-A-48 and MBP1-B-48
Manufacturer	
Horsepower	5
Speed	3,600 rpm
Electrical requirements	460 volt, 3-phase, 60 hertz
Features	Self-lube column, bowl assembly



SEWAGE EFFLUENT WATER
SUMP PUMP CURVES



AIR BLOWER	HAND SWITCHES	PRESSURE SWITCHES (DAS)
BQ1-A-48	B-ST-HS-11A	B-ST-PSL-11A (PM-851)
BQ1-B-48	B-ST-HS-11B	B-ST-PSL-11B (PM-852)
BQ1-C-48	B-ST-HS-11C	B-ST-PSL-11C (PM-853)

STATE OF TEXAS
RON KINNEY
49275
REGISTERED
PROFESSIONAL ENGINEER

Rev	Date	Description	By	Chkd	Appd	Appd
1	11/6/84	REVISED AS NOTED	J.C.W.	BLK		
0	5/26/84	ISSUE FOR CONSTRUCTION	J.C.W.			

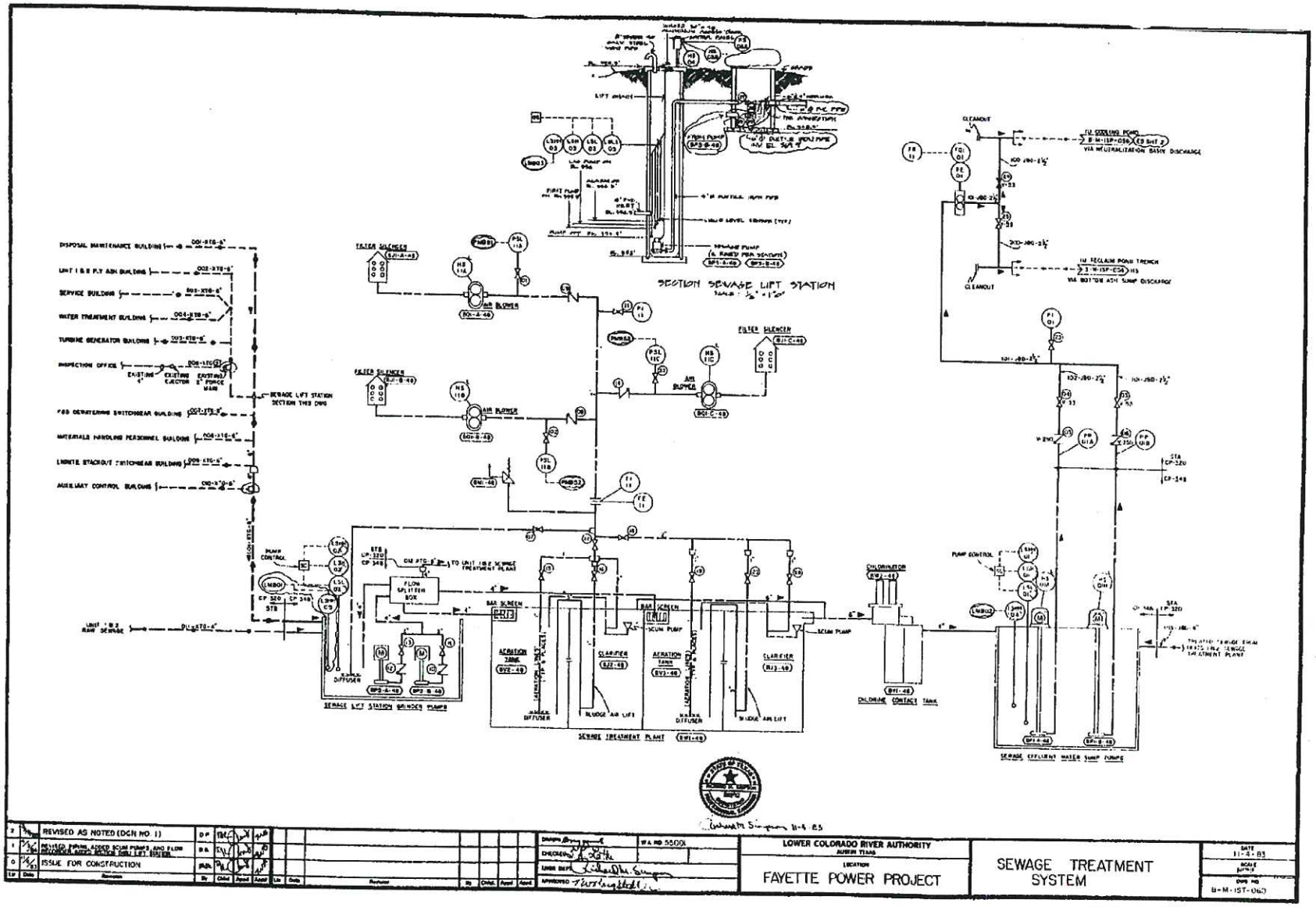
DRAWN L.C. WOOD W.A. NO.
CHECKED
ENGR DEPT.
APPROVED

LOWER COLORADO RIVER AUTHORITY
AUSTIN, TEXAS

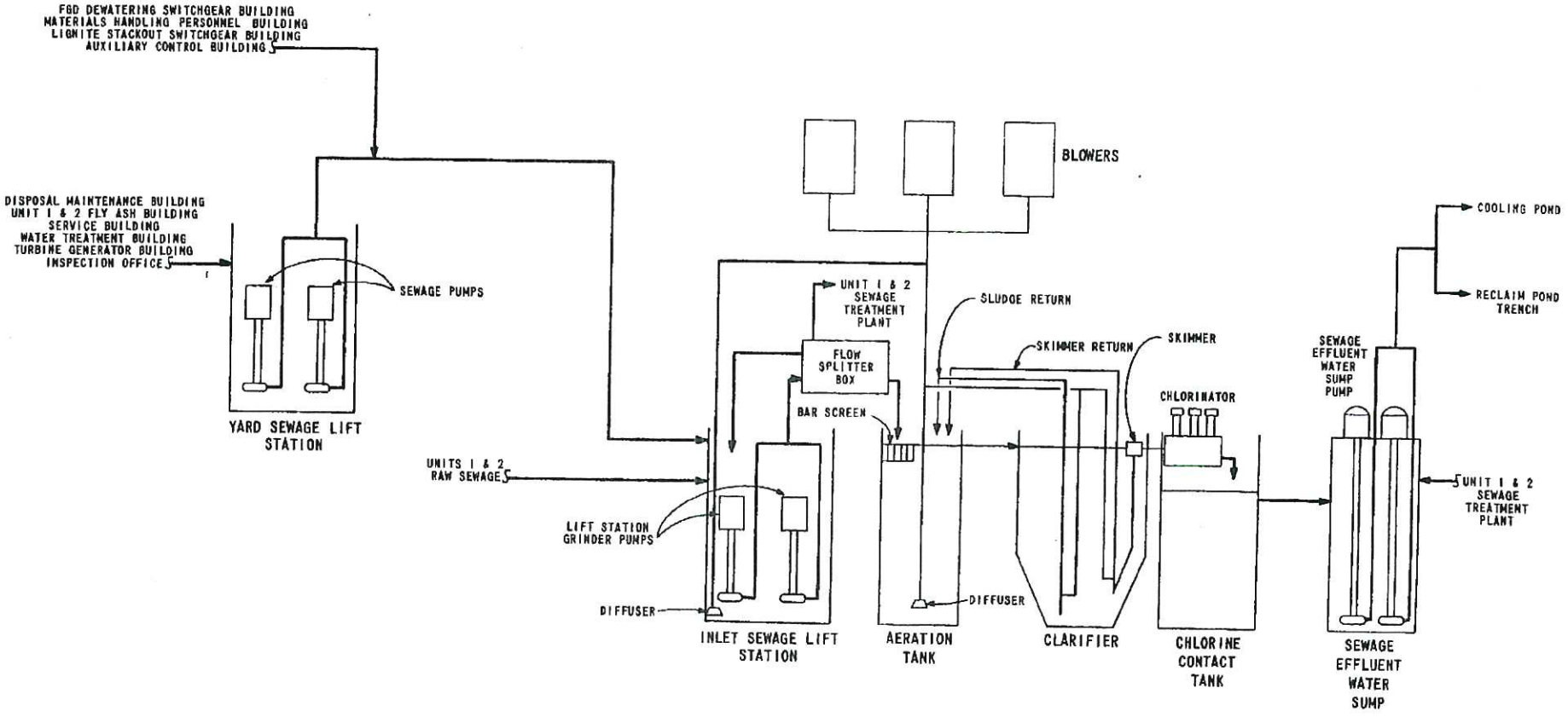
FAYETTE POWER PROJECT

SEWAGE TREATMENT AIR BLOWER

DATE 5-23-83
SCALE N.A.
DWG. NO. B-J-1ST-060



10439.93.1920
LCRA 010686-1



SEWAGE TREATMENT SYSTEM FLOW DIAGRAM
FIGURE 1-1

ATTACHMENT: FPP-TECH-15 Cooling Water

Worksheet 11.0: Cooling Water Intake Information

ITEM 1: COOLING WATER SYSTEM DATA

Item 1(b)(1): Narrative Description

The Sam Seymour Fayette Power Project (FPP) is a coal-fired power plant with three generating units operated by the Lower Colorado River Authority (LCRA). Units 1 and 2 are co-owned by LCRA and the City of Austin, and Unit 3 is owned solely by the LCRA. FPP is located at 6549 Power Plant Road, adjacent to the south shore of Lake Fayette (formerly named Cedar Creek Reservoir), approximately two miles north of State Highway 71, and seven miles east of the City of La Grange, Fayette County, Texas 78945.

In 1975, Lake Fayette and the associated dam were authorized by the Texas Commission on Environmental Quality (TCEQ) water rights Permit No. 3175 to impound water for industrial purposes (power plant operation and cooling). The impoundment was formed in Cedar Creek and is approximately 2,400 acres formed by earth dams and includes a main embankment (dam), baffle dike, intake and discharge canals, and high-water level discharge structure. The normal operating elevation is 390 feet above mean sea level (msl) and when filled to this level, the lake contains approximately 70,000 acre-feet of water. The FPP plant withdraws raw water from the lake, which is primarily used for once-through cooling of the main condensers and equipment. The water is discharged back into the lake via a discharge canal to be atmospherically cooled. A baffle dike separates the discharge area from the intake area of the lake.

LCRA's authorization for the impoundment requires a minimum discharge from the lake into Cedar Creek of 0.5 cubic feet per second (cfs). The impoundment has a high-level discharge structure located near the dam. When the water reaches a high level, the water discharges into Cedar Creek. The high-level discharge structure also contains a conduit that allows continuous flow from Lake Fayette to Cedar Creek to maintain the minimum flow requirement.

A river pumping station is installed on the Colorado River approximately 4.3 air miles from the FPP, which supplies make-up water to the impoundment via a river pump station and a 42-inch pipeline. The river pump station releases the water into the FPP discharge canal (FPP Data Book, Volume 1).

See **Figures 1 and 2** for the cooling water system, including Lake Fayette and the pump station on the Colorado River.

FPP units 1, 2 and 3 are currently operational. The units supply energy continuously throughout the year to meet the minimum levels of demand of the Texas electrical grid. However, the amount of electricity supplied swings between low seasonal load and high seasonal load depending on demand. Power demand is typically highest in summer and therefore cooling water demand is typically highest in the summer.

Item 1(b)(2): Maps

Maps are included as **Figure 1, 2, and 3**. The elevation of the intake canal for Units 1, 2, and 3 located on Lake Fayette is approximately 366 feet above msl. The bottom edge of the intake pipes (suction bell) of circulating water pumps are located at approximately 380 feet above msl for Units 1 and 2 and 377 feet above msl for Unit 3. The normal operating elevation of the lake surface is 390 feet above msl and the design of the system

is at a minimum water level of 388 feet above msl and a maximum water level of 396 feet above msl feet. Also see **Figure 4** for the elevations of the intake pipes for Units 1, 2, and 3.

The river pump station is located on the Colorado River. The river pump station is designed to be operated at a minimum water level of the Colorado River at 202 feet above msl, an average water level at 206.0 feet above msl, and a 100-year flood event of 239.5 feet above msl. The bottom of the sump that houses the river pump is at 192 feet above msl, which is below the river bottom elevation located at approximately 198 feet above msl. See **Figure 6** for the elevations of the intake pipe at the river pump station.

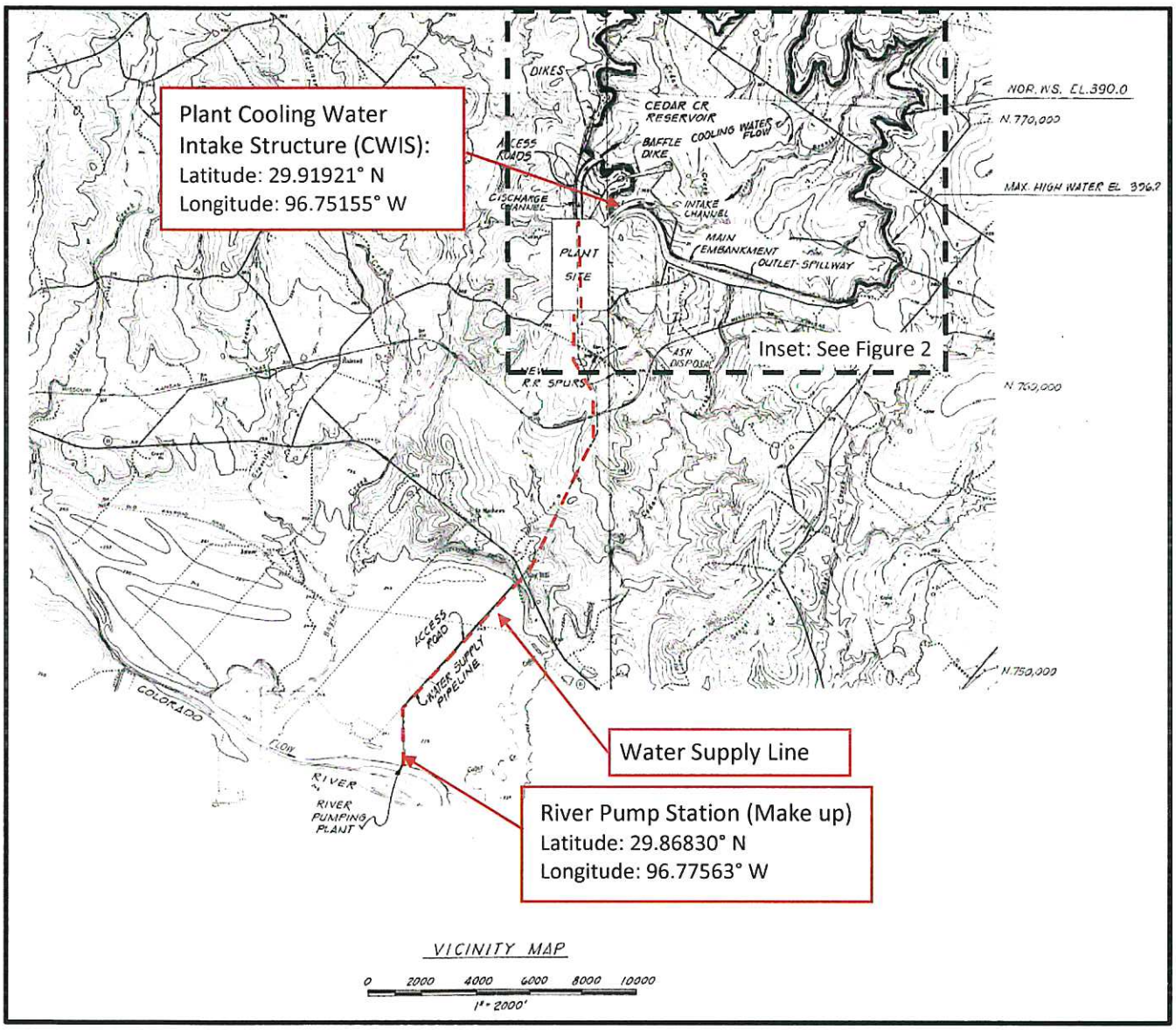


Figure 1: General Location Map of Power Plant CWIS, River Pump Station, and Water Supply Line

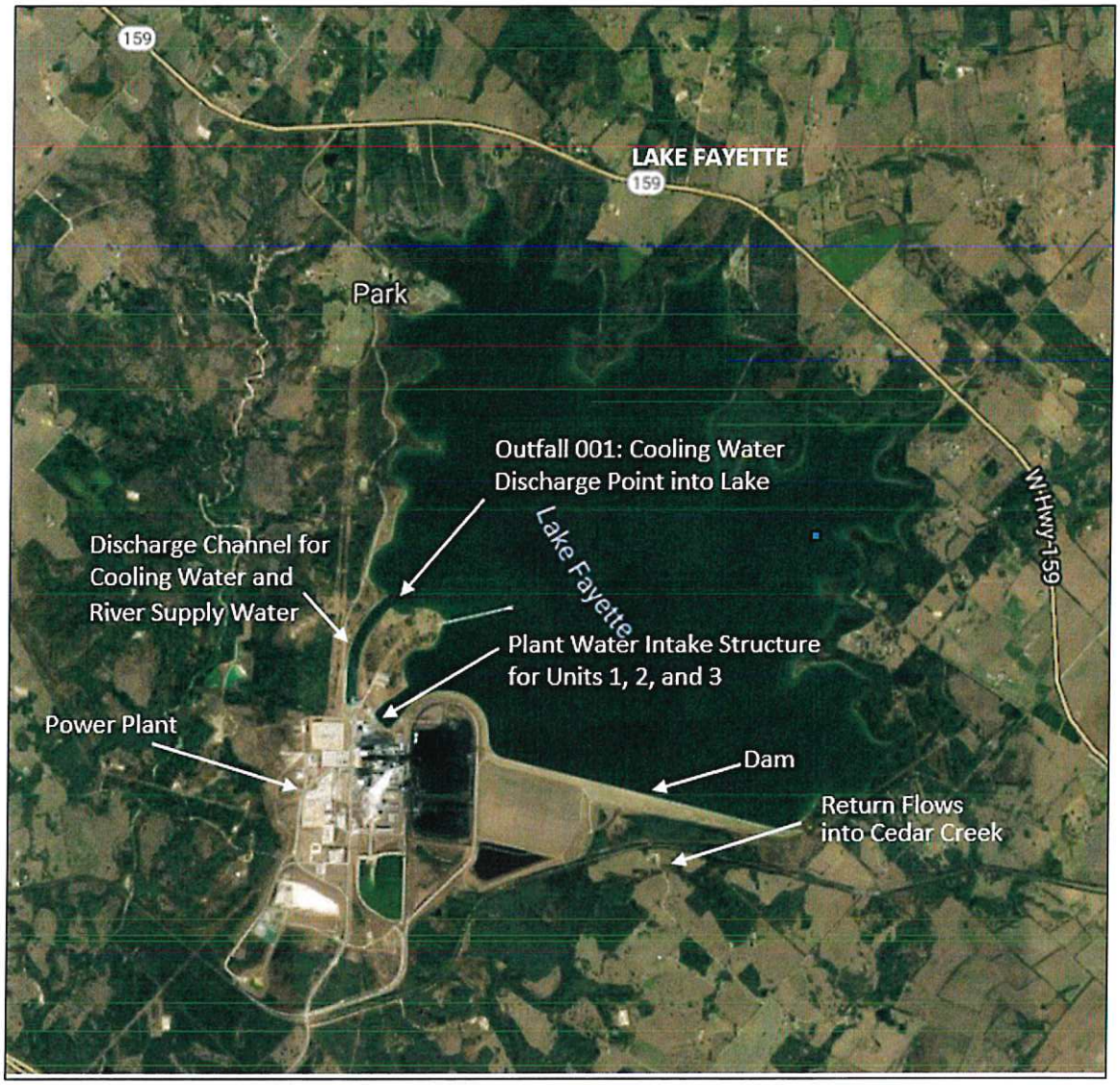


Figure 2: Map of Lake Fayette Impoundment and Power Plant

Item 1(b)(3): Water Reuse

Lake Fayette is designed as a recirculating system, and water is continually recirculated and reused as cooling water for the plant. Lake water is also used for scrubber make-up water. The scrubber also uses water from the Reclaim Pond which recirculates through the scrubbers and back to the Reclaim Pond. The Reclaim Pond also may receive water from the Coal Pile Runoff pond and other plant processes.

Item 1(b)(4): Calculations and Data to Support AIF and DIF

Engineering and operating staff at FPP have provided data for this report. The design data is based on pump manufacturer data, pump curves, and engineering calculations. The actual flow is calculated from manufacturer data and operating hours. Pump curves and engineering calculations are provided in Attachment FPP-TECH-18.

Item 1(b)(5): Daily Actual Intake Flow (AIF) for 12 Months at FPP's Plant Intake Structure

Table 1: Actual Intake Flow Per Day (in Million Gallons) of Cooling Water in 2024

	2024											
Day/Mon	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
1	821	824	824	1138	1138	1046	1157	1157	1157	1047	740	729
2	821	825	824	1136	1051	1046	1157	1157	1157	1033	740	716
3	815	832	824	1130	1027	1103	1157	1157	1157	946	740	729
4	820	832	824	1130	799	1038	1157	1157	1157	753	740	729
5	824	826	825	1130	746	1121	1157	1157	1157	748	740	729
6	825	824	826	1136	746	1157	1157	1157	1157	748	740	729
7	824	825	831	1130	887	1157	1157	1157	1157	748	740	729
8	824	825	866	1130	1020	1157	1052	1157	1157	748	740	729
9	824	825	916	1111	1136	1157	1038	1157	1157	748	740	729
10	824	824	916	1071	1138	1157	1038	1157	1157	748	740	729
11	824	824	896	1082	1087	1157	1024	1157	1157	748	740	729
12	824	824	910	1130	943	1157	797	1157	1157	748	740	729
13	824	824	908	1130	829	1157	1038	1157	1157	748	740	729
14	829	824	908	1130	820	1157	1038	1157	1157	740	740	734
15	837	824	911	1130	820	1157	1084	1101	1157	740	740	535
16	843	824	909	1130	820	1157	1157	1101	1157	740	740	535
17	829	824	908	1130	926	1157	1157	1157	1157	740	740	535
18	824	824	908	1105	1054	1157	1157	1157	1157	740	740	535
19	824	824	908	1019	1097	1157	1157	1157	1157	740	732	535
20	824	824	908	948	1138	1157	1157	1157	1157	740	729	535
21	824	824	977	817	1141	1157	1157	1157	1157	740	729	535
22	816	824	1019	740	1146	1157	1157	1105	1157	740	729	535
23	816	824	1019	738	1146	1157	1157	1104	1157	740	729	535
24	816	824	1019	738	1146	1157	1157	1103	1157	740	729	535
25	816	824	1019	738	1146	1157	1157	1109	1157	740	729	535
26	816	824	1019	745	1146	1157	1157	1157	1157	740	729	535
27	816	824	1019	781	1146	1157	1157	1157	1157	740	729	624
28	821	824	1052	935	1154	1157	1157	1157	1157	740	729	824
29	824	824	1130	950	1157	1157	1157	1157	1157	740	729	824
30	824		1136	1089	1157	1157	1157	1157	1157	740	729	824
31	824		1133		1054		1157	1157		740		824

Item 1(b)(6): Impingement and Entrainment Technologies and Operation Measures

According to the EPA, a Closed Cycle Recirculating System (CCRS) is an option to achieve BTA for impingement mortality reduction, as long as make up withdrawals are minimized (40 CFR 125.92(c)(2)). FPP utilizes a CCRS cooling water impoundment as defined by EPA and minimizes make up water by reusing scrubber water via the Reclaim Pond system. See **Figure 5** for a copy of the letter received from TCEQ approving Lake Fayette as a CCRS. The CCRS also serves as an entrainment technology because water in the lake is recirculated for continual reuse as plant cooling water.

ITEM 2: COOLING WATER INTAKE STRUCTURE(S)

Item 2(b)(1): Narrative Description

Plant CWIS: FPP consists of three generating units, Unit 1, Unit 2 and Unit 3. Units 1 and 2 share a common cooling water intake structure (CWIS) and Unit 3 CWIS is adjacent to Units 1 and 2 CWIS. The Unit 3 intake structure was designed to accommodate an additional generating unit, which has not been built. The intake structures operate year-round when the FPP power generating units are running, which are dispatched in response to demand and the Texas electricity market. The location of the intake structures in the water body and water column are depicted in **Figure 3** and **Figure 4**. The existing CWIS consists of the following:

- An intake embayment, which is an intake canal that is approximately 300 yards in length and maintains a depth of about 25 feet into the reservoir (see **Figure 3**);
- Trash rack (bar screens);
- Nine cement-lined water-withdrawal bays (three for each unit);
- 3/8-inch square mesh traveling water screens;
- Sluiceways (wash-water return trough), sumps and debris collection baskets;
- Circulating, cooling, and wash water (firewater) pumps.

Each of the generating units is equipped with three circulating pumps and three cooling water pumps. The circulating water pumps are used for once-through cooling for the main condensers, and the cooling water pumps provide water to cool equipment. One circulating pump and one cooling-water pump are paired together in a single water-withdrawal bay, and three bays accompany each unit, for a total of nine bays.

Each of the Units 1 and 2 circulating pumps have an operating flow rating of 89,500 gallons per minute (gpm). The Units 1 and 2 cooling water pumps each have an operating flow rating of 6,000 gpm. The Unit 3 circulating water pumps have an operating flow rating of 76,000 gpm, and the Unit 3 cooling water pump has an operating flow rating of 7,600 gpm. Unit 3 also has a service water pump, which has an operating flow rating of 1,200 gpm.

Each of the nine water withdrawal bays is fitted with a traveling screen. The screens are chain driven by a motor. A splash housing encloses the traveling screen on top. Inside the splash housing are spray nozzles that spray water on the screen as it turns to clean off any debris on the screen. The traveling screen extends down into the water between the intake canal and the bay from which various pumps draw water. The screens help to prevent debris from entering into the bay, which could potentially damage the pumps and/or plug condenser and heat exchanger tubes and other heat transfer equipment.

Each unit has three 110 HP screen-wash pumps that withdraw water from two bays of Unit 1 and one bay of Unit 2. In addition, Unit 3 is equipped with a firewater/service-water pump in each bay.

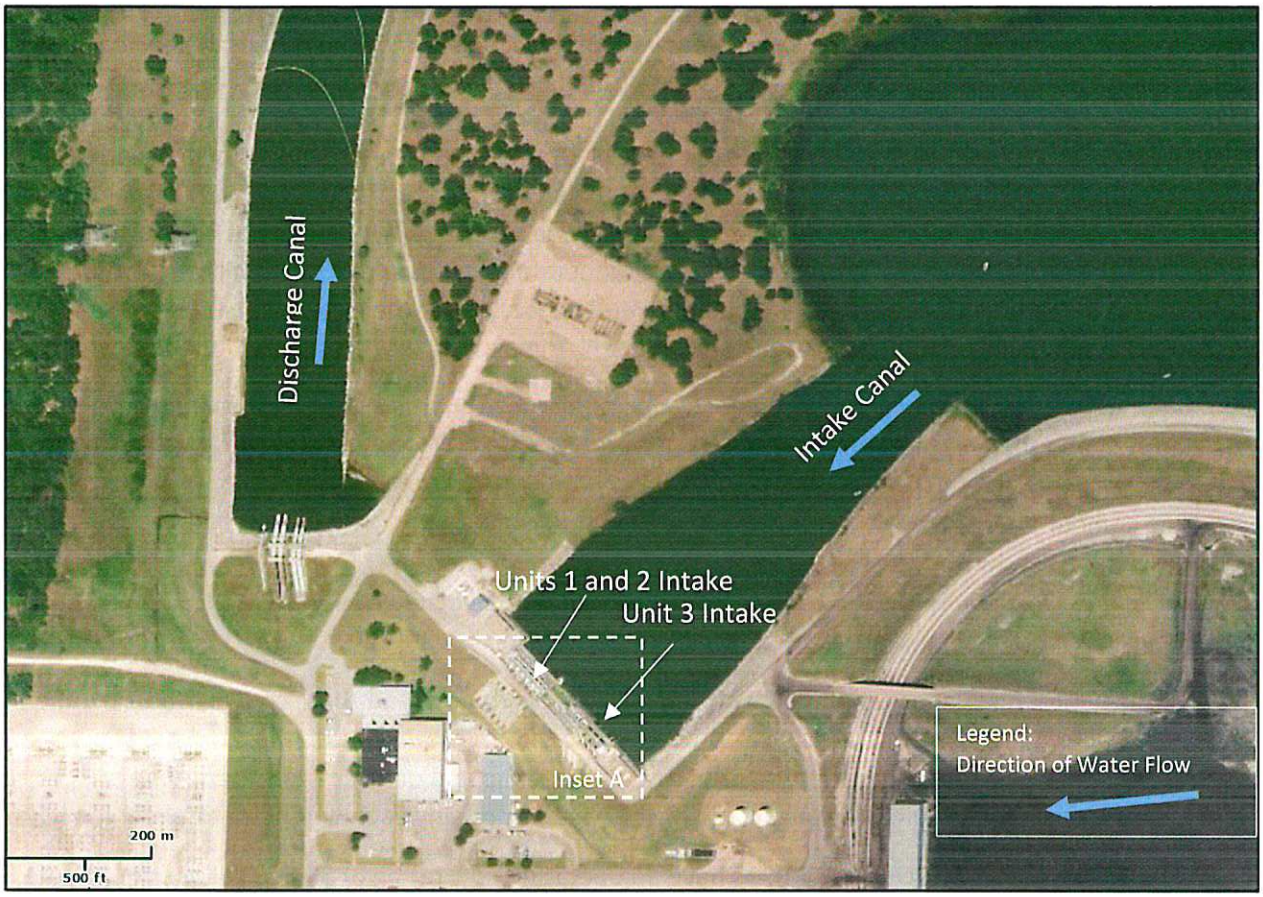
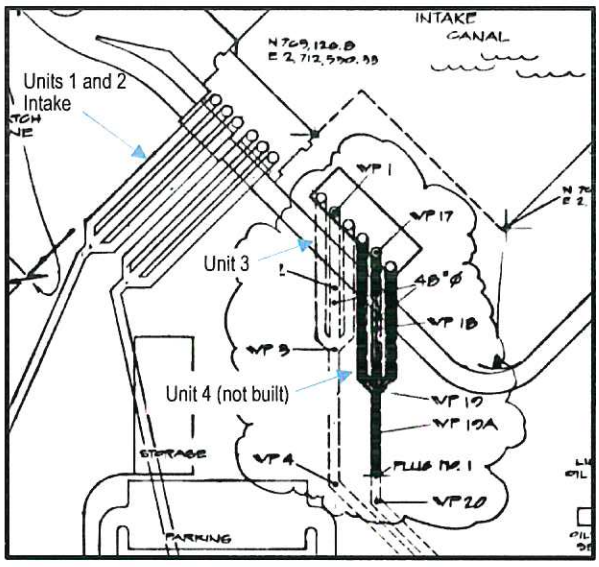


Figure 3: Intake Canal



Inset A to Figure 3

A large stationary grid trash rack is positioned in front of each traveling screen to keep out any large debris that might damage the screen. On the lake side of the grid is a mechanical trash rake. See **Figure 4** for the general arrangement of the intake, including trash rakes, traveling water screens, and pumps.

Units 1 and 2 share a common wash-water sluiceway, collection baskets and sump. The collection baskets collect any debris or small fish that may have been caught on the traveling screens. Upon entering the sump, the wash water is designed to flow to two separate collection baskets located in a single sump and debris is captured in the collection baskets. Wash water for the screens that service Unit 3 is carried through a different sluiceway to a separate collection basket and sump. Both sumps are recessed in the foundation approximately five feet with the top of the collection baskets at approximately three feet below the foundation.

The current configuration is designed to protect the intake structure from debris in order to prevent damage. By default the design keeps out large fish that contribute to a healthy fishery.

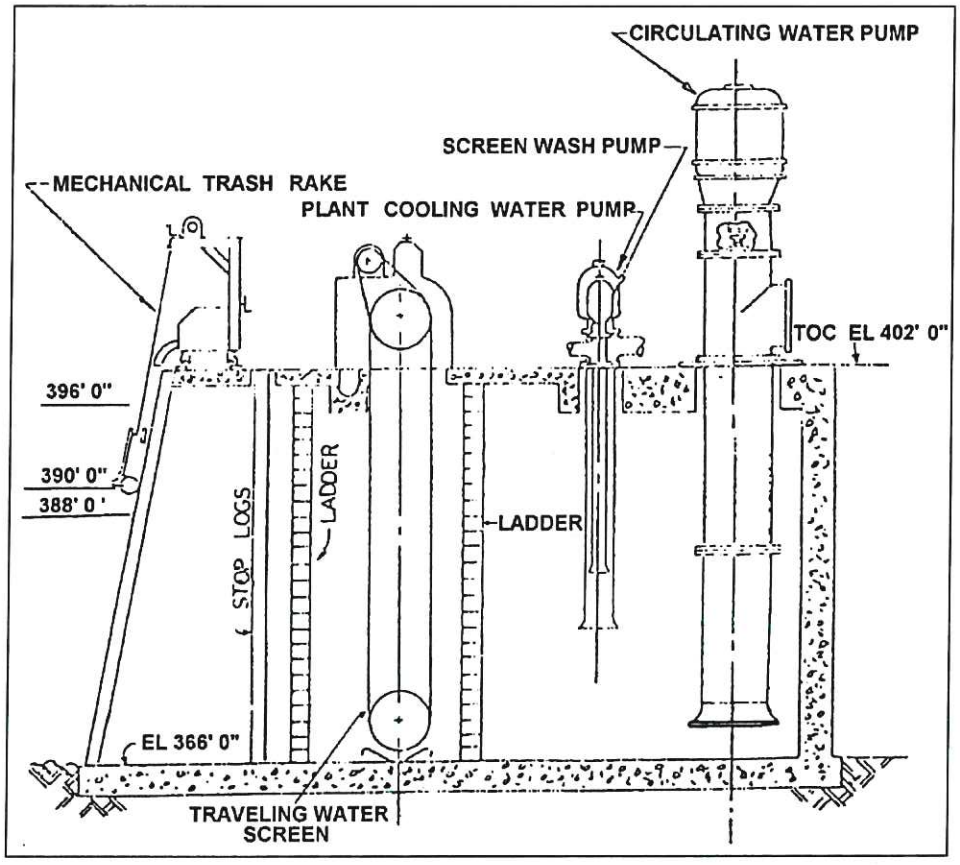


Figure 4: Diagram of Plant's Circulating Water and Cooling Water Pumps, Mechanical Trash Rake, and Traveling Screens

Bryan W. Shaw, Ph.D., P.E., *Chairman*
Toby Baker, *Commissioner*
Jon Niermann, *Commissioner*
Richard A. Hyde, P.E., *Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

January 5, 2016

Mr. Bill Steinhauser, P.E., Manager
Environmental Affairs
Lower Colorado River Authority
P.O. Box 220
Austin, Texas 78767-0220

Re: Request for approval of determination of closed-cycle recirculating system relevant to the Clean Water Act 316(b) requirements for Lower Colorado River Authority (LCRA) Lake Fayette Reservoir

Dear Mr. Steinhauser:

This letter is in response to your letter dated December 16, 2015, requesting approval of a designation of a closed-cycle recirculating system (CCRS) as stipulated in 40 Code of Federal Regulations (CFR) §125.92(c) for Lake Fayette Reservoir.

The documentation submitted with the request includes the following:

(1) cover letter including information on Lake Fayette Reservoir;
(2) the Certificate of Adjudication for water rights issued by the TCEQ with the most recent Amendment granted on April 29, 2011 indicating that the reservoir was built for industrial cooling water purposes; and,
(3) a statement in the cover letter indicating that the reservoir cooling system is designed to minimize make-up flows and, because it is a reservoir system, essentially eliminates blowdown and drift as required in 40 CFR §125.92(c).

Based upon the information provided and in accordance with 40 CFR §125.92(c), Lake Fayette Reservoir is approved for designation as a CCRS relevant to compliance with the Federal Clean Water Act 316(b) regulation.

Please be advised that, at this time, the approval of a designation for a CCRS for Lake Fayette Reservoir only indicates that this CCRS system meets Best Technology Available (BTA) for impingement as identified in 40 CFR §125.92. BTA for entrainment will be addressed at a later time.

Additionally, approval of Lake Fayette Reservoir as a CCRS does not address information requirements to be submitted with a wastewater discharge permit application outlined in 40 CFR §122.21(r). Based upon Lake Fayette Reservoir being approved as a CCRS, you may request, under separate letter or with the next permit application, some, or all, of the application information requirements in 40 CFR §122.21(r) be waived.

Figure 5: TCEQ Letter to LCRA Regarding CCRS

Mr. Bill Steinhauser, P.E., Manager
Environmental Affairs
Lower Colorado River Authority
Page 2
January 5, 2016

The cover letter requests confirmation that the cooling water intake structures which pump water from Lake Fayette into the Sam Seymour Fayette Power Park (FPP) is the single point of compliance under 40 CFR Part 125, Subpart J for the FPP. Water Quality Division staff have reviewed this request and concur that the intake structure on Lake Fayette supplying cooling water for the FPP should be the single point of compliance under 40 CFR Part 125, Subpart J.

If you have any questions or comments regarding the contents of this letter please contact me at 512-239-4591 or via email at Lynda.Clayton@tceq.texas.gov.

Sincerely,

Lynda Clayton, Team Leader
Water Quality Assessment Team
Water Quality Division
Texas Commission on Environmental Quality

LC/tc

Figure 5 (continued): TCEQ Letter to LCRA Regarding CCRS

River Pump Station:

The river pump station, which provides make up water from the Colorado River to Lake Fayette, is located on the north shore of the Colorado River approximately 4.3 miles to the south of the plant. The river pump house consists of a concrete intake structure containing three individual pump bays. Each bay contains a vertical, two-stage, wet pit pump. Each pump has an operating flow rating of 137,000 gpm. Each pump is protected from the 100-year flood event by parapet walls. Trash racks are provided to prevent large debris from entering the pump bays. These racks have less than a 2-inch clear opening.

When three pumps are in service at the same time, the estimated maximum flow rate using flow meters is 40 million gallons per day. The river pump station is designed to be operated at a minimum water level of the Colorado River at 202 feet above msl, an average water level at 206.0 feet above msl, and a 100-year flood event of 239.5 feet above msl. The bottom of the sump that houses the river pump is at 192 elevation, which is below the river bottom elevation located at approximately 198 feet above msl. See **Figure 6** for the arrangement of the pumps and trash racks river pump station.

Item 2(b)(2): Engineering Calculations

Engineering and operating staff at FPP have provided data for this report. The design data for the plant's CWIS is based on pump manufacturer data, pump curves, and engineering calculations. The actual flow is calculated from manufacturer data and operating hours. Pump curves and engineering calculations are provided in Attachment FPP-TECH-18. The river pump data is estimated based on flow meters.

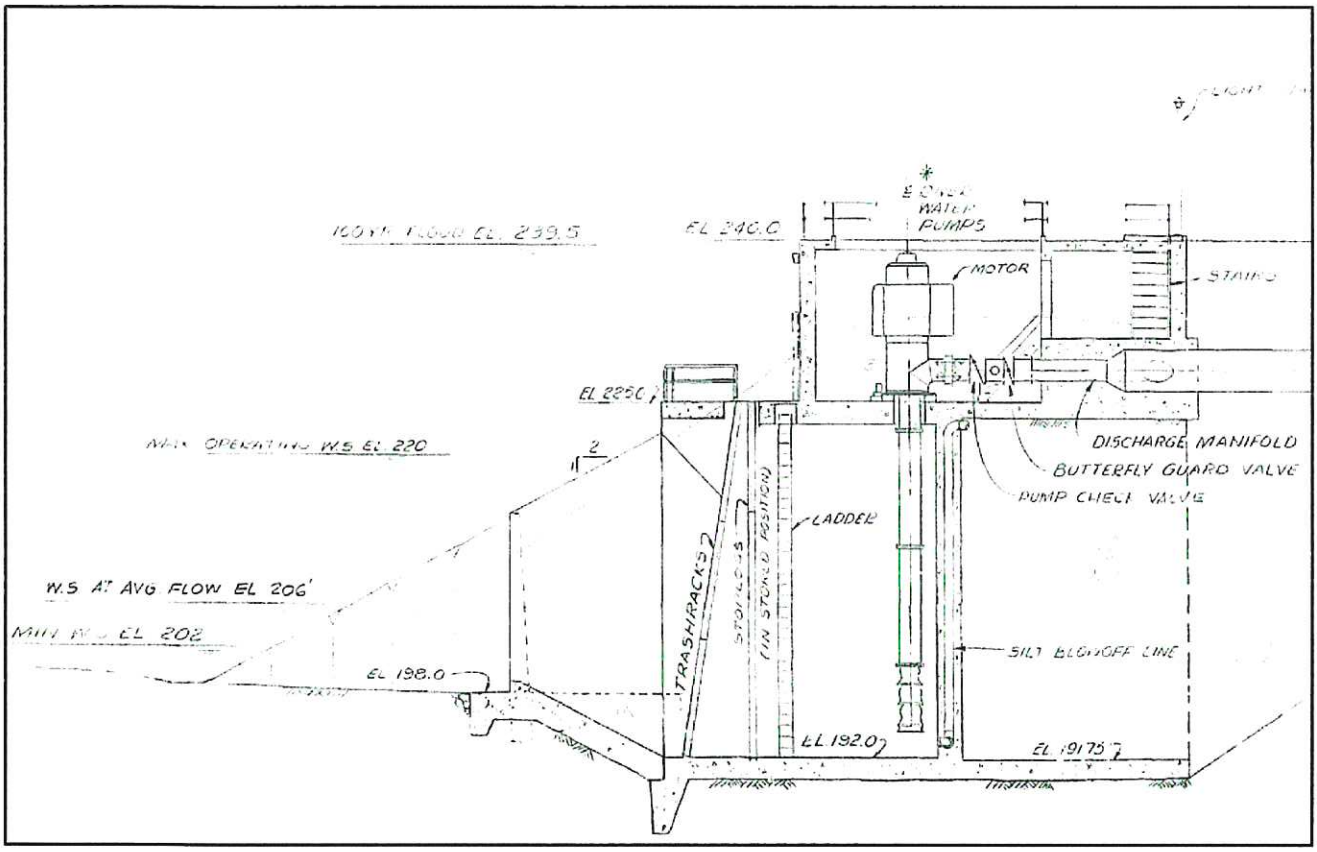


Figure 6: Diagram of River Pumps for Water Supply, Trash Rack, and Pumps

ITEM 3: SOURCE WATER PHYSICAL DATA

Item 3(b)(1) and (2): Narrative Description of the Source Water for CWIS

Plant CWIS: Lake Fayette, also known historically as Cedar Creek Reservoir and Fayette County Reservoir, was constructed in 1978 to provide cooling water for Fayette Power Project (FPP), a coal fired power plant. The lake is a 2,400-acre impoundment of Cedar Creek, which is a tributary of the Colorado River in Fayette County. The design elevations for the reservoir include a normal operating level of 390 feet above msl with a plus or minus fluctuation of 0.5 feet, a minimum water level of 388 feet above msl, and a maximum water level of 396 feet above msl (FPP, Plant Data Book, Volume 1). The maximum depth of the lake is approximately 70 feet. **Figure 7** shows the contours of the topography below the lake surface. The area around the lake remains largely undeveloped. Shoreline length is approximately 20 miles. The lake lies within the Post Oak Savannah ecological area. Lake Fayette was opened to fishing in 1979 (TPWD, 2020).

LCRA has a water quality program that tracks data for Lake Fayette. This data is provided on-line at: http://waterquality.lcra.org/. The Lake Fayette data show that since 2000, average temperature for Lake Fayette is 80.9 degrees Fahrenheit, minimum temperature in this time period is 58.6 degrees Fahrenheit and maximum temperature in this time period is 101.7 degrees Fahrenheit. Although the water quality program does not monitor for salinity, the parameters for sulfates and specific conductivity are measured and are an indicator for salinity. Sulfates measurements in the same time frame show an average of 96.2 mg/L (as SO4). Specific conductance measurements in the same time frame show an average of 1316 umhos/cm (LCRA, 2025).

Lake Fayette supports a healthy and diverse fishery, as well as provides public recreational opportunities for the local community and state. The Texas Parks and Wildlife Department (TPWD) regularly surveys the reservoir's fishery and manages the lake through a fisheries management plan. TPWD notes that the use of the lake as a power plant reservoir keeps bass active during winter and early spring, and the elevated temperatures and currents of the cooling water discharge canal attract baitfish. Other predominant fish species include catfish and prey species Gizzard Shad, Threadfin Shad, Bluegill, and Redear Sunfish. Impingement mortality (IM) has not been listed as a concern for the sports fishery (TPWD, 2025).

Colorado River for Make-up Water: The Colorado River begins in Dawson County in West Texas and travels approximately 600 miles southeast to the Matagorda Bay on the Gulf of Mexico. The TPWD describes the river as a "major waterway" and a "slow moving, scenic coastal river" in the section where the FPP River Pump Station is located, which is a section that includes 186 miles extending from La Grange down to Matagorda Bay. The river is wide, deep, and plenty of water for recreational use is available at all times. There are no hazards but occasional strong headwinds from the south often hinder recreational use of this stretch. Numerous hardwood trees line steep banks and large sand bars, which often lend themselves to camping and day use, are found (TWPD, 1974). **Figure 8** shows the contours of the topography at the location of the river pump station.

LCRA's water quality program tracks data for sections of the Colorado River, including a location at the Colorado River near La Grange, Texas. This location is approximately eight river miles upstream of the FPP river pump station. The site data show that since 2000, average temperature for the river at this location is 72.2 degrees Fahrenheit, minimum temperature in this time period is 48.2 degrees Fahrenheit and maximum

temperature in this time period is 91.8 degrees Fahrenheit. Although the water quality program does not monitor for salinity, the parameters for sulfates and specific conductivity are measured and are an indicator for salinity. Sulfates measurements in the same time frame show an average of 50.9 mg/L (as SO4). Specific conductance measurements in the same time frame show an average of 580.5 umhos/cm (LCRA, 2025).

Item 3(b)(3): Scaled Drawings of Physical Configuration

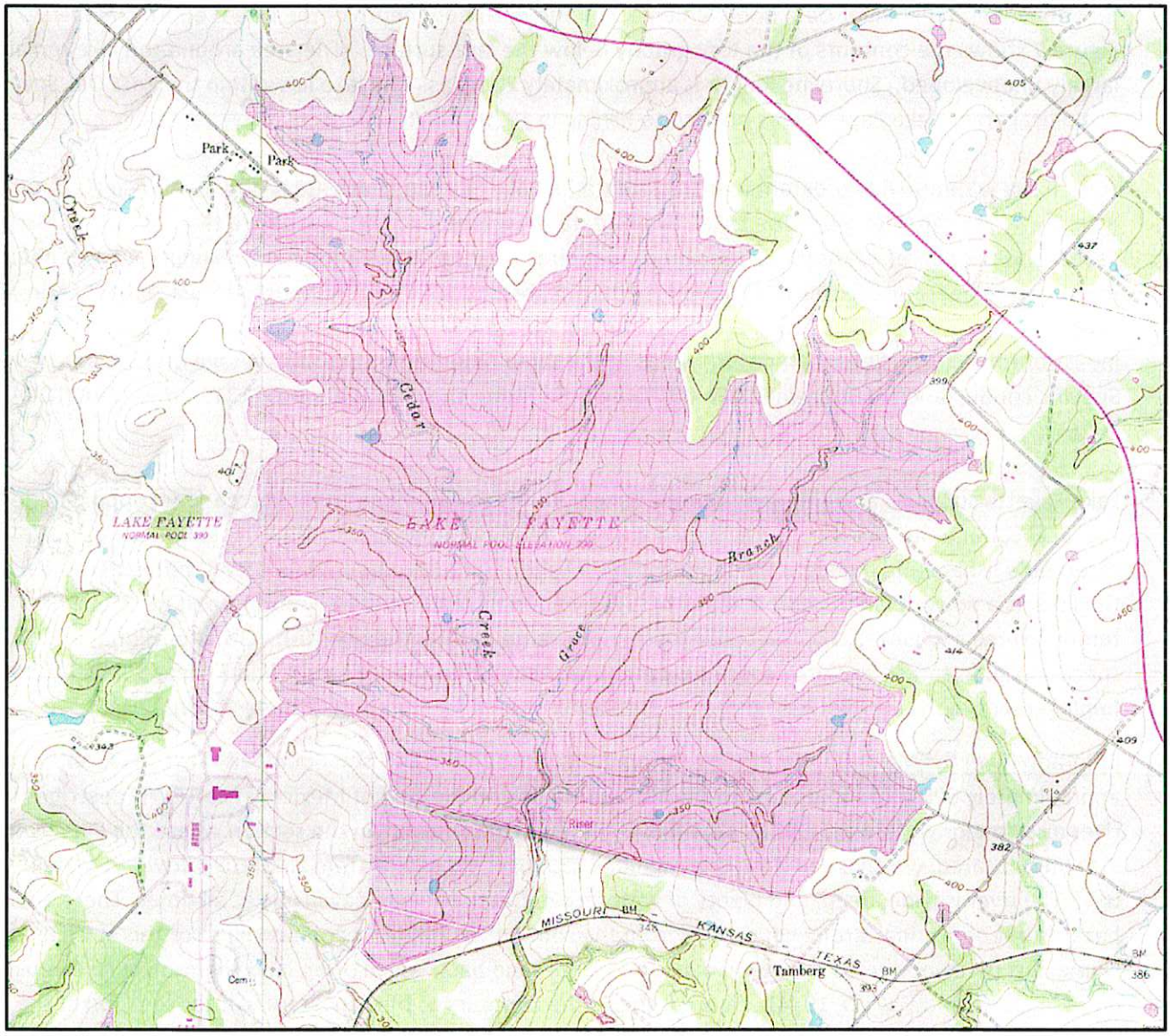


Figure 7: Lake Fayette Contour Map

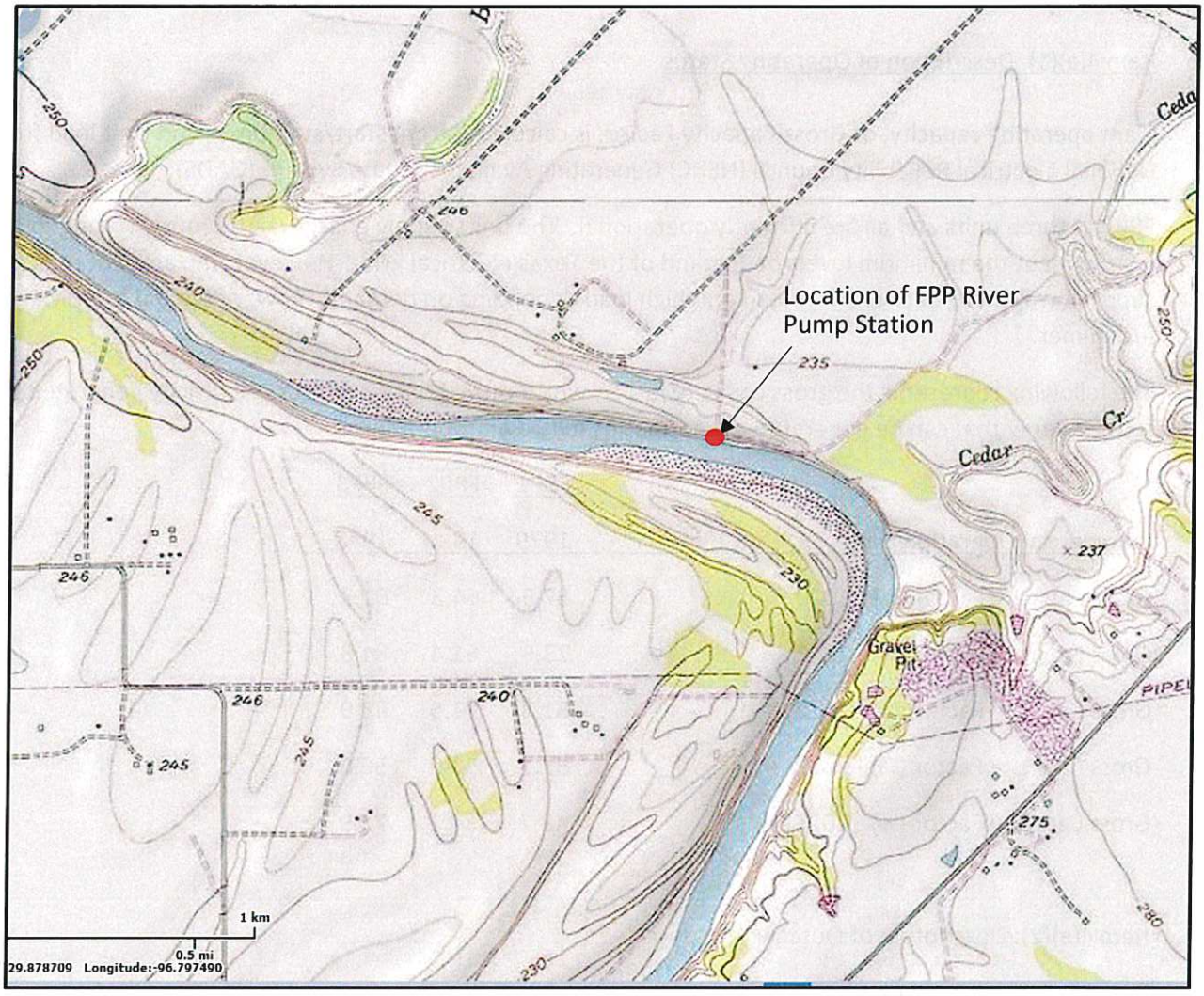


Figure 8: Colorado River Contour Map (at River Pump Station)

Item 3(b)(4): Studies related to Intake Area of Influence

The LCRA submitted a report to TCEQ in June 2009 called "Impingement Monitoring Data Report," which provided the results of an impingement monitoring study at FPP. Fish impinged on FPP's intake screens were sampled on 28 dates between May 23, 2005 and April 12, 2006. The majority of the fish collected were threadfin shad (59%), largemouth bass (24%), and inland silverside (6%). The study concluded that impingement at FPP was considered to be very low for a large base-loaded facility with high cooling-water flow and does not result in adverse environmental impacts.

LCRA is not aware of any other physical studies related to the area of influence of the FPP CWIS or the river pump station.

ITEM 4: OPERATIONAL STATUS

Item 4(a)(1): Description of Operating Status

Plant operating capacity, or Gross Capacity Factor, is calculated from start/stop times and Unit load from the National Electrical Reliability Council (NERC) Generating Availability Data System (GADS).

FPP has three units and all are currently operational. The units supply energy continuously throughout the year to meet the minimum levels of demand of the Texas electrical grid. However, the amount of electricity supplied will swing between low load and high load depending on demand. Power demand is typically highest in summer.

The following represents the gross capacity factor, which is the percent of gross electricity generated relative to the energy that can be generated at continuous full power operation.

	FPP1	FPP2	FPP3
Commercial Operation Date	1979	1980	1988
Gross Capacity Factor (%) - 2020	57.5	64.3	61.3
Gross Capacity Factor (%) - 2021	73.5	61.4	84.8
Gross Capacity Factor (%) - 2022	51.8	73.5	83.9
Gross Capacity Factor (%) - 2023	51.7	53.0	56.0
Gross Capacity Factor (%) - 2024	48.7	34.1	71.9

Item 4(a)(2): Description of Outages

Typically FPP has a planned outage every three years for each unit for around five to 6 weeks for maintenance. During the outage, the circulating water will be shut down. Outages are more likely in fall or spring.

Item 4(a)(3): Capacity Utilization Rate
As demonstrated in the chart above, the FPP units have not been used less than 8% over a 2-year period within the past five years.

Item 4(a)(4): Major Upgrades
In the last 15 years there have been no major upgrades such as boiler replacement, condenser replacement, turbine replacement, or changes to fuel type for FPP Units 1, 2 or 3.

LITERATURE CITED:

FPP Data Book, Vol 1. Fayette Power Project Unit 1 and Unit 2, Plant Data Book, Volume I, System Descriptions.

FPP Data Book, Vol 2. Fayette Power Project Unit 1 and Unit 2, Plant Data Book, Volume II, Drawings.

Lower Colorado River Authority, 2025. Water quality data available on-line at http://waterquality.lcra.org/. Accessed March 2025.

Texas Commission on Environmental Quality, 1983. Certificate of Adjudication: 14-5480 for Lake Lyndon B. Johnson to the Lower Colorado River Authority.

Texas Parks and Wildlife Department, 1974. An Analysis of Texas Waterways: A Report on the Physical Characteristics of Rivers, Streams, and Bayous in Texas"

Texas Parks and Wildlife Department. 2020. 2019 Fisheries Management Survey Report, Inland Fisheries Division, report dated July 31, 2020.

Texas Parks and Wildlife Department, 2025. Fayette County Reservoir, On-line Access, https://tpwd.texas.gov/fishboat/fish/recreational/lakes/fayette/, Accessed March 2025.

Worksheet 11.1: Impingement Mortality

ITEM 2: Impingement Compliance Technology Information

Item 1(a)(1): CCRS

i. CWIS ID: River Pump Station (Make up)

ii. 12 Months of Inflow (Daily) Data:

The following chart provides 12 months of total intake flow data from the river pump station:

	2024 Diversion - Gallons per Day											
Day	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
1	0	0	0	2022	0	2938	2043	0	3757	0	0	3049
2	0	0	0	0	0	2964	2986	0	3756	0	0	3093
3	0	0	0	0	0	2949	2979	0	3757	0	1744	1076
4	0	0	0	0	0	2895	2971	0	3756	0	3069	0
5	0	0	0	0	0	2880	2894	0	3742	0	3085	0
6	0	0	0	0	0	2880	2886	0	3756	0	3086	0
7	0	0	0	0	0	103	2374	0	3756	0	3086	0
8	0	0	0	0	0	395	2374	0	3757	0	2916	0
9	0	0	2249	0	0	2970	211	0	3756	0	2916	0
10	0	0	3687	0	0	3021	2694	0	3646	0	2885	0
11	0	0	3787	0	0	106	2927	0	3606	0	3089	0
12	0	0	3772	0	0	0	2889	0	3600	0	3036	0
13	3757	0	3708	0	0	0	2880	0	3600	0	2890	0
14	3397	0	3758	0	0	0	2880	0	3600	0	3187	0
15	392	0	3475	0	0	0	2879	0	3600	0	3099	0
16	0	0	3085	0	0	0	2879	0	3592	0	3178	0
17	0	0	3086	0	0	0	2883	1466	3565	0	3198	0
18	0	0	3011	0	0	0	2978	3047	3416	0	3127	0
19	2917	0	3011	0	0	0	2979	3086	3600	0	3199	0
20	3757	0	3088	0	0	0	2979	3078	3600	0	3190	0
21	3756	0	3087	0	0	0	2979	3086	3199	0	3172	0
22	3757	0	3090	0	0	0	2980	3085	2981	0	3154	0
23	3309	0	3086	0	842	0	2979	3085	2991	0	3148	0
24	0	0	3085	0	3024	0	2980	3084	2991	0	2924	0
25	0	0	3086	0	3094	0	2979	3080	2991	0	3008	0
26	0	0	3085	0	3086	0	971	3512	3037	0	2933	0
27	0	0	3085	0	3086	0	0	3757	3031	0	3099	0
28	0	0	3080	0	3086	0	0	3756	3012	0	3091	0
29	0	0	2969	0	3043	0	0	3756	1628	0	3088	0
30	0		3086	0	2980	0	0	3699	0	0	2968	0
31	0		3086	0	2974		0	3756		0		0

The river pump station provides make up water to replenish the lake losses caused by evaporation, plant uses, minor losses caused by dam seepage, and water that is released per the Certificate of Adjudication, which requires a minimum flow of 0.5 cubic feet per second from the lake to Cedar Creek. This required flow is estimated at 486 acre-feet per year (based on 2024 data). Estimated forced evaporation for all three units due to condenser and equipment cooling calculates to an average of 8,420 acre-feet per year (based on 2024 data).

iii. Physical or operational measures taken to minimize make-up withdrawals:
LCRA maintains a Water Conservation Plan, which includes the FPP plant. Conservation measures reduce the use of lake water, which in turn reduces the need for make-up withdrawal. Measures include direct reuse of wastewaters from the Reclaim Pond for plant operations, such as the stack gas scrubber make up, plant wash down locations, and boiler sealing systems. Indirect reuse features include recycling the Coal Pile Runoff pond water and reverse osmosis reject water back to the reservoir.

ATTACHMENT: FPP-TECH-16 TPWD Fisheries Management Survey Report

Fayette County Reservoir

2019 Fisheries Management Survey Report

PERFORMANCE REPORT

As Required by

FEDERAL AID IN SPORT FISH RESTORATION ACT

TEXAS

FEDERAL AID PROJECT F-221-M-4

INLAND FISHERIES DIVISION MONITORING AND MANAGEMENT PROGRAM

Prepared by:

Mukhtar Farooqi, Assistant District Management Supervisor
and
Patrick Ireland, District Management Supervisor

Inland Fisheries Division
San Marcos/Austin District, San Marcos, Texas

Carter Smith
Executive Director

Craig Bonds
Director, Inland Fisheries

July 31, 2020

Contents

Contents i
Survey and Management Summary 1
Introduction 2
Reservoir Description 2
Angler Access 2
Management History 2
Methods 4
Results and Discussion 4
Fisheries Management Plan for Fayette County Reservoir, Texas 7
Objective-Based Sampling Plan and Schedule (2020–2024) 8
Literature Cited 10
Tables and Figures 11
Reservoir Characteristics 11
Boat ramp Characteristics 11
Harvest Regulations 11
Stocking History 12
Objective-Based Sampling Plan for 2019 – 2020. 13
Structural Habitat Survey 13
Aquatic Vegetation Survey. 14
Gizzard Shad 15
Bluegill 16
Redear Sunfish 17
Channel Catfish 18
Largemouth Bass 19
Proposed Sampling Schedule 21
APPENDIX A – Map of Sampling Locations 22
APPENDIX B – Map of Structural Habitat 23
APPENDIX C – Map of Vegetation Survey 24
APPENDIX D – Catch Rates for all Targeted Species from all Gears 25
APPENDIX E – Aquatic Vegetation Surveys 2007 - 2019 26
APPENDIX F – Largemouth Bass Data 2005 - 2019 27
APPENDIX G – Juvenile Bass Data 2005 - 2019 30

Survey and Management Summary

Fish populations in Fayette County Reservoir were surveyed in 2017 and 2019 using electrofishing and in 2019 using hoop nets. Aquatic vegetation was monitored by annual surveys. Historical data are presented with the 2019 data for comparison. This report summarizes results of the surveys and contains a fisheries management plan for the reservoir based on those findings.

- **Reservoir Description:** Fayette County Reservoir is a 2,400-acre impoundment of Cedar Creek; an intermittent stream in the Colorado River watershed. It was constructed in 1978 by the Lower Colorado River Authority (LCRA) for the purpose of supplying cooling water for steam-electric power generation. The reservoir is located in Fayette County, approximately seven miles east of La Grange, Texas, and lies within the Post Oak Savannah ecological area.

  Water in the reservoir is maintained at a near-constant level (1-2 ft. annual fluctuation) through pumping from the Colorado River. Surrounding shoreline is mostly undeveloped. Shoreline length is approximately 20 miles. Structural habitat consisted primarily of natural shoreline and rocky shoreline.

- **Management History:** Important sportfish include Largemouth Bass and Channel Catfish species. Florida Largemouth Bass were stocked into nursery ponds during 1977 prior to reservoir filling. Largemouth Bass have been managed since 1979 with several differing length limit regulations; but currently managed under a 16- to 24-inch slot length limit with a 5-fish daily bag, only one over 24 inches may be retained.

  Trap netting for White Crappie was not performed due to historically low catch rates and the high cost/benefit ratio associated with collecting these data. Crappie have not been collected with any gear type since the early 1990s. There was no directed angling effort for crappie.

  A volunteer angler survey was conducted from October 2004 to May 2006 to determine catch trends and length distribution of trophy Largemouth Bass and other species.

  Aquatic vegetation habitat surveys have been conducted annually to monitor invasive species and evaluate angler access conditions.

- **Fish Community**
  - **Prey species:** Bluegill, Gizzard Shad, and Threadfin Shad were the predominant prey species. Catch rates for Bluegill, Gizzard Shad, and Threadfin Shad had increased since the last two surveys.

  - **Channel Catfish:** Channel Catfish abundance was very low.

  - **Largemouth Bass:** Largemouth Bass abundance declined compared to the previous two surveys, but the population was in excellent condition and the population size structure was good.

Management Strategies: Based on current information, the reservoir should continue to be managed with existing regulations. Conduct an additional electrofishing and hoop net survey in 2021-2022, a spring and summer creel survey in 2021, and general monitoring surveys with hoop nets and electrofishing surveys in 2023-2024. Aquatic vegetation surveys should be conducted biennially to monitor invasive species.

Introduction

This document is a summary of fisheries data collected from Fayette County Reservoir in 2016-2019. The purpose of the document is to provide fisheries information and make management recommendations to protect and improve the sport fishery. While information on other fish was collected, this report deals primarily with major sportfish and important prey species. Historical data are presented with the 2016-2019 data for comparison.

Reservoir Description

Fayette County Reservoir when full, is a 2,400-acre impoundment of Cedar Creek; an intermittent stream in the Colorado River watershed. It was constructed in 1978 by the Lower Colorado River Authority for the purpose of supplying cooling water for steam-electric power generation. This is a stable-level reservoir (conservation level is 390 feet above mean sea level). The reservoir is eutrophic with a mean TSI chl-*a* of 66.6, and a 10-year change of +4.5 (Texas Commission on Environmental Quality 2020). The reservoir is located in Fayette County, approximately seven miles east of La Grange, Texas. The reservoir lies within the Post Oak Savannah ecological area.

Water in the reservoir is maintained at a near-constant level (1-2 ft. annual fluctuation). During periods of low rainfall, water is pumped into the reservoir from the Colorado River. The shoreline surrounding the reservoir was undeveloped and shoreline length was approximately 20 miles. Fayette County Reservoir was opened to fishing in 1979. Other descriptive characteristics for Fayette County Reservoir are in Table 1.

Angler Access

Shoreline access was limited within LCRA park boundaries, with main access by fishing pier in two parks. Multi-lane concrete boat ramps were located within both parks, offering adequate boat access to the reservoir. Additional boat ramp characteristics are in Table 2.

Management History

Previous management strategies and actions: Management strategies and actions from the previous survey report (Farooqi and De Jesus 2016) included:

1. Monitor the Channel Catfish population with hoop nets in 2017 and 2019 to determine abundance and population size structure for trend analysis.
   Action: The Channel Catfish population was sampled with hoop nets in 2017 and 2019.

2. If the hoop net data is insufficient to manage the population, consider conducting a spring and summer creel survey in 2019.
   Action: A creel survey was not conducted at Fayette County Reservoir as priority was given to conduct a 2019 year-long creel survey of Buchanan Reservoir.

3. Continue annual aquatic vegetation surveys to monitor aquatic vegetation coverage with particular attention to hydrilla and Eurasian watermilfoil
   Action: Annual aquatic vegetation surveys were conducted from 2016 to 2019.

4. Continue biennial fall electrofishing surveys to monitor the Largemouth Bass population.
   Action: Fall electrofishing surveys were conducted in 2017 and 2019.

5. Educate the public about invasive species through the use of media and the internet.
   Action: Outreach efforts regarding invasive species included the district's Facebook page, press releases, and multiple television interviews.

6. Make a speaking point about invasive species when presenting to constituent and user groups.
   Action: Issues related to invasive species were raised at public presentations, and through informal staff interactions with constituents.

7. Keep track of (i.e., map) future inter-basin water transfers to facilitate potential invasive species responses.
   Action: There are no plans for inter-basin water transfers at Fayette County Reservoir.

Harvest regulation history: Sportfish in Fayette County Reservoir were managed with statewide regulations with the exception of Largemouth Bass. From 1979 to 1985, Largemouth Bass were managed with a 16-inch minimum length limit. Slot length limits have been implemented since September 1, 1985 to increase abundance of bass greater than 14 inches in length; increase angler catches of bass greater than 14 inches in length; and re-direct harvest at individuals less than 14 inches in length. A 14- to 24-inch slot length limit with a 5-fish daily bag, only 1 over 24-inches was implemented on September 1, 1995 to limit the harvest of very large fish. In 2018, as a result of a statewide review of existing harvest regulations for Largemouth Bass, a 16- to 24-inch slot length limit with a 5-fish daily bag, and only 1 over 24-inches was implemented on September 1, 2018 for Fayette County Reservoir. Current regulations are found in Table 3.

Stocking history: Florida Largemouth Bass and catfish were important species stocked. Florida Largemouth Bass were last stocked in 1994 and Channel Catfish were last stocked in 2018. A complete stocking history is shown in Table 4.

Vegetation/habitat management history: Fayette County Reservoir supported a mix of aquatic vegetation species. With the exception of 2011, aquatic vegetation surveys were conducted every summer from 2007 to 2019. Historically, aquatic vegetation coverage has been variable and has remained at ≤10%; marine naiad (*Najas marina*) has been the dominant species (Farooqi and De Jesus 2016). The exotic plant hydrilla (*Hydrilla verticillata*) was present in this reservoir.

Water Transfer: There were no inter-basin water diversion structures at Fayette County Reservoir.

Methods

Surveys were conducted to achieve survey and sampling objectives in accordance with the objective-based sampling (OBS) plan for Fayette County Reservoir (TPWD unpublished). Primary components of the OBS plan are listed in Table 5. All survey sites were randomly selected, and all surveys were conducted according to the Fishery Assessment Procedures (TPWD, Inland Fisheries Division, unpublished manual revised 2017).

Electrofishing – Largemouth Bass, sunfishes, Gizzard Shad, and Threadfin Shad were collected by electrofishing (1 hour at 12, 5-min stations; Appendix A). Sampling in 2017 was bass-only. Catch per unit effort (CPUE) for electrofishing was recorded as the number of fish caught per hour (fish/h) of actual electrofishing. Ages for Largemouth Bass were to be determined by a category-2 evaluation requiring otoliths from 13 randomly selected fish ranging in size from 13.0 to 14.9 inches. (TPWD, Inland Fisheries Division, unpublished manual revised 2017). However, only seven fish were available in that size range.

Tandem hoop nets – Channel Catfish were collected using a total of 9 tandem hoop net series at 9 stations. Nets were baited with © Zote soap and deployed for 2-night soak duration. CPUE for tandem hoop netting was recorded as the number of fish caught per tandem hoop net series (fish/series).

Genetics – Genetic analysis of Largemouth Bass was conducted according to the Fishery Assessment Procedures (TPWD, Inland Fisheries Division, unpublished manual revised 2017). Micro-satellite DNA analysis was used to determine genetic composition of individual fish from 2005 through 2019 and by electrophoresis for previous years.

Statistics – Sampling statistics (CPUE for various length categories), structural indices [Proportional Size Distribution (PSD), terminology modified by Guy et al. 2007], and condition indices [relative weight (W_r)] were calculated for target fishes according to Anderson and Neumann (1996). Index of vulnerability (IOV) was calculated for Gizzard Shad (DiCenzo et al. 1996). Standard error (SE) was calculated for structural indices and IOV. Relative standard error (RSE = 100 X SE of the estimate/estimate) was calculated for all CPUE and creel statistics.

Habitat – A structural habitat and vegetation survey was conducted in 2019. Habitat was assessed with the digital shapefile method (TPWD, Inland Fisheries Division, unpublished manual revised 2017).

Results and Discussion

Habitat: In 2019, littoral zone structural habitat consisted primarily of natural shoreline and rocky shoreline at 71.9% and 25.7% respectively (Table 6, Appendix B). Total native vegetation coverage (103 acres; predominantly water stargrass) constituted 3.4% of the reservoir's surface area compared to less than 0.8% coverage by non-native vegetation (Table 7; Appendix C). Total aquatic vegetation coverage in this reservoir from 2016 to 2020 was considerably less than that considered optimum for productive fisheries (Durocher et al. 1984, Dibble et al. 1996) and this has been the case historically. Since 2013, coverage of hydrilla has remained less than 3.0% of the reservoir's surface area. Eurasian watermilfoil was documented in 2012 (0.5 acres), but it has not been observed in subsequent annual surveys.

Prey species: Bluegill, Gizzard Shad, and Threadfin Shad were the predominant prey species in 2019 (Appendix D). Redear Sunfish, Tilapia and Rio Grande Cichlid were also available as forage. In the latter case, a new waterbody record (rod and reel) was established in 2019 (0.85 pounds, 9.6 inches).

Total CPUE of Gizzard Shad in 2019 (92.0/h) was higher than in the 2015 (55.3/h) and 2011 (14.7/h) surveys (Figure 1). In 2019, the IOV for Gizzard Shad was 23, indicating that 23% of the Gizzard Shad population was of vulnerable size (≤ 8 inches) and available to existing predators. By comparison, the IOV was 16 in 2015, 64 in 2011 and zero in 2007 (Farooqi and De Jesus 2016). Low Gizzard Shad catch

rates have been characteristic of this reservoir. Threadfin Shad were collected at the rate of 63/h in 2019 which is higher than in the 2015 survey (24.0/h; Farooqi and De Jesus 2016).

Total CPUE of Bluegill had been on a downward trend over the previous two survey periods, but improved during 2019. Total CPUE in 2019 was 93.0/h compared to 22.0/h in 2015 and 64.0/h in 2011. In 2019 and 2015, population size structure improved, and some larger fish were present (PSD-P was 4.0 and 6.0 respectively; Figure 2). A new waterbody record (rod and reel) for Bluegill was established in 2019 (1.7 pounds, 10.75 inches).

Total CPUE of Redear Sunfish has been in a declining trend since the 2011 survey. In 2019 CPUE was 18.0/h compared to 24.7/h in 2015 and 52.0/h in 2011. In 2019, in addition to there being fewer Redear Sunfish than the previous 2 surveys, the fish tended to be smaller (PSD had significantly declined, and PSD-P and PSD-M were zero; Figure 3). Increased competition for spawning habitat could be a factor. Nevertheless, a new waterbody record (rod and reel) for Redear Sunfish was established in 2019 (1.2 pounds, 10.25 inches).

Channel Catfish: Since 2015, Channel Catfish have been the focus of objective-based sampling procedures using hoop nets. In 2019, total catch rate for Channel Catfish was 0.3/tandem set compared to 0.1/tandem set in 2017, and 1.2/tandem set in 2015 (Figure 4). In all three surveys the sample of stock-size fish has been low and was less than required for precise CPUE estimates (RSE ≤ 25). Additionally, low sample size precluded representative population size structure metrics.

Previous catch rates based on gill netting had shown a declining trend. Total gill net catch rate for Channel Catfish in 2004, 2008, and 2012 was 14.8/nn, 10.0/nn, and 3.8/nn, respectively (Cummings and De Jesus 2012). The indications are this is a low-density fishery with poor recruitment. Also, anecdotal information suggests that Channel Catfish catch rates and angler satisfaction have declined.

Largemouth Bass: Historically, this reservoir has been characterized by a high-density Largemouth Bass population relative to other bass populations in central Texas reservoirs (Farooqi and De Jesus 2016). In 2019, the total catch rate of Largemouth Bass was 106.0/h, which was lower than that recorded in 2017 (227.3/h) and 2015 (208.7/h; Figure 5). In 2019, the catch rate of Largemouth Bass greater than 16 inches (14.0/h) was lower than that obtained in 2017 (45.9/h) and 2015 (38.0/h). However, during the last six surveys, no fish above the upper slot length limit (24 inches) have been caught.

Although the minimum sample size requirement for a Category 2 evaluation (n=13) was not met in 2019 (n=7), the data that was collected indicates that some Largemouth Bass in Fayette County Reservoir reached 14 inches in length at age-1 (Figure 6). In 2019, Largemouth Bass were in excellent condition; mean relative weight for almost all size classes of fish was >100. Population size structure was good; PSD was 62, which was within the range expected for a balanced population (Gabelhouse 1984). Larger fish were also present (PSD-P = 40, PSD-M = 4) and their size distribution was within the preferred range (Gabelhouse 1984). Florida Largemouth Bass influence in this reservoir has remained high during the last four assessments even though the reservoir was last stocked with Florida Largemouth Bass in 1994. In 2019, 94% of the sample contained Florida Largemouth Bass alleles and 40% were pure Florida Largemouth Bass (Table 8).

The long-term status of the Largemouth Bass population in this reservoir was identified as a concern by local Largemouth Bass anglers due to the prevalence and mode of operation of cast netters targeting tilapia. The cast netters work in teams, wading the shoreline to concentrate the fish and then use their cast nets. The bass anglers contend the trampling of vegetation and Largemouth Bass spawning beds is having a significant effect on the Largemouth Bass population. As can be seen from Appendix E, vegetative cover has been quite variable since 2007. The highest coverage was in 2007 (241 acres), but after 2009, total coverage declined to a low of 25 acres in 2016 and then rebounded somewhat from 2017 to 2019. The percentage coverage was a maximum of 10% in 2007 and a minimum of 1% in 2016. After 2009, percentage coverage has been consistent, averaging about 3%.

The preferred level of aquatic vegetation for productive fisheries is considered to be 20-30 % of the reservoir acreage (Durocher et al. 1984, Dibble et al. 1996). In 2007, when vegetative coverage was at its highest in Fayette County Reservoir, it was at least 10% lower than preferred. There are a lot of natural factors that affect vegetation coverage making it difficult to know what impact was made by cast netters wading in the water. It is also difficult to ascertain whether these variations in vegetative coverage could account for a discernable change in bass population dynamics and whether wading could directly impact the production of young-of-the-year Largemouth Bass. If there was a problem with juvenile bass production (fish < 8 inches) we would expect to see low and/or declining numbers of juvenile bass, which does not appear to be the case from an examination of electrofishing length-frequency data collected from 2005 to 2019 (Appendix F). In addition, Appendix G shows the CPUE of juvenile bass from 2005 to 2019. Juvenile bass CPUE was highest in 2006 (109/h) and lowest in 2009 (17/h). The last three surveys have shown the highest production of juvenile bass since 2006. Based on this data, there does not seem to be an issue with juvenile bass production at Fayette County Reservoir. Also, based on W_r, most stock-size fish have been in good to excellent condition from 2005 to 2019 (Appendix F). Thus, the available data shows no deterioration in juvenile bass production and no decline in the condition (W_r) of the population (≥ 8 inches) during the study period, beyond what could be explained due to natural variation. While the total CPUE in 2019 (106.0/h) was lower than in 2017 (227.3/h) and 2015 (208.7/h), it is comparable to the data from 2013 (108.7/h) and 2009 (88.7/h), showing that such wide fluctuations in abundance do occur at this reservoir and that the population can rebound, as occurred post 2013 and 2009.

Fisheries Management Plan for Fayette County Reservoir, Texas

Prepared – July 2020

ISSUE 1: The relatively low total catch rates from hoop netting during the last three surveys suggests a low-density Channel Catfish population with poor recruitment. Hoop netting was seen as a potentially better alternative to gill netting, since previous gill net catch rates for Channel Catfish were in decline from 2004 to 2012. However, hoop netting has also resulted in poor catch rates raising questions about gear efficiency. Historically, the reservoir had been a top destination for catfish anglers in the district.

MANAGEMENT STRATEGIES

1. Monitor the Channel Catfish population with hoop nets in 2021 and 2023 to determine abundance and population size structure, and help assess the efficacy of hoop netting using a three-night sampling period instead of the standard two-night period.
2. Request 9" Channel Catfish be stocked annually at a rate of 25/acre from 2021 to 2023. Request surplus 9" and 12" Channel Catfish if available.
3. Conduct a spring and summer creel survey in 2021 to determine Channel Catfish utilization and whether a more restrictive harvest regulation is required, and also to determine the prevalence of wading cast netters.

ISSUE 2: An examination of annual aquatic vegetation abundance and species composition in Fayette County Reservoir from 2007 to 2019 shows variability, but this was not found to be detrimental to the Largemouth Bass population or angler access. Invasive plant species coverage has been very low. Based on these findings, the frequency of aquatic vegetation sampling surveys can be reduced without compromising the integrity of monitoring efforts.

MANAGEMENT STRATEGIES

1. Conduct biennial aquatic vegetation surveys.
2. Continue biennial fall electrofishing surveys to monitor the Largemouth Bass population.

ISSUE 3: Many invasive species threaten aquatic habitats and organisms in Texas and can adversely affect the state ecologically, environmentally, and economically. For example, zebra mussels (*Dreissena polymorpha*) can multiply rapidly and attach themselves to any available hard structure, restricting water flow in pipes, fouling swimming beaches and plugging engine cooling systems. Giant salvinia (*Salvinia molesta*) and other invasive vegetation species can form dense mats, interfering with recreational activities like fishing, boating, skiing and swimming. The financial costs of controlling and/or eradicating these types of invasive species are significant. Additionally, the potential for invasive species to spread to other river drainages and reservoirs via watercraft and other means is a serious threat to all public waters of the state.

MANAGEMENT STRATEGIES

1. Monitor the status of hydrilla and Eurasian watermilfoil during biennial aquatic vegetation surveys.
2. Educate the public about invasive species through the use of media and the internet.
3. Make a speaking point about invasive species when presenting to constituent and user groups.
4. Keep track of (i.e., map) future inter-basin water transfers to facilitate potential invasive species responses.

Objective-Based Sampling Plan and Schedule (2020–2024)

Sportfish, forage fish, and other important fishes

Sportfish in Fayette County Reservoir include Largemouth Bass and Channel Catfish. Known important forage species include Bluegill, Redear Sunfish, Redbreast Sunfish, Gizzard Shad, and Threadfin Shad.

Underutilized or low-density fisheries

Crappie: Hybrid Crappie occur in very low abundance in Fayette County Reservoir and are generally caught incidentally to other targeted species. We will continue collecting and reporting data for these species, and upgrade their status if appropriate.

Blue Catfish: Blue Catfish were stocked in Fayette Reservoir in 1976, 1985, and 1986; and appear to be extirpated. Conditions at this power plant reservoir were unsuitable for the development of a self-sustaining Blue Catfish fishery. Our gill netting surveys have failed to collect Blue Catfish specimens.

Flathead Catfish: Flathead Catfish are present in low abundance based on gill netting surveys conducted between 1999 and 2012. During this time, CPUE-total averaged 0.7 fish/nn, and ranged between 0 and 2.0 fish/nn. A creel survey in 2007 did not capture directed effort for this species, revealing little interest by anglers to pursue this species at Fayette Reservoir. Sampling this population is not a priority in 2020-2024.

White Bass: White Bass are not believed to be present in Fayette Reservoir; however, they are present in the Colorado River drainage, in which this reservoir lies. Gill netting surveys have not captured this species and no incidental catches have been reported in creel surveys nor anecdotally.

Survey objectives, fisheries metrics, and sampling objectives

Largemouth Bass: Largemouth Bass are the most popular sportfish in Fayette Reservoir. The popularity and reputation for quality Largemouth Bass fishing at this reservoir warrant sampling time and effort. Results from a 2007 creel survey showed directed angling effort for Largemouth Bass to be 42.7 hours/acre, and accounted for 83% of the total directed effort. Largemouth Bass are managed with a 16- to 24-inch slot regulation. This lake is known for quality fish and good catch rates (0.97/h in 2007 creel survey). Trend data on CPUE, size structure, and body condition have been collected biennially since 2006 with fall nighttime electrofishing. The population appears to be in good shape, and anglers are anecdotally satisfied with the fishing. Continuation of biennial trend data in this clear reservoir with night electrofishing in the fall will allow for determination of any large-scale changes in the Largemouth Bass population that may spur further investigation. A minimum of 12 randomly selected 5-min electrofishing sites will be sampled in 2021 and 2023, but sampling will continue at random sites until 50 stock-size fish are collected and the RSE of CPUE-S is ≤ 25 (the anticipated effort to meet both sampling objectives is 12-15 stations with 80% confidence). Exclusive of the original 12 random stations, three additional random stations will be pre-determined in the event some extra sampling is necessary. If failure to achieve either objective has occurred after one night of sampling and objectives can be attained with 6-12 additional random stations, another night of effort will be expended.

Channel Catfish: The 2007 creel survey indicated Channel Catfish angling comprised 4.0% of total angling effort (third to Largemouth Bass and anglers fishing for anything). Total directed effort for this species was 4,481 at 1.9 hours/acre. Gill netting total CPUE ranged from 3.8 to 17.2 fish/nn (11.5 fish/nn average) from 1999 to 2012, in a steady declining trend. These data only allowed us to determine presence or absence of the population. To collect information allowing us to monitor size structure and body condition we switched from standard gill nets, set overnight to tandem hoop nets set for two nights. The hoop net results from 2015, 2017, and 2019 indicate a low-density Channel Catfish population. Due to the low catch rates obtained by hoop netting and questions of gear efficacy, we anticipate that setting a minimum of nine tandem hoop nets, with a soak time of three nights, will achieve our sampling objective

(50 Channel Catfish >11 inches; RSE of CPUE-S ≤ 25). Sampling with hoop nets will continue biennially until 2023. A minimum of nine randomly selected tandem hoop netting sites will be sampled in summer 2021 and 2023 for three nights, but sampling will continue at random sites until 50 stock-size fish are collected and the RSE of CPUE-S is ≤ 25 (the anticipated effort to meet both sampling objectives is nine stations with 75% confidence). Exclusive of the original nine random stations, nine additional random stations will be pre-determined in the event some extra sampling is necessary. If failure to achieve either objective has occurred after one soak session, and objectives can be attained with up to nine additional random stations, another soak session of effort will be expended. A spring and summer creel survey will be conducted in 2021 to evaluate the Channel Catfish Fishery.

Sunfish and Threadfin Shad: Bluegill, Redear Sunfish, Redbreast Sunfish, Gizzard Shad, and Threadfin Shad are the primary forage at Fayette Reservoir. Like Largemouth Bass, trend data on CPUE and size structure of these sunfish have been collected biennially since 1996. Abundance of Threadfin Shad was also measured as a function of CPUE during those surveys, and will remain the main sampling objective to measure Threadfin Shad abundance. Continuation of sampling, as per Largemouth Bass above, will allow for monitoring of large-scale changes in sunfish relative abundance and size structure. Sampling effort based on achieving sampling objectives for Largemouth Bass will result in sufficient numbers of sunfish for size structure estimation (PSD and IOV; 50 stock-size fish minimum at 5-12 stations with 80% confidence) but not for relative abundance estimates (RSE ≤ 25 of CPUE-Total (CPUE-T); anticipated effort is 25-30 stations). At the sampling effort needed to achieve sampling objectives for Largemouth Bass, the expected RSE for CPUE-T is 30 for sunfish species combined. No additional effort will be expended to achieve an RSE25 for CPUE of sunfish. Instead, Largemouth Bass body condition can provide information on forage abundance, vulnerability, or both relative to predator density. Relative weight of Largemouth Bass ≥ 8" TL will be determined from their length/weight data (maximum of 10 fish weighed and measured per inch class).

Literature Cited

Anderson, R. O., and R. M. Neumann. 1996. Length, weight, and associated structural indices. Pages 447-482 in B. R. Murphy and D. W. Willis, editors. Fisheries techniques, 2nd edition. American Fisheries Society, Bethesda, Maryland.

Cummings, G. A., and M. J. De Jesus. 2012. Statewide freshwater fisheries monitoring and management program survey report for Fayette County Reservoir, 2011. Texas Parks and Wildlife Department, Federal Aid Report F-221-M-2, Austin.

Dibble, E. D., K. J. Killgore, and S. H. Harrel. 1996. Assessment of fish-plant interactions. American Fisheries Society Symposium 16:357-372

DiCenzo, V. J., M. J. Maceina, and M. R. Stimert. 1996. Relations between reservoir trophic state and Gizzard Shad population characteristics in Alabama reservoirs. North American Journal of Fisheries Management 16:888-895.

Durocher, P. P., W. C. Provine, and J. E. Kraai. 1984. Relationship between abundance of Largemouth Bass and submerged vegetation in Texas reservoirs. North American Journal of Fisheries Management 4:84-88.

Farooqi, M. A., and M. J. De Jesus. 2016. Statewide freshwater fisheries monitoring and management program survey report for Fayette County Reservoir, 2015. Texas Parks and Wildlife Department, Federal Aid Report F-221-M-3, Austin.

Gabelhouse, D. W. 1984. A length-categorization system to assess fish stocks. North American Journal of Fisheries Management 4:273-285.

Guy, C. S., R. M. Neumann, D. W. Willis, and R. O. Anderson. 2007. Proportional Size Distribution (PSD): A Further Refinement of Population Size Structure Index Terminology. Fisheries 32(7):348.

Texas Commission on Environmental Quality. 2020. Trophic classification of Texas reservoirs. 2020 Texas Integrated Report for Clean Water Act Sections 305(b) and 303(d), Austin. 15 pp.

Tables and Figures

Table 1. Characteristics of Fayette County Reservoir, Texas.

Characteristic	Description
Year constructed	1978
Controlling authority	Lower Colorado River Authority
County	Fayette
Reservoir type	Power cooling
Shoreline development index	Unknown
Conductivity	1159 µS/cm

Table 2. Boat ramp characteristics for Fayette County Reservoir, Texas, September 2019. This is a stable-level Reservoir (conservation level is 390 feet above mean sea level).

Boat ramp	Latitude Longitude (dd)	Public	Parking capacity (N)	Elevation at end of boat ramp (ft.)	Condition
Park Prairie Park	29.945867 -96.747619	Y	91	N/A	Good
Oak Thicket Park	29.947372 -96.727044	Y	96	N/A	Good

Table 3. Harvest regulations for Fayette County Reservoir, Texas.

Species	Bag limit	Length limit
Catfish: Channel and Blue Catfish, their hybrids and subspecies	25 (in any combination)	12-inch minimum
Catfish, Flathead	5	18-inch minimum
Bass: Largemouth	5[a]	16- to 24-inch slot
Crappie: White and Black Crappie, their hybrids and subspecies	25 (in any combination)	10-inch minimum

[a] Only one fish over 24 inches may be retained.

Table 4. Stocking history for Fayette County, Texas. Life stages are fry (FRY), fingerlings (FGL), advanced fingerlings (AFGL), adults (ADL) and unknown (UNK). Life stages for each species are defined as having a mean length that falls within the given length range. For each year and life stage the species mean total length (Mean TL; in) is given. For years where there were multiple stocking events for a particular species, the mean TL is an average for all stocking events combined.

Species	Year	Number	Life Stage	Mean TL (in)
Black Crappie x White Crappie	1994	111,979	FRY	0.9
	1996	120,895	FRY	0.9
	1997	118,977	FRY	0.9
	Total	351,851		
Blue Catfish	1976	27,860	UNK	0.0
	1985	6,784	FGL	2.0
	1986	12,150	FGL	2.0
	Total	46,794		
Channel Catfish	1976	96,000	AFGL	7.9
	1985	13,803	AFGL	5.0
	1986	12,070	AFGL	5.0
	2018	2,928	ADL	15.0
	2018	10,248	AFGL	9.6
	2020	123,345	FRY	0.8
	Total	258,394		
Flathead Catfish	1976	12,000		0.0
Florida Largemouth Bass	1977	96,375	FRY	1.0
	1994	208	ADL	12.0

Table 5. Objective-based sampling plan components for Fayette County Reservoir, Texas 2019 – 2020.

Gear/target species	Survey objective	Metrics	Sampling objective
Electrofishing			
Largemouth Bass	Abundance	CPUE – stock	RSE – stock ≤ 25
	Size structure	PSD, length frequency	N ≥ 50 stock
	Age-and-growth	Age at 14 inches	N = 13, 13.0 – 14.9 inches
	Condition	W_r	10 fish/inch group (max)
	Genetics	% FLMB	N = 30, any age
Bluegill [a]	Abundance	CPUE – total	RSE – stock ≤ 25
	Size structure	PSD, length frequency	N ≥ 50 stock
Redear Sunfish [a]	Abundance	CPUE – total	RSE – stock ≤ 25
	Size structure	PSD, length frequency	N ≥ 50 stock
Gizzard Shad [a]	Abundance	CPUE – total	RSE – stock ≤ 25
	Size structure	Length frequency	N ≥ 50 stock
	Prey availability	IOV	N ≥ 50
Tandem hoop netting			
Channel Catfish	Abundance	CPUE – stock	RSE – stock ≤ 25
	Size structure	PSD, length frequency	N ≥ 50 stock
	Condition	W_r	10 fish/inch group (max)

[a] No additional effort will be expended to achieve an RSE ≤ 25 for CPUE and N ≥ 50 stock of Bluegill, Redear Sunfish, and Gizzard Shad if not reached from designated Largemouth Bass sampling effort. Instead, Largemouth Bass body condition can provide information on forage abundance, vulnerability, or both relative to predator density.

Table 6. Survey of structural habitat types, Fayette County Reservoir, Texas, 2019. Shoreline habitat

type units are in miles and standing timber is acres.

Habitat type	Estimate	% of total
Natural Shoreline	13.7 miles	71.9
Rocky Shoreline	4.9 miles	25.7
Natural Shoreline with Piers and Docks	0.5 miles	2.4
Standing Timber	133.3 acres	5.6

Table 7. Survey of aquatic vegetation, Fayette County Reservoir, Texas, 2016 – 2019. Surface area (acres) is listed with percent of total reservoir surface area in parentheses.

Vegetation	2016	2017	2018	2019
Native submersed	16.3 (0.70)	129.3 (5.39)	57.7 (2.40)	39.3 (1.60)
Native floating-leaved	1.8 (0.07	2.8 (0.12)	0.9 (0.04)	1.3 (0.05)
Native emergent				44.4 (1.85)
Non-native				
Eurasian watermilfoil (Tier III)*				
Hydrilla (Tier III)*	6.3 (0.30)	30.3 (1.26)	16.6 (0.70)	1.5 (0.06)

* Tier III is Watch Status

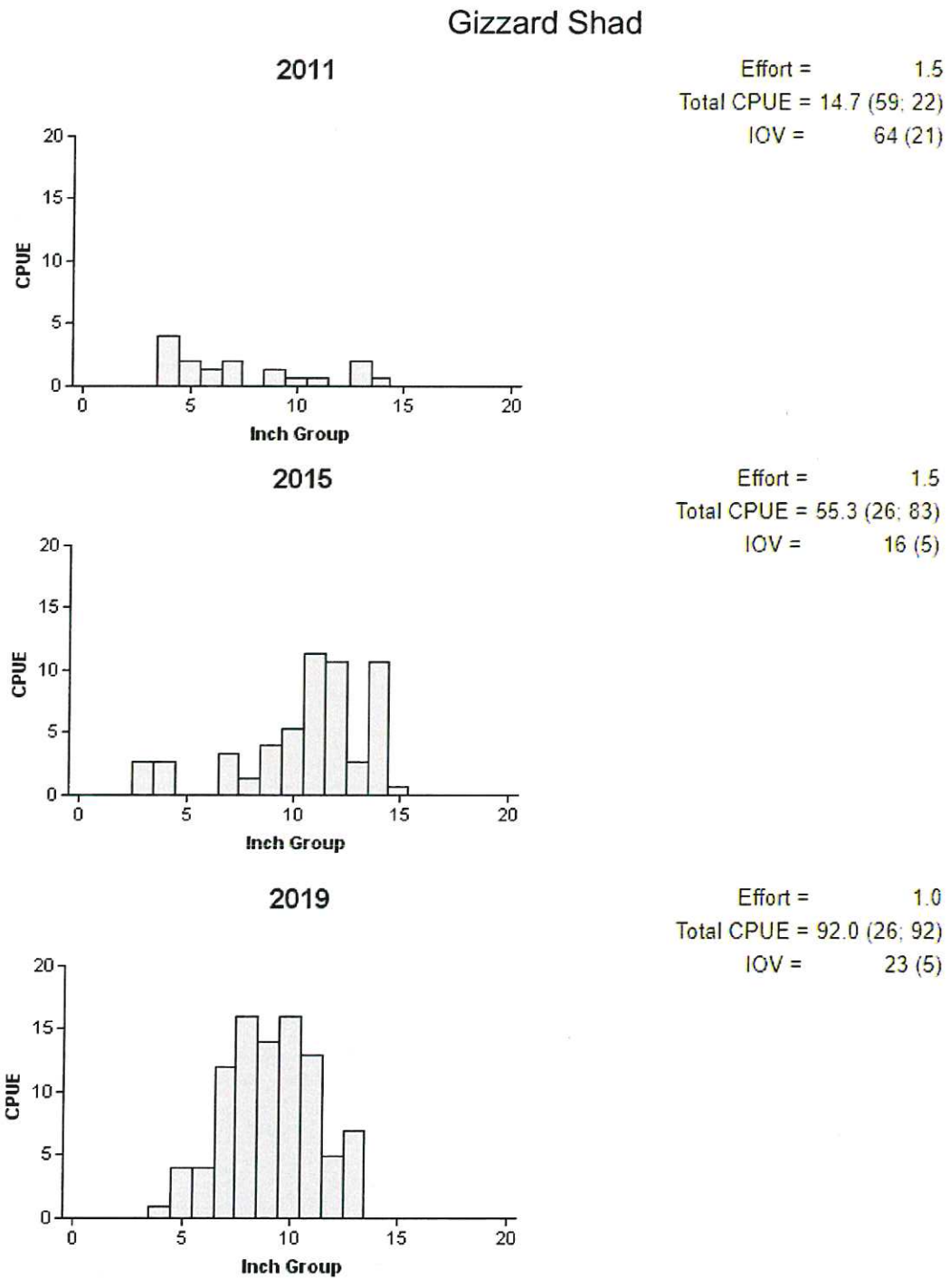


Figure 1. Number of Gizzard Shad caught per hour (CPUE) population indices (RSE and N for CPUE and SE for IOV are in parentheses) for fall electrofishing surveys, Fayette County Reservoir, Texas, 2011, 2015 and 2019.

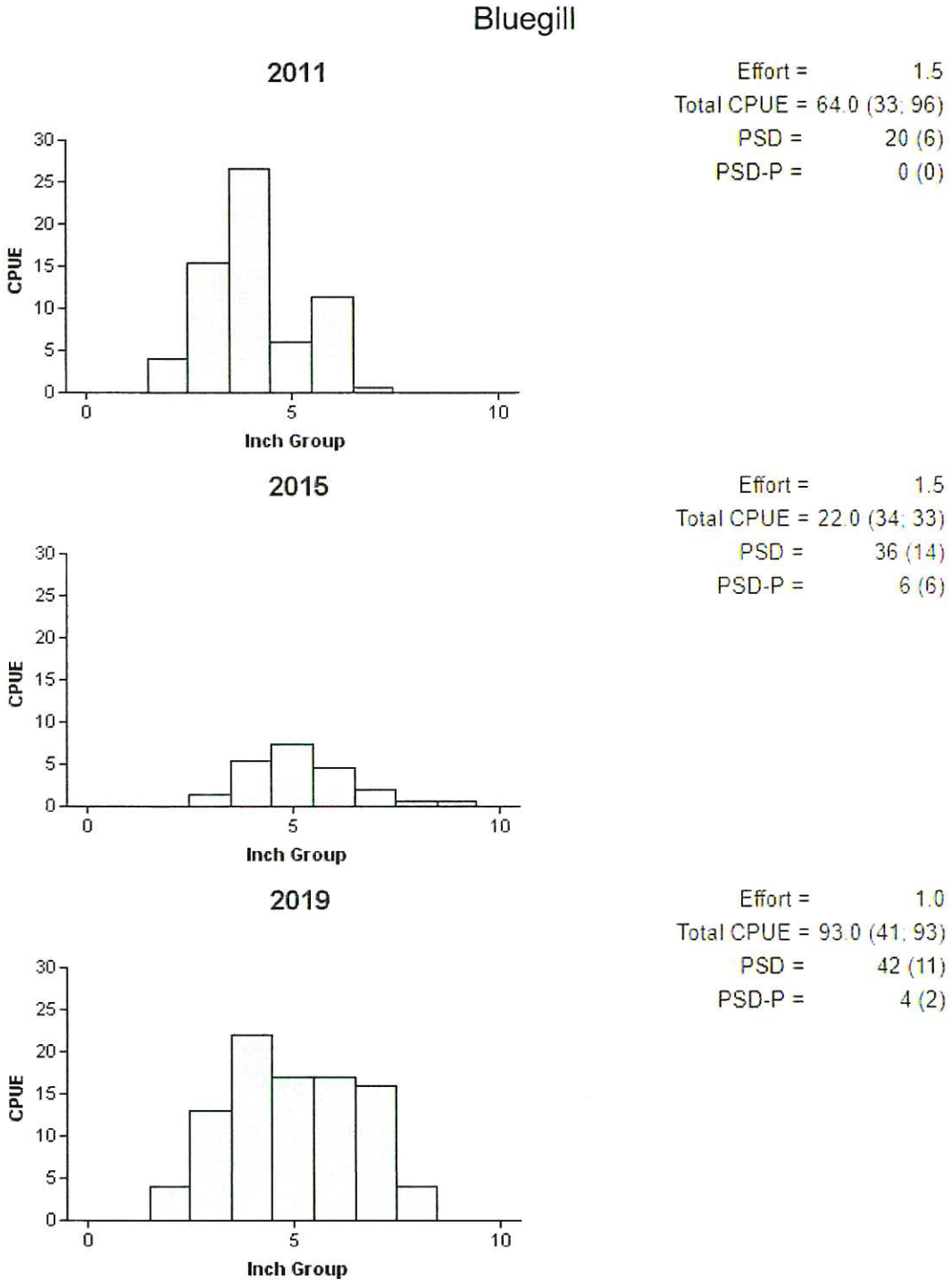
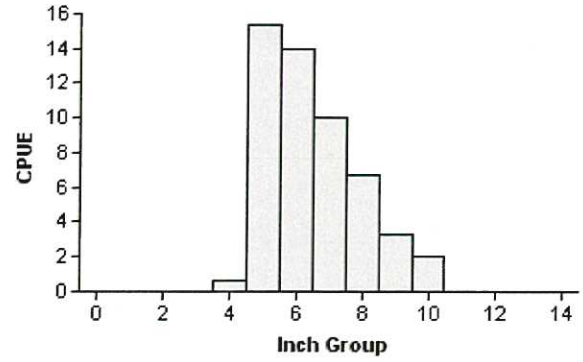


Figure 2. Number of Bluegill caught per hour (CPUE) population indices (RSE and N for CPUE and SE for size structure are in parentheses) for fall electrofishing surveys, Fayette County Reservoir, Texas, 2011, 2015 and 2019.

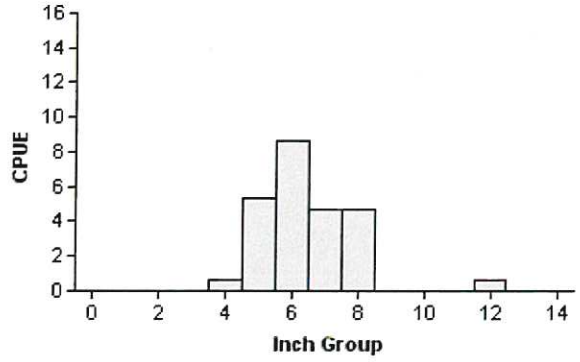
Redear Sunfish

2011



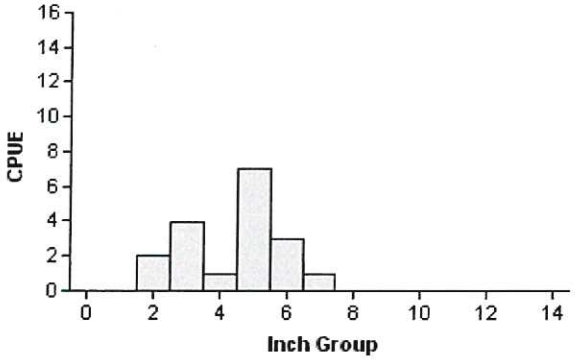
Effort = 1.5
Total CPUE = 52.0 (30; 78)
PSD = 42 (6)
PSD-P = 10 (4)
PSD-M = 0 (0)

2015



Effort = 1.5
Total CPUE = 24.7 (43; 37)
PSD = 41 (9)
PSD-P = 3 (3)
PSD-M = 3 (3)

2019



Effort = 1.0
Total CPUE = 18.0 (40; 18)
PSD = 8 (8)
PSD-P = 0 (0)
PSD-M = 0 (0)

Figure 3. Number of Redear Sunfish caught per hour (CPUE) population indices (RSE and N for CPUE and SE for size structure are in parentheses) for fall electrofishing surveys, Fayette County Reservoir, Texas, 2011, 2015 and 2019.

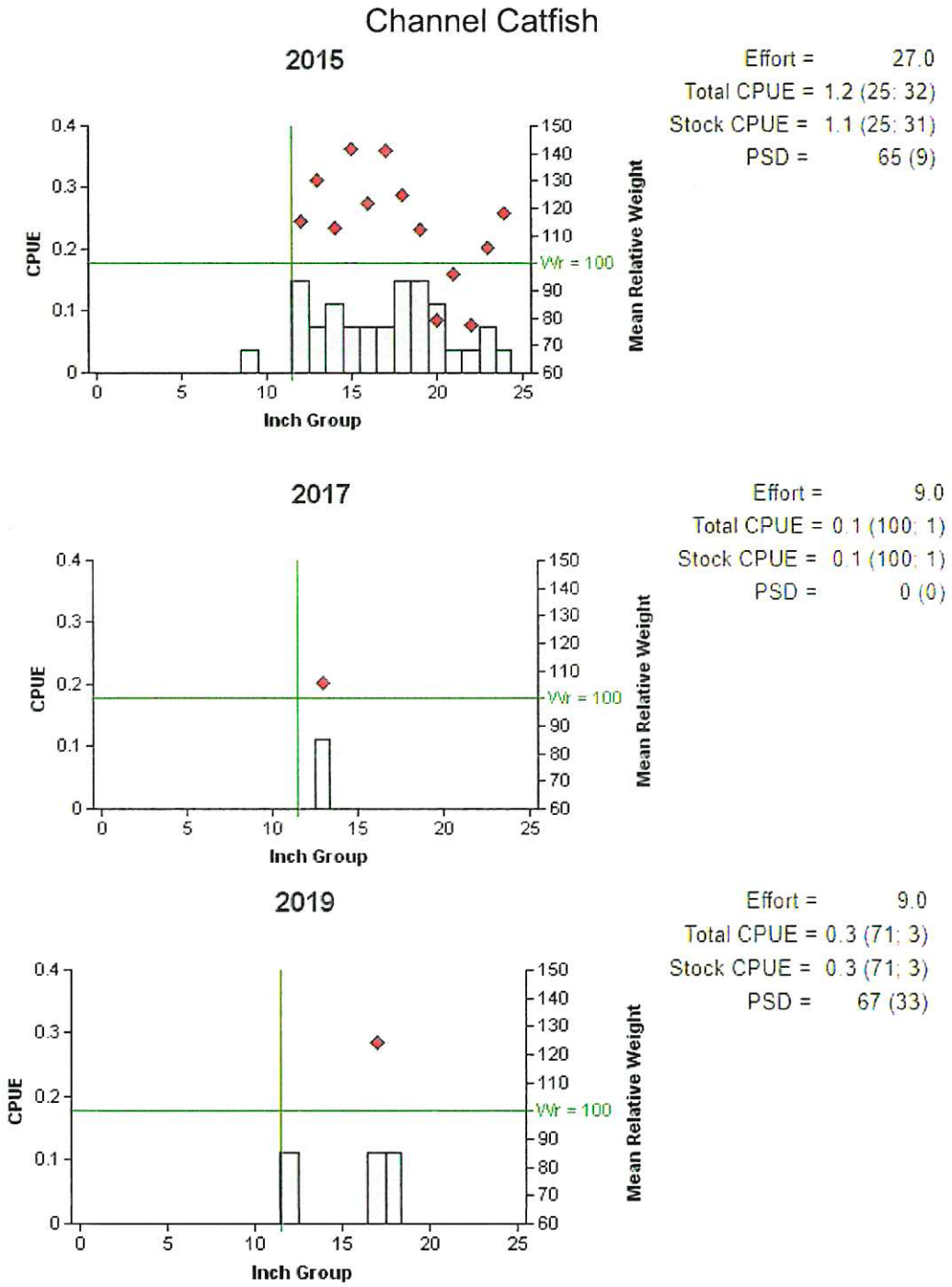


Figure 4. Number of Channel Catfish caught per tandem hoop net series (fish/series; CPUE, bars), mean relative weight (diamonds), and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for summer hoop net surveys, Fayette County Reservoir, Texas, 2015, 2017, and 2019. Vertical line represents minimum length limit at the time of sampling. The horizontal line represents optimum relative weight.

Largemouth Bass

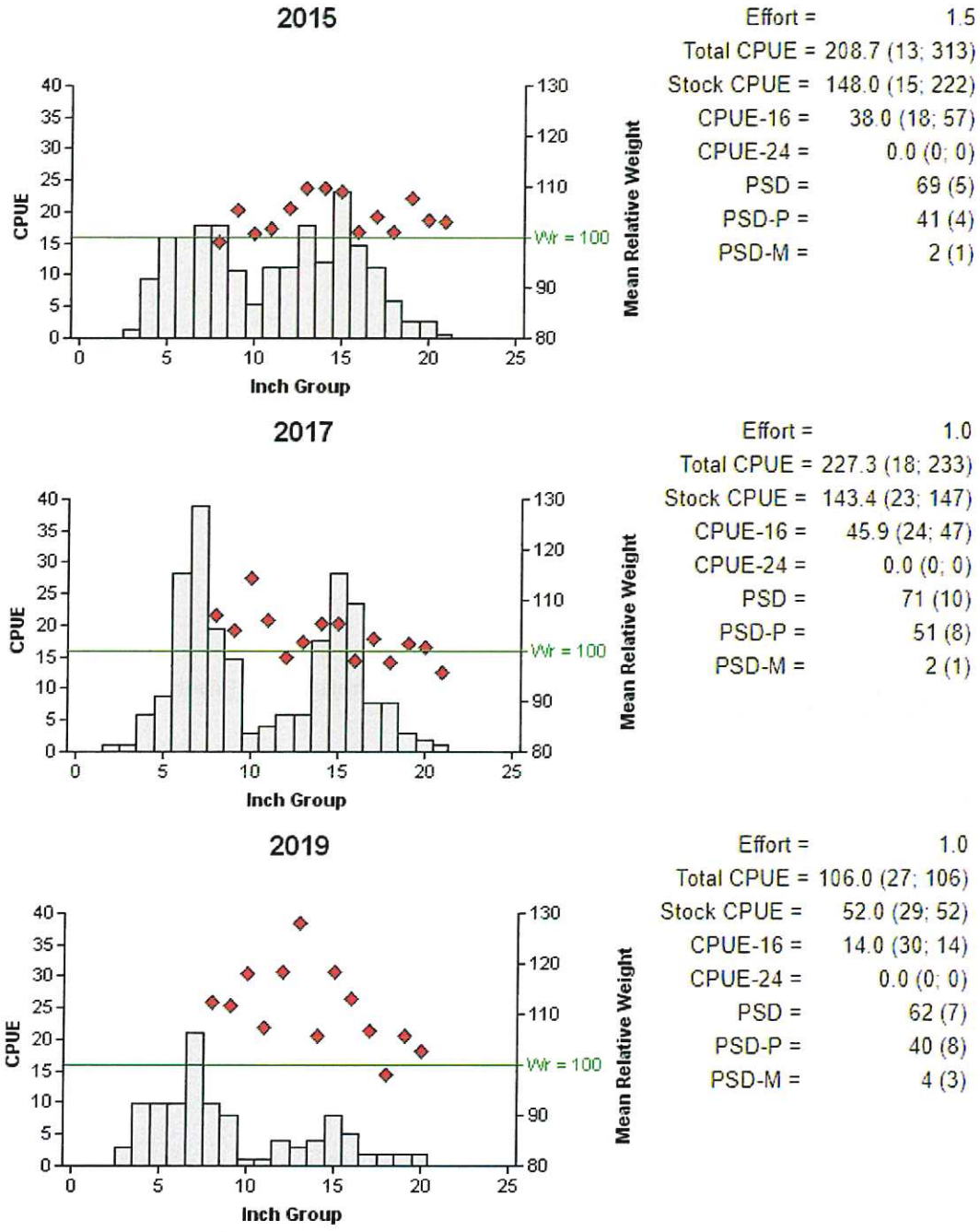


Figure 5. Number of Largemouth Bass caught per hour (CPUE, bars), mean relative weight (diamonds), and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for fall electrofishing surveys, Fayette County Reservoir, Texas, 2015, 2017 (bass-only), and 2019. The horizontal line represents optimum relative weight.

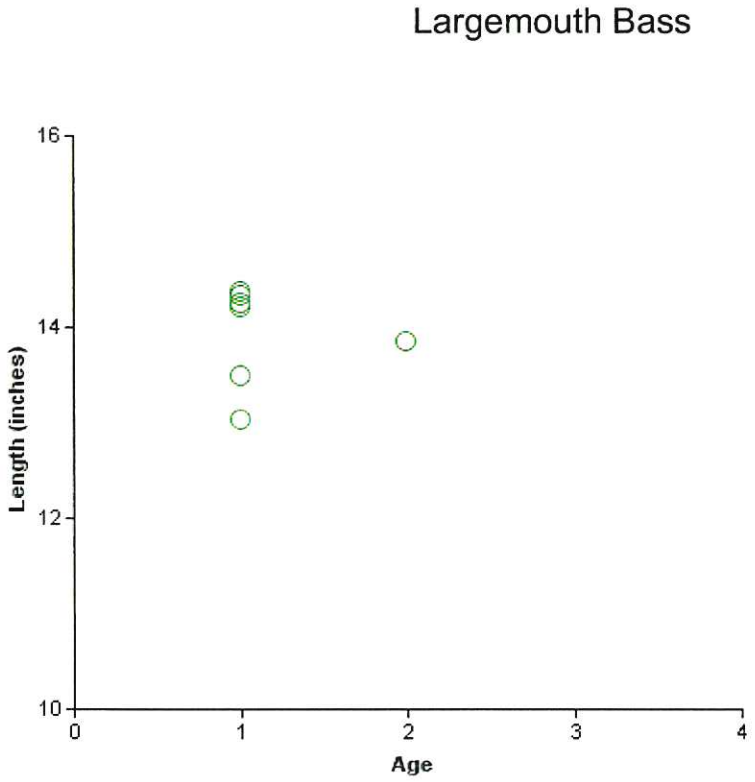


Figure 6. Length at age for Largemouth Bass (n=7) collected by electrofishing at Fayette County Reservoir, Texas, November 2019.

Table 8. Results of genetic analysis of Largemouth Bass collected by fall electrofishing, Fayette County Reservoir, Texas, 2003, 2007, 2015, and 2019. FLMB = Florida Largemouth Bass, NLMB = Northern Largemouth Bass, Intergrade = hybrid between a FLMB and a NLMB. Genetic composition was determined by electrophoresis prior to 2005 and with micro-satellite DNA analysis since 2005.

		Number of fish				
Year	Sample size	FLMB	Intergrade	NLMB	% FLMB alleles	% FLMB
2003	30	21	9	0	90.0	70.0
2007	30	12	18	0	93.7	40.0
2015	30	9	21	0	91.0	30.0
2019	30	12	18	0	94.0	40.0

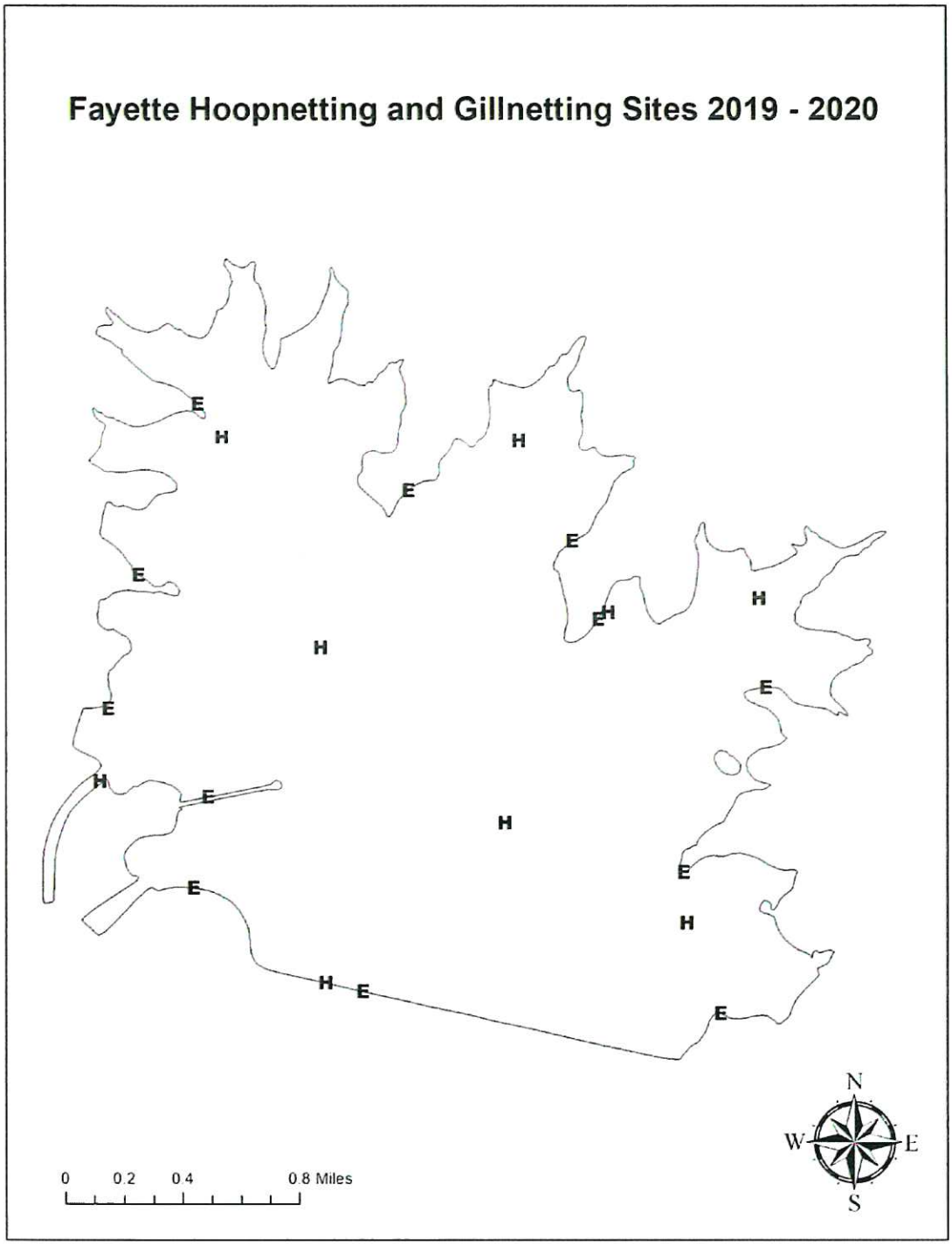
Proposed Sampling Schedule

Table 14. Proposed sampling schedule for Fayette County Reservoir, Texas. Survey period is June through May. Hoop netting surveys are conducted in the summer, and electrofishing surveys are conducted in the fall. Standard survey denoted by S and additional survey denoted by A.

	Survey year			
	2020-2021	2021-2022	2022-2023	2023-2024
Angler Access				S
Structural Habitat				S
Vegetation		A		S
Electrofishing – Fall		A		S
Electrofishing – Spring				
Electrofishing – Low frequency				
Trap netting				
Gill netting				
Baited tandem hoop netting		A		S
Creel survey		S		
Report				S

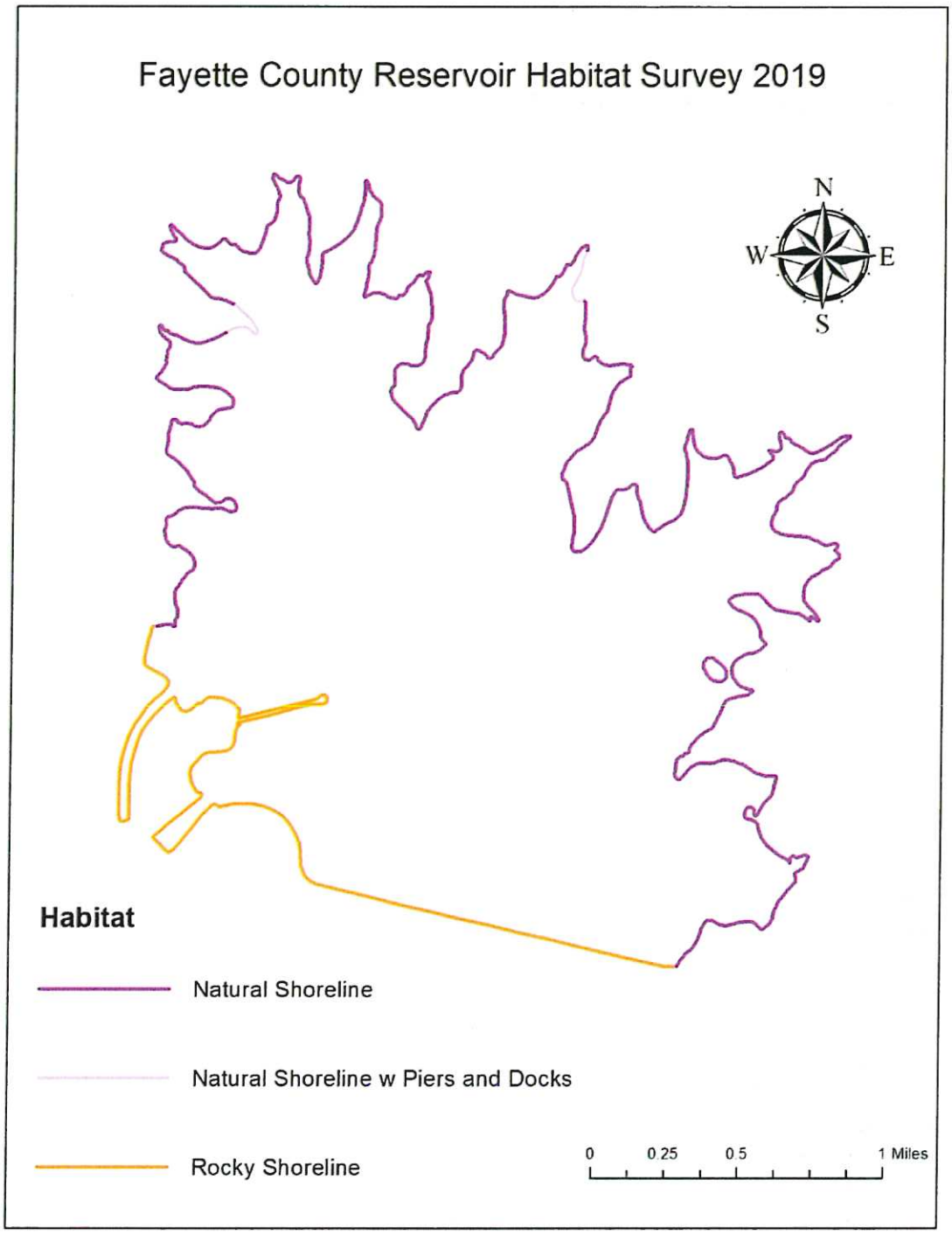
APPENDIX A

Location of sampling sites, Fayette County Reservoir, Texas, 2019. Hoop net and electrofishing stations are indicated by H and E respectively. This is a stable-level reservoir (390 ft. above mean sea level).



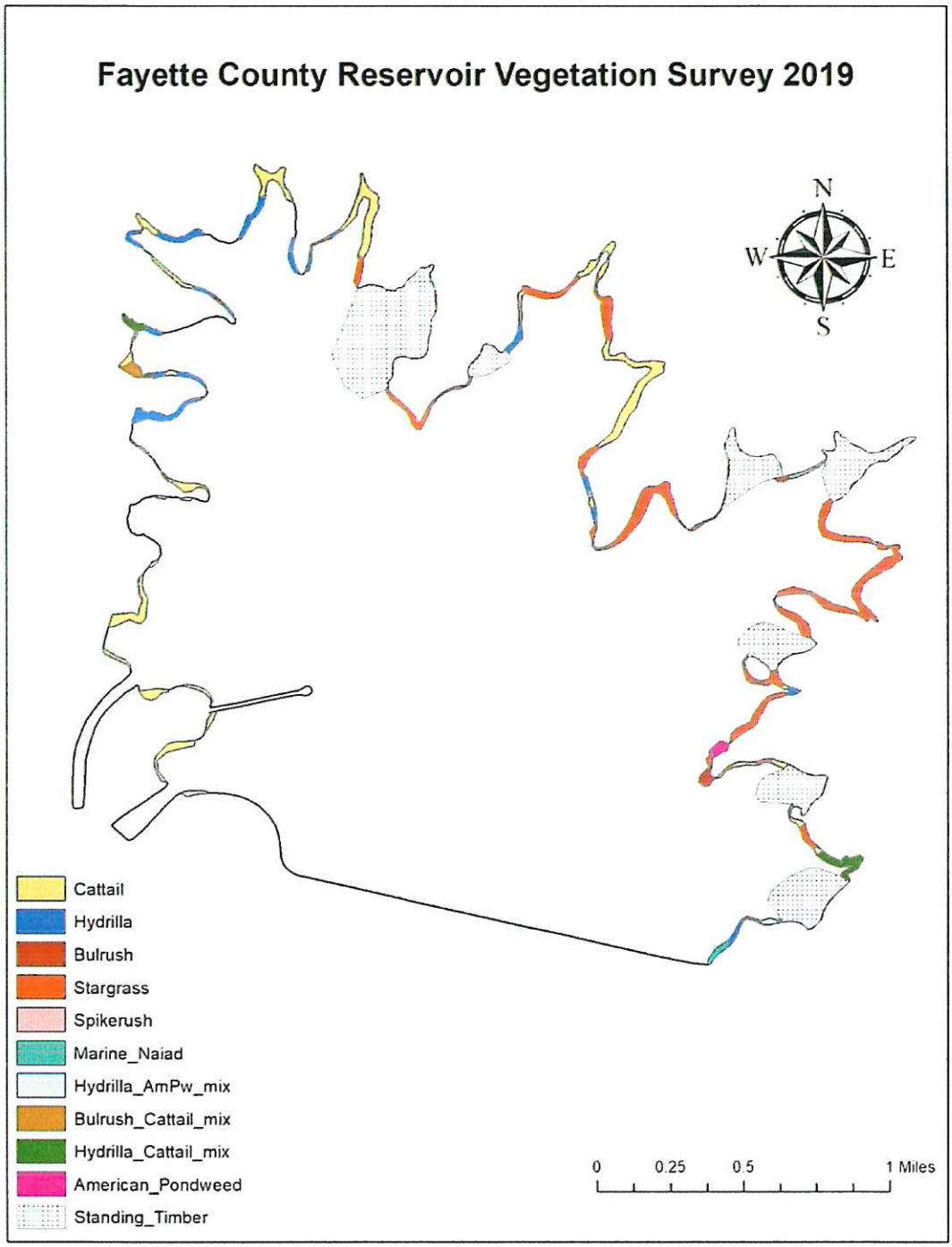
APPENDIX B

Structural habitat survey map for Fayette County Reservoir, Texas, September 2019.



APPENDIX C

Aquatic vegetation survey coverage map for Fayette County Reservoir, Texas, September 2019.



APPENDIX D

	Electrofishing		Hoop Netting	
Species	CPUE	N	CPUE	N
Gizzard Shad	92.0 (26)	92		
Threadfin Shad	63.0 (62)	63		
Channel Catfish			0.3 (71)	3
Green Sunfish	2.0 (100)	2		
Bluegill	93.0 (41)	93		
Redear Sunfish	18.0 (40)	18		
Largemouth Bass	106.0 (27)	106		
Rio Grande Cichlid	10.0 (100)	10		
Tilapia	18.0 (62)	18		

Number (N) and catch rate (CPUE, RSE in parentheses) of all target species collected from all gear types from Fayette County Reservoir, Texas, 2019. Sampling effort was nine net-nights for hoop netting and 1 hour for electrofishing.

APPENDIX E

Summary of aquatic vegetation surveys, Fayette County Reservoir 2007 – 2019

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Total Acres	241	172	185	73		129	43	47	92	25	163	75	103
Percent Coverage	10	7	7	3	-	5	2	2	4	1	6	3	4
Dominant Species	MN	MN	MN	MN/H Mix	-	MN	MN	MN	MN	MN	WS	MN	CT/WS
Acres	232	162	140	63	-	68	27	23	42	11	69	48	38/37
Coverage	10	7	6	3	-	1	1	2	0.5	3	2	2	2

MN = Marine naiad

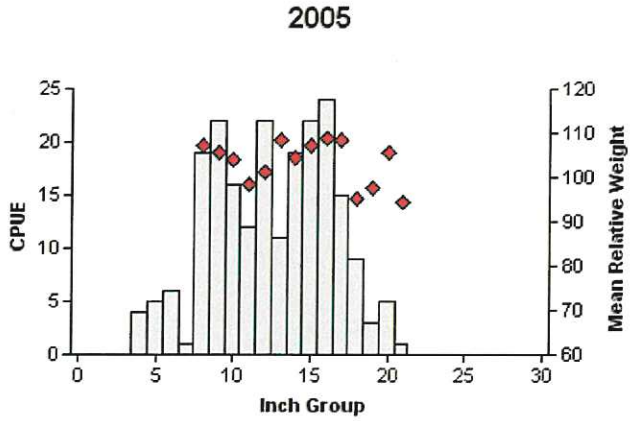
MN/H = Marine naiad and hydrilla mix

WS = Water stargrass

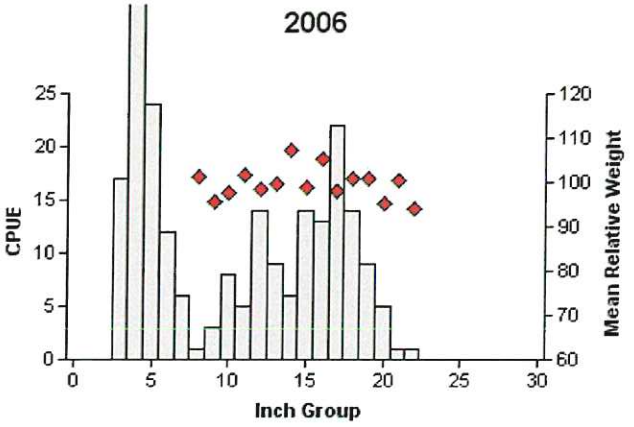
CT = Cattail

APPENDIX F

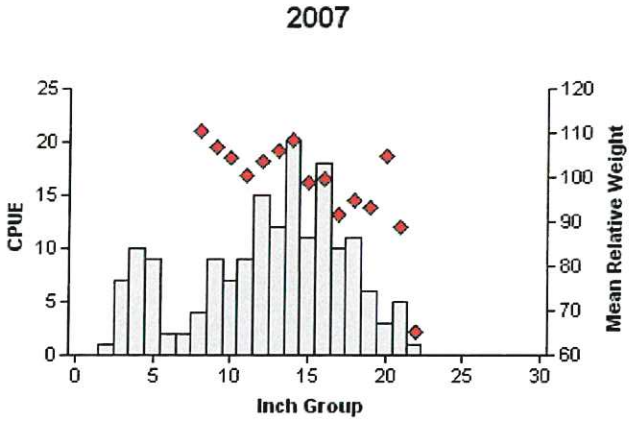
Largemouth Bass electrofishing data, Fayette County Reservoir 2005, 2006, 2007



Effort = 1.0
Total CPUE = 216.0 (15; 216)
Stock CPUE = 200.0 (17; 200)



Effort = 1.0
Total CPUE = 234.0 (30; 234)
Stock CPUE = 125.0 (13; 125)



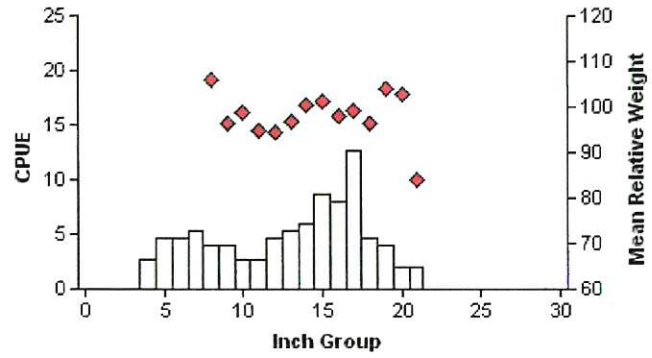
Effort = 1.0
Total CPUE = 172.0 (16; 172)
Stock CPUE = 141.0 (17; 141)

APPENDIX F (Cont.)

Largemouth Bass electrofishing data, Fayette County Reservoir 2009, 2011, 2013

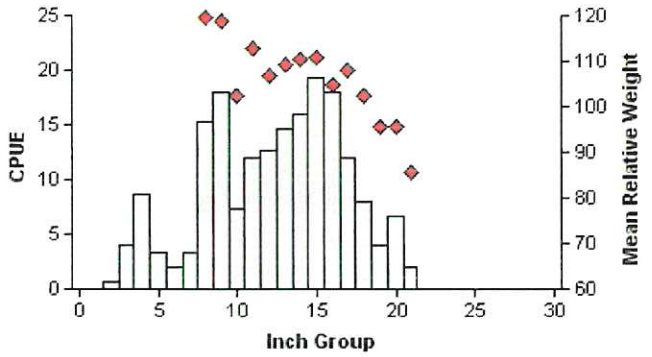
2009

Effort = 1.5
Total CPUE = 88.7 (17; 133)
Stock CPUE = 71.3 (20; 107)



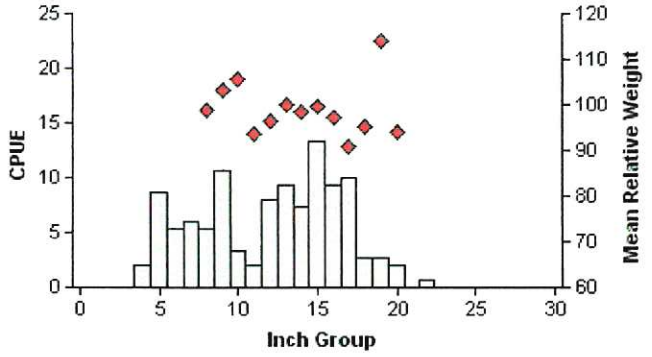
2011

Effort = 1.5
Total CPUE = 188.0 (15; 282)
Stock CPUE = 166.0 (17; 249)



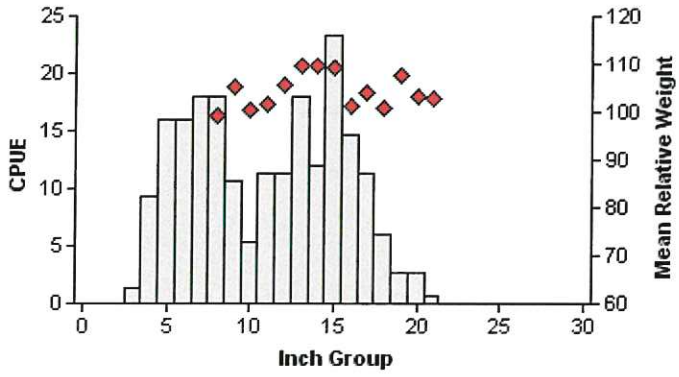
2013

Effort = 1.5
Total CPUE = 108.7 (16; 163)
Stock CPUE = 86.7 (18; 130)

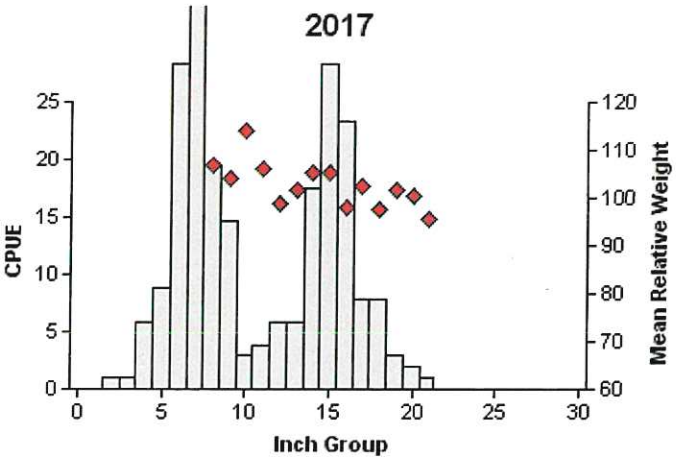


APPENDIX F (Cont.)

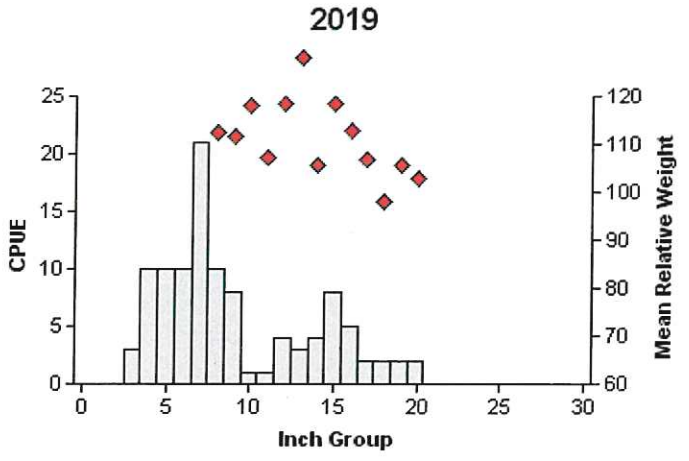
Largemouth Bass electrofishing data, Fayette County Reservoir 2015, 2017, 2019



Effort = 1.5
Total CPUE = 208.7 (13; 313)
Stock CPUE = 148.0 (15; 222)



Effort = 1.0
Total CPUE = 227.3 (18; 233)
Stock CPUE = 143.4 (23; 147)



Effort = 1.0
Total CPUE = 106.0 (27; 106)
Stock CPUE = 52.0 (29; 52)

APPENDIX G

The catch per unit effort (fish/h) of juvenile Largemouth Bass (< 8 inches) from 2005 to 2019, Fayette County Reservoir.

	2005	2006	2007	2009	2011	2013	2015	2017	2019
Juvenile CPUE	16	109	31	17	22	22	60	83	54



Life's better outside.®

In accordance with Texas State Depository Law, this publication is available at the Texas State Publications Clearinghouse and/or Texas Depository Libraries.

© Texas Parks and Wildlife, PWD RP T3200-1292 (08/20)

TPWD receives funds from the USFWS. TPWD prohibits discrimination on the basis of race, color, religion, national origin, disability, age, and gender, pursuant to state and federal law. To request an accommodation or obtain information in an alternative format, please contact TPWD on a Text Telephone (TDD) at (512) 389-8915 or by Relay Texas at 7-1-1 or (800) 735-2989. If you believe you have been discriminated against by TPWD, please contact TPWD or the U.S. Fish and Wildlife Service, Office for Diversity and Workforce Management, 5275 Leesburg Pike, Falls Church, VA 22041.

ATTACHMENT: FPP-TECH-17 Existing Entrainment Studies

The Fayette Power Project (FPP) is a coal-fired power plant located on Lake Fayette near La Grange, Texas. Lake Fayette is a 2,400-acre impoundment that was created in the late 1970s to act as a cooling lake for the FPP. FPP utilizes a closed-cycle recirculating system (CCRS) to achieve Best Technology Available (BTA) for impingement. The CCRS also serves as an entrainment technology because water in the lake is recirculated for continual use as plant cooling water.

Entrainment performance studies have not been performed at FPP. To find other entrainment studies that might be representative of FPP's operation, LCRA performed an internet search for publicly available studies. Searches included:

- Environmental Protection Agency (EPA) docket related to the 316(b) rule;
- Electric Power Research Institute (EPRI) website;
- Nuclear Regulatory Commission (NRC) website; and
- general internet search

Other studies considered included:

- Desalination Plant Intakes: Impingement and Entrainment Impacts and Solutions (WateReuse Association Desalination Committee, 2011)
- Entrainment Survival: Status of Technical Issues and Role in Best Technology Available (BTA) Selection (EPRI, 2009)
- Impingement and Entrainment Survival Studies: Technical Support Document (EPRI, 2005)
- Review of Entrainment Survival Studies: 1970-2000 (EPRI, 2000)
- Entrainment-related studies available on the Nuclear Regulatory Commission website

Although the above studies provide some relevant information, the following two studies were identified as having greater relevance to FPP operations because they examine the impacts that Texas electric generating facilities with recirculating cooling water systems with reservoirs have on fish and aquatic life.

<u>Entrainment Studies</u>

Study Title: *Evaluating Fish Impingement and Entrainment at the Comanche Peak Steam Electric Station (Bauml, George A., Thesis for the Degree of Master of Science, 1996).*

Relevance: This study was identified as having relevance to the FPP facility because it was performed at a steam electric generating facility located in Texas that utilizes a fresh-water cooling water impoundment that recirculates cooling water. The study examined fish communities that have similarities to the existing fish communities in Lake Fayette. The Texas Parks and Wildlife Department's 2019 Fisheries Management Survey Report describes the fish community in Lake Fayette as including blue gill, gizzard shad, and threadfin shad as the predominant prey species, and channel catfish and largemouth bass as predator species. The results of the study provide information regarding how fish communities may be affected by a steam electric generating facility that uses a closed cycle recirculating system.

The definition of entrainment (*40 CFR § 125.92(h)*) "means any life stages of fish and shellfish in the intake water flow entering and passing through a cooling water intake structure and into a cooling water

system, including the condenser or heat exchanger." The following study took sampling data from in front of the intake structures and assumed 100% mortality of entrained ichthyoplankton and maximum intake operation at the plant. The data should be interpreted as providing the worst-case scenario for impacts to ichthyoplankton that are entrained, i.e. pass through the intake structure and into the cooling water system.

Study Summary: The following summary is quoted directly from the document.

"This study was designed to determine if impingement and entrainment by cooling water intake at the Comanche Peak Steam Electric Station have an adverse impact upon the Squaw Creek Reservoir fish population. The yearly impingement of fish was estimated to be 262,994 of 14 species. The threadfin shad (*Dorosoma petenense*) accounted for 96% of this total. Entrainment of eggs and larvae for a five-month period was estimated to be 15,989,987 and 42,448,794 respectively. Two fish population studies were performed on Squaw Creek Reservoir to help assess impact. It was determined that the losses due to impingement and entrainment have no adverse impact upon the fish population of Squaw Creek Reservoir."

Study Description (as it pertains to entrainment):

The objective of the entrainment study was to determine potential impacts to the reservoir's fish populations by identifying what organisms were being entrained, the specifics involved, and to estimate the loss of eggs, larva, and juveniles.

As described in the study, Squaw Creek Reservoir (SCR) is a 3,272-acre impoundment located on Squaw Creek in Hood and Somervell Counties, Texas. The reservoir was created in 1977 to serve as a cooling reservoir for the Comanche Peak Steam Electric Station (CPSES), which is a two-unit power plant with a net rating of 2,300 Megawatts (MW). Secondary water uses of the reservoir include recreational fishing. The study identified major predator species of fish as largemouth bass, smallmouth bass, white bass, white crappie, and channel catfish. The major forage species included threadfin shad, bluegill sunfish, gizzard shad, and inland silversides.

The entrainment study included weekly sampling from April 1994 to August 1994. The entrainment data was collected by sampling in front of the trash rakes in front of the intake structures. The percent composition of ichthyoplankton collection by genus was determined for eggs, larvae, and juveniles. A simple population modeling approach was used to estimate the potential impact on fish populations. The model converts the number of ichthyoplankton entrained into the number of adult fish that would have been produced had the ichthyoplankton not been entrained. Approximately 29.7 million eggs, 44.4 million larva, and 1.3 million juveniles that represented six genera were estimated to be entrained during the study period. As described in the study, the model estimated that the adult loss as a result of the eggs, larva, and juveniles entrained ranged from 22 adults for largemouth bass to 300,000 adults for threadfin shad. See Table 1 for the model results for estimated adult loss.

Estimated Adult Loss

Model Results

Species	Number Entrained	Lifetime Fecundity	Survival Egg to Larv	Larv From One Female	Survival Larv to Adult	Number of Adults Lost
FWD (Eggs)	5,610,864	1,800,000	0.005	6,500	0.00031	2
FWD (Larv)	4,588,465	1,800,000	0.005	6,500	0.00031	1,412
ISS (Eggs)	922,635	95,000	0.005	475	0.00421	2
ISS (Larv)	730,549	95,000	0.005	475	0.00421	3,287
TFShad	3,586,877	9,550	0.005	48	0.04188	150,236
GZShad	3,586,877	1,560,000	0.005	7,800	0.00026	920
WBass	5,365,234	3,390,000	0.005	16,950	0.00012	633
LMBass	4,437,467	550,000	0.750	412,500	0.00000	22
WCrappie	12,782,933	462,000	0.750	346,650	0.00001	74
BGSunfish	14,834,933	97,000	0.750	72,750	0.00003	409

Table 1. The results of the equivalent adult loss model and the numbers used in the calculation of these results.

The impingement and entrainment estimates were then evaluated according to the species' ability to compensate for its losses. For example, the study notes that the gizzard shad likely accounts for the large percentage of the 7 million *Dorosoma* genus larva entrained. Although losses are large, the conclusion remains that there is not a significant impact because the fish are a forage species with low survival rates even as adults. In addition, the species is adapted to compensating for enormous losses by maintaining their populations.

Conclusion: The following conclusion is quoted directly from the document.

"The overall conclusion of this thesis is that losses due to impingement and entrainment at the CPSES intake structure are not sufficient to cause adverse impact to the fish community in SCR."

The Comanche Peak study can be viewed in its entirety at the following internet location:
https://digital.library.unt.edu/ark:/67531/metadc278497/m2/1/high_res_d/1002656817-bauml.pdf

Study Title: *Aquatic Ecology-Main Cooling Reservoir and Circulating Water Intake Structure Study Unit 3 and 4 Licensing Project (ENSR, Corporation, August 2008, Prepared for STP Nuclear Operating Company, Wadsworth, Texas).*

Relevance: This study was identified as having relevance to the FPP facility because it was performed at a steam electric generating facility located in the Colorado River basin in Texas that utilizes a cooling water impoundment that recirculates cooling water. The fish and aquatic life in the reservoir is heavily influenced by estuarine species due to the proximity of the South Texas Project (STP) to the Texas coast. The results of the study are relevant regarding how fish communities, whether fresh-water or estuarine, are affected by a steam generating facility that uses a closed cycle recirculating system. In terms of the definition of entrainment, samples were collected in front of the intake structure during the

entrainment part of the study. The data can be interpreted to assume that the organisms collected in the study would have been entrained in the cooling water system (would have passed through the cooling water intake structure into the cooling water system).

Summary: The following summary is quoted directly from the study document.

"This report summarizes the results of ENSR's aquatic assessment of the Main Cooling Reservoir (MCR) and the Circulating Water Intake Structure (CWIS) for the circulating water system for Units 1 and 2. The study was conducted in conjunction with the STP Nuclear Operating Company's Unit 3 and Unit 4 Combined Operating License (COL) application development for the proposed expansion project located proximal to Units I and 2 at the South Texas Project Electric Generating Station (STPEGS) in Matagorda County, Texas. From May 2007 to April 2008, biological samples were collected from the MCR and the CWIS at the STPEGS facility. The objective of the aquatic assessment was to collect current data over a one-year period to characterize the aquatic species within the MCR, and to evaluate impingement and entrainment impacts to establish, to the extent possible, relationships between the presence of aquatic organisms and the current STPEGS intake design and operating parameters."

Study Description (as it pertains to entrainment):

As described in the study, the STPEGS facility utilizes an approximately 7,000-acre reservoir called the Main Cooling Reservoir (MCR) to provide closed-cycle cooling water for up to four generating units, which produce approximately 2,700 MW. During the study period, two generating units were operational.

The study assessed the aquatic species of the MCR and the CWIS. For the MCR part of the study, the samples were collected over four quarterly sampling periods through one year using gill nets, trawls, beach seines, and plankton nets. The sampling occurred at fixed stations located in stratified areas of the reservoir. The objective was to characterize the aquatic species in the reservoir. For the CWIS part of the study, the study was designed to determine if daily or seasonal patterns were affected by the operation of the circulating water pump and intake screens. For the CWIS part of the study related to entrainment, samples were collected from behind the trash bars using plankton nets during the time period from May 2007 to April 2008. Samples were collected four times during a 24-hour period.

Data collected during the study show high numbers of certain aquatic organisms while the number of different species was low to marginal. Healthy populations of threadfin shad, silversides, blue catfish, common carp, ladyfish and Atlantic croaker were identified in the reservoir.

The data from the CWIS part of the study show that a low number of fish species were entrained (<1%) at the circulating water intake structure. A total of 207,696 organisms were entrained, which represented 9 different fish families and 12 different classes of invertebrates. See Table 10 below for the species collected. The mud crab comprised 67% of the organisms entrained while ichthyoplankton species comprised less than 1% of the total composition of entrained organisms. The mud crab species is common on the Texas coast and is known to occur in estuarine and freshwater rivers and reservoir systems. Entrainment rates were highest during the spring months.

Table 10. Species collected during entrainment sampling in the MCR Circulating Water Intake Structure, 2007-2008.

Common Name	Scientific Name	Total
Finfish		
Anchovy	*Engraulid* sp.	30
Clupeid	*Clupeid* sp	544
Gobies	*Gobi* spp.	61
Naked goby	*Gobiosoma bosc*	5
Silversides	*Atheriniformes spp.*	2
Silversides	*Atheriniformes spp.*	169
Silversides	*Atheriniformes spp.*	30
Fish egg	Fish egg	103
Needlefish	*Beloniformes spp.*	3
Flying fish (eggs)	*Exocoetidae* sp. (eggs)	307
Egg Complex	*Carangidae-Labridae-Sciaenidae*	8
Perch-like fish	*Perciformes*	6
Wrasse fishes	*Labridae* sp.	3
	Subtotal	1,271
Invertebrates		
Amphipod	Amphipod spp.	141
Amphipod	*Cerapus* sp.	4
Brachyuran decapod	*Brachyura sp. (zoea)*	353
Fish Lice	*Branchiura spp.*	399
Cladoceran	*Cladocera spp.*	800
Copepod	*Copepoda spp.*	6,588
Decapoda	*Rhithropanopeus harrissi*	140,192
Decapoda	*Panopeidae sp.*	10,798
Decapoda Zoea	Decapoda	31,919
Harpacticoid copepod	Copepoda	12,212
Insect sp.	Insecta	24
Tongue biters	Isopoda	16
Mollusk	*Bivalvia* sp.	1
Mysid shrimp	*Mysida sp.*	2,660
Midge (sp.1)	Diptera	32
Mites/Ticks	*Acari*	12
Midge	*Chironomidae* sp.	78
Polychaete	*Nereis* sp.	4
Seed Shrimp	Ostracoda	78
Shrimp	*Caridea*	1
Unidentified		113
	Subtotal	206,425
	Total	**207,696**

Conclusion: The following conclusion is quoted directly from the document.

"Based on data collected from this combined study it is evident that MCR supports a very diverse aquatic system both for fishes and macroinvertebrates. Although the reservoir functions as a cooling water system, the day-to-day withdrawal of water through the CWIS and resultant influx of heated discharge water does not appear to have a negative impact on the fish and macroinvertebrate communities living in the MCR."

The STP study can be viewed in its entirety at the following internet location:
https://www.nrc.gov/docs/ML0908/ML090860875.pdf
(Study begins on page 48 of the document.)

ATTACHMENT: FPP-TECH-18 Engineering Calculations and Pump Curves

Lower Colorado River Authority
FAYETTE POWER PROJECT
Post Office Box 519 La Grange, TX 78945 (979) 249-3111

JOB
SHEET NO. 1 OF 5
CALCULATED BY DATE
CHECKED BY DATE
SCALE

Outfall 001 Flow Calculation Methodology.
The location of the actual calculations from 2005 is unknown. This is a summary of the method used to determine the flow.

Assumptions:

① Pumps are in like-new condition and operate on their OEM pump curves.

② Discharge pressure gages used at the time were reasonably accurate.

③ Velocity Head is 2 ft. This is a reasonable value per pump OEM manuals.

Unit 1 Circulating Water Pumps Avg. Disch Press = 8 psig

Lake Level 390 ft, Pump discharge centerline = 405.67 ft

$$\text{Total Head} = (8\text{psig})\left(2.3066\ \frac{\text{ft}}{\text{psig}}\right) + (405.67 - 390) + 2$$

[Discharge Head] + [Lift] + [Velocity Head]

Total Head = 36.1 ft

Read Pump Curve (attached)

88,750 gpm per pump

STATE OF TEXAS
JIMMY J. POWELL
70503
LICENSED PROFESSIONAL ENGINEER

Jimmy J. Powell PE
3-13-10

DISK FILE #f 1507

Lower Colorado River Authority
FAYETTE POWER PROJECT
Post Office Box 519 La Grange, TX 78945 (979) 249-3111

JOB
SHEET NO. 2 OF 5
CALCULATED BY DATE
CHECKED BY DATE
SCALE

$\left(88{,}750\frac{gal}{min}\right)\left(\frac{60\,min}{hr}\right)\left(3\,pumps\right)\left(\frac{1}{10^6}\right) = 15.98\frac{MG}{hr}$

Unit 1 Circ Water Flow w/ 3 pumps = 15.98×10^6 gal/hr

Unit 2 Circulating Water Pumps

Avg. Disch. Press = 10 psig. Note: Unit 2 circ water lines are longer + therefore have a larger friction loss and pressure drop. This causes Unit 2 pumps to have a higher disch. pressure.

Total Head = $(10\,psig)\left(\frac{2.3066\,ft}{psig}\right) + (405.67 - 390) + 2$

Total Head = [Discharge Head] + [Lift] + [Velocity Head]

Total Head = 40.7 ft

Read Pump Curve (attached)

88,750 gpm per pump – Same as Unit 1. (see Unit 1 Calculation to MG/hr)

Unit 2 Circ Water Flow w/ 3 pumps = 15.98×10^6 gal/hr

STATE OF TEXAS
JIMMY J. POWELL
70503
LICENSED
PROFESSIONAL ENGINEER

Jimmy J. Powell PE
3-13-10

DISK FILE #f 1507

LCRA ENERGY • WATER • COMMUNITY SERVICES

Lower Colorado River Authority
FAYETTE POWER PROJECT
6549 Power Plant Road, La Grange, TX 78945 (979) 249-3111

JOB
SHEET NO. 3 OF 5
CALCULATED BY ____ DATE ____
CHECKED BY ____ DATE ____
SCALE

Unit 1 & 2 Cooling Water Pumps: Cooling Water pressure on both units was 61 psig.

Total Head = (61 psi)(2.3066) + [405.67 - 390] + 2

= [Discharge Head] + [Lift] + [Velocity Head]

Total Head = 158.4 ft ⇒ Pump Curve 5,850 gpm each

Unit 1 w/ 3 pumps:

$$\frac{(5850\ gpm)(3\ pumps)(60\ min)}{1{,}000{,}000} = 1.05\ MG/hr$$

Same for Unit 2 w/ 3 pumps = 1.05 MG/hr

Unit 3 Circulating Water Pumps Avg. Disch. Press = 8.5 psig

Pump Discharge Centerline elevation = 405.5 ft.

Total Head = [Discharge Head] + [Lift] + [Velocity Head]

= (8.5 psi)(2.3066 ft/psi) + [405.5 - 390] + 2

Total Head = 37.1 ft

Apply 37 ft to attached pump curve + read

71,000 gpm per pump

STATE OF TEXAS
JIMMY J. POWELL
70503
LICENSED PROFESSIONAL ENGINEER

Jimmy J. Powell PE
3-13-10

Lower Colorado River Authority
FAYETTE POWER PROJECT
6549 Power Plant Road, La Grange, TX 78945 (979) 249-3111

JOB
SHEET NO. 4 OF 5
CALCULATED BY DATE
CHECKED BY DATE
SCALE

$\frac{(71{,}000\ gpm)(60\ min)(3\ pumps)}{1\times10^6} = 12.78\ MG/hr$

Unit3 Circ Water Flow w/ 3 pumps = 12.78 MG/hr

Unit3 cooling water pumps

Unit3 cooling water pressure was approx. 63 psig.

Total Head = $(63\ psi)\left(2.3066\ \frac{ft}{psi}\right) + [405.5-390] + 2$

Total Head = 162.8 ft ⇒ Apply to pump curve gives 4500 gpm

Use of this method for calculating Unit3 cooling water flow yields an unreasonable value. 4500 gpm is much lower than the pump rating of 7600 gpm. Also, the rated condition shown on the curve does not match the Head vs. Flow line. Therefore, for Unit3 cooling water, we are basing the flow on the pump rating.

$\frac{(7600\ gpm)(3\ pumps)(60\ min)}{1\times10^6} = 1.37\ MG/hr$

Unit3 Cooling Water w/ 3 Pumps = 1.37 MG/hr

STATE OF TEXAS
JIMMY J. POWELL
70503
LICENSED PROFESSIONAL ENGINEER

Jimmy J. Powell PE
3-13-10

LCRA
ENERGY • WATER • COMMUNITY SERVICES

Lower Colorado River Authority
FAYETTE POWER PROJECT
6549 Power Plant Road, La Grange, TX 78945 (979) 249-3111

JOB _____
SHEET NO. 5 OF 5
CALCULATED BY _____ DATE _____
CHECKED BY _____ DATE _____
SCALE _____

Total Flow to Outfall 001 w/ all Circulating + Cooling water pumps in service:

Unit1 Circ Water	15.98	MG/hr
Unit2 Circ Water	15.98	
Unit3 Circ Water	12.78	
Unit1 Cool. Water	1.05	
Unit2 Cool Water	1.05	
Unit3 Cool Water	1.37	
	48.21 MG/hr	

$48.21 \text{ MG/hr} \times 24 = 1157 \frac{\text{MG}}{\text{day}}$

STATE OF TEXAS
JIMMY J. POWELL
70503
LICENSED PROFESSIONAL ENGINEER

Jimmy Powell PE
3-13-10

EXHIBIT 16-1
CIRCULATING WATER PUMP PERFORMANCE

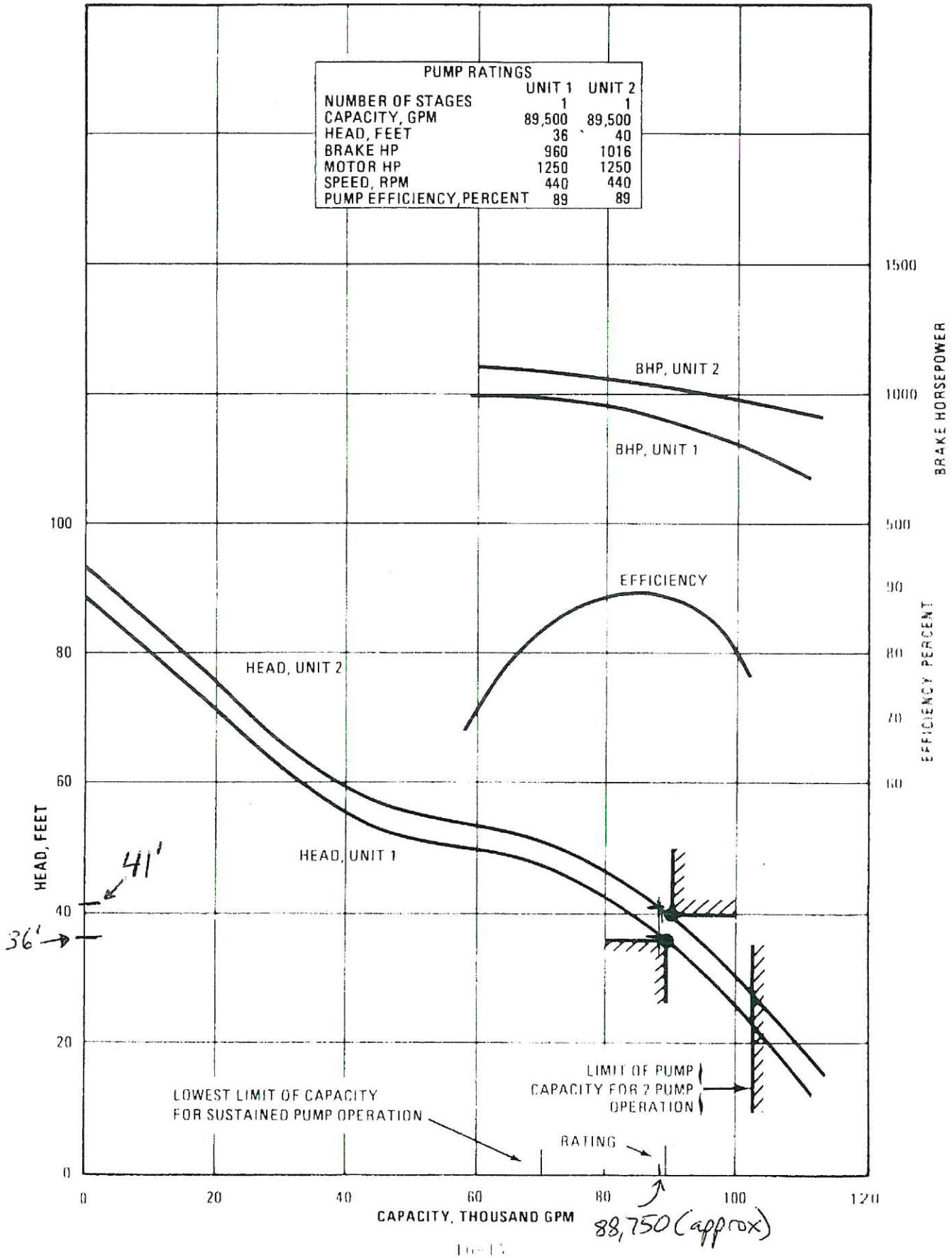
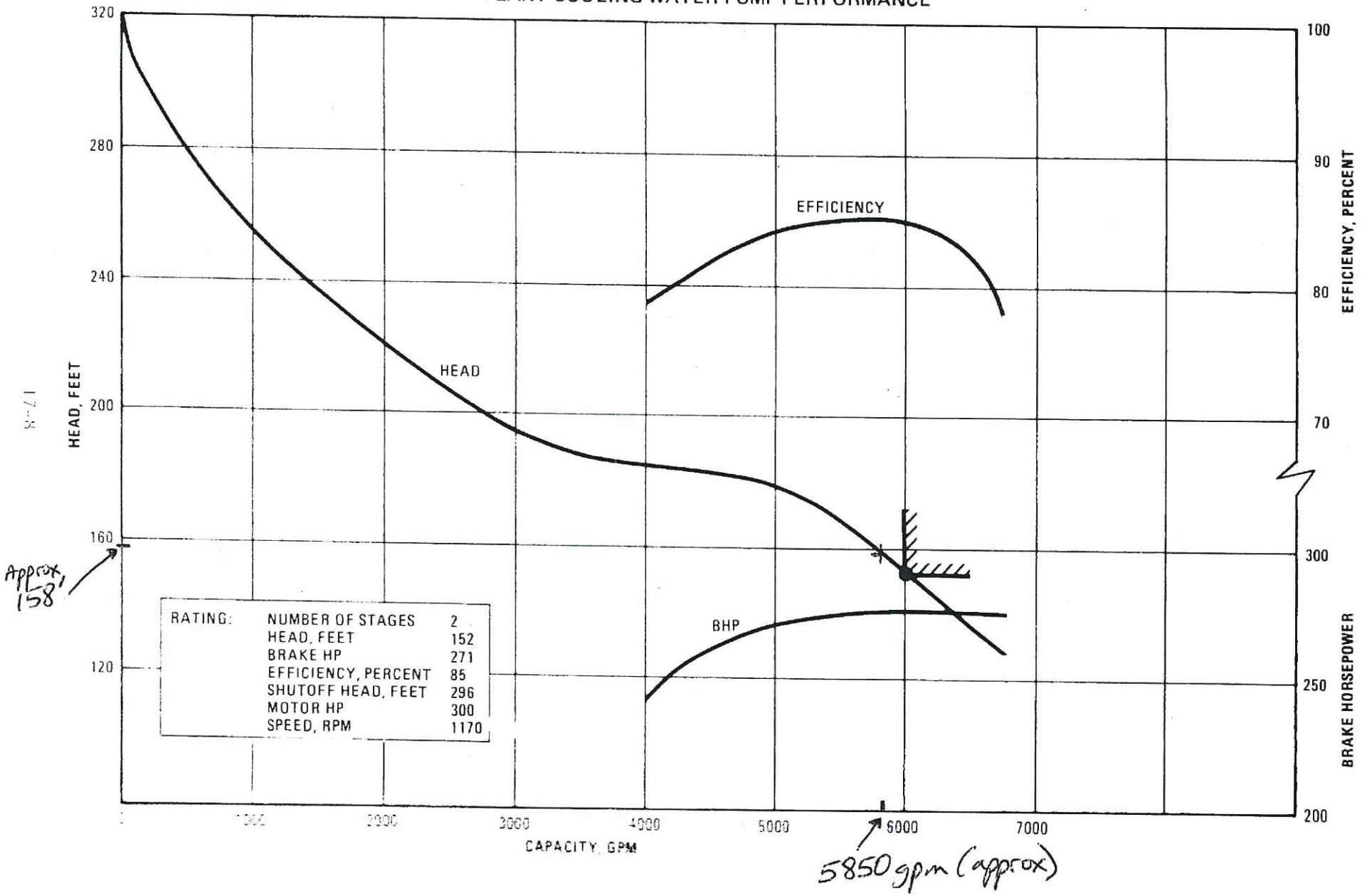
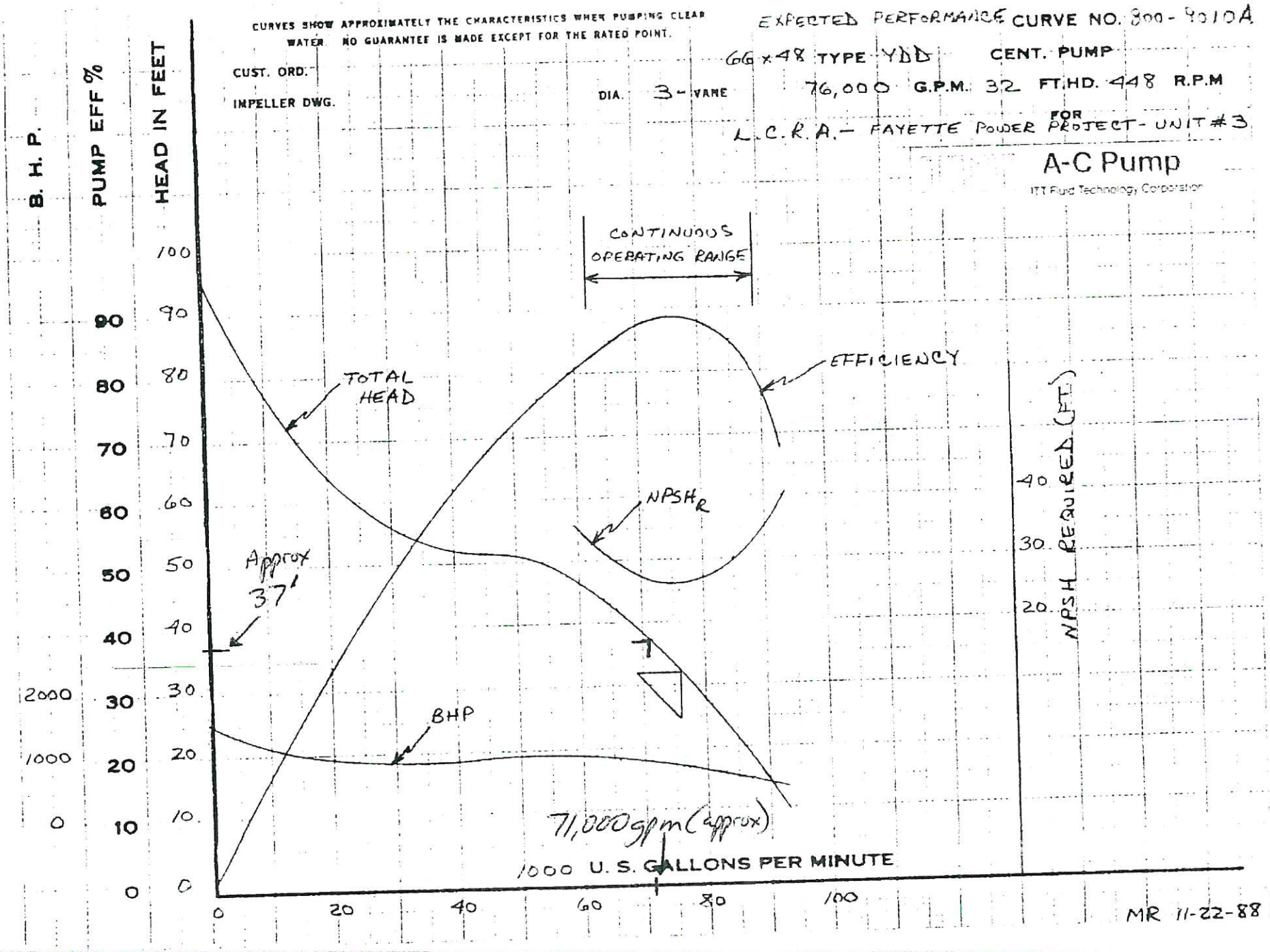


EXHIBIT 17-1
PLANT COOLING WATER PUMP PERFORMANCE



17-8

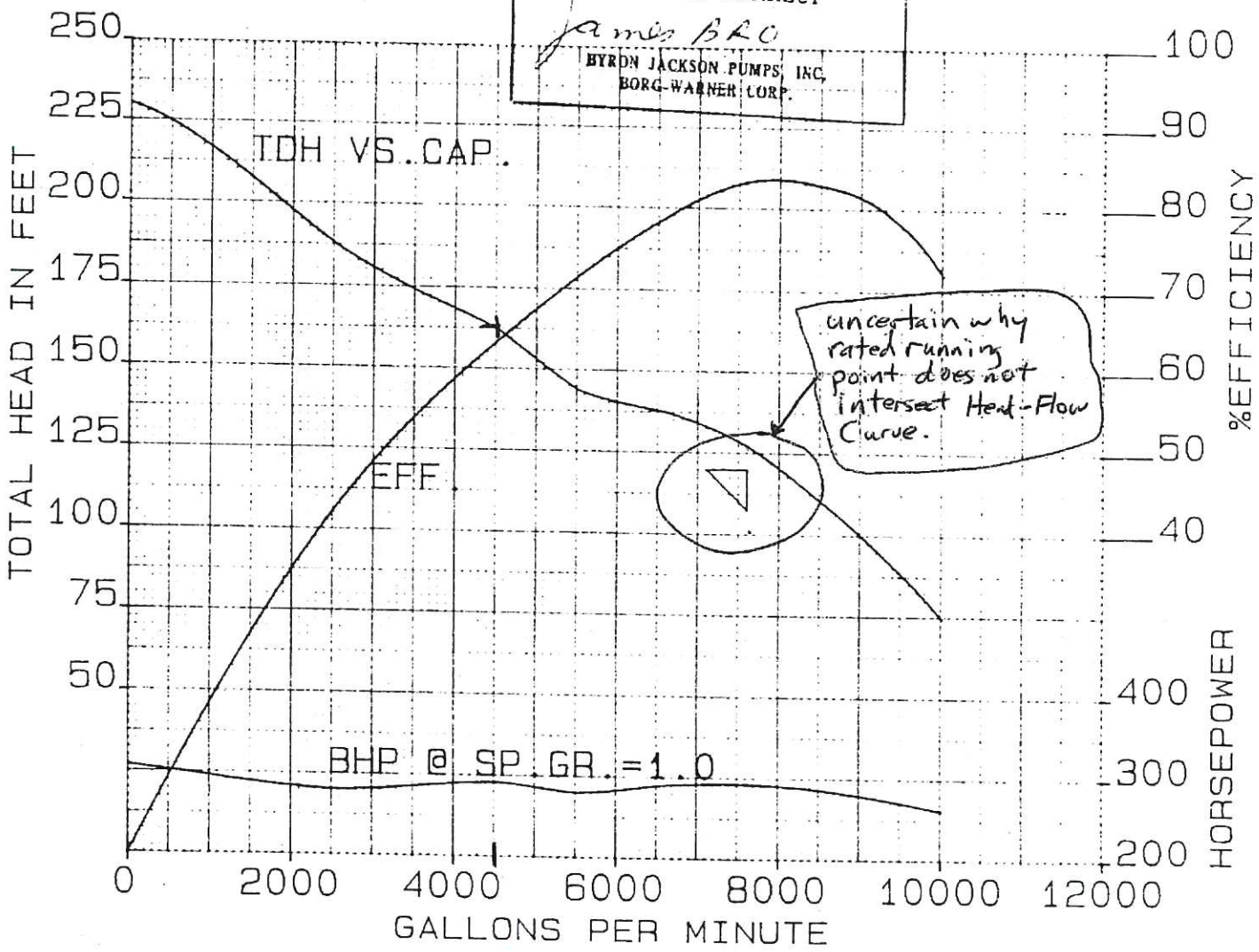

EXPECTED PERFORMANCE CURVE NO. 800-4010A
66 x 48 TYPE YDD CENT. PUMP
76,000 G.P.M. 32 FT.HD. 448 R.P.M
FOR
L.C.R.A.– FAYETTE POWER PROJECT- UNIT #3
A-C Pump
ITT Fluid Technology Corporation
CURVES SHOW APPROXIMATELY THE CHARACTERISTICS WHEN PUMPING CLEAR WATER. NO GUARANTEE IS MADE EXCEPT FOR THE RATED POINT.
CUST. ORD.
IMPELLER DWG.
DIA. 3 - VANE
B. H. P.
PUMP EFF %
HEAD IN FEET
CONTINUOUS OPERATING RANGE
TOTAL HEAD
EFFICIENCY
NPSH$_R$
BHP
Approx 37'
71,000 gpm (approx)
1000 U. S. GALLONS PER MINUTE
NPSH REQUIRED (FT.)
MR 11-22-88

Byron Jackson Pump Division
BORG-WARNER CORPORATION

IMP. LIFT 1/4"

20" SCL. TAB

CERTIFIED CORRECT
James BRO
BYRON JACKSON PUMPS, INC.
BORG-WARNER CORP.



PUMP SIZE AND TYPE		RPM
23HQ	3 STG H3	880

ITEM NO.	DATA BY	DATE
	RW KD	17 MAR 86

FACTORY NO.	DRAWN BY	CUSTOMER'S ORDER NO.
836-S-0133	SB	

IMP. NUMBER	VANES	EYE DIA.	EYE AREA	MAX. DIA.	TEST DIA.	UNDERFILE	STGS
328907	6				14-3/16"	STD #3	3H
POLISHED							

POLISHED: IMP	BOWL	MOTOR H.P. 500	PEAK EFF
MATERIAL: IMP FA	BOWL JW	INT. DRIVE	PEAK EFF.

T-23HQ-137

Attachment: FPP-TECH-08 Chemical Information

Fayette Power Project Chemical Information

Number	Product Name[1]	Product Use	Product Classification	Chemical Composition	CAS Registry Number	Weight Percent	Product/ Active Ingredient Half-Life	Plant Use Rate[2]	Product Use Frequency	Concentration of Productin Outfall 001 in Waste Stream	Ecological Information (Species/Exposure/TestType/Value/TestDescriptor)	Outfall	Waste Stream
1	**Univar Sodium Hypochlorite**	Source of chlorine	From Safety Data Sheet (SDS): No data available.	Sodium Hypochlorite Sodium Hydroxide	7681-52-9 1310-73-2	12.5% 0-5%	No data is available on SDS.	Up to 1.0 ppm per hour	Up to 2 hr per Unit per day for 7 days a week	Salts of sodium chloride, sodium bromide, and water (concentration not calculated)	TOXICITY TO AQUATIC ORGANISMS: FISH RESULTS: Rainbow fish/ 96 hrs/ LC50/ 0.06 mg/L Fathead minnow/ 96 hrs/ LC50/ 5.9 mg/L INVERTEBRATE RESULTS : Ceriodaphnia dubia/ 48 hrs/ EC50/ 0.035 mg/L Daphnia magna/ 48 hrs/ EC50/ 0.141 mg/L	001	Circulating and Aux Cooling Water
2	**ChemTreat CL41**	Biocide	From SDS: Not determined	Sodium bromide	7647-15-6	40%	No data is available on SDS.	Up to 0.834 lbs/MG per Unit	Up to 2 hr per Unit per day for 7 days a week	Salts of sodium bromide and water. (Concentration not calculated)	TOXICITY TO AQUATIC ORGANISMS: FISH RESULTS: Fathead minnow/ 96 hrs/ LC50/ >10000 mg/L Sheepshead minnow/ 96 hrs/ LC50/ >10000 mg/L INVERTEBRATE RESULTS : Ceriodaphnia dubia/ 48 hrs/ LC50/ 7650 mg/L Mysid Shrimp/ 48 hrs/ LC50/ >10000 mg/L	001	Circulating and Aux Cooling Water
3	**UNIVAR K-Brom 40 (backup for ChemTreat CL41)**	Biocide	From SDS: No data available on SDS	Sodium bromide	7647-15-6	38.8-41.2%	No data is available on SDS.	Up to 0.834 lbs/MG per Unit	Up to 2 hr per Unit per day for 7 days a week	Salts of sodium bromide and water. (Concentration not calculated)	TOXICITY TO AQUATIC ORGANISMS: Bluegill/ 96 hrs / LC50/ 1,000 mg/l/ Active Ingredient Water Flea (Daphnia magna)/24 hrs/ EC50/ 5,800,000 ug/l/ Active Ingredient	001	Circulating and Aux Cooling Water
4	**ChemTreat CL4635**	Scale and Corrosion Inhibitor	From SDS: Not determined.	From SDS: Components are either non hazardous or in concentration of less than 1%	From SDS: N/A	N/A	No data is available on SDS.	Up to 0.2085 lbs/MG per Unit	Continuous	Concentration not calculated	TOXICITY TO AQUATIC Ceriodaphnia dubia/ 48 hrs/ LC50/ 1005 mg/L Fathead minnow/ 96 hrs/ LC50/ 6325 mg/L	001	Circulating and Aux Cooling Water
5	**Aqueous Ammonia (29% at FPP)**	pH Control	From SDS: No data available.	Ammonium Hydroxide Water	1136-21-6 7732-18-5	>=10 - <=35% >=65 - <=90%	No data is available on SDS.	As needed (~250 gallons per year for all Units)	Dosed to maintain a pH of 9.1 – 9.3 in the condensate pump discharge on each unit.	Concentration not calculated	TOXICITY TO AQUATIC FISH RESULTS: Fathead minnow/ 24 hrs/ LC50/ 17 mg/L /Ammonium Hydroxide Goldfish/ 24 hrs/ LC50/ 17 mg/L /Ammonium Hydroxide Western Moquitofish/ 24 hrs/ LC50/ 18 mg/L /Ammonium Hydroxide Channel Catfish/ 24 hrs/ LC50/ 2.36 mg/L /Ammonium Hydroxide Fathead minnow/ 24 hrs/ LC50/ 23.02 mg/L /Ammonium Hydroxide INVERTEBRATE RESULTS : Water flea (Daphnia magna)/ 25 hrs/ LC50/ 60 mg/L /Ammonium Hydroxide Water flea (Ceriodaphnia dubia)/ 48 hrs/ LC50/ >0 - <10 mg/L /Ammonium Hydroxide Water flea (Daphnia magna)/ 50 hrs/ LC50/ 32 mg/L /Ammonium Hydroxide Water flea (Daphnia magna)/ 100 hrs/ LC50/ 20 mg/L /Ammonium Hydroxide	301 or 003	Boiler Blowdown

Acronyms:

CAS - Chemical Abstracts Service
EC50 - Half Maximal Effective Concentration
hr - Hour
lbs/MG - Pounds Per Million Gallon
mg/L - Milligrams Per Liter
ppm - Parts Per Million
ug/L - Micrograms Per Liter
SDS-Safety Data Sheet
LC50 - The effluent concentration which is lethal to 50 percent of the test organisms in the time period prescribed by the test

Notes:

1. Per permit application instructions, chemicals used in boilers and cooling water are included. Chemicals used in water treatment systems are not included.
2. Quantity is either based on actual use or estimated use

Prepared by Julie Podbielski, LCRA. Confirmed by Ty Brown, Power Plant Chemist

Leah Whallon

From: Julie Podbielski <Julie.Podbielski@LCRA.ORG>
Sent: Wednesday, June 11, 2025 4:08 PM
To: Leah Whallon
Cc: Bill Steinhauser
Subject: NOD Response WQ0002105000
Attachments: FPP_landowner_labels_submitted.docx; FPP_First_Notice_Spanish.docx

Follow Up Flag: Follow up
Flag Status: Flagged

Ms. Whallon,
Thank you for your email on June 2, 2025 with the Notice of Deficiency letter for the Sam Seymour Fayette Power Project (WQ0002105000). LCRA has prepared the responses below for the items listed 1 through 4.

- Item 1: On May 23, 2025, the map titled Attachment LP1-Admin-3 Affected Landowner Map was submitted with the original LCRA application. Please note that the map is oversized at 36 inches by 36 inches. The map is also included in the electronic copy of the application uploaded to the TCEQ FTP site. Attached is the Microsoft Word copy of the mailing labels of the landowner list.
- Item 2: As requested, LCRA reviewed the NORI. LCRA did not find any errors or omissions in the NORI.
- Item 3: The portion of the NORI unique to this application has been translated to Spanish and is attached as a Microsoft Word document.
- Item 4: An electronic copy of the complete application has been uploaded in a single PDF file. The uploaded file was shared with WQDeCopy@tceq.texas.gov.

Please do not hesitate to contact me if you have further questions.
Thank you, Julie

Julie Podbielski
Lower Colorado River Authority | Environmental Advisor
O 512-730-5633 **C** 512-461-4294
Julie.Podbielski@lcra.org

ROBERT BENJAMIN SCHIELACK
1731 REK HILL RD
FAYETTEVILLE TX 78940

CHARLIE HARVEY JR EST
PO BOX 1582
BRENHAM TX 77834

THOMAS R AND BONNIE L ROHDE
312 PARK PRAIRIE RD
FAYETTEVILLE TX 78940

DENNIS C MCINNIS
960 MCINNIS LN
FAYETTEVILLE TX 78940

TREVOR AND BRADLEY AND PRISCILLA MALOTA
334 C H ALLEN RD
FAYETTEVILLE TX 78940

LEONARD SR AND ALICE MALOTA EST
1120 PARK PRAIRIE RD
FAYETTEVILLE TX 78940

THOMAS AND SHANNON GERIK
104 POST OAK LN
COLUMBUS TX 78934

JAMES ROHDE JR
6327 W STATE HIGHWAY 159
FAYETTEVILLE TX 78940

RONALD AND FRANCESCA HAVEMANN
5005 TREYBIG LOOP
FAYETTEVILLE TX 78940

RHONDA VAJA AND RICHARD MARTINAK AND RUTH MARTINAK
5704 W STATE HIGHWAY 159
FAYETTEVILLE TX 78940

ROYCE B OWENS
1107 NARCILLE ST
BAYTOWN TX 77520

ALAN AND LORI JOINER
1715 GRAYSON LAKES BLVD
KATY TX 77494

SEAN AND TARA MURPHY
940 MCINNIS LN
FAYETTEVILLE TX 78940

PATRICK MCINNIS
950 MCINNIS LN
FAYETTEVILLE TX 78940

JOHNATHAN HARVEY
6926 FM 1952
WALLIS TX 77485

JAMES E ROHDE EST AND ROSE ROHDE
6745 W STATE HIGHWAY 159
FAYETTEVILLE TX 78940

LURLYN NEISNER
120 CARDINAL LANE
COLUMBUS TX 78934

MICHAEL AND BARBARA CHADDOCK
6227 W STATE HIGHWAY 159
FAYETTEVILLE TX 78940

ROBBIE AND THERESA BYERS
5848 W STATE HIGHWAY 159
FAYETTEVILLE TX 78940

DAVID OTT
4739 TREYBIG LOOP
FAYETTEVILLE TX 78940

KENNETH AND BESSIE FIELDER
2418 RUNNEBURG RD
CROSBY TX 77532

BRETT ROHDE
219 ROZNOV RD
FAYETTEVILLE TX 78940

BRUCE SCHIELACK
721 PARK PRAIRIE RD
FAYETTEVILLE TX 78940

JACK D MCINNIS TRUST
PO BOX 4011
PAGOSA SPRINGS CO 81157

BETH CHAPLINE
623 STONELEIGH DR
HOUSTON TX 77079

KATHERINE MYNAR ET AL
709-B CASTLE RIDGE RD
AUSTIN TX 78746

BRIAN BREMSER
211 W MAILAM
WHARTON TX 77488

JOSEPH AND GRETA GROMASKI
6230 W STATE HIGHWAY 159
FAYETTEVILLE TX 78940

HAVEMANN'S HAVEN LLC
19522 LOCKRIDGE DR
TOMBALL TX 77377

JEFFREY AND CYNTHIA HARVEY
4727 TREYBIG LOOP
FAYETTEVILLE TX 78940

BRANDON NOVOSAD
406 N FM 1291
FAYETTEVILLE TX 78940

NICHOLAS AND CAROL KOSTELNIK
7402 CHERRY BROOK CT
SUGAR LAND TX 77479

KYLE STOUTENGER
1108 HOLLYBLUFF ST
AUSTIN TX 78753

BETTY JEAN VASEK
19811 INDIAN CHERRY FOREST LN
CYPRESS TX 77433

BRADLEY HANATH
6796 HIGHWAY 36 N
BELLVILLE TX 77418

RICHARD F HANATH
3829 MOUNT VERNON RD
BRENHAM TX 77833

MARY M BARBER
905 AVENUE C
SWEENY TX 77480

SCOTT AND ELIZABETH ALLEN
15875 MEADOW VILLAGE DR
HOUSTON TX 77095

KIMBERLY FISCHER THOMAS
3124 OLD PARK RD
FAYETTEVILLE TX 78940

UNION PACIFIC RAILROAD COMPANY - C/O JOHN VAN GELDER
1400 DOUGLAS ST (STOP 1690)
OMAHA NE 68179

A AND Z TESTAMENTARY TRUST - SCOTT WEST (TRUSTEE)
9106 HUDSON CT
HOUSTON TX 77024

BILLIE E ADAMS
3852 LESLIE RD
FAYETTEVILLE TX 78940

ROY GENE AND CYNTHIA SUE WIED
1244 STATE LOOP 458
CARMINE TX 78932

LEON JR AND JOAN HEINTSCHEL EST
4535 W STATE HIGHWAY 159
FAYETTEVILLE TX 78940

RODNEY AND REBECCA HANATH
4455 FM 1155 S
CHAPPELL HILL TX 77426

MARIANNE HEFFINGTON TRUST
PO BOX 71
FAYETTEVILLE TX 78940

JACK MARTIN
500 LAKEVIEW RD
FAYETTEVILLE TX 78940

RANDY JONES
225 SUMMER HL
NEW BRAUNFELS TX 78132

STEVEN AND DEBORAH BERTSCH
3101 OLD PARK RD
FAYETTEVILLE TX 78940

EUGENE PONCIK
1915 PLANTATION BEND DR
SUGAR LAND TX 77478

DOROTHY AND LAMAR HEINTSCHEL
326 HAPPY HOLLOW RD
BRENHAM TX 77833

ROBERT VASEK
302 BARRINGTON FARM CT
GEORGETOWN TX 78633

GREGORY H AND EVA I GILLESPIE
129 WINDCLIFF WAY
NEW BRAUNFELS TX 78132

MAE DELL HANATH
5059 HIGHWAY 290 W
BRENHAM TX 77833

ALVIN H AND KIRK HANATH
PO BOX 2523
BRENHAM TX 77834

EMIL AND MARY SCHLEY REVOCABLE TRUST
3834 W STATE HIGHWAY 159
FAYETTEVILLE TX 78940

BBF AND R LLC
1306 EMERALD CT
EL CAMPO TX 77437

DAWN SUPAK
3190 OLD PARK RD
FAYETTEVILLE TX 78940

ROBERT AND JANA PONCIK
5935 BLASE RD
ROSENBERG TX 77471

DELORES KASPER
11855 GREAT OAKS DR
COLLEGE STATION TX 77845

COLLEN AND MEGAN ZAPALAC
178 MADRONE TRL
BOERNE TX 78006

JODY AND NATHAN MINARCIK FAMILY TRUST
6382 STOKES RD
BELLVILLE TX 77418

ANGELA WALLACE CROCKER
10555 SAWMILL RD
BRENHAM TX 77833

ALBERS BROTHERS LLC
150 BRUSHY CREEK TRL
HUTTO TX 78634

JOHN AND HACKEMACK SEIDEL LIVING TRUST
6301 WINIFRED DR
FT WORTH TX 76133

CONSOLIDATED FROZEN FOOD LOCKERS INC
957 S MADISON ST
LA GRANGE TX 78945

DOYLE KRAUSS
1269 VIA PRINCIPALE
MC QUEENEY TX 78123

I J AND GERALDINE ORSAK
741 FM 2503
FAYETTEVILLE TX 78940

JERRY HOLUB
3825 COUNTY ROAD 302
SHINER TX 77984

FRANKLIN HOLUB ET AL
18023 OAK ORCHARD LN
CYPRESS TX 77433

BRENDA BELOTA
109 RUSK ST
FAYETTEVILLE TX 78940

CEDAROW PARTNERS LTD
1518 POTOMAC DR
HOUSTON TX 77057

MARIANNA WALLACE KRAUTER
2319 W BRIARGATE DR
BRYAN TX 77802

STACY ROGERS
P O BOX 1052
LA GRANGE TX 78945

GLENN AND BEVERLY GAERTNER
6829 E STATE HIGHWAY 71
LA GRANGE TX 78945

JANIS STANCIK AND JANIS STANCIK GST EXEMPT TRUST
PO BOX 1130
LA GRANGE TX 78945

DANETTE HUVAR
1836 TIETJEN RD
LA GRANGE TX 78945

TEXAS FIRST CHOICE INVESTMENTS
PO BOX 74
CYPRESS TX 77410

ROBERT AND MARY HOLUB
1079 COUNTY ROAD 207
WEIMAR TX 78962

GEORGE P HOLUB EST
513 COLUMBUS HALL LN
FAYETTEVILLE TX 78940

MARVIN R AND TERRI L ALLCORN
47 EAST STONY END PL
THE WOODLANDS TX 77381

ALLEN L AND JOSEPHINE MUELLER EST
6123 BACA RD
FAYETTEVILLE TX 78940

VIVIAN ALBERS
4316 WOODSTONE CIR
TEMPLE TX 76502

JAMES AND TERESA DIVIN
6817 E STATE HIGHWAY 71
LA GRANGE TX 78945

JOHNNY AND CONNIE GAERTNER REVOCABLE LIVING TRUST
3715 RIVER VISTA WAY
LOUISVILLE TN 37777

CONNIE GAIL KRAUSS AND CONNIE GAIL KRAUSS GST EXEMPT TRUST
240 RENN RD
STOKESDALE NC 27357

CHARLES PHELPS
535 CREEKWOOD CT
BRENTWOOD CA 94513

NATHAN AND ALEXANDRA HOLUB
6202 PIECHA NEGROS CT
KATY TX 77450

SANDRA KEEPERS AND THERESA NIDEY - C/O JAMES D HOLUB
2436 KRISCHKE RD
SCHULENBURG TX 78956

KAREN MAYER AND JANICE FOX AND E H BAUMACH
3112 FRITSCH RD
LA GRANGE TX 78945

JAMES AND JO ANN AYRES
PO BOX 202
ROUND TOP TX 78954

KARL JOHNSON
1212 BARON RD
LA GRANGE TX 78945

DAVID MENCONI
7690 HARDCASTLE LN
LA GRANGE TX 78945

MRS WM E BRENDLE EST AND CHARLOTTE HOLZ
4710 GUY GRANT RD
VICTORIA TX 77904

JEFFREY WALKER
344 BARON RD
FAYETTEVILLE TX 78940

RYAN KLEIBER
1880 BARON RD
LA GRANGE TX 78945

NORMAN AND WANDA HUBBARD
7630 HARDCASTLE LN
LA GRANGE TX 78945

ERICA MENCONI
7617 HARDCASTLE LN
LA GRANGE TX 78945

KOLBE FAMILY HOLDINGS LLC
P O BOX 1252
LA GRANGE TX 78945

ERIC AND TAMMY NAUMANN
1505 BARON RD
LA GRANGE TX 78945

PATRICIA GARRETT
7644 HARDCASTLE LN
LA GRANGE TX 78945

BENEDICTION RANCH LLC
21202 BELMONT FARMS DR
TOMBALL TX 77375

DREW AND JACKIE BUCCI
610 BARON RD
FAYETTEVILLE TX 78940

Comisión de Calidad Ambiental del Estado de Texas

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

PERMISO NO. WQ0002105000

SOLICITUD. Lower Colorado River Authority, P.O. Box 220, Austin, Texas 78767, la cual es propietaria de una instalación de generación de energía eléctrica a vapor de agua producido por la combustión de carbón, ha solicitado a la Comisión de Calidad Ambiental de Texas (TCEQ) para modificar el Permiso No. WQ002105000 (EPA I.D. No. TX0073121) del Sistema de Eliminación de Descargas de Contaminantes de Texas (TPDES) para autorizar la eliminación de los límites de selenio de las Desembocaduras externas 003 y 004 y de la Desembocadura interna 301; modificación del Otro Requisito 3 (G) de "evento de lluvia de 24 horas cada 10 años" a un evento de mayor duración (hasta un evento de lluvia de 10 días cada 10 años); modificación del Otro Requisito 3 (G) para incluir escorrentía de pila de carbón de la Desembocadura 301, que es el mismo efluente que la Desembocadura 003; y reducción de la frecuencia de muestreo de semanal a mensual para la Desembocadura 201 para TSS, aceite y grasa, y pH. La instalación está ubicada en 6549 Power Plant Road, cerca de la Ciudad de La Grange, en el condado Fayette, Texas 78945. La ruta de descarga es del sitio de la planta a vía Desembocadura 001 al embalse Cedar Creek /Lago Fayette (Fayette Lake), de allí a Cedar Creek; y vía a Desembocaduras 002, 003 y 004 a afluentes sin nombre, luego a Cedar Creek. La TCEQ recibió esta solicitud el 23 de mayo de 2025 por TCEQ. La solicitud para el permiso estará disponible para leerla y copiarla en la Biblioteca Pública de Fayette (Fayette Public Library), 855 South Jefferson Street, La Grange, en el condado Fayette, Texas antes de la fecha de publicación de este aviso en el periódico. La solicitud (cualquier actualización y aviso inclusive) está disponible electrónicamente en la siguiente página web:
https://www.tceq.texas.gov/permitting/wastewater/pending-permits/tpdes-applications.
Este enlace a un mapa electrónico de la ubicación general del sitio o de la instalación es proporcionado como una cortesía y no es parte de la solicitud o del aviso. Para la ubicación exacta, consulte la solicitud.
https://gisweb.tceq.texas.gov/LocationMapper/?marker=-96.753611,29.914722&level=18

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

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

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

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

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

Después del cierre de todos los períodos de comentarios y de petición que aplican, el Director Ejecutivo enviará la solicitud y cualquier petición para reconsideración o para una audiencia de caso impugnado a los Comisionados de la TCEQ para su consideración durante una reunión programada de la Comisión.

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

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

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

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

También se puede obtener información adicional de Lower Colorado River Authority a la dirección indicada arriba o llamando a la señora Wendy Schreiber, Gerente, Apoyo Ambiental de la Planta (Manager, Plant Environmental Support), al 512-767-3560.

Fecha de emisión:

RECEIVED
MAY 2 3 2025
WATER QUALITY DIVISION
TCEQ

ENERGY • WATER • COMMUNITY SERVICES

RENEWAL AND MAJOR AMENDMENT APPLICATION
TCEQ INDUSTRIAL WASTEWATER PERMIT

SAM SEYMOUR FAYETTE POWER PROJECT
PERMIT #WQ0002105000

SUBMITTED TO:

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
APPLICATIONS REVIEW AND PROCESSING TEAM
BUILDING F, ROOM 2101
12100 PARK 35 CIRCLE
AUSTIN, TEXAS 78753

SUBMITTED BY:

LOWER COLORADO RIVER AUTHORITY
ENVIRONMENTAL AFFAIRS
P.O. BOX 220
AUSTIN, TEXAS 78767

LCRA
ENERGY • WATER • COMMUNITY SERVICES

RECEIVED
MAY 23 2025
WATER QUALITY DIVISION
TCEQ

May 23, 2025

Texas Commission on Environmental Quality (TCEQ)
Applications Review and Processing Team
Building F, Room 2101
12100 Park 35 Circle
Austin, Texas 78753

Re: Lower Colorado River Authority (CN600253637)
Sam Seymour Fayette Power Project (RN100226844)
TPDES Wastewater Renewal/Major Amendment Application
Permit No. WQ0002105000

Dear Applications Team:

Enclosed with this transmittal letter are an original and one copy of a renewal and major amendment permit application for the Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0002105000. If you have any questions, please contact me at (512) 730-6749.

Sincerely,

Julie Podbielski
Environmental Advisor

cc: Bill Steinhauser, P.E.
Sr. Manager, Environmental Permitting and Compliance

Enclosures

RENEWAL AND MAJOR AMENDMENT APPLICATION
TCEQ INDUSTRIAL WASTEWATER PERMIT

SAM SEYMOUR FAYETTE POWER PROJECT
PERMIT #WQ0002105000

SUBMITTED TO:

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
APPLICATIONS REVIEW AND PROCESSING TEAM
BUILDING F, ROOM 2101
12100 PARK 35 CIRCLE
AUSTIN, TEXAS 78753

SUBMITTED BY:

LOWER COLORADO RIVER AUTHORITY
ENVIRONMENTAL AFFAIRS
P.O. BOX 220
AUSTIN, TEXAS 78767

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

INDUSTRIAL WASTEWATER PERMIT APPLICATION CHECKLIST

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

APPLICANT NAME: Lower Colorado River Authority

PERMIT NUMBER (If new, leave blank): WQ00 2105000

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

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

For TCEQ Use Only

Segment Number _____County _____
Expiration Date _____Region _____
Permit Number _____

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

INDUSTRIAL WASTEWATER PERMIT APPLICATION ADMINISTRATIVE REPORT 1.0

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

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

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

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

Applicant Name: Lower Colorado River Authority

Permit No.: WQ0002105000

EPA ID No.: TX0073121

Expiration Date: November 20, 2025

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

☒ Industrial Wastewater (wastewater and stormwater)

☐ Industrial Stormwater (stormwater only)

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

☒ Active ☐ Inactive

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

☒ TPDES Permit ☐ TLAP ☐ TPDES with TLAP component

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

☐ New

☐ Renewal with changes ☐ Renewal without changes

☒ Major amendment with renewal ☐ Major amendment without renewal

☐ Minor amendment without renewal

☐ Minor modification without renewal

f. If applying for an amendment or modification, describe the request: Permittee requests the following major amendments: Remove selenium limits from external Outfalls 003 and 004 and internal Outfall 301; Amend Other Requirement 3 (G) from "10-year, 24-hour rainfall event" to a longer duration event (up to a 10-year, 10-day rainfall event); Amend Other Requirement 3 (G) to include coal pile runoff from Outfall 301, which is the same effluent as Outfall 003; and Reduce sampling frequency from weekly to monthly for Outfall 201 for

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

TSS, oil and grease, and pH. Permittee requests two minor amendments, which are described in Technical Report 1.0, Section 13(b).

For TCEQ Use Only

Segment Number _____County _____
Expiration Date _____Region _____
Permit Number _____

g. Application Fee

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

h. Payment Information

Mailed

Check or money order No.: N/A

Check or money order amt.: N/A

Named printed on check or money order: N/A

Epay

Voucher number: 766793 and 766794

Copy of voucher attachment: FPP-ADMIN-1 Epay Vouchers

Item 2. Applicant Information (Instructions, Pages 26)

a. Customer Number, if applicant is an existing customer: CN600253637

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

b. Legal name of the entity (applicant) applying for this permit: Lower Colorado River Authority

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

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

Prefix: Mr. Full Name (Last/First Name): Valencia, Andrew

Title: Senior Vice President, Generation Credential: PE

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

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

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

☒ Yes ☐ No

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

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

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

a. Legal name of the entity (co-applicant) applying for this permit: Click to enter text.

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

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

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

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

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

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

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

☐ Yes ☐ No

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

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

a. Complete one Core Data Form (TCEQ Form 10400) for each customer (applicant and co-applicant(s)) and include as an attachment. If the customer type selected on the Core Data Form is Individual, complete Attachment 1 of the Administrative Report. Attachment: FPP-ADMIN-2 Core Data Form

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

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

a. ☒ Administrative Contact . ☒ Technical Contact

Prefix: Ms. Full Name (Last/First Name): Podbielski, Julie

Title: Environmental Advisor Credential: Click to enter text.

Organization Name: Lower Colorado River Authority

Mailing Address: P.O. Box 220 City/State/Zip: Austin, Texas 78767

Phone No: 512-730-5633 Email: Julie.Podbielski@lcra.org

b. ☒ Administrative Contact ☒ Technical Contact

Prefix: Mr. Full Name (Last/First Name): Steinhauser, Bill

Title: Senior Manager, Env Permitting and Compliance Credential: PE

Organization Name: Lower Colorado River Authority

Mailing Address: P. O. Box 220 City/State/Zip: Austin, Texas 78767

Phone No: 512-730-6749 Email: Bill.Steinhauser@lcra.org

Attachment: N/A

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

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

a. Prefix: Ms. Full Name (Last/First Name): Podbielski, Julie

Title: Environmental Advisor Credential: Click to enter text.

Organization Name: Lower Colorado River Authority

Mailing Address: P.O. Box 220 City/State/Zip: Austin, Texas 78767

Phone No: 512-730-5633 Email: Julie.Podbielski@lcra.org

b. Prefix: Mr. Full Name (Last/First Name): Steinhauser, Bill

Title: Senior Manager, Env Permitting and Compliance Credential: PE

Organization Name: Lower Colorado River Authority

Mailing Address: P.O. Box 220 City/State/Zip: Austin, Texas 78767

Phone No: 512-730-6749 Email: Bill.Steinhauser@lcra.org

Attachment: Click to enter text.

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

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

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

Prefix: Mr. Full Name (Last/First Name): Richter, Terry

Title: Environmental Supervisor Credential: Click to enter text.

Organization Name: Lower Colorado River Authority

Mailing Address: 6549 Power Plant Road City/State/Zip: La Grange, Texas 78945

Phone No: 979-249-8661 Email: Terry.Richter@lcra.org

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

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

Prefix: Mr. Full Name (Last/First Name): Richter, Terry

Title: Environmental Supervisor Credential: Click to enter text.

Organization Name: Lower Colorado River Authority

Mailing Address: 6549 Power Plant Road City/State/Zip: La Grange, Texas 78945

Phone No: 979-249-8661 Email: Terry.Richter@lcra.org

Item 9. Notice Information (Instructions, Pages 28)

a. Individual Publishing the Notices

Prefix: Mr. Full Name (Last/First Name): Richter, Terry

Title: Environmental Supervisor Credential: Click to enter text.

Organization Name: Lower Colorado River Authority

Mailing Address: 6549 Power Plant Road City/State/Zip: La Grange, Texas 78945

Phone No: 979-249-8661 Email: Terry.Richter@lcra.org

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

☒ E-mail: Terry.Richter@lcra.org

☐ Fax: Click to enter text.

☒ Regular Mail (USPS)

Mailing Address: 6549 Power Plant Road

City/State/Zip Code: La Grange, Texas 78945

c. Contact in the Notice

Prefix: Ms. Full Name (Last/First Name): Schreiber, Wendy

Title: Manager, Plant Environmental Support Credential: Click to enter text.

Organization Name: Lower Colorado River Authority

Phone No: 512-767-3560 Email: Wendy.Schreiber@lcra.org

d. Public Viewing Location Information

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

Public building name: Fayette Public Library Location within the building: Front Desk

Physical Address of Building: 855 South Jefferson Street

City: La Grange County: Fayette

e. Bilingual Notice Requirements

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

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

Call the bilingual/ESL coordinator at the nearest elementary and middle schools and obtain the following information to determine if an alternative language notice(s) is required.

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

☒ Yes ☐ No

If no, publication of an alternative language notice is not required; skip to Item 8 (Regulated Entity and Permitted Site Information.)

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

   ☐ Yes ☒ No

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

   ☐ Yes ☒ No

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

   ☐ Yes ☐ No ☒ N/A

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

f. Plain Language Summary Template – Complete the Plain Language Summary (TCEQ Form 20972) and include as an attachment. Attachment: FPP-ADMIN-3 Plain Language Summary

g. Complete one Public Involvement Plan (PIP) Form (TCEQ Form 20960) for each application for a new permit or major amendment and include as an attachment. Attachment: FPP-ADMIN-4 Public Involvement Plan Form

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

a. TCEQ issued Regulated Entity Number (RN), if available: RN100226844

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

b. Name of project or site (the name known by the community where located): Fayette Power Project

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

☒ Yes ☐ No ☐ N/A (new permit)

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

d. Owner of treatment facility:

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

or Organization Name: Lower Colorado River Authority (all units) and City of Austin (Units 1 and 2)

Mailing Address: P.O. Box 220 City/State/Zip: Austin, Texas 78767

Phone No: 512-473-3200 Email: N/A

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

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

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

or Organization Name: Lower Colorado River Authority and City of Austin

Mailing Address: P.O. Box 220 City/State/Zip: Austin, Texas 78767

Phone No: 512-473-3200 Email: N/A

Note: If not the same as the facility owner, attach a long-term lease agreement in effect for at least six years (In some cases, a lease may not suffice - see instructions). Attachment: FPP-ADMIN-10 Deeds

g. Owner of effluent TLAP disposal site (if applicable): N/A

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

or Organization Name: Click to enter text.

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

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

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

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

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

or Organization Name: Click to enter text.

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

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

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

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

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

☐ Yes ☒ No

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

☒ One-mile radius
☒ Three-miles downstream information
☒ Applicant's property boundaries
☒ Treatment facility boundaries
☒ Labeled point(s) of discharge
☒ Highlighted discharge route(s)
☐ Effluent disposal site boundaries
☒ All wastewater ponds
☐ Sewage sludge disposal site
☐ New and future construction

Attachment: FPP-ADMIN-5 USGS Topographic Map

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

☐ Yes ☐ No or New Permit N/A

If no, or a new application, provide an accurate location description: Click to enter text.

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

☒ Yes ☐ No or New Permit

If no, or a new application, provide an accurate location description: Click to enter text.

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

☒ Yes ☐ No or New Permit

If no, or a new permit, provide an accurate description of the discharge route: Click to enter text.

f. City nearest the outfall(s): La Grange

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

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

☐ Yes ☒ No

If yes, indicate by a check mark if: ☐ Authorization granted ☐ Authorization pending

For new and amendment applications, attach copies of letters that show proof of contact and provide the approval letter upon receipt. Attachment: Click to enter text.

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: Fayette, Colorado, Wharton, Matagorda

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

☐ Yes No or New Permit ☒ N/A

If no, or a new application, provide an accurate location description: Click to enter text.

j. City nearest the disposal site: N/A

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

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

m. For TLAPs, identify the nearest watercourse to the disposal site to which rainfall runoff might flow if not contained: N/A

Item 12. Miscellaneous Information (Instructions, Page 33)

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

☐ Yes ☒ No

If yes, list each person: Click to enter text.

b. Do you owe any fees to the TCEQ?

☐ Yes ☒ No

If yes, provide the following information:

Account no.: Click to enter text.

Total amount due: Click to enter text.

c. Do you owe any penalties to the TCEQ?

☐ Yes ☒ No

If yes, provide the following information:

Enforcement order no.: Click to enter text.

Amount due: Click to enter text.

Item 13. Signature Page (Instructions, Page 33)

Permit No: WQ0002105000

Applicant Name: Lower Colorado River Authority

Certification: I, Andrew Valencia, 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): Andrew Valencia, PE

Signatory title: Senior Vice President, Generation

Signature: _____ Date: 5/19/2025
(Use blue ink)

Subscribed and Sworn to before me by the said Andrew Valencia

on this 19th day of May, 20 25.

My commission expires on the 11th day of January, 20 26.

_____
Notary Public

[SEAL]

MARTHA JASKE
Notary Public, State of Texas
Comm. Expires 01-11-2026
Notary ID 128143668

Travis
County, Texas

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

INDUSTRIAL WASTEWATER PERMIT APPLICATION ADMINISTRATIVE REPORT 1.1

The following information is required for new and amendment applications.

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

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

☒ The applicant's property boundaries.

☒ The facility site boundaries within the applicant's property boundaries.

☐ The distance the buffer zone falls into adjacent properties and the property boundaries of the landowners located within the buffer zone.

☒ The property boundaries of all landowners surrounding the applicant's property. (Note: if the application is a major amendment for a lignite mine, the map must include the property boundaries of all landowners adjacent to the new facility (ponds).)

☒ The point(s) of discharge and highlighted discharge route(s) clearly shown for one mile downstream.

☒ The property boundaries of the landowners located on both sides of the discharge route for one full stream mile downstream of the point of discharge.

☒ The property boundaries of the landowners along the watercourse for a one-half mile radius from the point of discharge if the point of discharge is into a lake, bay, estuary, or affected by tides.

☐ The boundaries of the effluent disposal site (e.g., irrigation area or subsurface drainfield site) and all evaporation/holding ponds within the applicant's property.

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

☐ The boundaries of the sludge land application site (for land application of sewage sludge for beneficial use) and the property boundaries of landowners within one-quarter mile of the applicant's property boundaries where the sewage sludge land application site is located.

☐ The property boundaries of landowners within one-half mile in all directions from the applicant's property boundaries where the sewage sludge disposal site (e.g., sludge surface disposal site or sludge monofil) is located.

Attachment: FPP-ADMIN-6 Affected Landowner Map

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

☐ Readable/Writeable CD ☒ Four sets of labels

Attachment: FPP-ADMIN-7 Landowner List for Cross-Reference

d. Provide the source of the landowners' names and mailing addresses: Fayette County Appraisal District

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

☐ Yes ☒ No

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

Item 2. Original Photographs (Instructions, Page 37)

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

☐ At least one original photograph of the new or expanded treatment unit location.

☒ At least two photographs of the existing/proposed point of discharge and as much area downstream (photo 1) and upstream (photo 2) as can be captured. If the discharge is to an open water body (e.g., lake, bay), the point of discharge should be in the right or left edge of each photograph showing the open water and with as much area on each respective side of the discharge as can be captured.

☐ At least one photograph of the existing/proposed effluent disposal site.

☒ A plot plan or map showing the location and direction of each photograph.

Attachment: FPP-ADMIN-8 Outfall Photos

INDUSTRIAL WASTEWATER PERMIT APPLICATION

SUPPLEMENTAL PERMIT INFORMATION FORM (SPIF)

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

Attachment: FPP-ADMIN-9 Supplemental Permit Information Form (SPIF)

WATER QUALITY PERMIT

PAYMENT SUBMITTAL FORM

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

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

Mail this form and the check or money order to:

BY REGULAR U.S. MAIL

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

BY OVERNIGHT/EXPRESS MAIL

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

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

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

   Name of Project or Site: Click to enter text.

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

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

Staple Check or Money Order in This Space

ATTACHMENT 1

INDIVIDUAL INFORMATION

Item 1. Individual information (Instructions, Page 38)

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

Prefix (Mr., Ms., or Miss): Click to enter text.

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

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

Date of Birth: Click to enter text.

Mailing Address: Click to enter text.

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

Phone No.: Click to enter text.

Fax No.: Click to enter text.

E-mail Address: Click to enter text.

CN: Click to enter text.

INDUSTRIAL WASTEWATER PERMIT APPLICATION CHECKLIST OF COMMON DEFICIENCIES

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

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

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

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

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

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

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

Things to Know:

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

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

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

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

☒ Plain Language Summary

ADMINISTRATIVE REPORT

ATTACHMENTS

1. FPP-ADMIN-1 Epay Voucher
2. FPP-ADMIN-2 Core Data Form
3. FPP-ADMIN-3 Plain Language Summary
4. FPP-ADMIN-4 Public Involvement Plan Form
5. FPP-ADMIN-5 USGS Topographic Map
6. FPP-ADMIN-6 Affected Landowner Map
7. FPP-ADMIN-7 Landowner List for Cross-Reference
8. FPP-ADMIN-8 Outfall Photos
9. FPP-ADMIN-9 Supplemental Permit Information Form (SPIF)
10. FPP-ADMIN-10 Deeds
11. FPP-SPIF-1 USGS Topographic Map
12. FPP-SPIF-1 General Location Map
13. FPP-SPIF-2 Photographs of Structures 50 Years or Older

Attachment: FPP-ADMIN-1 Epay Voucher

Transaction Information

Voucher Number: 766793
Trace Number: 582EA000668261
Date: 05/15/2025 12:21 PM
Payment Method: CC - Authorization 0000070777
Voucher Amount: $2,000.00
Fee Type: WW PERMIT - MAJOR INDUSTRIAL FACILITY - MAJOR AMENDMENT
ePay Actor: JULIE PODBIELSKI
Actor Email: julie.podbielski@lcra.org
IP: 165.225.36.112

Payment Contact Information

Name: JULIE PODBIELSKI
Company: LOWER COLORADO RIVER AUTHORITY
Address: 3700 LAKE AUSTIN BLVD, AUSTIN, TX 78703
Phone: 512-461-4294

Site Information

RN: RN100226844
Site Name: LCRA SAM SEYMOUR FAYETTE POWER PROJECT
Site Address: 6549 POWER PLANT ROAD, LA GRANGE, TX 78945
Site Location: 6549 POWER PLANT ROAD LA GRANGE TEXAS 78945

Customer Information

CN: CN600253637
Customer Name: LOWER COLORADO RIVER AUTHORITY
Customer Address: P O BOX 220, AUSTIN, TX 78767 0220

Other Information

Program Area ID: WQ0002105000

Transaction Information

Voucher Number: 766794
Trace Number: 582EA000668261
Date: 05/15/2025 12:21 PM
Payment Method: CC - Authorization 0000070777
Voucher Amount: $50.00
Fee Type: 30 TAC 305.53B WQ NOTIFICATION FEE
ePay Actor: JULIE PODBIELSKI
Actor Email: julie.podbielski@lcra.org
IP: 165.225.36.112

Payment Contact Information

Name: JULIE PODBIELSKI
Company: LOWER COLORADO RIVER AUTHORITY
Address: 3700 LAKE AUSTIN BLVD, AUSTIN, TX 78703
Phone: 512-461-4294

TCEQ Use Only

TCEQ Core Data Form

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

SECTION I: General Information

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

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

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

☒ Other **Major Amendment**

2. Customer Reference Number *(if issued)*	Follow this link to search for CN or RN numbers in Central Registry**	**3. Regulated Entity Reference Number** *(if issued)*
CN 600253637		**RN 100226844**

SECTION II: Customer Information

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

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

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

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

Lower Colorado River Authority	

7. TX SOS/CPA Filing Number	**8. TX State Tax ID** (11 digits)	**9. Federal Tax ID** (9 digits) 746002915	**10. DUNS Number** *(if applicable)*

11. Type of Customer: ☐ Corporation ☐ Individual Partnership: ☐ General ☐ Limited
Government: ☐ City ☐ County ☐ Federal ☐ Local ☐ State ☐ Other ☐ Sole Proprietorship ☒ Other: River Authority

12. Number of Employees
☐ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☒ 501 and higher

13. Independently Owned and Operated?
☒ **Yes** ☐ **No**

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

☐ Owner ☐ Operator ☒ Owner & Operator
☐ Occupational Licensee ☐ Responsible Party ☐ VCP/BSA Applicant
☒ Other: City of Austin owns 50% of Units 1&2

15. Mailing Address:	P.O. Box 220						
	City	Austin	**State**	TX	**ZIP**	78767	**ZIP + 4**	0220

16. Country Mailing Information *(if outside USA)*	**17. E-Mail Address** *(if applicable)*
N/A	Andrew.Valencia@lcra.org

18. Telephone Number	19. Extension or Code	20. Fax Number *(if applicable)*
(512) 578-3591		( ) -

SECTION III: Regulated Entity Information

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

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

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

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

Sam Seymour Fayette Power Project

23. Street Address of the Regulated Entity: ***(No PO Boxes)***	6549 Power Plant Road							
	City	La Grange	**State**	TX	**ZIP**	78945	**ZIP + 4**	
24. County	Fayette							

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

25. Description to Physical Location:	

26. Nearest City	**State**	**Nearest ZIP Code**

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

27. Latitude (N) In Decimal:	29.914742		**28. Longitude (W) In Decimal:**	-96.753535	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
29	54	53.0712	96	45	12.726

29. Primary SIC Code (4 digits)	**30. Secondary SIC Code** (4 digits)	**31. Primary NAICS Code** (5 or 6 digits)	**32. Secondary NAICS Code** (5 or 6 digits)
4911		221112	

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

coal-fired power plant

34. Mailing Address:	**6549 Power Plant Road**							
	City	**La Grange**	**State**	**TX**	**ZIP**	**78945**	**ZIP + 4**	
35. E-Mail Address:	**Andrew.Valencia@lcra.org**							

36. Telephone Number	**37. Extension or Code**	**38. Fax Number** *(if applicable)*
(512) 578-3591		( ) -

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

☐ Dam Safety	☐ Districts	☐ Edwards Aquifer	☐ Emissions Inventory Air	☐ Industrial Hazardous Waste
☐ Municipal Solid Waste	☐ New Source Review Air	☐ OSSF	☐ Petroleum Storage Tank	☐ PWS
☐ Sludge	☐ Storm Water	☐ Title V Air	☐ Tires	☐ Used Oil
☐ Voluntary Cleanup	☒ Wastewater	☐ Wastewater Agriculture	☐ Water Rights	☐ Other:
	WQ0002105000			

SECTION IV: Preparer Information

40. Name:	Julie Podbielski	**41. Title:**	Environmental Advisor

42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(512) 730-5633		( ) -	Julie.Podbielski@lcra.org

SECTION V: Authorized Signature

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

Company:	Lower Colorado River Authority	**Job Title:**	Sr. VP, Generation
Name *(In Print):*	Andrew Valencia, PE	**Phone:**	(512) 578- **3591**
Signature:		**Date:**	5/16/2025

ATTACHMENT: FPP-ADMIN-3 Plain Language Summary

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

The Lower Colorado River Authority (LCRA) (CN600253637) operates the Fayette Power Project (FPP) (RN 100226844), which is a coal-fired steam electric power generation facility, that consists of three generating units with a total gross generation capacity of approximately 1,760 megawatts. The facility is located at 6549 Power Plant Road near La Grange, Fayette County, La Grange, Texas 78945.

The application is for a renewal and a major amendment of the Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0002105000. The major amendment requests to remove selenium limits from Outfalls 003, 004 and 301; to amend Other Requirement No. 3.G to include coal pile runoff from Outfall 301 and to increase the duration of a rainfall event (up to a 10-year, 10-day rainfall event); and to reduce sampling frequency from weekly to monthly at Outfall 201 for total suspended solids, oil and grease, and pH; and minor amendment requests to modify the footnotes for Outfall 002 on page 2d of the existing permit.

This renewal authorizes the discharge of 1,165,000,000 gallons per day of once-through 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 Outfall 001, referred to as “previously monitored effluents” (low-volume waste, coal pile runoff, truck wash water, and stormwater from the Coal Pile Runoff Pond from Outfall 301 and low-volume waste from Outfall 201). Low-volume waste sources drain on an intermittent and flow-variable basis via internal Outfall 201. Low-volume waste, coal pile runoff, truck wash water, and stormwater from the Coal Pile Runoff Pond drain on an intermittent and flow-variable basis via Outfall 301. In addition, the application is a renewal to discharge cooling water drained from the condensers and other cooling equipment during maintenance periods via Outfall 002; low-volume waste, coal pile runoff, truck wash water, and stormwater from the Coal Pile Runoff Pond via Outfall 003; and low-volume waste, truck wash water, and stormwater from the Coal Combustion Byproducts Landfill Pond via Outfall 004.

The discharge of once through cooling water via Outfall 001; coal pile runoff via Outfall 003 and 301; low-volume waste via Outfall 201, 301, 003, and 004 and cooling water drained from the condensers and other cooling equipment during maintenance periods via Outfall 002 are subject to federal effluent limitation guidelines at 40 CFR Part 423. The pollutants expected from these discharges based on 40 CFR Part 423 are: total residual chlorine, total suspended solids, oil and grease, and pH. Temperature is also expected from Outfall 001 and 002. Additional potential pollutants are included in the Industrial Wastewater Application Technical Report, Worksheet 2.0.

Low volume wastes are routed through an oil and water separator prior to discharge via Outfall 301 or Outfall 003. Low volume wastes receive no treatment prior to

discharge via Outfall 201. The low-volume waste, coal pile runoff, truck wash water, and stormwater from the Coal Pile Runoff Pond via Outfall 003 and 301 and low-volume waste, truck wash water, and stormwater from the Coal Combustion Byproducts Landfill Pond via Outfall 004 provide gravity settling of sediments in their respective ponds prior to discharge.

Cooling water is supplied by Lake Fayette. Water from Lake Fayette is withdrawn at the intake structure and treated with chemicals to prevent biofouling and improve efficacy and then passed through condensers and auxiliary equipment on a once-through basis to cool equipment and condense exhaust steam. Potable water is supplied by the Fayette Water Supply Corporation. Sanitary domestic wastewater from FPP is treated in an on-site aerobic treatment system and sent to an on-site process pond that recycles the water internally.

Spanish Translation

ANEXO: Resumen en Lenguaje Sencillo FPP-ADMIN-3

Solicitud Individual de Aguas Residuales Industriales

El siguiente resumen se presenta para esta solicitud pendiente de permiso de calidad del agua que está siendo revisada por la Comisión de Calidad Ambiental de Texas (Texas Comission on Environmental Quality o TCEQ, siglas en inglés) como lo exige el Título 30 del Código Administrativo de Texas, Capítulo 39. La información proporcionada en este resumen puede cambiar durante la revisión técnica de la solicitud y no son declaraciones federales aplicables de la solicitud de permiso.

Lower Colorado River Authority (LCRA, siglas en inglés) (CN600253637) controla el Proyecto de Energía Fayette (Fayette Power Project o FPP, siglas en inglés) (RN 100226844), la cual es una instalación de generación de energía eléctrica a vapor de agua producido por la combustión de carbón que consta de tres unidades generadoras con una capacidad total de generación bruta aproximada de 1,760 megavatios. La instalación está situada en 6549 Power Plant Road, cerca de La Grange, Fayette County, La Grange, Texas 78945.

La solicitud es para una renovación y una enmienda mayor del Permiso No. WQ0002105000 del Sistema de Eliminación de Vertidos Contaminantes de Texas (Texas Pollutant Discharge Elimination System o TPDES, siglas en inglés). La enmienda mayor solicita la eliminación de los límites de selenio de las Desembocaduras 003, 004 y 301; la modificación del Otro Requisito No. 3.G para incluir la escorrentía de la pila de carbón de la Desembocadura 301 y aumentar la duración de las precipitaciones (hasta 10 años, precipitaciones de 10 días); la reducción de la frecuencia de muestreo de semanal a mensual en la Desembocadura 201 para sólidos suspendidos totales, aceite y grasa, y pH; y la enmienda de modificación menor solicita la modificación de las notas al pie de página para la Desembocadura 002 en la página 2d del permiso vigente.

Esta renovación autoriza el vertido de 1,165,000,000 galones por día de agua de enfriamiento de una pasada y también autoriza los siguientes flujos de residuos monitoreados dentro de las instalaciones (desembocaduras internas) antes de que se mezclen con otras aguas residuales autorizadas para verter a través de la Desembocadura 001, denominadas "aguas residuales monitoreadas previamente" (aguas residuales de bajo volumen, escorrentía de pilas de carbón, agua de lavado de camiones y aguas pluviales del estanque de escorrentía de pilas de carbón de la Desembocadura 301 y aguas residuales de bajo volumen de la Desembocadura 201) a través de la Desembocadura 001. Las fuentes de aguas residuales de bajo volumen drenan de forma intermitente y con flujo variable a través de la Desembocadura 201 interna. Aguas residuales de bajo volumen, escorrentía de pilas de carbón, agua de lavado de camiones y aguas pluviales del estanque de escorrentía de pilas de carbón se drenan de forma intermitente y con flujo variable a través de la Desembocadura 301. Además, la solicitud constituye una renovación para verter agua de enfriamiento drenada de condensadores y otros equipos de enfriamiento durante los periodos de mantenimiento a través de la Desembocadura 002; resíduos de bajo volumen, escorrentía de pilas de carbón, agua de lavado de camiones y aguas pluviales del

estanque de escorrentía de pilas de carbón a través de la Desembocadura 003; y aguas residuales de bajo volumen, agua de lavado de camiones y aguas pluviales del Estanque de Vertedero de Subproductos de la Combustión de Carbón a través de la Desembocadura 004.

El vertido de agua de enfriamiento de una sola pasada a través de la Desembocadura 001; escorrentía de pilas de carbón a través de las Desembocaduras 003 y 301; aguas residuales de bajo volumen a través de las Desembocaduras 201, 301, 003 y 004; y agua de enfriamiento drenada de los condensadores y otros equipos de enfriamiento durante los periodos de mantenimiento a través de la Desembocadura 002 están sujetos a las directrices federales de limitación de efluentes del Título 40 según el Código de Reglamentos Federales, Parte 423. Los contaminantes que se esperan de estos vertidos, según el Título 40 del Código de Reglamentos Federales, Parte 423, son: cloro residual total, sólidos suspendidos totales, aceite y grasa, y pH. También se espera temperatura en las Desembocaduras 001 y 002. Se incluyen contaminantes potenciales adicionales en el Informe Técnico de Solicitud de Aguas Residuales Industriales, Hoja de Trabajo 2.0.

Las aguas residuales de bajo volumen se canalizan a través de un separador de aceite y agua antes de verter a través de la Desembocadura 301 o 003. Las aguas residuales de bajo volumen no reciben tratamiento antes de verter a través de la Desembocadura 201. Los resíduos de bajo volumen, escorrentía de pilas de carbón, agua de lavado de camiones y aguas pluviales del estanque de escorrentía de pilas de carbón, a través de las Desembocaduras 003 y 301, y las aguas residuales de bajo volumen, agua de lavado de camiones y aguas pluviales del Estanque de Vertedero de Subproductos de la Combustión de Carbón, a través de la Desembocadura 004, permiten depositar por gravedad los sedimentos en sus respectivos estanques antes de verter.

El agua de enfriamiento es suministrada por el Lago Fayette (Fayette Lake). El agua del Lago Fayette se extrae en la estructura de entrada y se trata con productos químicos para prevenir la bioincrustación y mejorar su eficacia, luego pasa por condensadores y equipo auxiliar en una sola pasada para enfriar el equipo y condensar el vapor de escape. El agua potable es suministrada por la Corporación de Suministro de Agua de Fayette (Fayette Water Supply Corporation en inglés). Las aguas residuales domésticas de FPP se tratan en un sistema de tratamiento aeróbico en el sitio y se envían a un estanque de proceso en el sitio que recicla el agua internamente.

Texas Commission on Environmental Quality

Public Involvement Plan Form for Permit and Registration Applications

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

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

Section 1. Preliminary Screening

☐ New Permit or Registration Application

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

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

Section 2. Secondary Screening

☒ Requires public notice,

☒ Considered to have significant public interest, **and**

☐ Located within any of the following geographical locations:

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

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

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

The facility is not in a listed geographical location.

Section 3. Application Information

Type of Application (check all that apply):

Air ☐ Initial ☐ Federal ☐ Amendment ☐ Standard Permit ☐ Title V

Waste ☐ Municipal Solid Waste ☐ Industrial and Hazardous Waste ☐ Scrap Tire
☐ Radioactive Material Licensing ☐ Underground Injection Control

Water Quality

☐ Texas Pollutant Discharge Elimination System (TPDES)

- ☐ Texas Land Application Permit (TLAP)
- ☐ State Only Concentrated Animal Feeding Operation (CAFO)
- ☐ Water Treatment Plant Residuals Disposal Permit

☐ Class B Biosolids Land Application Permit

☐ Domestic Septage Land Application Registration

Water Rights New Permit

☐ New Appropriation of Water

☐ New or existing reservoir

Amendment to an Existing Water Right

☐ Add a New Appropriation of Water

☐ Add a New or Existing Reservoir

☐ Major Amendment that could affect other water rights or the environment

Section 4. Plain Language Summary

Provide a brief description of planned activities.

Section 5. Community and Demographic Information

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

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

(City)

(County)

(Census Tract)
Please indicate which of these three is the level used for gathering the following information.

☐ City ☐ County ☐ Census Tract

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

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

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

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

(e) Languages commonly spoken in area by percentage

(f) Community and/or Stakeholder Groups

(g) Historic public interest or involvement

Section 6. Planned Public Outreach Activities

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

☐ Yes ☐ No

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

☐ Yes ☐ No

If Yes, please describe.

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

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

☐ Yes ☐ No

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

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

☐ Publish in alternative language newspaper

☐ Posted on Commissioner's Integrated Database Website

☐ Mailed by TCEQ's Office of the Chief Clerk

☐ Other (specify)

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

☐ Yes ☐ No

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

☐ Yes ☐ No

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

☐ TCEQ Regional Office ☐ TCEQ Central Office

☐ Public Place (specify)

Section 7. Voluntary Submittal

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

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

☐ Yes ☐ No

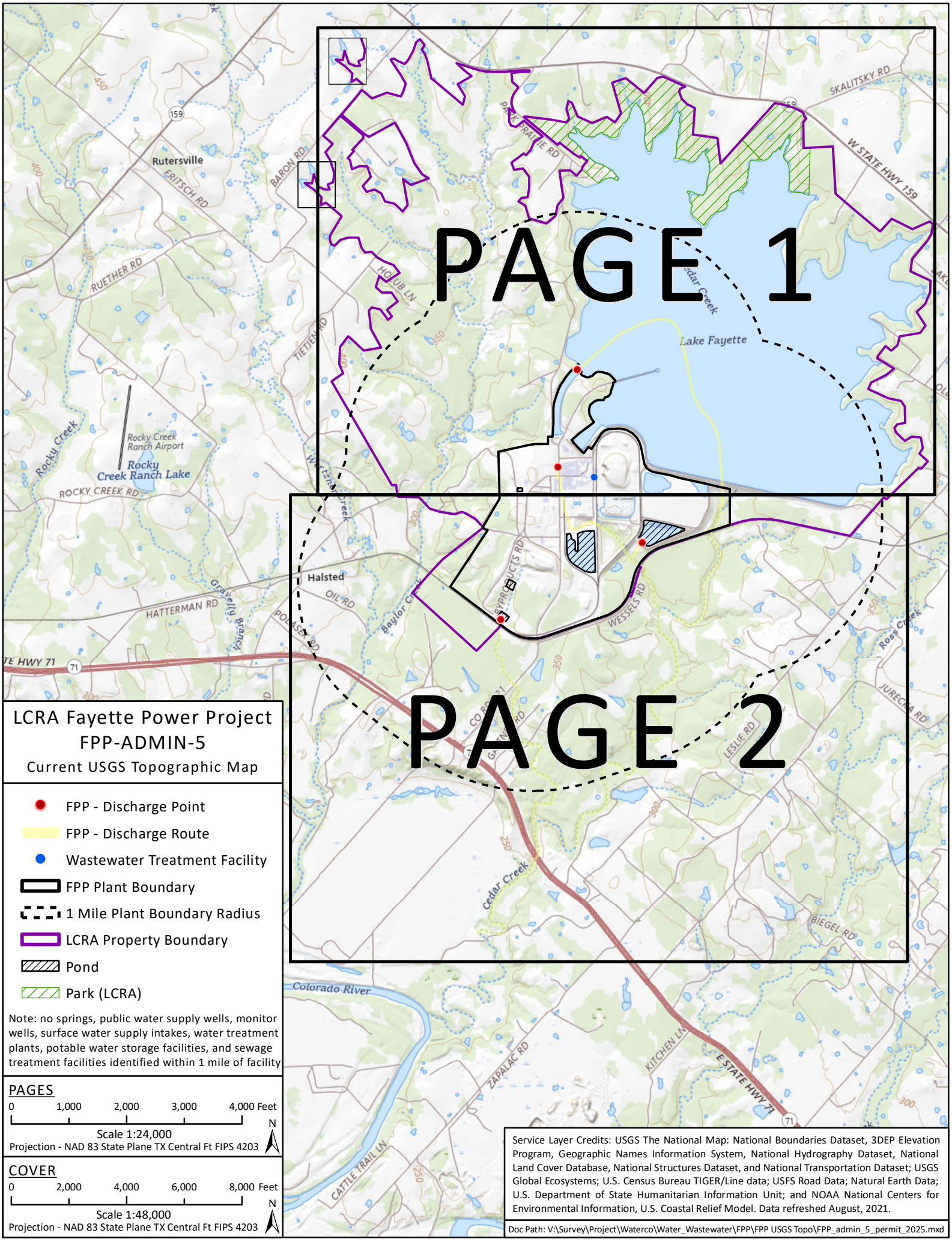
What types of notice will be provided?

☐ Publish in alternative language newspaper

☐ Posted on Commissioner's Integrated Database Website

☐ Mailed by TCEQ's Office of the Chief Clerk

☐ Other (specify)



LCRA Fayette Power Project
FPP-ADMIN-5
Current USGS Topographic Map

- FPP - Discharge Point
- FPP - Discharge Route
- Wastewater Treatment Facility
- FPP Plant Boundary
- 1 Mile Plant Boundary Radius
- LCRA Property Boundary
- Pond
- Park (LCRA)

Note: no springs, public water supply wells, monitor wells, surface water supply intakes, water treatment plants, potable water storage facilities, and sewage treatment facilities identified within 1 mile of facility

PAGES

0 1,000 2,000 3,000 4,000 Feet

Scale 1:24,000

Projection - NAD 83 State Plane TX Central Ft FIPS 4203

N

COVER

0 2,000 4,000 6,000 8,000 Feet

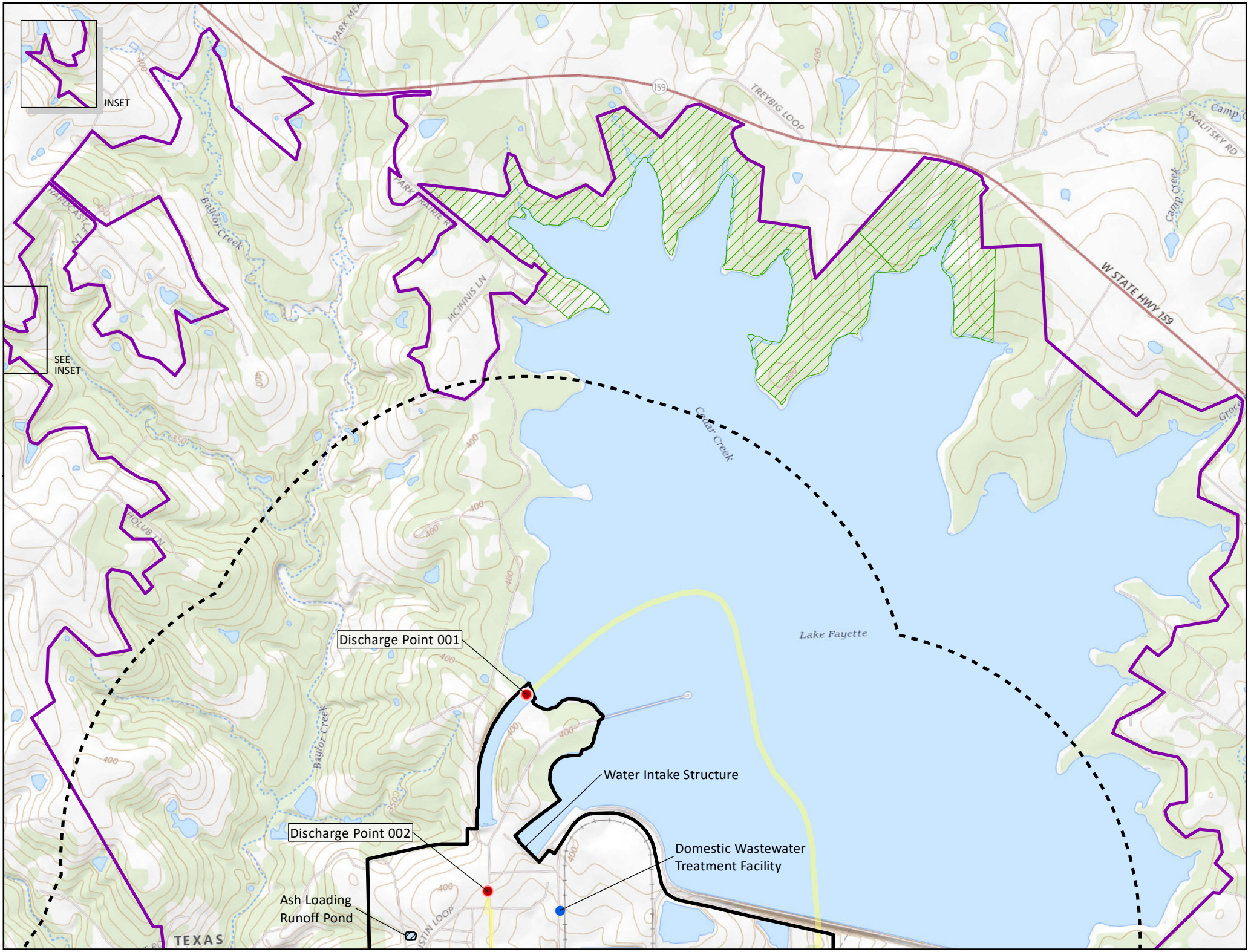
Scale 1:48,000

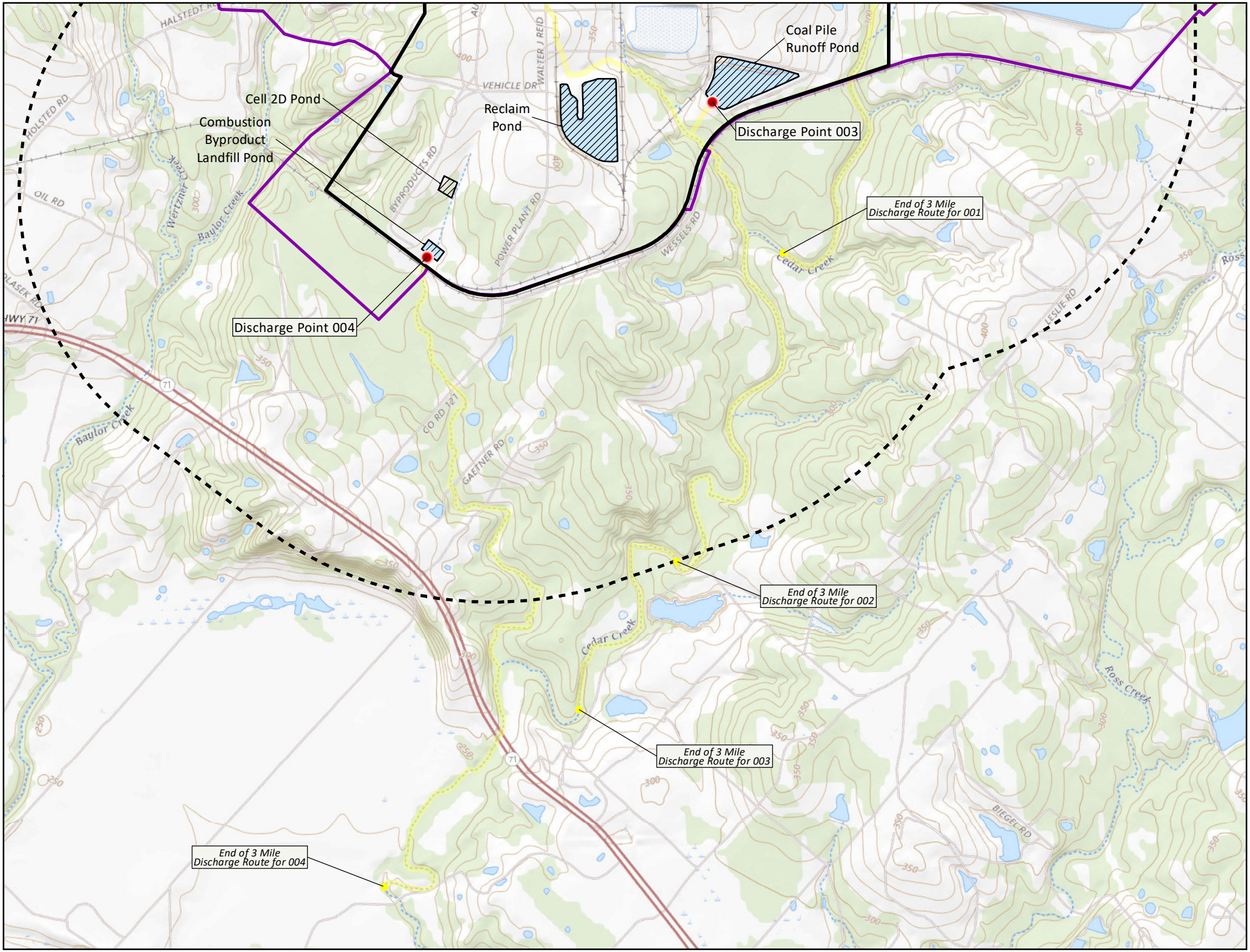
Projection - NAD 83 State Plane TX Central Ft FIPS 4203

N

Service Layer Credits: USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census Bureau TIGER/Line data; USFS Road Data; Natural Earth Data; U.S. Department of State Humanitarian Information Unit; and NOAA National Centers for Environmental Information, U.S. Coastal Relief Model. Data refreshed August, 2021.

Doc Path: V:\Survey\Project\Waterco\Water_Wastewater\FPP\FPP USGS Topo\FPP_admin_5_permit_2025.mxd


INSET
SEE INSET
Discharge Point 001
Discharge Point 002
Water Intake Structure
Domestic Wastewater Treatment Facility
Ash Loading Runoff Pond
Lake Fayette
Cedar Creek
Baylor Creek
W STATE HWY 159
TREYBIG LOOP
MCINNIS LN
SKALITSKY RD
Camp Creek
TEXAS


Coal Pile
Runoff Pond
Cell 2D Pond
Combustion
Byproduct
Landfill Pond
Reclaim
Pond
Discharge Point 003
Discharge Point 004
End of 3 Mile
Discharge Route for 001
End of 3 Mile
Discharge Route for 002
End of 3 Mile
Discharge Route for 003
End of 3 Mile
Discharge Route for 004
VEHICLE DR
WALTER J REID
BYPRODUCTS RD
POWER PLANT RD
WESSELS RD
HOLSTED RD
OIL RD
HWY 71
CO RD 121
GAETNER RD
LESLIE RD
BIEGER RD
Baylor Creek
Cedar Creek
Ross Creek
Wertzner Creek

Attachment: FPP-ADMIN-6 AFFECTED LANDOWNER MAP

Fayette Power Project Affected Landowners

- FPP Plant Site (Treatment Facility)
- FPP Discharge Point
- 1/2 Mile Radius around Discharge Point 001
  Affected Landowners within Radius = None
- Discharge Route (1 Stream Mile)
- LCRA Parcel
  (Fayette County Appraisal District Data)
- LCRA Property (LCRA Data)
- Adjacent Landowner Parcel

0 400 800 1,600 Feet

1 inch = 800 feet

LCRA
ENERGY • WATER • COMMUNITY SERVICES

Source for adjacent landowner property boundaries: Fayette County Appraisal District. Website verification of appraisal data performed March 27, 2025.

Lake Fayette

Discharge Point 001

Discharge Point 002

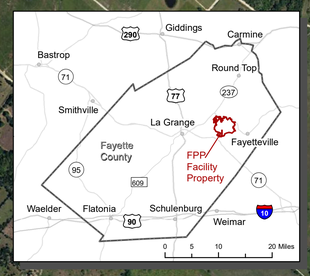
Discharge Point 003

Discharge Point 004

End of 1 Mile Discharge Route for 002

End of 1 Mile Discharge Route for 003

End of 1 Mile Discharge Route for 004



ATTACHMENT: FPP ADMIN 7

Landowner List - Cross-Referenced to Affected Landowner Map (FPP-ADMIN 6)

MAP #	OWNER NAME	MAILING ADDRESS	CITY	STATE	ZIP CODE
1	ROBERT BENJAMIN SCHIELACK	1731 REK HILL RD	FAYETTEVILLE	TX	78940
2	ROYCE B OWENS	1107 NARCILLE ST	BAYTOWN	TX	77520
3	KENNETH AND BESSIE FIELDER	2418 RUNNEBURG RD	CROSBY	TX	77532
4	CHARLIE HARVEY JR EST	PO BOX 1582	BRENHAM	TX	77834
5	ALAN AND LORI JOINER	1715 GRAYSON LAKES BLVD	KATY	TX	77494
6	BRETT ROHDE	219 ROZNOV RD	FAYETTEVILLE	TX	78940
7	THOMAS R AND BONNIE L ROHDE	312 PARK PRAIRIE RD	FAYETTEVILLE	TX	78940
8	SEAN AND TARA MURPHY	940 MCINNIS LN	FAYETTEVILLE	TX	78940
9	BRUCE SCHIELACK	721 PARK PRAIRIE RD	FAYETTEVILLE	TX	78940
10	DENNIS C MCINNIS	960 MCINNIS LN	FAYETTEVILLE	TX	78940
11	PATRICK MCINNIS	950 MCINNIS LN	FAYETTEVILLE	TX	78940
12	JACK D MCINNIS TRUST	PO BOX 4011	PAGOSA SPRINGS	CO	81157
13	TREVOR AND BRADLEY AND PRISCILLA MALOTA	334 C H ALLEN RD	FAYETTEVILLE	TX	78940
14	JOHNATHAN HARVEY	6926 FM 1952	WALLIS	TX	77485
15	BETH CHAPLINE	623 STONELEIGH DR	HOUSTON	TX	77079
16	LEONARD SR AND ALICE MALOTA EST	1120 PARK PRAIRIE RD	FAYETTEVILLE	TX	78940
17	JAMES E ROHDE EST AND ROSE ROHDE	6745 W STATE HIGHWAY 159	FAYETTEVILLE	TX	78940
18	KATHERINE MYNAR ET AL	709-B CASTLE RIDGE RD	AUSTIN	TX	78746
19	THOMAS AND SHANNON GERIK	104 POST OAK LN	COLUMBUS	TX	78934
20	LURLYN NEISNER	120 CARDINAL LANE	COLUMBUS	TX	78934
20	BRIAN BREMSER	211 W MAILAM	WHARTON	TX	77488
21	JAMES ROHDE JR	6327 W STATE HIGHWAY 159	FAYETTEVILLE	TX	78940
22	MICHAEL AND BARBARA CHADDOCK	6227 W STATE HIGHWAY 159	FAYETTEVILLE	TX	78940
23	JOSEPH AND GRETA GROMASKI	6230 W STATE HIGHWAY 159	FAYETTEVILLE	TX	78940
24	RONALD AND FRANCESCA HAVEMANN	5005 TREYBIG LOOP	FAYETTEVILLE	TX	78940
25	ROBBIE AND THERESA BYERS	5848 W STATE HIGHWAY 159	FAYETTEVILLE	TX	78940
26	HAVEMANN'S HAVEN LLC	19522 LOCKRIDGE DR	TOMBALL	TX	77377
27	RHONDA VAJA AND RICHARD MARTINAK AND RUTH MARTINAK	5704 W STATE HIGHWAY 159	FAYETTEVILLE	TX	78940
28	DAVID OTT	4739 TREYBIG LOOP	FAYETTEVILLE	TX	78940
29	JEFFREY AND CYNTHIA HARVEY	4727 TREYBIG LOOP	FAYETTEVILLE	TX	78940
30	BRANDON NOVOSAD	406 N FM 1291	FAYETTEVILLE	TX	78940
31	A AND Z TESTAMENTARY TRUST - SCOTT WEST (TRUSTEE)	9106 HUDSON CT	HOUSTON	TX	77024
32	DOROTHY AND LAMAR HEINTSCHEL	326 HAPPY HOLLOW RD	BRENHAM	TX	77833
33	NICHOLAS AND CAROL KOSTELNIK	7402 CHERRY BROOK CT	SUGAR LAND	TX	77479
34	BILLIE E ADAMS	3852 LESLIE RD	FAYETTEVILLE	TX	78940
35	ROBERT VASEK	302 BARRINGTON FARM CT	GEORGETOWN	TX	78633
36	KYLE STOUTENGER	1108 HOLLYBLUFF ST	AUSTIN	TX	78753
37	ROY GENE AND CYNTHIA SUE WIED	1244 STATE LOOP 458	CARMINE	TX	78932
38	GREGORY H AND EVA I GILLESPIE	129 WINDCLIFF WAY	NEW BRAUNFELS	TX	78132
39	BETTY JEAN VASEK	19811 INDIAN CHERRY FOREST LN	CYPRESS	TX	77433
40	LEON JR AND JOAN HEINTSCHEL EST	4535 W STATE HIGHWAY 159	FAYETTEVILLE	TX	78940
41	MAE DELL HANATH	5059 HIGHWAY 290 W	BRENHAM	TX	77833
42	BRADLEY HANATH	6796 HIGHWAY 36 N	BELLVILLE	TX	77418
43	RODNEY AND REBECCA HANATH	4455 FM 1155 S	CHAPPELL HILL	TX	77426
44	ALVIN H AND KIRK HANATH	PO BOX 2523	BRENHAM	TX	77834
45	RICHARD F HANATH	3829 MOUNT VERNON RD	BRENHAM	TX	77833
46	CONFIDENTIAL*	CONFIDENTIAL*			
47	MARIANNE HEFFINGTON TRUST	PO BOX 71	FAYETTEVILLE	TX	78940
48	EMIL AND MARY SCHLEY REVOCABLE TRUST	3834 W STATE HIGHWAY 159	FAYETTEVILLE	TX	78940
49	MARY M BARBER	905 AVENUE C	SWEENY	TX	77480
50	JACK MARTIN	500 LAKEVIEW RD	FAYETTEVILLE	TX	78940
51	BBF AND R LLC	1306 EMERALD CT	EL CAMPO	TX	77437
52	SCOTT AND ELIZABETH ALLEN	15875 MEADOW VILLAGE DR	HOUSTON	TX	77095
53	RANDY JONES	225 SUMMER HL	NEW BRAUNFELS	TX	78132
54	DAWN SUPAK	3190 OLD PARK RD	FAYETTEVILLE	TX	78940
55	KIMBERLY FISCHER THOMAS	3124 OLD PARK RD	FAYETTEVILLE	TX	78940
56	STEVEN AND DEBORAH BERTSCH	3101 OLD PARK RD	FAYETTEVILLE	TX	78940
57	ROBERT AND JANA PONCIK	5935 BLASE RD	ROSENBERG	TX	77471
58	UNION PACIFIC RAILROAD COMPANY - C/O JOHN VAN GELDER	1400 DOUGLAS ST (STOP 1690)	OMAHA	NE	68179
59	EUGENE PONCIK	1915 PLANTATION BEND DR	SUGAR LAND	TX	77478
60	DELORES KASPER	11855 GREAT OAKS DR	COLLEGE STATION	TX	77845
61	COLLEN AND MEGAN ZAPALAC	178 MADRONE TRL	BOERNE	TX	78006
62	BRENDA BELOTA	109 RUSK ST	FAYETTEVILLE	TX	78940
63	MARVIN R AND TERRI L ALLCORN	47 EAST STONY END PL	THE WOODLANDS	TX	77381
64	JODY AND NATHAN MINARCIK FAMILY TRUST	6382 STOKES RD	BELLVILLE	TX	77418
65	CEDAROW PARTNERS LTD	1518 POTOMAC DR	HOUSTON	TX	77057

* LCRA has contacted the Fayette County Appraisal District and was informed that the information is confidential and not available to the public.

ATTACHMENT: FPP ADMIN 7

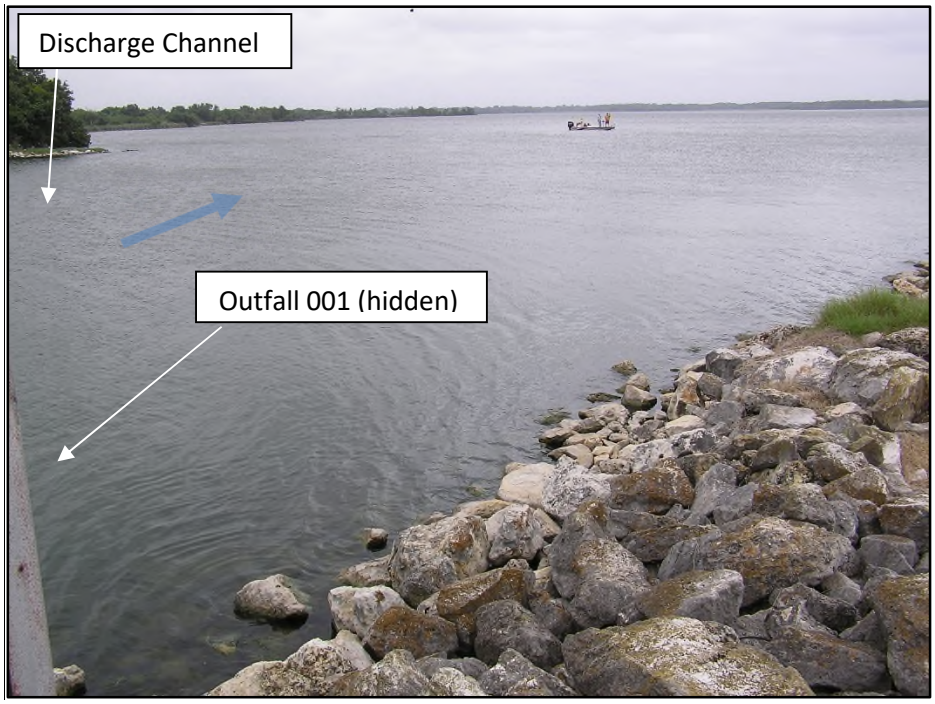
Landowner List - Cross-Referenced to Affected Landowner Map (FPP-ADMIN 6)

66	ALLEN L AND JOSEPHINE MUELLER EST	6123 BACA RD	FAYETTEVILLE	TX	78940
66	ANGELA WALLACE CROCKER	10555 SAWMILL RD	BRENHAM	TX	77833
66	MARIANNA WALLACE KRAUTER	2319 W BRIARGATE DR	BRYAN	TX	77802
67	VIVIAN ALBERS	4316 WOODSTONE CIR	TEMPLE	TX	76502
68	ALBERS BROTHERS LLC	150 BRUSHY CREEK TRL	HUTTO	TX	78634
69	STACY ROGERS	P O BOX 1052	LA GRANGE	TX	78945
70	JAMES AND TERESA DIVIN	6817 E STATE HIGHWAY 71	LA GRANGE	TX	78945
71	JOHN AND HACKEMACK SEIDEL LIVING TRUST	6301 WINIFRED DR	FT WORTH	TX	76133
72	GLENN AND BEVERLY GAERTNER	6829 E STATE HIGHWAY 71	LA GRANGE	TX	78945
73	JOHNNY AND CONNIE GAERTNER REVOCABLE LIVING TRUST	3715 RIVER VISTA WAY	LOUISVILLE	TN	37777
74	CONSOLIDATED FROZEN FOOD LOCKERS INC	957 S MADISON ST	LA GRANGE	TX	78945
75	JANIS STANCIK AND JANIS STANCIK GST EXEMPT TRUST	PO BOX 1130	LA GRANGE	TX	78945
76	CONNIE GAIL KRAUSS AND CONNIE GAIL KRAUSS GST EXEMPT TRUST	240 RENN RD	STOKESDALE	NC	27357
77	DOYLE KRAUSS	1269 VIA PRINCIPALE	MC QUEENEY	TX	78123
78	DANETTE HUVAR	1836 TIETJEN RD	LA GRANGE	TX	78945
79	CHARLES PHELPS	535 CREEKWOOD CT	BRENTWOOD	CA	94513
80	I J AND GERALDINE ORSAK	741 FM 2503	FAYETTEVILLE	TX	78940
81	TEXAS FIRST CHOICE INVESTMENTS	PO BOX 74	CYPRESS	TX	77410
82	NATHAN AND ALEXANDRA HOLUB	6202 PIECHA NEGROS CT	KATY	TX	77450
83	JERRY HOLUB	3825 COUNTY ROAD 302	SHINER	TX	77984
84	ROBERT AND MARY HOLUB	1079 COUNTY ROAD 207	WEIMAR	TX	78962
85	SANDRA KEEPERS AND THERESA NIDEY - C/O JAMES D HOLUB	2436 KRISCHKE RD	SCHULENBURG	TX	78956
86	FRANKLIN HOLUB ET AL	18023 OAK ORCHARD LN	CYPRESS	TX	77433
87	GEORGE P HOLUB EST	513 COLUMBUS HALL LN	FAYETTEVILLE	TX	78940
88	KAREN MAYER AND JANICE FOX AND E H BAUMACH	3112 FRITSCH RD	LA GRANGE	TX	78945
89	JAMES AND JO ANN AYRES	PO BOX 202	ROUND TOP	TX	78954
90	RYAN KLEIBER	1880 BARON RD	LA GRANGE	TX	78945
91	ERIC AND TAMMY NAUMANN	1505 BARON RD	LA GRANGE	TX	78945
92	KARL JOHNSON	1212 BARON RD	LA GRANGE	TX	78945
93	NORMAN AND WANDA HUBBARD	7630 HARDCASTLE LN	LA GRANGE	TX	78945
94	PATRICIA GARRETT	7644 HARDCASTLE LN	LA GRANGE	TX	78945
95	DAVID MENCONI	7690 HARDCASTLE LN	LA GRANGE	TX	78945
96	ERICA MENCONI	7617 HARDCASTLE LN	LA GRANGE	TX	78945
97	BENEDICTION RANCH LLC	21202 BELMONT FARMS DR	TOMBALL	TX	77375
98	MRS WM E BRENDLE EST AND CHARLOTTE HOLZ	4710 GUY GRANT RD	VICTORIA	TX	77904
99	KOLBE FAMILY HOLDINGS LLC	P O BOX 1252	LA GRANGE	TX	78945
100	DREW AND JACKIE BUCCI	610 BARON RD	FAYETTEVILLE	TX	78940
101	JEFFREY WALKER	344 BARON RD	FAYETTEVILLE	TX	78940

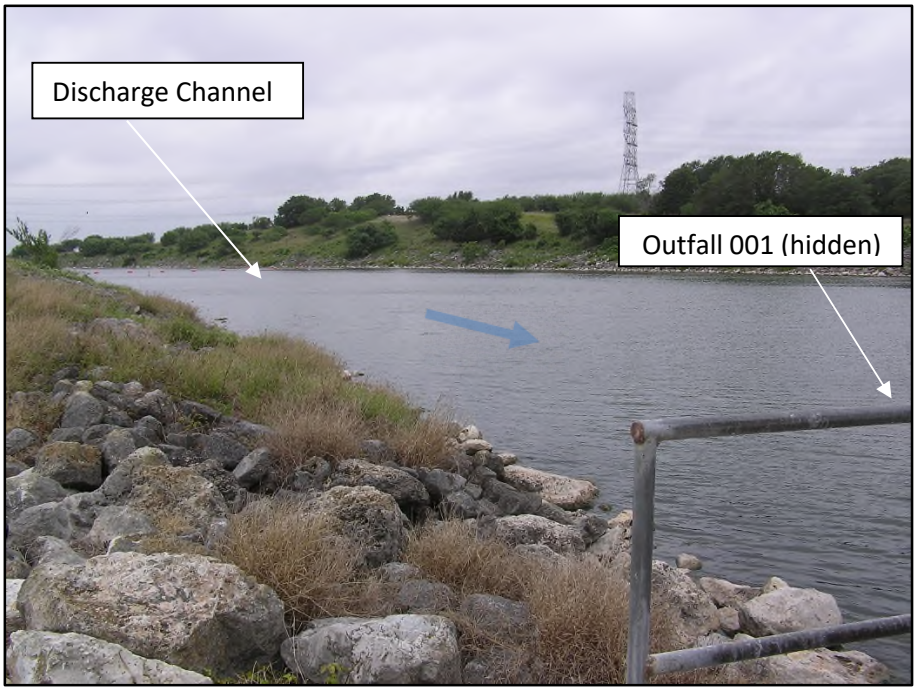
* LCRA has contacted the Fayette County Appraisal District and was informed that the information is confidential and not available to the public.

FPP-ADMIN-8 Outfall Photographs

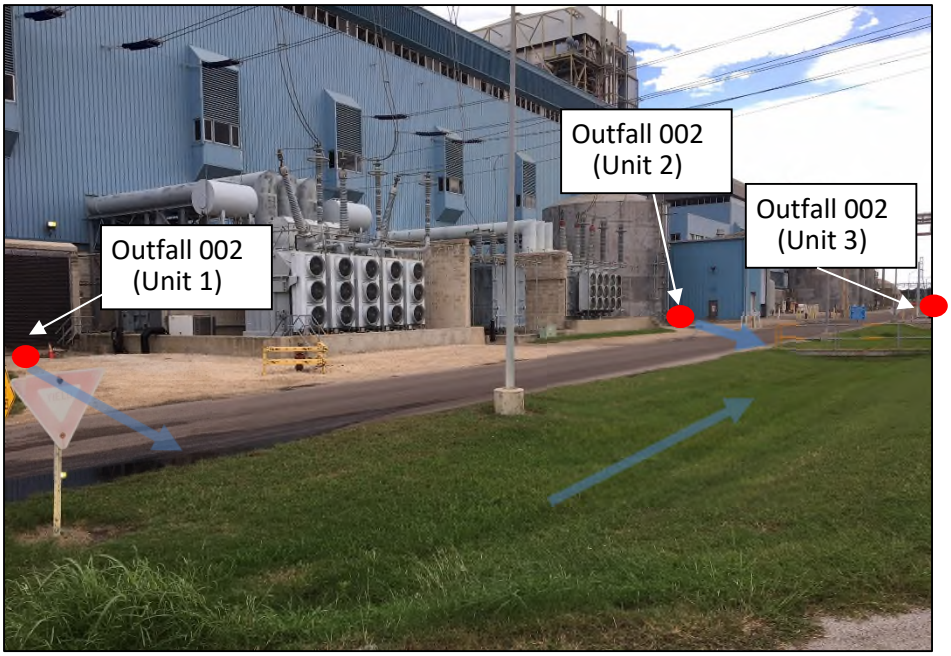
(Note: blue arrow signifies direction of water flow)



Outfall 001-Photo 1 (looking downstream)



Outfall 001-Photo 2 (looking upstream)



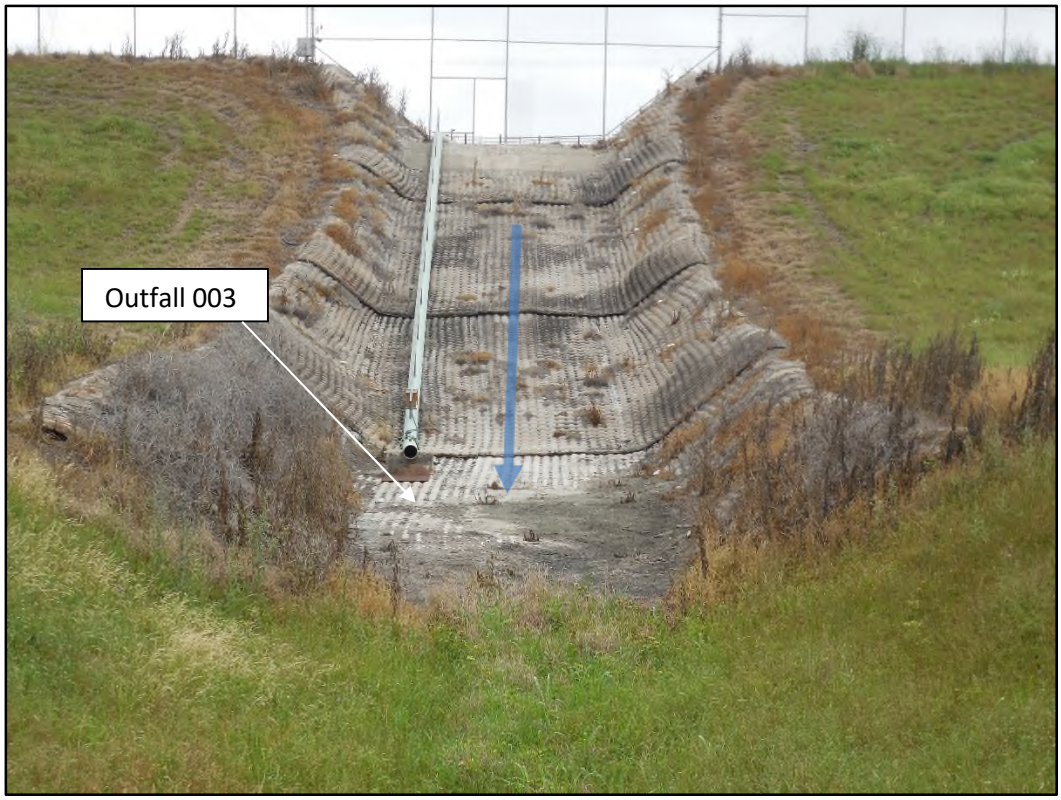
Outfall 002-Photo 3 (looking downstream)
Outfall 002 consists of multiple sources of non-contact cooling water from Units 1, 2, and 3 condensers and circulating water pipes. Red dots indicate some sources of Outfall 002. Note that not all sources are shown.



Outfall 002-Photo 4 (looking upstream)
Outfall 002 consists of multiple sources of non-contact cooling water from Units 1, 2, and 3 condensers and circulating water pipes. Red dots indicate some sources of Outfall 002. Note that not all sources are shown.



Outfall 003 - Photo 5 (looking downstream)



Outfall 003 – Photo 6 (looking upstream)



Outfall 004 – Photo 7 (looking downstream)



Outfall 004 - Photo 8 (looking upstream)



Overview Map with Location of Inserts A, B, C, and D



Insert A (Photos 1 and 2 of Outfall 001)



Insert B (Photos 3 and 4 of Outfall 002)



Insert C (Photos 5 and 6 of Outfall 003)



Insert D (Photos 7 and 8 of Outfall 004)

ATTACHMENT: FPP-ADMIN-9 SPIF Form

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

SUPPLEMENTAL PERMIT INFORMATION FORM (SPIF)

FOR AGENCIES REVIEWING DOMESTIC OR INDUSTRIAL TPDES WASTEWATER PERMIT APPLICATIONS

TCEQ USE ONLY:

Application type: _____Renewal _____Major Amendment ____Minor Amendment _____New

County: _____ Segment Number: _____

Admin Complete Date: _____

Agency Receiving SPIF:

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

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

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

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

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

The following applies to all applications:

1. Permittee: Lower Colorado River Authority

   Permit No. WQ00 02105000 EPA ID No. TX 0073121

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

   6549 Power Plant Road, La Grange, Texas; Fayette County 78945

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: Wendy Schreiber

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

Title: Mgr., Plant Environmental Support

Mailing Address: P.O. Box 220

City, State, Zip Code: Austin, Texas 78767

Phone No.: 512-767-3560 Ext.: Click here to enter text. Fax No.: Click here to enter text.

E-mail Address: Wendy.Schreiber@lcra.org

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

Property is co-owned by LCRA and the City of Austin

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

Via Outfall 001 to Cedar Creek Reservoir; thence to Cedar Creek; thence to the Colorado River Below La Grange in Segment No. 1402 of the Colorado River Basin, and via Outfalls 002, 003, and 004 to unnamed tributaries; thence to Cedar Creek; thence to the Colorado River Below La Grange in Segment No. 1402 of the Colorado River Basin.

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

   See Attachment FPP-SPIF-1 USGS Topographic Map and FPP-SPIF-2 General Location Map

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

   See Attachment FPP-SPIF-3 Original Photographs of Structures 50 years or Older

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

   ☐ Proposed access roads, utility lines, construction easements

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

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

   ☐ Additional phases of development that are planned for the future

☐ Sealing caves, fractures, sinkholes, other karst features

☐ Disturbance of vegetation or wetlands

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

No construction proposed with this application.

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

Existing site use includes operation of a power plant.

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

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

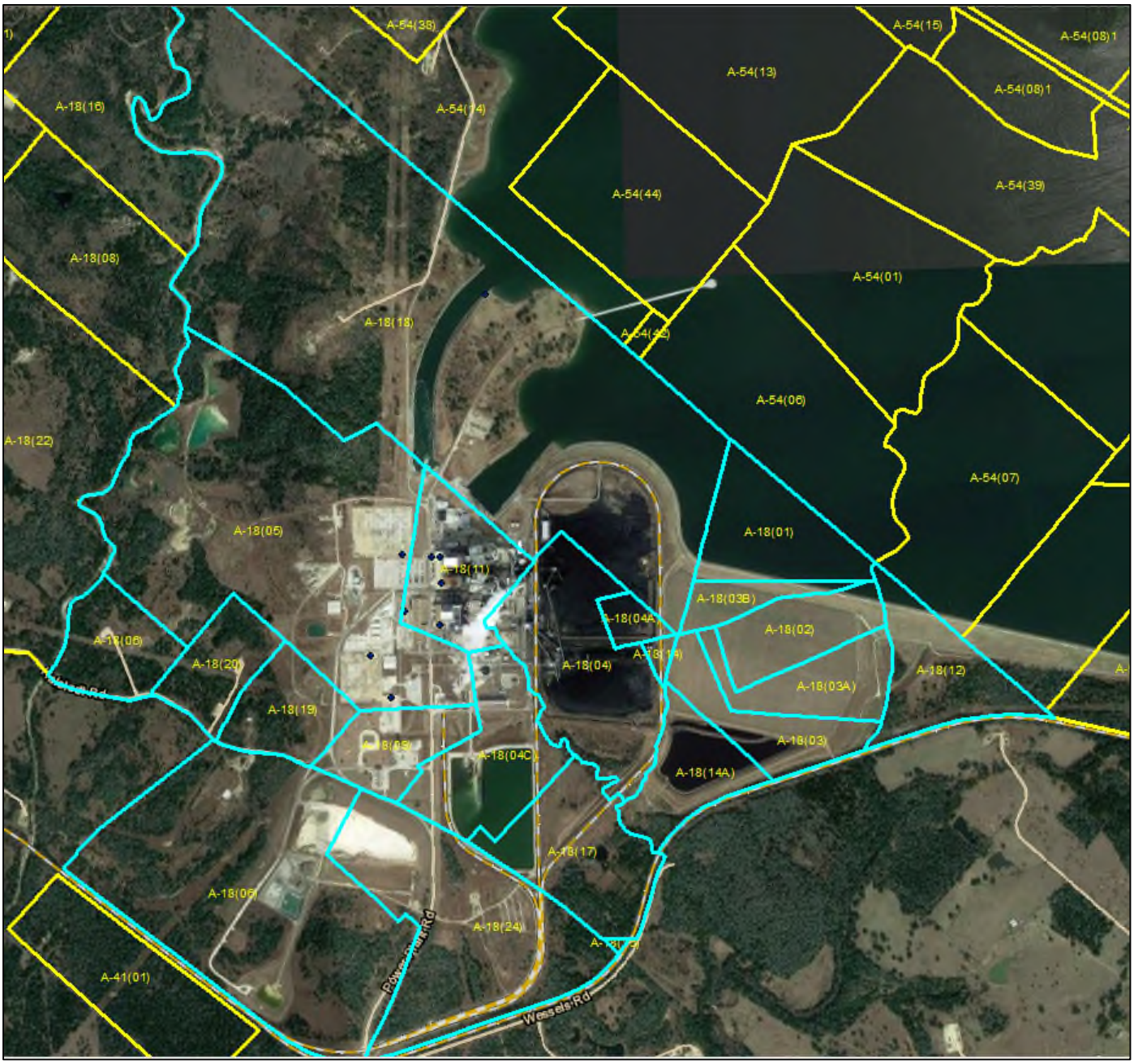
The Fayette Power Project came online for commercial use during the following years: Unit 1 (1979), Unit 2 (1980), and Unit 3 (1988).

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

The property was generally undeveloped until the construction of the power plant. Units 1 and 2 were designed by Bechtel. Unit 3 was designed by Black & Veatch Consulting Engineers.

Attachment: FPP-ADMIN-10 Deeds

Map Key for Deeds of Sam Seymour Fayette Power Project



A-18(01)

A-18(1)
A-1-1

RETURN TO CENTRAL FILES

Z84220

VOL 499 PAGE 119

NO. 16

LOWER COLORADO RIVER AUTHORITY AND THE CITY OF AUSTIN, TEXAS	PROCEEDING IN EMINENT DOMAIN
VS.	IN THE 155TH JUDICIAL DISTRICT COURT OF
DANIEL F. FREYTAG, ET UX	FAYETTE COUNTY, TEXAS

FINAL JUDGMENT

On this day came on to be considered the Award of Commissioners filed with the District Judge of the District Court of Fayette County, Texas, on the 1st day of May, 1975, a copy of said award being attached hereto as Exhibit A and made a part hereof as if set out in full at this place in the Judgment.

And, it appearing that no objections to such decision have been filed by the first Monday next following twenty days from the date of the filing of said award, as aforesaid, it is ORDERED, ADJUDGED and DECREED that such decision be, and it is hereby adopted as the Judgment of this Court; and it is further ORDERED that such Award of Commissioners be recorded with this Judgment in the Minutes of the District Court of Fayette County, Texas.

It is further ORDERED, ADJUDGED and DECREED that the Plaintiffs, Lower Colorado River Authority and the City of Austin, Texas, do have and recover from the Defendants, Daniel F. Freytag and wife, Ora Lou Freytag, the fee simple title in and to that certain real property consisting of 48.38 acres, situated in Fayette County, Texas, being heretofore described in the incorporated Award of Commissioners, and the same be, and is hereby vested in Lower Colorado River Authority and the City of Austin, Texas.

It is further ORDERED, ADJUDGED and DECREED that the Defendants, Daniel F. Freytag and wife, Ora Lou Freytag, do have and recover of and from the Plaintiffs, Lower Colorado River Authority and the City of Austin, Texas, the sum of $58,056.00, which constitutes full payment for the Defendants' property by reason of such taking; and it appearing to the Court that the Plaintiffs have heretofore deposited said sum of $58,056.00 into the Registry of the Court, which sum has heretofore been withdrawn by the Defendants, it is, therefore further

VOL 499 PAGE 120

ORDERED, ADJUDGED and DECREED that the Defendants, Daniel F. Freytag and wife, Ora Lou Freytag, are and shall be entitled to have and retain said sum withdrawn from the Registry of the Court in the amount of $58,056.00 in full satisfaction of the damages awarded to them in this Judgment, and Plaintiffs shall be and are hereby released and discharged from further liability by reason of this action in condemnation and this judgment. Z84221

It is further ORDERED, ADJUDGED and DECREED that Plaintiffs pay all costs of Court in this behalf expended.

SIGNED, RENDERED and ENTERED this the 14th day of May, 1976.

Judge of the District Court of
Fayette County, Texas.

AGREED TO AND APPROVED, BOTH
AS TO FORM AND SUBSTANCE:

SMALL, CRAIG & WERKENTHIN
900 Perry-Brooks Building
Austin, Texas 78701

Mac Umstattd, General Counsel
LOWER COLORADO RIVER AUTHORITY
P. O. Box 220
Austin, Texas 78767

Jan L. Kubicek, Acting City Attorney
P. O. Box 1088
Austin, Texas 78767

HART & HALPAIN
P. O. Box 369
La Grange, Texas 78945

By Richard T. Halpain
Richard T. Halpain

ATTORNEYS FOR PLAINTIFFS

VINSON, ELKINS, SEARLS, CONNALLY & SMITH
First City National Bank Building
Houston, Texas 77002

By Ewing Werlein, Jr.
Ewing Werlein, Jr.

ATTORNEYS FOR DEFENDANTS

045 000011

D-C-3

NO. 78422-A VOL 499 PAGE 121

LOWER COLORADO RIVER AUTHORITY AND THE CITY OF AUSTIN	X	PROCEEDING IN EMINENT DOMAIN
	X	
	X	IN THE 155TH JUDICIAL DISTRICT
VS.	X	
	X	COURT OF
	X	
DANIEL F. FREYTAG, ET UX	X	FAYETTE COUNTY, TEXAS

AWARD OF COMMISSIONERS

(1) On 16 April, 1975, the above designated cause, after due notice to the parties, came on for hearing before the undersigned freeholders of Fayette County, Texas, duly appointed by the Judge of the 155th Judicial District Court, Fayette County, Texas, as Special Commissioners to assess the damages arising from the intended condemnation herein.

(2) Plaintiffs were represented by their attorneys, and the following named Defendant property owners appeared:

Daniel F. Freytag and wife, Ora Lois Freytag, represented by Ewing Werlein

(3) After presentation of the testimony, evidence, and arguments of counsel, the Special Commissioners found that Plaintiffs are entitled to condemn and acquire the fee simple title to the tracts of land located in Fayette County, Texas described in Exhibit "A" attached hereto and to which reference is hereby made for all purposes.

(4) In conformity with the rules of damages as set forth by Revised Civil Statutes, Article 3265, and as interpreted in prior court decisions, the Special Commissioners hereby assess the damages to be paid by Plaintiffs to each Defendant as follows:

0-1-4

(a) Values of the tracts to be condemned: $784.00

plus

(b) Diminution of the values of the remainders by reason of the severances: _____;

less

(c) Offsets comprising special benefits to the remainders by reason of the improvement: _____;

leaving

(d) Adjusted total damages due to each Defendant as follows: _____.

(5) Cost, in conformity with Revised Civil Statutes, Article 3267, are adjudged against the Plaintiffs.

(6) Costs that have accrued to date are:

(a) $_____ for the expense of serving notices on Defendants which costs have been previously paid by Plaintiffs, and

(b) The following fees due to the Special Commissioners as set by the Court:

L. A. Giese	$100.00
L. E. Von Rosenberg	$100.00
Arthur C. Winkelmann	$100.00

SIGNED ~~May 6~~ April 16, 1975.

L. A. Giese

L. E. Von Rosenberg

Arthur C. Winkelmann

Special Commissioners

The foregoing Award was filed with me on May 1, 1975.

[illegible]

155th Judicial District Court
of Fayette County, Texas

D-1-5

784223

VOL 499 PAGE 123

XHIBIT A
Lower Colorado River Authority and City of Austin vs.
DA[illegible] F. FREYTAG, ET UX

PROPERTY DESCRIPTION

All that certain lot, tract, or parcel of land in the JOSEPH BIEGEL LEAGUE, Abstract 18, Fayette County, Texas, being all that certain tract conveyed to Daniel F. Freytag in the deed recorded in Volume 445, Page 401, Deed Records of Fayette County, Texas, and being more particularly described by metes and bounds as follows:

BEGINNING at a point in the West line of County Road No. 119, Fayette County, Texas, for the Southwest corner of said Daniel F. Freytag tract, a steel rod found in place in the fenced East line of County Road No. 119 bears East 43-0/10 feet, said point of beginning having grid coordinates of X = 2,714,895 and Y = 764,194;

THENCE with the West line of said County Road, North 15 degrees 27 minutes 30 seconds East 1776-9/10 feet to a point in the road where it turns to the West, for the Northwest corner of the Freytag tract, in the Northeast line of the J. BIEGEL LEAGUE and the Southwest line of the J. M. HENSLEY LEAGUE, Abstract 54, Fayette County, Texas;

THENCE with the Northeast line of the Freytag tract and the line common to the Biegel and Hensley Leagues, South 47 degrees 58 minutes 30 seconds East 34-5/10 feet to a fence corner post, and South 49 degrees 57 minutes 30 seconds East 2276-25/100 feet (also called South 49 degrees 56 minutes East 2276-1/10 feet) to a point in the center of Cedar Creek (also called Duty Creek) for the Northeast corner of the Freytag tract, a fence corner bears North 49 degrees 57 minutes 30 seconds West 54-4/10 feet;

THENCE Southerly and downstream with the meanders of Cedar Creek,
South 61 degrees 47 minutes West 30-5/10 feet to a point,
South 30 degrees 08 minutes West 79-7/10 feet to a point,
and South 17 degrees 16 minutes East 148-2/10 feet to a point for the Southeast corner of the Freytag tract, a steel rod found in place on the North side of County Road No. 120 bears West 131-6/10 feet;

THENCE departing said creek and crossing County Road No. 120 South 89 degrees 59 minutes 30 seconds West 2219-0/10 feet to the place of beginning, containing 48-38/100 acres of land, more or less, including 1-7/10 acres, more or less, in the County Roads.

All bearings are grid, Texas Plane Coordinate System, South Central Zone. Rotate bearings 1 degree 06 minutes clockwise to be compatible with true bearings.

D-1-6

VOL 499 PAGE 124

Z84224

NOTE:

1. The surveyed property lines, as shown hereon, are to the lines of occupancy as evidenced by fences, roads, old fence line locations not now in existence, and other significant data.
2. No attempt has been made to locate easements or utility installations not shown hereon.
3. All bearings are grid, Texas Plane Coordinate System, South Central Zone. Rotate bearings 1°06' clockwise to be compatible with true bearings.
4. All linear dimensions are in feet.

Survey of A Tract of Land out of the JOSEPH BIEGEL LEAGUE AB.-18 Fayette County, Texas

Being all that certain tract conveyed to

DANIEL F. FREYTAG

By a deed recorded in Volume 445, Pg. 401, Deed Records, Fayette County, Texas

(See Attached Field Notes)

STATE OF TEXAS
1756
REGISTERED PUBLIC SURVEYOR

P.O.B coordinates added 3-19-75

SEMPCO, INC.
• SURVEYING • ENGINEERING • MAPPING • PLANNING
P O Box 1776 Phone WA6-7871
3200 SOUTH MAIN FORT WORTH — TEXAS

TRACT A-18(1)

Z84225

VOL 499 PAGE 125

DISTRICT CLERK'S CERTIFICATE

THE STATE OF TEXAS }
COUNTY OF FAYETTE }

I, WALTER SCHAEFER, Clerk of the District Court, in and for Fayette County, Texas, do hereby certify that the above and foregoing is a full and correct copy of Final Judgment as the same appears of record in my office, in ~~Volume~~ Condemnation ~~Page~~ File # 16, of the Civil Minutes District Court, Fayette County, Texas.

WITNESS My hand and seal of office, at office in La Grange, Texas, this the 7th day of December, 1976.

Walter Schaefer
Walter Schaefer, Clerk District Court of
Fayette County, Texas
by: Virginia Wied, deputy

FILED FOR RECORD

At 2:00 O'clock P. M.

The 10th. Day of December 19 76.

JOHN A. KUBENA

Clerk County Court, Fayette County, Texas

By Irene Pratka Deputy

$7.50 due
Chg. & return to
Coates Field Service
P.O. Box 121
La Grange, Texas 78945

COMPARED

THE STATE OF TEXAS }
County of Fayette, } I, John A. Kubena, Clerk of the County Court of said County, do hereby certify that the foregoing and attached instrument of writing (with its authentications) bearing the date 7 day of December A. D. 1976, was filed for record in my office at 2:00 o'clock P. M., on the 10 day of December A.D. 1976, and recorded in vol. 499 upon pages 119-125 of Record of Deeds for said County at 9:40 o'clock A. M., on the 14 day of December A.D. 1976

To certify all of which I here to sign my name and affix my seal of office in the City of La Grange this the 14 day of December A.D. 1976

John A. Kubena

Clerk County Court, Fayette County, Texas

By Patsy Hess Deputy

RECORDED

045 000016

2-1-0

A-18(02)

D-1-1

RETURN TO CENTRAL FILES

VOL. 475 PAGE 780

THE STATE OF TEXAS)

COUNTY OF FAYETTE)

KNOW ALL MEN BY THESE PRESENTS, that we, DANIEL E. ADAMEK and wife, OTTILIE ADAMEK, of Fayette County, Texas, for and in consideration of the sum of TEN AND NO/100 ($10.00) DOLLARS cash and other good and valuable considerations to us in hand paid by LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, the receipt of which is hereby acknowledged and confessed, and for which no lien, either express or implied, is retained, or shall exist, have GRANTED, SOLD and CONVEYED, and by these presents do GRANT, SELL and CONVEY unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, all that certain tract or parcel of land, lying and being situated in Fayette County, Texas, described as follows, to-wit:

All that certain lot, tract or parcel of land in the Joseph Biegel League, Abstract 18, Fayette County, Texas, conveyed to Daniel Edward Adamek by the Veterans Land Board of Texas by a deed recorded in Volume 475, Page 777-779, Deed Records of Fayette County, Texas, being more particularly described by metes and bounds as follows:

BEGINNING at a fence corner post for the Southwest corner of the Daniel Adamek tract, said post having grid coordinates of X = 2,715,406 and Y = 762,877;

THENCE North 15° 45' West, at 811.8 feet passing a fence corner on the South side of County Road No. 120, and continuing in all 840.1 feet to a point in said county road, for the Northwest corner of the Adamek tract;

THENCE Northeasterly with the approximate center of said road: North 75° 42' East 160.1 feet to a point, North 64° 57' East 672.9 feet to a point, North 84° 38' East 625.6 feet to a point, and North 74° 54' East 482.3 feet to a point from which an iron pin found in place in the fenced North line of the county road bears South 89° 59' 30" West 48.8 feet;

THENCE North 89° 59' 30" East 82.8 feet to a point in the center of Cedar Creek, (also called Duty's Creek), for the Northeast corner of the Adamek tract;

THENCE Southerly and downstream with the meanders of the centerline of said creek: South 17° 18' East 295.4 feet to a point, and South 9° 50' East 254.5 feet to a point for the Southeast corner of the Adamek tract, a 5/8 inch steel rod found in place bears South 66° 54' 30" West 31.4 feet;

THENCE South 66° 54' 30" West, partly with a fence, and crossing a pond, in all 1999.6 feet to the place of beginning, containing some 33.95 acres of land, including approximately 1.1 acres in County Road No. 120. Surveyed in December of 1974, all bearings are grid, Texas Plane Coordinate System, South Central Zone. Rotate bearings 1° 06' clockwise to be compatible with true bearings.

732703

044 002976

LESS, HOWEVER, AND SUBJECT TO certain rights granted to Taylor, Bastrop & Houston Railway Company by Marie Andre, by an instrument in writing dated April 30, 1887, and recorded in Volume 35, Page 344, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

LESS, ALSO, AND SUBJECT TO certain rights granted to Fayette Electric Co-operative, Inc., by Tommy Taylor, by an instrument in writing dated March 27, 1947, and recorded in Volume 217, Page 617, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

TO HAVE AND TO HOLD the above described premises, together with all and singular the rights and appurtenances thereto in anywise belonging unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, their successors and assigns forever. And we do hereby bind ourselves, our heirs, executors and administrators to Warrant and Forever Defend, all and singular, the said premises unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, their successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof.

IN TESTIMONY WHEREOF, witness our hands this the 1st day of February, A. D. 1975.

Daniel E. Adamek
DANIEL E. ADAMEK

Ottilie Adamek
OTTILIE ADAMEK

THE STATE OF TEXAS)

COUNTY OF FAYETTE)

BEFORE ME, the undersigned authority, on this day personally appeared DANIEL E. ADAMEK and his wife, OTTILIE ADAMEK, both known to me to be the persons whose names are subscribed to the foregoing instrument, and acknowledged to me that they each executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this the 1st day of February, A. D. 1975.

Richard T. Halpain
Richard T. Halpain, Notary Public in and for Fayette County, Texas.

FILED FOR RECORD

At 2 O'clock P. M.
The 3rd. Day of February 1975.
JOHN A. KUBENA
Clerk County Court, Fayette County, Texas
By Irene Pratka Deputy

$2.50 due
Filed by, chg. & return to
Hart & Halpain, Attys.
P.O. Box 369
La Grange, Texas 78945

044 00297 732704

232705

THE STATE OF TEXAS
County of Fayette,

I, John A. Kubena, Clerk of the County Court of said County, do hereby certify that the foregoing and attached instrument of writing (with its authentications) bearing the date 1 day of February A. D. 1975, was filed for record in my office at 2:00 o'clock P. M., on the 3 day of Feb. A.D. 1975, and recorded in vol. 475 upon pages 780 & 781 of Record of Deeds for said County at 1:20 o'clock P. M., on the 4 day of Feb. A.D. 1975

To certify all of which I here to sign my name and affix my seal of office in the City of La Grange this the 4 day of February A.D. 1975

John A. Kubena

Clerk County Court, Fayette County, Texas

By Patsy Hentschel Deputy

232705

COMPARED

RECORDED

E-1-D

A-18(03)

D-1-1

RETURN TO CENTRAL FILES

THE STATE OF TEXAS)

VOL 482 PAGE 265

COUNTY OF FAYETTE)

Z85957

KNOW ALL MEN BY THESE PRESENTS, that we, WILLIAM H. SHOEMAKER, Independent Executor of the Estate of Joe K. Koss, Deceased, and JAMES KOSS, of Harris County, Texas, for and in consideration of the sum of TEN AND NO/100 ($10.00) DOLLARS cash and other good and valuable considerations to us in hand paid by LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, the receipt of which is hereby acknowledged and confessed, and for which no lien, either express or implied, is retained, or shall exist, have GRANTED, SOLD and CONVEYED, and by these presents do GRANT, SELL and CONVEY unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, all that certain tract or parcel of land, lying and being situated in Fayette County, Texas, described as follows, to-wit:

All that certain lot, tract or parcel of land in the Joseph Biegel League, Abstract 18, Fayette County, Texas, conveyed by the Veterans Land Board of Texas to Joseph Klatt Koss by deed recorded in Volume 465, Page 368, Deed Records of Fayette County, Texas, being more particularly described by metes and bounds as follows:

BEGINNING at a 3/4" pipe found in place for a re-entrant corner in the North line of the above described Koss tract; said point of beginning having grid coordinates of X = 2,715,356 and Y = 762,665;

THENCE South 85° 12' 30" East 1832.9 feet to a point in the center of Cedar Creek (also called Duty's Creek) for the Easterly Northeast corner of the Koss tract;

THENCE Southwesterly and downstream with the meanders of the center of Cedar Creek:

South 16° 29' West (also called South 16° 31' West) 43.9 feet to a point;
South 27° 43' West 130.5 feet to a point;
South 47° 51' West 150.0 feet to a point;
South 26° 46' West 65.9 feet to a point; and
South 2° 35' East 28.6 feet to a point in the North line of the 100 foot wide M.K.T. Railroad right-of-way;

THENCE with the fenced North line of said M.K.T. Railroad right-of-way, South 72° 40' 40" West 1139.65 feet to a point for the Southerly Southwest corner of the Koss tract, a 1 inch iron pipe found in place bears South 47° 14' 45" East 1.7 feet;

THENCE North 47° 14' 45" West (also called North 47° 13' 45" West) 1798.1 feet to an iron pin found in place for the most Westerly corner of the Koss tract;

THENCE North 17° 07' 30" East, at 516.52 feet passing a 3/4" pipe found in place, and continuing in all 546.55 feet to a point in the intersection of County Road No. 120 with County Road No. 119;

THENCE with County Road No. 120, North 75° 42' East 235.5 feet to a point, an iron pin found in place bears South 22° 50' East 28.95 feet;

THENCE departing County Road No. 120, South 22° 50' East 1044.8 feet to the place of beginning, containing in all some 33.75 acres of land, including approximately 0.1 of an acre in County Road No. 120. Surveyed in December of 1974 and January of 1975, all bearings are grid, Texas Plane Coordinate System, South Central Zone. Rotate bearings 1° 06' clockwise to be compatible with true bearings.

LESS, HOWEVER, AND SUBJECT TO certain rights granted to Taylor, Bastrop & Houston Railway Company by Marie Andre by an instrument in writing dated April 30, 1887, and recorded in Volume 35, Page 344, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

LESS, ALSO, AND SUBJECT TO certain rights granted to Fayette Electric Co-operative, Inc., by Tommy Taylor by an instrument in writing dated March 27, 1947, and recorded in Volume 217, Page 617, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

TO HAVE AND TO HOLD the above described premises, together with all and singular the rights and appurtenances thereto in anywise belonging unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, their successors and assigns forever. And we do hereby bind ourselves, our heirs, executors and administrators to Warrant and Forever Defend, all and singular, the said premises unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, their successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof by, through or under us.

IN TESTIMONY WHEREOF, witness our hands this the 30th day of May, A. D. 1975.

William H. Shoemaker Ind. Ex.

WILLIAM H. SHOEMAKER, Independent Executor of the Estate of Joe K. Koss, Deceased

James R. Koss

JAMES KOSS

THE STATE OF TEXAS }

COUNTY OF Harris }

Z85959

BEFORE ME, the undersigned authority, on this day personally appeared WILLIAM H. SHOEMAKER, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same, as Independent Executor of the Estate of Joe K. Koss, Deceased, for the purposes and consideration therein expressed and in the capacity therein stated.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this the 30th day of May, A. D. 1975.

Georgia Webster
, Notary Public
in and for Harris County, Texas.

THE STATE OF TEXAS }

COUNTY OF HARRIS }

BEFORE ME, the undersigned authority, on this day personally appeared JAMES KOSS, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this the 10th day of ~~May~~ June, A. D. 1975.

Irene V. Bailey
, Notary Public
in and for Harris County, Texas.

FILED FOR RECORD

At 10 O'clock A. M.

The 8th. Day of July 1975.

JOHN A. KUBENA

Clerk County Court, Fayette County, Texas

By Irene Kratka Deputy

$3.50 due
Chg. Charles Rhodes
Coates Field Service
La Grange, Texas 78945

Filed by & return to
Richard T. Halpain, Atty.
P.O. Box 369
La Grange, Texas 78945

THE STATE OF TEXAS
County of Fayette, } I, John A. Kubena, Clerk of the County Court of said County, do hereby certify that the foregoing and attached instrument of writing (with its authentications) bearing the date 30 day of May A. D. 1975, was filed for record in my office at 10:00 o'clock A. M., on the 8 day of July A.D. 1975, and recorded in vol. 482 upon pages 265-267 of Record of Deeds for said County at 11:00 o'clock A. M., on the 10 day of July A.D. 1975

To certify all of which I here to sign my name and affix my seal of office in the City of La Grange this the 10 day of July A.D. 1975

John A. Kubena

Clerk County Court, Fayette County, Texas

By Patsy Hentschke Deputy

001763

A-18(03A)

D-1-1

RETURN TO CENTRAL FILES

478 PAGE 206

THE STATE OF TEXAS §

COUNTY OF FAYETTE §

224

KNOW ALL MEN BY THESE PRESENTS, that we, LAWRENCE L. WEBER and wife, MINNIE MAE WEBER, of Fayette County, Texas, for and in consideration of the sum of TEN AND NO/100 ($10.00) DOLLARS cash and other good and valuable considerations to us in hand paid by LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, the receipt of which is hereby acknowledged and confessed, and for which no lien, either express or implied, is retained, or shall exist, have GRANTED, SOLD and CONVEYED, and by these presents do GRANT, SELL and CONVEY unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, all that certain tract or parcel of land, lying and being situated in Fayette County, Texas, described as follows, to-wit:

All that certain lot, tract or parcel of land in the Joseph Biegel League, Abstract 18, Fayette County, Texas, conveyed to Lawrence L. Weber by the Veterans Land Board of Texas by a deed recorded in Volume 478, Pages 203-205, Deed Records of Fayette County, Texas, being more particularly described by metes and bounds as follows:

BEGINNING at a fence corner post for a re-entrant corner in the North line of the above described Weber tract, said post having grid coordinates of X = 2,715,406 and Y = 762,877;

THENCE with the fenced North line of the Weber tract, North 66° 54' 30" East, crossing a pond near the above described point of beginning, at 1948.2 feet passing a 5/8" steel rod found in place, and continuing in all 1999.6 feet to a point in the center of Cedar Creek (also called Duty's Creek);

THENCE Southerly and downstream with the meanders of the center of Cedar Creek: South 9° 50' East 92.1 feet to a point (also called South 9° 48' East), South 15° 20' East 196.6 feet to a point, South 3° 15' East 185.5 feet to a point, South 11° 41' West 199.7 feet to a point, South 8° 41' West 311.5 feet to a point, and South 16° 29' West 188.5 feet to a point for the Southeast corner of the Weber tract;

THENCE departing Cedar Creek North 85° 12' 30" West 1832.9 feet to a 3/4" pipe found in place for the Southwest corner of the Weber tract;

THENCE North 22° 50' West, at 1015.85 feet passing an iron pin found in place on the South side of County Road No. 120, and continuing in all 1044.8 feet to a point in said road for the Northwest corner of the Weber tract;

THENCE with County Road No. 120, North 75° 42' East 234.6 feet to a point for the Westerly Northeast corner of the Weber tract, a fence corner post bears South 15° 45' East 28.3 feet;

THENCE South 15° 45' East with the fenced Northeast line of the Weber tract 840.1 feet to the place of beginning, containing in all some 33.60 acres of land, including approximately 0.1 of an acre in County Road No. 120. Surveyed in

Z13689

046 00283

December of 1974, all bearings are grid, Texas Plane Coordinate System, South Central Zone. Rotate bearings 1° 06' clockwise to be compatible with true bearings.

LESS, HOWEVER, AND SUBJECT TO certain rights granted to Taylor, Bastrop & Houston Railway Company by Marie Andre, by an instrument in writing dated April 30, 1887, and recorded in Volume 35, Page 344, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

LESS, ALSO, AND SUBJECT TO certain rights granted to Fayette Electric Co-operative, Inc., by Tommy Taylor, by an instrument in writing dated March 27, 1947, and recorded in Volume 217, Page 617, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

TO HAVE AND TO HOLD the above described premises, together with all and singular the rights and appurtenances thereto in anywise belonging unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, their successors and assigns forever. And we do hereby bind ourselves, our heirs, executors and administrators to Warrant and Forever Defend, all and singular, the said premises unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, their successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof.

IN TESTIMONY WHEREOF, witness our hands this the 19th day of February, A. D. 1975.

FILED FOR RECORD

at 2:45 O'clock P. M.

On the 19th. Day of February 19 75

JOHN A. KUBENA

Clerk County Court Fayette County, Texas

By Irene Pratka Deputy

Lawrence L. Weber

LAWRENCE L. WEBER

Minnie Mae Weber

MINNIE MAE WEBER

THE STATE OF TEXAS)

COUNTY OF FAYETTE)

BEFORE ME, the undersigned authority, on this day personally appeared LAWRENCE L. WEBER and his wife, MINNIE MAE WEBER, both known to me to be the persons whose names are subscribed to the foregoing instrument, and acknowledged to me that they each executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this the 19th day of February, A. D. 1975.

$2.50 due
Chg. & return to
Charles Rhodes
Coates Field Service
La Grange, Texas 78945
(Filed by Richard T.Halpain)

Richard T. Halpain

Richard T. Halpain Notary Public in and for Fayette County, Texas.

Z13690

046 00282

THE STATE OF TEXAS
County of Fayette,

I, John A. Kubena, Clerk of the County Court of said County, do hereby certify that the foregoing and attached instrument of writing (with its authentications) bearing the date 19 day of February A. D. 1975, was filed for record in my office at 2:45 o'clock P. M., on the 19 day of Feb. A.D. 1975, and recorded in vol. 478 upon pages 206 & 207 of Record of Deeds for said County at 8:30 o'clock A. M., on the 21 day of Feb. A.D. 1975

To certify all of which I here to sign my name and affix my seal of office in the City of La Grange this the 21 day of February A.D. 1975

John A. Kubena

Clerk County Court, Fayette County, Texas

By Patsy Hentschel Deputy

046 002833

Z13691

D-1-3

A-18(03B)

D-2-1

SPH

RETURN TO CENTRAL FILES

Z86046

THE STATE OF TEXAS §

VOL 479 PAGE 181

COUNTY OF FAYETTE §

47

KNOW ALL MEN BY THESE PRESENTS, that we, LAWRENCE L. WEBER and wife, MINNIE MAE WEBER, of Fayette County, Texas, for and in consideration of the sum of TEN AND NO/100 ($10.00) DOLLARS cash and other good and valuable considerations to us in hand paid by LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, the receipt of which is hereby acknowledged and confessed, and for which no lien, either express or implied, is retained, or shall exist, have GRANTED, SOLD and CONVEYED, and by these presents do GRANT, SELL and CONVEY unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, all of our, and each of our, undivided part, share and interest (which is at least a one-half [1/2] undivided part, share and interest) in and to all that certain tract or parcel of land, lying and being situated in Fayette County, Texas, described as follows, to-wit:

All that certain lot, tract or parcel of land out of the J. Biegel League, Abstract 18, in Fayette County, Texas, being all of that certain tract conveyed to Joseph K. Koss and Lawrence L. Weber by deed recorded in Volume 407, Page 470, Deed Records of Fayette County, Texas, and being more particularly described by metes and bounds as follows:

BEGINNING at a point in County Road (119), at the Northwest corner of said Koss and Weber Tract, from which an iron rod in a fence, the East line of County Road (119), bears North 89° 59' 30" East 15.0 feet; said point having grid coordinates of X = 2,714,923 and Y = 764,194;

THENCE with the fenced North line of said tract, North 89° 59' 30" East at 15.0 feet passing aforesaid iron rod, and continuing in all 2108.2 feet to a point in the approximate centerline of County Road (120), from which an iron rod in a fence, the North line of County Road (120), bears South 89° 59' 30" West 48.8 feet;

THENCE with the meanders of the approximate centerline of County Road (120), South 74° 54' West 482.3 feet to a point; and South 84° 38' West 625.6 feet to a point, and South 64° 57' West 672.9 feet to a point, and South 75° 42' West 630.2 feet to a point in said road from which a 3/4 inch pipe bears South 17° 07' 30" West 30.0 feet;

THENCE departing said County Road (120) and with County Road (119) North 17° 48' 30" East 655.75 feet to the place of beginning, containing some 13.68 acres of land, including approximately 1.8 acres in the County Roads. Surveyed in September of 1974, all bearings are grid, Texas Plane Coordinate System, South Central Zone. Rotate bearings 1° 06' clockwise to be compatible with true bearings.

LESS, HOWEVER, AND SUBJECT TO certain rights granted to the Taylor, Bastrop & Houston Railway Company, by Marie Andre

045 001850

by an instrument in writing dated April 30, 1887, and recorded in Volume 35, Page 344, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

LESS, ALSO, AND SUBJECT TO certain rights granted to the Fayette Electric Co-operative, Inc., by Tommy Taylor, et ux, by an instrument in writing dated March 27, 1947, and recorded in Volume 217, Page 617, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

TO HAVE AND TO HOLD the above described premises, together with all and singular the rights and appurtenances thereto in anywise belonging unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, their successors and assigns forever. And we do hereby bind ourselves, our heirs, executors and administrators to Warrant and Forever Defend, all and singular, the said premises unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, their successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof.

IN TESTIMONY WHEREOF, witness our hands this the 31st day of March, A. D. 1975.

Lawrence L. Weber
LAWRENCE L. WEBER

Minnie Mae Weber
MINNIE MAE WEBER

THE STATE OF TEXAS)

COUNTY OF FAYETTE)

BEFORE ME, the undersigned authority, on this day personally appeared LAWRENCE L. WEBER and his wife, MINNIE MAE WEBER, both known to me to be the persons whose names are subscribed to the foregoing instrument, and acknowledged to me that they each executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this the 31st day of March, A. D. 1975.

Ruth Lehmann
Ruth Lehmann, Notary Public in and for Fayette County, Texas.

FILED FOR RECORD $2.50 due
Chg. Charles Rhodes
Coates Field Serv.
La Grange, Texas
78945

At 4:45 O'clock P. M.
The 3rd. Day of April 1975.

JOHN A. KUBENA
Clerk County Court, Fayette County, Texas

By Patsy Hentschel Deputy

Return to
Richard T. Halpain, Atty.
P.O.Box 369
La Grange, Texas 78945
(Filed by Ruth Lehmann)

THE STATE OF TEXAS }
County of Fayette, } I, John A. Kubena, Clerk of the County Court of said County, do hereby certify that the foregoing and attached instrument of writing (with its authentications) bearing the date 31 day of March A. D. 1975, was filed for record in my office at 4:45 o'clock P. M., on the 3 day of April A.D. 1975, and recorded in vol. 479 upon pages 181-182 of Record of Deeds for said County at 8:25 o'clock A. M., on the 8 day of April A.D. 1975

To certify all of which I here to sign my name and affix my seal of office in the City of La Grange this the 8 day of April A.D. 1975

John A. Kubena

Clerk County Court, Fayette County, Texas

By Patsy Hentschel Deputy

Z86048

D-1-1

286049

VOL 482 PAGE 262

~~286048~~

THE STATE OF TEXAS)

COUNTY OF FAYETTE)

58

KNOW ALL MEN BY THESE PRESENTS, that we, WILLIAM H. SHOEMAKER, Independent Executor of the Estate of Joe K. Koss, Deceased, and JAMES KOSS, of Harris County, Texas, for and in consideration of the sum of TEN AND NO/100 ($10.00) DOLLARS cash and other good and valuable considerations to us in hand paid by LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, the receipt of which is hereby acknowledged and confessed, and for which no lien, either express or implied, is retained, or shall exist, have GRANTED, SOLD AND CONVEYED, and by these presents do GRANT, SELL and CONVEY unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, all of our undivided part, share and interest (which is at least a one-half [1/2] undivided part, share and interest) in and to all that certain tract or parcel of land, lying and being situated in Fayette County, Texas, described as follows, to-wit:

All that certain lot, tract or parcel of land out of the J. Biegel League, Abstract 18, in Fayette County, Texas, being all of that certain tract conveyed to Joseph K. Koss and Lawrence L. Weber by deed recorded in Volume 407, Page 470, Deed Records of Fayette County, Texas, and being more particularly described by metes and bounds as follows:

BEGINNING at a point in County Road (119), at the Northwest corner of said Koss and Weber Tract, from which an iron rod in a fence, the East line of County Road (119), bears North 89° 59' 30" East 15.0 feet; said point having grid coordinates of X = 2,714,923 and Y = 764,194;

THENCE with the fenced North line of said tract, North 89° 59' 30" East at 15.0 feet passing aforesaid iron rod, and continuing in all 2108.2 feet to a point in the approximate centerline of County Road (120), from which an iron rod in a fence, the North line of County Road (120), bears South 89° 59' 30" West 48.8 feet;

THENCE with the meanders of the approximate centerline of County Road (120), South 74° 54' West 482.3 feet to a point; and South 84° 38' West 625.6 feet to a point, and South 64° 57' West 672.9 feet to a point, and South 75° 42' West 630.2 feet to a point in said road from which a 3/4 inch pipe bears South 17° 07' 30" West 30.0 feet;

THENCE departing said County Road (120) and with County Road (119) North 17° 48' 30" East 655.75 feet to the place of beginning, containing some 13.68 acres of land, including approximately 1.8 acres in the County Roads. Surveyed in September of 1974, all bearings are grid, Texas Plane Coordinate System, South Central Zone, Rotate bearings 1° 06' clockwise to be compatible with true bearings.

LESS, HOWEVER, AND SUBJECT TO certain rights granted to the Taylor, Bastrop & Houston Railway Company, by Marie Andre by an instrument in writing dated April 30, 1887, and recorded in Volume 35, Page 344, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

LESS, ALSO, AND SUBJECT TO certain rights granted to Fayette Electric Co-operative, Inc., by Tommy Taylor, et ux, by an instrument in writing dated March 27, 1947, and recorded in Volume 217, Page 617, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

TO HAVE AND TO HOLD the above described premises, together with all and singular the rights and appurtenances thereto in anywise belonging unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, their successors and assigns forever. And we do hereby bind ourselves, our heirs, executors and administrators to Warrant and Forever Defend, all and singular, the said premises unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, their successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof, by, through or under us.

IN TESTIMONY WHEREOF, witness our hands this the 30th day of May, A. D. 1975.

William H. Shoemaker Executor

WILLIAM H. SHOEMAKER,
Independent Executor of the
Estate of Joe K. Koss, Deceased

James R. Koss

JAMES KOSS

THE STATE OF TEXAS)

COUNTY OF Harris)

BEFORE ME, the undersigned authority, on this day personally appeared WILLIAM H. SHOEMAKER, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same as Independent Executor of the Estate of Joe K. Koss, Deceased, for the purposes and consideration therein expressed and in the capacity therein stated.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this the 30th day of May, A. D. 1975.

Georgia Webster

, Notary Public
in and for Harris County, Texas.

VOL. 482 PAGE 264

Z86051

THE STATE OF TEXAS }

COUNTY OF HARRIS }

BEFORE ME, the undersigned authority, on this day personally appeared JAMES KOSS, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this the 12th day of ~~May~~ June, A. D. 1975.



, Notary Public in and for Harris County, Texas.

FILED FOR RECORD

At 10 O'clock A. M.

The 8th. Day of July 1975.

JOHN A. KUBENA

Clerk County Court, Fayette County, Texas

By Irene Stratka Deputy

$3.50 due
Chg. Charles Rhodes
Coates Field Service
La Grange, Texas 78945
Filed by & return to
Richard T. Halpain, Atty.
P.O. Box 369
La Grange, Texas 78945

THE STATE OF TEXAS }
County of Fayette, } I, John A. Kubena, Clerk of the County Court of said County, do hereby certify that the foregoing and attached instrument of writing (with its authentications) bearing the date 30 day of May A. D. 1975, was filed for record in my office at 10:00 o'clock A. M., on the 8 day of July A.D. 1975, and recorded in vol. 482 upon pages 262-264 of Record of Deeds for said County at 10:55 o'clock A. M., on the 10 day of July A.D. 1975

To certify all of which I here to sign my name and affix my seal of office in the City of La Grange this the 10 day of July A.D. 1975

John A. Kubena

Clerk County Court, Fayette County, Texas

By Patsy Hentschel Deputy

A-18(04)

D-1-1

RETURN TO CENTRAL FILES

VOL 478 PAGE 486

Z41319

THE STATE OF TEXAS)

COUNTY OF FAYETTE)

KNOW ALL MEN BY THESE PRESENTS, that we, CHARLES POLASEK, SR. and wife, THUSNELDA POLASEK, of Fayette County, Texas, and ELIZABETH GAERTNER, joined by her husband, GILBERT GAERTNER, of Colorado County, Texas, for and in consideration of the sum of TEN AND NO/100 ($10.00) DOLLARS cash and other good and valuable considerations to us in hand paid by LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, the receipt of which is hereby acknowledged and confessed, and for which no lien, either express or implied, is retained, or shall exist, have GRANTED, SOLD and CONVEYED, and by these presents do GRANT, SELL and CONVEY unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, all that certain tract of parcel of land, lying and being situated in Fayette County, Texas, described as follows, to-wit:

All that certain tract or parcel of land out of the Joseph Biegel League, Abstract 18, in Fayette County, Texas, being all of the remainder of those certain three tracts of land conveyed to Charles Polasek by deed recorded in Volume 130, Page 194, Deed Records of Fayette County, Texas, and being more particularly described by metes and bounds as follows:

BEGINNING at a post oak tree at a fence corner for the North corner of the original Third Tract, said tree having grid coordinates of X = 2,713,324 and Y = 764,832;

THENCE with the fenced Northeast line of said tract, South 47° 29' 30" East 1105.4 feet to a fence corner;

THENCE departing said Northeast line, South 78° 12' West 400.3 feet to a fence corner;

THENCE South 21° 05' East, crossing the line common to said Third Tract and said Second Tract, 614.1 feet to a fence corner in the North line of County Road No. 120;

THENCE with said North line North 78° 00' East 307.7 feet to a point;

THENCE South 26° 58' East, at 37.2 feet passing a 3/8 inch iron pin found in place on the South side of the County Road, and continuing with a fence in all 490.0 feet to an angle point in the fence;

THENCE South 31° 52' East with said fence, crossing the line common to said Second and First Tracts, in all 121.23 feet to a steel rod found in place in the centerline of a branch and the East line of said First Tract;

THENCE Southerly and downstream with the centerline of said branch the following:

South 6° 56' East 230.4 feet, South 23° 36' West 86.9 feet, South 0° 07' West 105.4 feet, South 32° 17' West 112.4 feet, South 3° 44' East 112.6 feet, South 17° 24' West 173.0 feet, South 10° 00' West 129.1 feet, South 39° 44' West 151.2 feet, South 22° 11' West 205.3 feet, South 48° 35' West 226.7 feet, and South 65° 10' West 127.5 feet to the point of intersection of the centerline of this branch with the centerline of a creek;

THENCE Northwesterly and upstream with the centerline of said creek the following:

North 68° 18' West 39.5 feet, North 36° 33' East 49.7 feet, North 76° 36' East 87.0 feet, North 30° 45' West 152.4 feet, South 47° 06' West 113.3 feet, North 47° 16' West 163.0 feet, North 50° 09' East 80.0 feet, North 61° 43' East 167.1 feet, North 76° 43' West 41.9 feet, North 89° 44' West 236.1 feet, North 14° 39' East 123.4 feet, North 23° 33' West 28.2 feet, North 72° 35' West 190.1 feet, North 42° 40' West 101.1 feet, South 66° 48' West 22.5 feet, South 80° 09' West 29.6 feet, North 13° 06' West 178.0 feet, South 76° 53' West 61.4 feet, South 21° 12' West 78.5 feet, North 71° 11' West 78.2 feet North 41° 00' West 199.0 feet, North 20° 15' West 166.0 feet, North 26° 08' East 120.0 feet, North 63° 00' East 46.1 feet, North 38° 09' West 89.4 feet, North 14° 59' East 57.5 feet, North 52° 37' West 265.5 feet, North 39° 02' East 60.3 feet, North 12° 45' West 179.9 feet, North 41° 32' West 124.2 feet, North 46° 23' West 80.9 feet, North 40° 11' West 139.6 feet, North 36° 02' West 37.9 feet, North 32° 28' West 61.9 feet North 10° 30' West 105.8 feet, North 88° 25' West 115.4 feet, and North 32° 01' West 109.3 feet to a point from which a fence corner bears North 40° 51' East 23.0 feet;

THENCE North 40° 51' East 933.7 feet to a point from which a post oak tree used for a fence corner bears North 40° 51' East 1.5 feet;

THENCE North 47° 55' West 22.0 feet to a point from which a fence corner bears South 45° 19' West 1.0 feet;

THENCE North 45° 19' East 489.9 feet to the place of beginning, containing in all some 83.04 acres of land, including approximately 1.5 acres in County Road No. 120.

LESS, HOWEVER, AND SUBJECT TO certain rights granted to Fayette Electric Co-operative, Inc., by Charles Polasek, et ux, by an instrument in writing dated September 17, 1945, and recorded in Volume 217, Page 190, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

TO HAVE AND TO HOLD the above described premises, together with all and singular the rights and appurtenances thereto in anywise belonging unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, their successors and assigns forever. And we do hereby bind ourselves, our heirs, executors and administrators to Warrant and Forever Defend, all and singular, the said premises unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, their

D-1-3

Z41321

-3-

VOL 478 PAGE 488

successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof.

IN TESTIMONY WHEREOF, witness our hands this the 28 day of February, A. D. 1975.

Charles Polasek Sr
CHARLES POLASEK, SR.

Thusnelda Polasek
THUSNELDA POLASEK

Elizabeth Gaertner
ELIZABETH GAERTNER

Gilbert Gaertner
GILBERT GAERTNER

FILED FOR RECORD

At 4:15 O'clock P. M.

The 28th. Day of February 19 75.

JOHN A. KUBENA

Clerk County Court, Fayette County, Texas

By Irene Pratka Deputy

THE STATE OF TEXAS)

COUNTY OF FAYETTE)

BEFORE ME, the undersigned authority, on this day personally appeared CHARLES POLASEK, SR. and his wife, THUSNELDA POLASEK, both known to me to be the persons whose names are subscribed to the foregoing instrument, and acknowledged to me that they each executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this the 28 day of February, A. D. 1975.

Freda Schubert
_____, Notary Public
in and for Fayette County, Texas.

THE STATE OF TEXAS)

COUNTY OF FAYETTE)

BEFORE ME, the undersigned authority, on this day personally appeared GILBERT GAERTNER and his wife, ELIZABETH GAERTNER, both known to me to be the persons whose names are subscribed to the foregoing instrument, and acknowledged to me that they each executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this the 28 day of February, A. D. 1975.

Freda Schubert
_____, Notary Public
in and for Fayette County, Texas.

$3.50 due
Chg.Charles Rhodes
Coates Field Serv.
La Grange,Texas 78945
Filed by & return to Richard T.Halpain, Atty.
P.O. Box 329
La Grange, Texas 78945

045 00493

Z41322

THE STATE OF TEXAS
County of Fayette,

I, John A. Kubena, Clerk of the County Court of said County, do hereby certify that the foregoing and attached instrument of writing (with its authentications) bearing the date 21 day of February A. D. 1975, was filed for record in my office at 4:15 o'clock P. M., on the 28 day of Feb. A.D. 1975, and recorded in vol. 478 upon pages 486-488 of Record of Deeds for said County at 8:05 o'clock A. M., on the 5 day of Mar. A.D. 1975

To certify all of which I here to sign my name and affix my seal of office in the City of La Grange this the 5 day of March A.D. 1975

John A. Kubena

Clerk County Court, Fayette County, Texas

By Patsy Hentschel Deputy

045-00494

h-1-0

A-18(04A)

0-1-1

RETURN TO CENTRAL FILES

VOL 481 PAGE 580

Z41371

THE STATE OF TEXAS §

COUNTY OF FAYETTE §

KNOW ALL MEN BY THESE PRESENTS, that we, CHARLES POLASEK, JR. and wife, LORINE POLASEK, of Fayette County, Texas, for and in consideration of the sum of TEN AND NO/100 ($10.00) DOLLARS cash and other good and valuable considerations to us in hand paid by LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, the receipt of which is hereby acknowledged and confessed, and for which no lien, either express or implied, is retained, or shall exist, have GRANTED, SOLD and CONVEYED, and by these presents do GRANT, SELL and CONVEY unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, all that certain tract or parcel of land, lying and being situated in Fayette County, Texas, described as follows, to-wit:

All those certain tracts or parcels of land out of the J. Biegel League, Abstract 18, in Fayette County, Texas, being all those certain tracts conveyed to Charlie Polasek, Jr., et ux, by deeds recorded in Volume 330, Page 604, Volume 391, Page 111, and Volume 422, Page 275, Deed Records of Fayette County, Texas, and being more particularly described in two tracts by metes and bounds as follows:

TRACT "A":

BEGINNING at the Northeast corner of the Polasek, Jr. tract described in Volume 391, Page 111, a point in the center of a creek; said point of beginning having grid coordinates of X = 2,712,629 and Y = 763,484;

THENCE with the East line of the Polasek, Jr. tract described in Volume 391, Page 111, and with the meanders of the centerline of said creek, South 40° 11' East 139.6 feet, South 46° 23' East 80.9 feet, South 41° 32' East 124.2 feet, South 12° 45' East 179.9 feet, South 39° 02' West 60.3 feet, South 52° 37' East, passing the common Southeast corner of the Polasek, Jr. tract described in Volume 391, Page 111, and the Northeast corner of the Polasek, Jr. tract described in Volume 422, Page 275, crossing a public road and continuing with the East line of the Polasek, Jr. tract described in Volume 422, Page 275, in all 265.5 feet, South 14° 59' West 57.5 feet, South 38° 09' East 89.4 feet, South 63° 00' West 46.1 feet South 26° 08' West 120.0 feet, South 20° 15' East 166.0 feet, South 41° 00' East 199.0 feet, South 71° 11' East 78.2 feet, North 21° 12' East 78.5 feet, North 76° 53' East 61.4 feet, South 13° 06' East 178.0 feet, and North 80° 09' East 29.6 feet to the most Easterly East corner of the Polasek, Jr. tract described in Volume 422, Page 275;

THENCE departing said creek, and with a Southeast line of the Polasek, Jr. tract described in Volume 422, Page 275, and with a fence, South 42° 08' West 1405.8 feet to a fence corner at a South corner of said Polasek, Jr. tract;

THENCE with a Southwest line of the Polasek, Jr. tract and with a fence, North 44° 58' West 261.1 feet to a steel rod at a re-entrant corner on the Southwest line of the Polasek, Jr. tract;

THENCE with a Southeast line of said tract, and with a fence, South 40° 28' West 228.9 feet to a South corner of said tract, in the centerline of a public road;

THENCE with the Southwest line of the Polasek, Jr. tract in said public road, North 61° 37' West 982.1 feet to a fence corner at the most Westerly West corner of the Polasek Jr. tract, said fence corner being in the North edge of the public road;

THENCE with a Northwest line of the Polasek, Jr. tract and with a fence North 40° 07' East 481.3 feet to a fence corner and North 49° 53' West 91.7 feet to a point;

THENCE, departing said fence, and continuing with a Northwest and West line of the Polasek, Jr. tract, North 62° 39' East 864.3 feet to a point in a gulley and North 7° 57' West, crossing a public road, passing the common Northwest corner of the Polasek, Jr. tract described in Volume 422, Page 275, and the Southwest corner of the Polasek, Jr. tract described in Volume 391, Page 111, and continuing with the West line of the Polasek, Jr. tract described in Volume 391, Page 111, in all 972.2 feet to the Northwest corner of the last referred to Polasek, Jr. tract;

THENCE with the North line of said Polasek, Jr. tract, North 79° 37' East 464.8 feet to the place of beginning, containing in all some 54.93 acres of land, including approximately 1.07 acres of land in said public roads.

TRACT "B":
BEGINNING at a fence corner post in the North line of a public road, said point of beginning being the Southwest corner of that certain tract conveyed to Charlie Polasek, Jr., et ux by deed recorded in Volume 330, Page 604, Deed Records of Fayette County, Texas, said point also standing North 22° 53' East 1359.4 feet from the most Easterly East corner of Tract "A" as previously described herein; said point of beginning having grid coordinates of X = 2,713,968 and Y = 763,430;

THENCE with a fence and the West line of the Charlie Polasek, Jr. tract North 21° 05' West 614.1 feet to a fence corner post;

THENCE with a fence and the North line of the Charlie Polasek, Jr. tract North 78° 12' East 400.3 feet to a fence corner post;

THENCE with a fence and the East line of the Charlie Polasek, Jr. tract South 48° 19' East 750.9 feet to a fence corner post in the North line of a public road;

THENCE with a fence, the North line of the road, and the South line of the Charlie Polasek, Jr. tract South 78° 00' West 748.0 feet to the place of beginning, containing in all some 7.98 acres of land.

The two tracts herein described contain a total of some 62.91 acres of land, including approximately 1.07 within the public roads. Surveyed in July and August of 1974, all bearings are grid, Texas Plane Coordinates System, South Central Zone. Rotate bearings 1° 06' clockwise to be compatible with true bearings.

LESS, HOWEVER, AND SUBJECT TO certain rights granted to Fayette Electric Co-operative, Inc., by Charles Polasek, et ux, by an instrument in writing dated September 17, 1945, and recorded in Volume 217, Page 190, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

TO HAVE AND TO HOLD the above described premises, together with all and singular the rights and appurtenances thereto in anywise belonging unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, their successors and assigns forever. And we do hereby bind ourselves, our heirs, executors and administrators to Warrant and Forever Defend, all and singular, the said premises unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, their successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof.

IN TESTIMONY WHEREOF, witness our hands this the 20th. day of May, A. D. 1975.

Charles Polasek JR.
Charles Polasek JR.
CHARLES POLASEK, JR.

Lorine Polasek
LORINE POLASEK

THE STATE OF TEXAS)
COUNTY OF FAYETTE)

BEFORE ME, the undersigned authority, on this day personally appeared CHARLES POLASEK, JR. and his wife, LORINE POLASEK, both known to me to be the persons whose names are subscribed to the foregoing instrument, and acknowledged to me that they each executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this the 20th. day of May, A. D. 1975.

(L.S.)

JOHN A. KUBENA, County Clerk
, ~~Notary Public~~
in and for Fayette County, Texas.
By Irene Pratka, Deputy.

FILED FOR RECORD

At 2:30 O'clock P. M.
The 3rd. Day of June 19 75.
JOHN A. KUBENA
Clerk County Court, Fayette County, Texas
By Irene Pratka Deputy

$3.50 due
Chg. Charles Rhodes
Coates Field Service
La Grange, Texas 78945
Filed by & return to
Richard T. Halpain, Atty.
P.O. Box 369
La Grange, Texas 78945

741371

THE STATE OF TEXAS
County of Fayette,

I, John A. Kubena, Clerk of the County Court of said County, do hereby certify that the foregoing and attached instrument of writing (with its authentications) bearing the date 20 day of Mar A. D. 1975, was filed for record in my office at 2:30 o'clock P. M., on the 3 day of June A.D. 1975, and recorded in vol. 481 upon pages 580-582 of Record of Deeds for said County at 8:25 o'clock A. M., on the 9 day of June A.D. 1975

To certify all of which I here to sign my name and affix my seal of office in the City of La Grange this the 9 day of June A.D. 1975

John A. Kubena

Clerk County Court, Fayette County, Texas

By Patsy Hentschel Deputy

045 00492S.

h-1-0

A-18(04C)

0-1-1

RETURN TO CENTRAL FILES

VOL 481 PAGE 580

Z41371

THE STATE OF TEXAS)

COUNTY OF FAYETTE)

KNOW ALL MEN BY THESE PRESENTS, that we, CHARLES POLASEK, JR. and wife, LORINE POLASEK, of Fayette County, Texas, for and in consideration of the sum of TEN AND NO/100 ($10.00) DOLLARS cash and other good and valuable considerations to us in hand paid by LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, the receipt of which is hereby acknowledged and confessed, and for which no lien, either express or implied, is retained, or shall exist, have GRANTED, SOLD and CONVEYED, and by these presents do GRANT, SELL and CONVEY unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, all that certain tract or parcel of land, lying and being situated in Fayette County, Texas, described as follows, to-wit:

All those certain tracts or parcels of land out of the J. Biegel League, Abstract 18, in Fayette County, Texas, being all those certain tracts conveyed to Charlie Polasek, Jr., et ux, by deeds recorded in Volume 330, Page 604, Volume 391, Page 111, and Volume 422, Page 275, Deed Records of Fayette County, Texas, and being more particularly described in two tracts by metes and bounds as follows:

TRACT "A":

BEGINNING at the Northeast corner of the Polasek, Jr. tract described in Volume 391, Page 111, a point in the center of a creek; said point of beginning having grid coordinates of X = 2,712,629 and Y = 763,484;

THENCE with the East line of the Polasek, Jr. tract described in Volume 391, Page 111, and with the meanders of the centerline of said creek, South 40° 11' East 139.6 feet, South 46° 23' East 80.9 feet, South 41° 32' East 124.2 feet, South 12° 45' East 179.9 feet, South 39° 02' West 60.3 feet, South 52° 37' East, passing the common Southeast corner of the Polasek, Jr. tract described in Volume 391, Page 111, and the Northeast corner of the Polasek, Jr. tract described in Volume 422, Page 275, crossing a public road and continuing with the East line of the Polasek, Jr. tract described in Volume 422, Page 275, in all 265.5 feet, South 14° 59' West 57.5 feet, South 38° 09' East 89.4 feet, South 63° 00' West 46.1 feet South 26° 08' West 120.0 feet, South 20° 15' East 166.0 feet, South 41° 00' East 199.0 feet, South 71° 11' East 78.2 feet, North 21° 12' East 78.5 feet, North 76° 53' East 61.4 feet, South 13° 06' East 178.0 feet, and North 80° 09' East 29.6 feet to the most Easterly East corner of the Polasek, Jr. tract described in Volume 422, Page 275;

THENCE departing said creek, and with a Southeast line of the Polasek, Jr. tract described in Volume 422, Page 275, and with a fence, South 42° 08' West 1405.8 feet to a fence corner at a South corner of said Polasek, Jr. tract;

THENCE with a Southwest line of the Polasek, Jr. tract and with a fence, North 44° 58' West 261.1 feet to a steel rod at a re-entrant corner on the Southwest line of the Polasek, Jr. tract;

THENCE with a Southeast line of said tract, and with a fence, South 40° 28' West 228.9 feet to a South corner of said tract, in the centerline of a public road;

THENCE with the Southwest line of the Polasek, Jr. tract in said public road, North 61° 37' West 982.1 feet to a fence corner at the most Westerly West corner of the Polasek Jr. tract, said fence corner being in the North edge of the public road;

THENCE with a Northwest line of the Polasek, Jr. tract and with a fence North 40° 07' East 481.3 feet to a fence corner and North 49° 53' West 91.7 feet to a point;

THENCE, departing said fence, and continuing with a Northwest and West line of the Polasek, Jr. tract, North 62° 39' East 864.3 feet to a point in a gulley and North 7° 57' West, crossing a public road, passing the common Northwest corner of the Polasek, Jr. tract described in Volume 422, Page 275, and the Southwest corner of the Polasek, Jr. tract described in Volume 391, Page 111, and continuing with the West line of the Polasek, Jr. tract described in Volume 391, Page 111, in all 972.2 feet to the Northwest corner of the last referred to Polasek, Jr. tract;

THENCE with the North line of said Polasek, Jr. tract, North 79° 37' East 464.8 feet to the place of beginning, containing in all some 54.93 acres of land, including approximately 1.07 acres of land in said public roads.

TRACT "B":
BEGINNING at a fence corner post in the North line of a public road, said point of beginning being the Southwest corner of that certain tract conveyed to Charlie Polasek, Jr., et ux by deed recorded in Volume 330, Page 604, Deed Records of Fayette County, Texas, said point also standing North 22° 53' East 1359.4 feet from the most Easterly East corner of Tract "A" as previously described herein; said point of beginning having grid coordinates of X = 2,713,968 and Y = 763,430;

THENCE with a fence and the West line of the Charlie Polasek, Jr. tract North 21° 05' West 614.1 feet to a fence corner post;

THENCE with a fence and the North line of the Charlie Polasek, Jr. tract North 78° 12' East 400.3 feet to a fence corner post;

THENCE with a fence and the East line of the Charlie Polasek, Jr. tract South 48° 19' East 750.9 feet to a fence corner post in the North line of a public road;

THENCE with a fence, the North line of the road, and the South line of the Charlie Polasek, Jr. tract South 78° 00' West 748.0 feet to the place of beginning, containing in all some 7.98 acres of land.

The two tracts herein described contain a total of some 62.91 acres of land, including approximately 1.07 within the public roads. Surveyed in July and August of 1974, all bearings are grid, Texas Plane Coordinates System, South Central Zone. Rotate bearings 1° 06' clockwise to be compatible with true bearings.

LESS, HOWEVER, AND SUBJECT TO certain rights granted to Fayette Electric Co-operative, Inc., by Charles Polasek, et ux, by an instrument in writing dated September 17, 1945, and recorded in Volume 217, Page 190, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

TO HAVE AND TO HOLD the above described premises, together with all and singular the rights and appurtenances thereto in anywise belonging unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, their successors and assigns forever. And we do hereby bind ourselves, our heirs, executors and administrators to Warrant and Forever Defend, all and singular, the said premises unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, their successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof.

IN TESTIMONY WHEREOF, witness our hands this the 20th. day of May, A. D. 1975.

Charles Polasek JR.
Charles Polasek JR.
CHARLES POLASEK, JR.

Lorine Polasek
LORINE POLASEK

THE STATE OF TEXAS)
COUNTY OF FAYETTE)

BEFORE ME, the undersigned authority, on this day personally appeared CHARLES POLASEK, JR. and his wife, LORINE POLASEK, both known to me to be the persons whose names are subscribed to the foregoing instrument, and acknowledged to me that they each executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this the 20th. day of May, A. D. 1975.

(L.S.)

JOHN A. KUBENA, County Clerk
, ~~Notary Public~~
in and for Fayette County, Texas.
By Irene Pratka, Deputy.

FILED FOR RECORD

At 2:30 O'clock P. M.
The 3rd. Day of June 19 75.
JOHN A. KUBENA
Clerk County Court, Fayette County, Texas
By Irene Pratka Deputy

$3.50 due
Chg. Charles Rhodes
Coates Field Service
La Grange, Texas 78945
Filed by & return to
Richard T. Halpain, Atty.
P.O. Box 369
La Grange, Texas 78945

741371

THE STATE OF TEXAS
County of Fayette,

I, John A. Kubena, Clerk of the County Court of said County, do hereby certify that the foregoing and attached instrument of writing (with its authentications) bearing the date 20 day of Mar A. D. 1975, was filed for record in my office at 2:30 o'clock P. M., on the 3 day of June A.D. 1975, and recorded in vol. 481 upon pages 580-582 of Record of Deeds for said County at 8:25 o'clock A. M., on the 9 day of June A.D. 1975

To certify all of which I here to sign my name and affix my seal of office in the City of La Grange this the 9 day of June A.D. 1975

John A. Kubena

Clerk County Court, Fayette County, Texas

By Patsy Hentschel Deputy

045 00492S.

h-1-0

VOL 498 PAGE 446

THE STATE OF TEXAS)
)
County of Fayette)

Z85058

169

Know all men by these presents, that we the undersigned for Ten Dollars and other good and valuable consideration ($10.00 OVC) to us in hand paid by the LOWER COLORADO RIVER AUTHORITY and the CITY of AUSTIN, TEXAS, of the County of Travis, State of Texas, the receipt whereof is hereby acknowledged, have quitclaimed, and by these presents do quitclaim unto the said LOWER COLORADO RIVER AUTHORITY and the CITY of AUSTIN, TEXAS, all our and each of our right, title, interest, claim and demand in and to a certain tract of land situated in said County of Fayette, and being that Burial Ground mentioned and excepted in that Deed dated November 7, 1921 from John Talley, et ux to E.W.Wessels, Recorded in Volume 115, Page 212 of the Deed Records of Fayette County, Texas, and being a part of that certain 44.1 acres of land conveyed to Charles Polasek, Jr., et ux by Elsie W. Sommerfeld, et vir, dated April 29, 1970 and Recorded in Volume 422, Page 275 of the Deed Records of Fayette County, Texas with all and singular our and each of our right, title, interest, estate, claim and demand in and to the hereditaments and apputenances thereto belonging or in any wise pertaining; to have and to hold the above released rights, titles, interests, claims and demands, to the said LOWER COLORADO RIVER AUTHORITY and the CITY of AUSTIN, TEXAS, their grantees, successors and assigns, forever, so that neither we nor our heirs, legal representatives or assigns shall have any right or title to or interest in such property, premesis or appurtenances, or any part thereof, at any time hereafter.

In testimony whereof we have hereunto set our hands this 4 day of JUNE, 1975.

Alfred E Helble

Mrs. Billie Schilke

Mosie Sparnon

Dana Rhoni
WITNESS

Juliette Moeller
WITNESS

X
ELLA HOELSCHER (HER MARK)

045 000857

D-1-1

A-18(4C)

VOL 498 PAGE 612

THE STATE OF TEXAS)
)
County of Fayette)

285053

259

Know all men by these presents, that we the undersigned for Ten Dollars and other good and valuable consideration ($10.00 OVC) to us in hand paid by the LOWER COLORADO RIVER AUTHORITY and the CITY of AUSTIN, TEXAS, of the County of Travis, State of Texas, the receipt whereof is hereby acknowledged, have quitclaimed, and by these presents do quitclaim unto the said LOWER COLORADO RIVER AUTHORITY and the CITY of AUSTIN, TEXAS, all our and each of our right, title, interest, claim and demand in and to a certain tract of land situated in said County of Fayette, and being that Burial Ground mentioned and excepted in that Deed dated November 7, 1921 from John Talley, et ux to E.W.Wessels, Recorded in Volume 115, Page 212 of the Deed Records of Fayette County, Texas, and being a part of that certain 44.1 acres of land conveyed to Charles Polasek, Jr., et ux by Elsie W. Sommerfeld, et vir, dated April 29, 1970 and Recorded in Volume 422, Page 275 of the Deed Records of Fayette County, Texas with all and singular our and each of our right, title, interest, estate, claim and demand in and to the hereditaments and apputenances thereto belonging or in any wise pertaining; to have and to hold the above released rights, titles, interests, claims and demands, to the said LOWER COLORADO RIVER AUTHORITY and the CITY of AUSTIN, TEXAS, their grantees, successors and assigns, forever, so that neither we nor our heirs, legal representatives or assigns shall have any right or title to or interest in such property, premesis or appurtenances, or any part thereof, at any time hereafter.

In testimony whereof we have hereunto set our hands this 17 day of MARCH, 1975.

Irene Hebble Pratka

Elo F. Tschiedel

Laura Hebble Harms

Walter Hebble.

Henry L. Hebble

Tillie Hebble Horn

Anna Newberry Hebble

Emma Hebble May

Edwin Tschiedel

045 000853

A-18(05)

VOL 499 PAGE 126

VINSON, ELKINS, SEARLS,
CONNALLY & SMITH
ATTORNEYS AT LAW
FIRST CITY NATIONAL BANK BUILDING
HOUSTON, TEXAS 77002

A-18(5)
D-1-1

RETURN TO CENTRAL FILES

NO. 13

Z43622

LOWER COLORADO RIVER AUTHORITY and CITY OF AUSTIN	§	PROCEEDINGS IN EMINENT DOMAIN
	§	
	§	IN THE 155TH JUDICIAL DISTRICT
VS.	§	COURT OF
JOHN SCHUHMACHER, JR., ET AL	§	FAYETTE COUNTY, TEXAS

170

FINAL AGREED JUDGMENT

On this day came on to be heard the joint Motion for Entry of Agreed Judgment of Lower Colorado River Authority and the City of Austin, Texas, plaintiffs, and John Schuhmacher, Jr., Daniel Schuhmacher and Susan Schuhmacher, defendants, and the Court, finding that it has jurisdiction over the subject matter and all parties hereto and being of the opinion that judgment should be entered in accordance with the motion of the parties, it is, therefore, ORDERED, ADJUDGED and DECREED that plaintiffs Lower Colorado River Authority and the City of Austin, Texas, do have and recover of and from the defendants John Schuhmacher, Jr., Daniel Schuhmacher and Susan Schuhmacher, the fee simple title in and to the real property described in Exhibit A attached hereto and made a part hereof for all purposes, SAVE AND EXCEPT the residence on such land commonly known as the old Joseph Biegel home and an old windmill, which improvements shall remain the property of the defendants and shall be removed from the land pursuant to the parties' Settlement Agreement.

It is further ORDERED, ADJUDGED and DECREED that the defendants John Schuhmacher, Jr., Daniel Schuhmacher and Susan Schuhmacher, do have and recover of and from the plaintiffs the sum of $327,200.00, $299,715.20 of which has heretofore been paid

100361

045 00151

by plaintiffs into the Registry of the Court and withdrawn by the defendants, and $77,454.50 of which has been subsequently paid by plaintiffs to defendants; and it is further ORDERED, ADJUDGED and DECREED that the defendants are and shall be entitled to have and retain said sums withdrawn and paid, totalling $327,200.00, in full satisfaction of the damages awarded to them in this Judgment, and plaintiffs shall be and are hereby released and discharged from further liability by reason of this action in condemnation and this judgment.

VOL 499 PAGE 127

D-1-2

It is further ORDERED, ADJUDGED and DECREED that plaintiffs pay all costs of court in this behalf expended.

SIGNED, RENDERED and ENTERED this 12th day of ~~August~~ September, 1975.

David Hasse.
JUDGE OF THE DISTRICT COURT
OF FAYETTE COUNTY, TEXAS

AGREED TO AND APPROVED,
BOTH AS TO SUBSTANCE AND FORM:

SMALL, CRAIG & WERKENTHIN
900 Perry-Brooks Building
Austin, Texas 78701

Mac Umstattd, General Counsel
LOWER COLORADO RIVER AUTHORITY
P. O. Box 220
Austin, Texas 78767

Don R. Butler, City Attorney
P. O. Box 1088
Austin, Texas 78767

HART & HALPAIN
P. O. Box 369
La Grange, Texas 78945

By: Richard Halpain
Richard Halpain
ATTORNEYS FOR PLAINTIFFS

VINSON, ELKINS, SEARLS, CONNALLY & SMITH

By: Irving Werlein, Jr.

First City National Bank Building
Houston, Texas 77002
ATTORNEYS FOR DEFENDANTS

FILED
At 11:10 o'clock A M.
SEP 12 1975
Clerk District Court, Fayette County, Texas
By ..... Deputy

Z43023

GF 001152

VOL 499 PAGE 128

D-1-3

Z43024

PROPERTY DESCRIPTION

All that certain lot, tract, or parcel of land out of the J. Biegel League, Abstract 18, Fayetee County, Texas being all that certain tract conveyed to John W. Schuhmacher, Jr., et al, by Deed recorded in Volume 384, Page 399, Deed Records of Fayette County, Texas and being more particularly described by metes and bounds as follows:

BEGINNING at a point in the North side of a public road from which a fence corner bears North 0 degrees 41 minutes East 42.6 feet and a fence corner bears North 38 degrees 24 minutes East 12.5 feet, said point of beginning being the most Southerly Southeast corner of said Schuhmacher tract; such beginning point having grid coordinates of X = 2,712,262 and Y = 762,756;

THENCE along the South line of said tract, in and adjacent to said public road, South 88 degrees 12 minutes West 1399.8 feet to a nail under a fence, for corner;

THENCE along a Southwest line of said tract, North 46 degrees 57 minutes 30 seconds West, at 1230.9 feet an iron pin from which a fence corner bears North 41 degrees 37 minutes East 33.3 feet, in all 2067.8 feet to an 1/2 inch iron pin in a rock pile from which a fence corner bears North 34 degrees 32 minutes West 7.0 feet;

THENCE along a South line of said tract South 41 degrees 18 minutes West 829.6 feet to an iron pin at a fence corner;

THENCE along a Southwest line of said tract North 48 degrees 26 minutes 35 seconds West at 1314.7 feet an iron pin on the East bank of Baylor Creek and at a fence corner, in all 1377.2 feet to a point in the centerline of Baylor Creek and a West corner of said Schuhmacher tract;

THENCE up Baylor Creek and with the meanders of the centerline North 30 degrees 05 minutes East 308.6 feet to a point and North 29 degrees 51 minutes West 452.0 feet to a point and North 43 degrees 44 minutes West 316.6 feet to a point and North 71 degrees 26 minutes East 419.3 feet to a point and North 27 degrees 07 minutes East 704.0 feet to a point and North 53 degrees 48 minutes East 576.7 feet to a point and North 29 degrees 12 minutes East 205.6 feet to a point and North 18 degrees 07 minutes West 280.4 feet to a point and North 16 degrees 04 minutes East 526.6 feet to a point, said point being the most Westerly Northwest corner of said tract;

THENCE departing the centerline of Baylor Creek and with a North line of said tract, South 57 degrees 38 minutes East at 380.3 feet a fence corner, in all 1395.0 feet to a point in an abandoned road;

100362

THENCE, continuing with a North line of said tract, South 47 degrees 26 minutes East 958.3 feet to a point for corner from which a fence corner bears North 47 degrees 26 minutes West 29.0 feet and a 20 inch diameter Post Oak bears North 64 degrees 13 minutes East 10.4 feet;

THENCE with a Northwest line of said tract North 64 degrees 13 minutes East 449.0 feet to a point in a gully from which a fence corner bears South 47 degrees 38 minutes East 191.5 feet and a fence corner bears South 64 degrees 13 minutes West 183.6 feet;

THENCE with a Northeast line of said tract South 47 degrees 38 minutes East 748.2 feet to a fence corner;

THENCE with a Northwest line of said tract and a fence, North 45 degrees 43 minutes East 13.1 feet to a fence corner;

THENCE with an East line of said tract and a fence, South 09 degrees 44 minutes West at 1867 feet a fence corner post, in all 1918.1 feet to a point from which a fence corner bears North 09 degrees 44 minutes East 51.0 feet;

THENCE with a North line of said tract South 65 degrees 44 minutes East at 140.4 feet a fence corner post, in all 898.3 feet to a fence corner, the most Easterly Northeast corner of said tract;

THENCE with an East line of said tract, South 07 degrees 57 minutes East 650.0 feet to the place of beginning, containing in all some 261.76 acres of land, more or less.

All bearings are grid, Texas Plane Coordinates System, South Central Zone, Rotate bearings 1 degree 06 minutes clockwise to be compatible with true bearings.

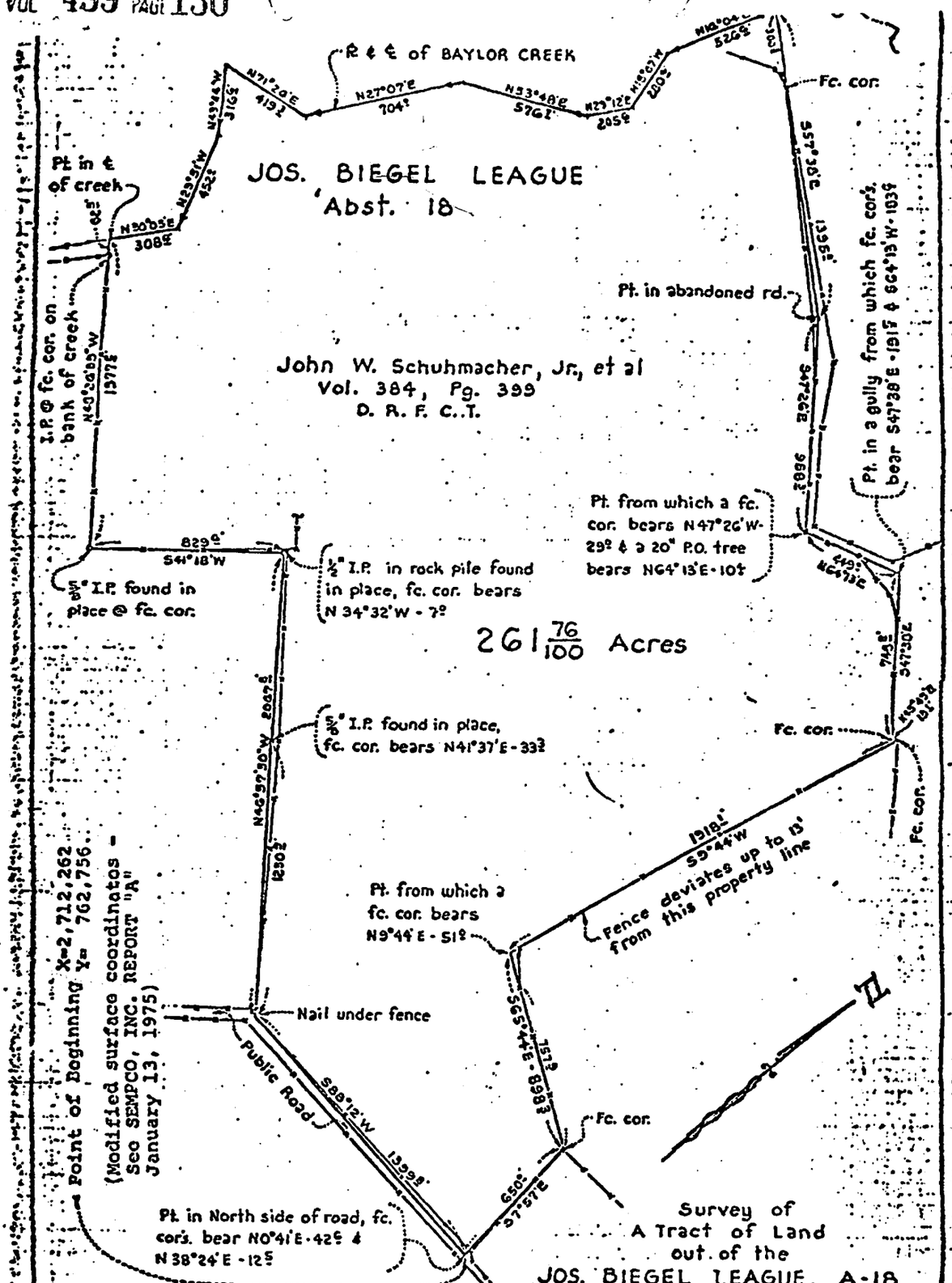
Z43025

100353

048 001154

D-1-5

Z43026



Survey of
A Tract of Land
out of the
JOS. BIEGEL LEAGUE, A-18
Fayette County, Texas

NOTES:

1. The surveyed property lines, as shown hereon, are to lines of occupancy as evidenced by fences, roads, old fence line locations not now in existence, and other significant data.
2. No attempt has been made to locate easements or utility installations not shown hereon.
3. All bearings are grid, TEXAS PLANE COORDINATE SYSTEM, South Central Zone. Rotate bearings 1°06' Clockwise to be compatible with true bearings.
4. All dimensions shown are in feet.

STATE OF TEXAS
No. 196
REGISTERED PUBLIC SURVEYOR

SCALE 1"=500'
○ ..... STEEL ROD
□ ..... BOIS D'ARC STK.
Prepared from a survey made on the ground.
Date Sept. 1974
Rev. 1-23-75

SEMPCO, INC.
• SURVEYING • ENGINEERING • MAPPING • PLANNING
P O Box 1776 Phone WA6-7876
3208 SOUTH MAIN FORT WORTH - TEXAS

TRACT A-18(5) No. 1613

EXHIBIT A, PAGE 3 of 3
Lower Colorado River Authority and City of Austin - 100364
JOHN SCHUHMACHER, JR., ET AL

D46 00155

VOL 499 PAGE 131

DISTRICT CLERK'S CERTIFICATE

THE STATE OF TEXAS }
COUNTY OF FAYETTE }

I, WALTER SCHAEFER, Clerk of the District Court, in and for Fayette County, Texas, do hereby certify that the above and foregoing is a full and correct copy of Final Agreed Judgment as the same appears of record in my office, in ~~Volume~~ File (Condemnation), ~~Page~~ No. 13, of the ~~Civil Minutes~~ District Court, Fayette County, Texas.

WITNESS My hand and seal of office, at office in La Grange, Texas, this the 7th day of December, 1976.

Liz: Virginia Wied, deputy

Walter Schaefer
Walter Schaefer, Clerk District Court of

FILED FOR RECORD

At 2:00 O'clock P. M.

The 10th. Day of December 19 76.

JOHN A. KUBENA

Clerk County Court, Fayette County, Texas

By Irene Kratka Deputy

$6.50 due
Chg. & return to
Coates Field Service
P.O. Box 121
La Grange, Texas 78945

100365

THE STATE OF TEXAS }
County of Fayette, } I, John A. Kubena, Clerk of the County Court of said County, do hereby certify that the foregoing and attached instrument of writing (with its authentications) bearing the date 7 day of December A. D. 1976, was filed for record in my office at 2:00 o'clock P. M., on the 10 day of December A.D. 19 76, and recorded in vol. 499 upon pages 126-131 of Record of Deeds for said County at 9:45 o'clock A. M., on the 14 day of December A.D. 1976

To certify all of which I here to sign my name and affix my seal of office in the City of La Grange this the 14 day of December A.D. 19 76

John A. Kubena

Clerk County Court, Fayette County, Texas

By Patsy Hess Deputy

COMPARED

RECORDED

Z43027

046 001156

7-1-C

A-18(06)

D-1-1

RETURN TO CENTRAL FILES

VOL 483 PAGE 809

WARRANTY DEED

Z43113

89 THE STATE OF TEXAS §
§ KNOW ALL MEN BY THESE PRESENTS:
COUNTY OF FAYETTE §

That we, John Schuhmacher, Sr. and wife, Paula Schuhmacher of the County of Harris and State of Texas (hereinafter called "Grantors"), for and in consideration of the sum of TEN and NO/100 DOLLARS ($10.00) and other valuable consideration, cash to the undersigned paid by the Grantees herein named, the receipt of which is hereby acknowledged, and under threat of condemnation by the hereinafter named Grantees, have GRANTED, SOLD and CONVEYED and by these presents do GRANT, SELL and CONVEY unto the LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS (hereinafter called "Grantees"), all of the real property in Fayette County, Texas, described in Exhibit A attached hereto and which is made a part hereof for all purposes, SAVE AND EXCEPT those exceptions described hereinbelow.

This conveyance and the warranty contained herein is made subject to all outstanding easements and rights-of-way for public roads, railroads, and utilities located on and adjacent to the property hereby conveyed, and is further made less and subject to the following exceptions:

1. Rights granted to W. J. Mechura in an Oil and Gas Lease from Charles W. Harlfinger to W. J. Mechura dated July 1, 1965, and recorded in Volume 105, Page 235 of the Oil and Gas Lease Records of Fayette County, Texas;

2. Rights granted to an undivided one-half interest in the oil, gas, sulphur and other minerals in a Deed from Charles W. Harlfinger, et ux, to Texas Osage Co-operative Royalty Pool, et al, dated February 19, 1930, and recorded in Volume 150, Pages 84-86, Deed Records of Fayette County, Texas;

100447

045 0001245

3. Rights granted to Fayette Electric Cooperative, Inc., in the nature of an easement and right-of-way by instrument from Mary Harlfinger, et al, dated October 24, 1947, and recorded in Volume 217, Page 43, Deed Records of Fayette County, Texas;

4. Rights granted to Southwestern Bell Telephone Company by instrument dated April 1, 1930, from R. December and recorded in Volume 150, Page 217, Deed Records of Fayette County, Texas;

5. Rights excepted by and reserved to E. A. Roitsch and wife, Eva Marie M. Roitsch, in and to a one-half interest in all of the oil, gas and other minerals, including the rights of ingress and egress for the purpose of producing the same, all as more fully set forth in a deed from E. A. Roitsch and wife, Eva Marie M. Roitsch to John Schuhmacher, dated July 14, 1971, and recorded in Volume 437, Page 18 of the Deed Records of Fayette County, Texas;

6. Rights granted to Southwestern Bell Telephone Co., by an instrument in writing from Theo Heller, dated March 31, 1930, and recorded in Volume 150, Page 216, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes;

7. Rights granted to State of Texas by an instrument in writing from E. A. Roitsch, dated November 20, 1948, and recorded in Volume 231, Page 250, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes;

8. Rights granted to M. K. T. R. R., by an instrument in writing from Mary Eva Melcher, et vir, dated June 1, 1950, and recorded in Volume 242, Page 279, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes;

9. An Oil and Gas Lease from E. A. Roitsch, Trustee, et al, to W. J. Mechura, dated July 1, 1965, and recorded in Volume 105, Page 229, Oil and Gas Lease Records of Fayette County, Texas, to which refer for any and all relevant purposes; and

10. Rights of the public and Fayette County to any part of the premises that lie in a public road.

It is expressly agreed by and between Grantors and Grantees that Grantees' right of possession of Tract "C" and Tract "D" described in Exhibit A, attached hereto, commenced on June 6, 1975, and that Grantors shall have and retain exclusive possession of

D-1-3

Z43115

VOL 483 PAGE 811

Tract "A-R" and Tract "B" described in Exhibit A, attached hereto, until October 1, 1975, upon which date the Grantees shall become entitled to possession thereof.

TO HAVE AND TO HOLD the above described premises, together with all and singular the rights and appurtenances thereto in anywise belonging unto the said Grantees, their successors and assigns forever; and we do hereby bind ourselves, our heirs, executors and administrators to WARRANT AND FOREVER DEFEND all and singular the said premises unto the said Grantees, their successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof.

EXECUTED this 4 day of September, 1975.

John Schuhmacher Sr.
JOHN SCHUHMACHER, SR.

Paula Schuhmacher
PAULA SCHUHMACHER

THE STATE OF TEXAS §
§
COUNTY OF HARRIS §

BEFORE ME, the undersigned authority, on this day personally appeared JOHN SCHUHMACHER, SR. and wife, PAULA SCHUHMACHER, known to me to be the persons whose names are subscribed to the foregoing instrument and acknowledged to me that they executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this 4TH day of SEPTEMBER, 1975.

John C. Ridley
Notary Public in and for
HARRIS County, Texas

JOHN C. RIDLEY
Notary Public, Harris County, Texas

100451

046 00425.3

Z43116

EXHIBIT A
LOWER COLORADO RIVER AUTHORITY AND CITY OF AUSTIN -
JOHN SCHUMACHER, SR. ET AL

All that certain lot, tract, or parcel of land out of the J. BIEGEL, Abstract 18, and GEORGE DUTY, Abstract 41, Leagues, Fayette County, Texas, being portions of those certain tracts conveyed to John Schumacher in the deeds recorded in Volume 437, Page 18, and Volume 391, Page 843, Deed Records of Fayette County, Texas, and being more particularly described in four separate tracts as Tracts "A-R", "B", "C" and "D", by metes and bounds as follows:

TRACT "A-R"

BEGINNING at a 1/2 inch iron rod at a fence corner in the curved North right-of-way line of the M.K.&T. Railroad, said rod also being the Southwest corner of that certain tract conveyed to John Schumacher in the deed recorded in Volume 437, Page 18, Deed Records of Fayette County, Texas; said point of beginning having grid coordinates of X=2,705,553 and Y=761,563;

THENCE with said fence and departing said railroad right-of-way, North 11 degrees 32 minutes 40 seconds West 1629-75/100 feet to a point in the center of a County Road from which a fence corner post bears South 11 degrees 33 minutes East 21-65/100 feet;

THENCE with the approximate centerline of said County Road the following courses:
North 69 degrees 05 minutes East 968-15/100 feet to a point,
South 87 degrees 08 minutes East 765-8/10 feet to a point,
and South 39 degrees 30 minutes East 350-15/100 feet to a nail set in a bridge above the centerline of Baylor Creek;

THENCE up the centerline of Baylor Creek North 31 degrees 05 minutes East 296-25/100 feet to a point;

THENCE departing said creek and crossing the Schumacher "First Tract" described in Volume 391, Page 483, Deed Records of Fayette County, Texas, the following courses:
South 83 degrees 42 minutes 38 seconds East 199-1/10 feet to a point;
North 30 degrees 28 minutes 45 seconds East 547-06/100 feet to a point,
and North 89 degrees 51 minutes 22 seconds East 604-31/100 feet to a point in the Northeast line of said Schumacher tract;

THENCE with said Northeast line of South 48 degrees 26 minutes 35 seconds East 605-5/10 feet to a 5/8 inch iron rod found in place at a fence corner;

THENCE South 41 degrees 17 minutes West 752-9/10 feet to a point in a County Road from which an iron rod found in place bears North 43 degrees 01 minute East 49-5/10 feet;

100452

046 001226

THENCE with said County Road the following courses:
North 81 degrees 11 minutes East 102-85/100 feet to a point.
South 59 degrees 26 minutes East 481-4/10 feet to a point,
and South 42 degrees 00 minutes East 439-5/10 feet to a point from which an iron rod found in place bears North 28 degrees 19 minutes East 41-65/100 feet, and continuing with said County Road:
South 70 degrees 08 minutes East 307-75/100 feet to a point,
South 82 degrees 35 minutes East 532-1/10 feet to a point,
and South 66 degrees 07 minutes East 368-9/10 feet to a point on the South side of the road;

THENCE North 42 degrees 01 minute East 9-35/100 feet to a point;

THENCE South 65 degrees 42 minutes East 222-45/100 feet to a point in the County Road;

THENCE departing said County Road, crossing the John Schumacher "Second Tract" described in Volume 391, Page 483, Deed Records of Fayette County, Texas, South 34 degrees 13 minutes West 2846 feet to a point in the North right-of-way line of the M.K.&T. Railroad;

THENCE with said North right-of-way line North 52 degrees 04 minutes 30 second West, crossing Baylor Creek, and continuing in all 2717-2/10 feet to the beginning of a curve to the left having a radius of 1482-69/100 feet, and continuing Northwesterly with the arc of said curve a distance of 1252-92/100 feet to the place of beginning, containing in all 263-3/10 acres of land, more or less, including 2-6/10 acres of land, more or less, in the County Road.

TRACT "B"

All that certain lot, tract, or parcel of land out of the GEORGE DUTY LEAGUE, Abstract 41, Fayette County, Texas, being a portion of that certain 341-21/100 acre tract conveyed to John Schumacher and described under "Second Tract" in deed recorded in Volume 391, Page 483, Deed Records of Fayette County, Texas, and being more particularly described by metes and bounds as follows:

BEGINNING at a 1/2 inch iron rod found in place at the most Southerly corner of the above described "Second Tract"; said point of beginning have grid coordinates of X=2,708,800 and Y=758,115;

THENCE North 47 degrees 08 minutes 10 seconds West 3014-65/100 feet to a 1/2 inch iron rod found in place for the Southwest corner of said "Second Tract";

THENCE North 42 degrees 58 minutes East 879-25/100 feet to a point in the fenced South right-of-way of the M.K.&T. Railroad;

THENCE with said fenced South right-of-way line South 52 degrees 04 minutes 30 seconds East 3082-45/100 feet to a point;

THENCE South 45 degrees 46 minutes West 1146-0/10 feet to the place of beginning, containing in all 70-59/100 acres of land, more or less.

TRACT "C"

BEGINNING at an iron rod found in place in the curved North right-of-way line of the M.K.&T. Railroad, a fence corner post bears North 83 degrees 13 minutes East 41-8/10 feet, said point of beginning having grid coordinates of X = 2,710,890 Y = 758,513;

THENCE with said North right-of-way line the following courses:

Northwesterly with the arc of a curve to the left having a radius of 1382-69/100 feet a distance of 1023-95/100 feet to the end of the curve,

North 52 degrees 04 minutes 30 seconds West, at 300-6/10 feet passing a 1/2 inch iron rod found in place, which bears South 37 degrees 56 minutes West 0-2/10 feet, and continuing in all 1331-3/10 feet to a point;

THENCE departing said North right-of-way line, crossing the John Schuhmacher "Second Tract" described in Volume 391, Page 483, Deed Records of Fayette County, Texas, North 34 degrees 13 minutes East 2846 feet to a point in a County Road;

THENCE South 65 degrees 42 minutes East 423-9/10 feet to a point in said County Road from which a set stone found in place bears South 28 degrees 07 minutes West 12-4/10 feet;

THENCE departing said County Road, generally following a fence, South 28 degrees 07 minutes West 900-3/10 feet to a point in a gulley from which a 20 inch Post Oak used for a fence corner bears North 32 degrees 29 minutes East 93-7/10 feet;

THENCE generally with a fence South 46 degrees 57 minutes East 1186-9/10 feet to a point;

THENCE NORTH 41 degrees 15 minutes East 125-0/10 feet to an iron rod found in place;

THENCE generally with a fence South 46 degrees 57 minutes East 233-3/10 feet to a point;

THENCE along a line Northwest of a fence South 21 degrees 19 minutes West 957-4/10 feet to a point, and South 24 degrees 15 minutes West 792-7/10 feet to the place of beginning, containing in all some 106-49/100 acres, more or less, of land, including approximately 0-25/100 acre, more or less, in the County Road.

TRACT "D"

BEGINNING at a point in the North east line of the Schuhmacher tract described under "First Tract" in the deed recorded in Volume 391, Page 483, Deed Records of Fayette County, Texas, said point of beginning stands South 48 degrees 26 minutes 35 seconds East 709-2/10 feet from an iron rod found in place at a fence corner on the East bank of Baylor Creek, said point of beginning having grid coordinates of X = 2,708,350 and Y = 763,903;

046 001228

THENCE departing said Northeast line and crossing said "First Tract" the following courses:

South 89 degrees 51 minutes 22 seconds West 604-31/100 feet to a point,

South 30 degrees 28 minutes 45 seconds West 547-06/100 feet to a point,

and North 83 degrees 42 minutes 38 seconds West 199-1/10 feet to a point in the center of Baylor Creek;

THENCE up Baylor Creek with the meanders of its centerline the following courses:

North 31 degrees 05 minutes East 63-0/10 feet to a point,

North 9 degrees 23 minutes East 542-9/10 feet to a point,

North 55 degrees 18 minutes East 334-95/100 feet to a point,

and North 30 degrees 05 minutes East 211-2/10 feet to a point for the most Northerly corner of said "First Tract";

THENCE departing Baylor Creek with the Northeast line of said "First Tract" South 48 degrees 26 minutes 35 seconds East, at 62-5/10 feet passing an iron rod found in place at a fence corner on the East Bank of said creek, and continuing in all 771-7/10 feet to the place of beginning, containing in all some 8-94/100 acres, more or less, of land.

All bearings are grid, Texas Plane Coordinate System, South Central Zone. Rotate bearings 1 degree 06 minutes clockwise to be compatible with true bearings.

046 00[illegible]

VOL 483 PAGE 816

D-1-8

Z43120

FILED FOR RECORD

At 4:45 O'clock P. M.

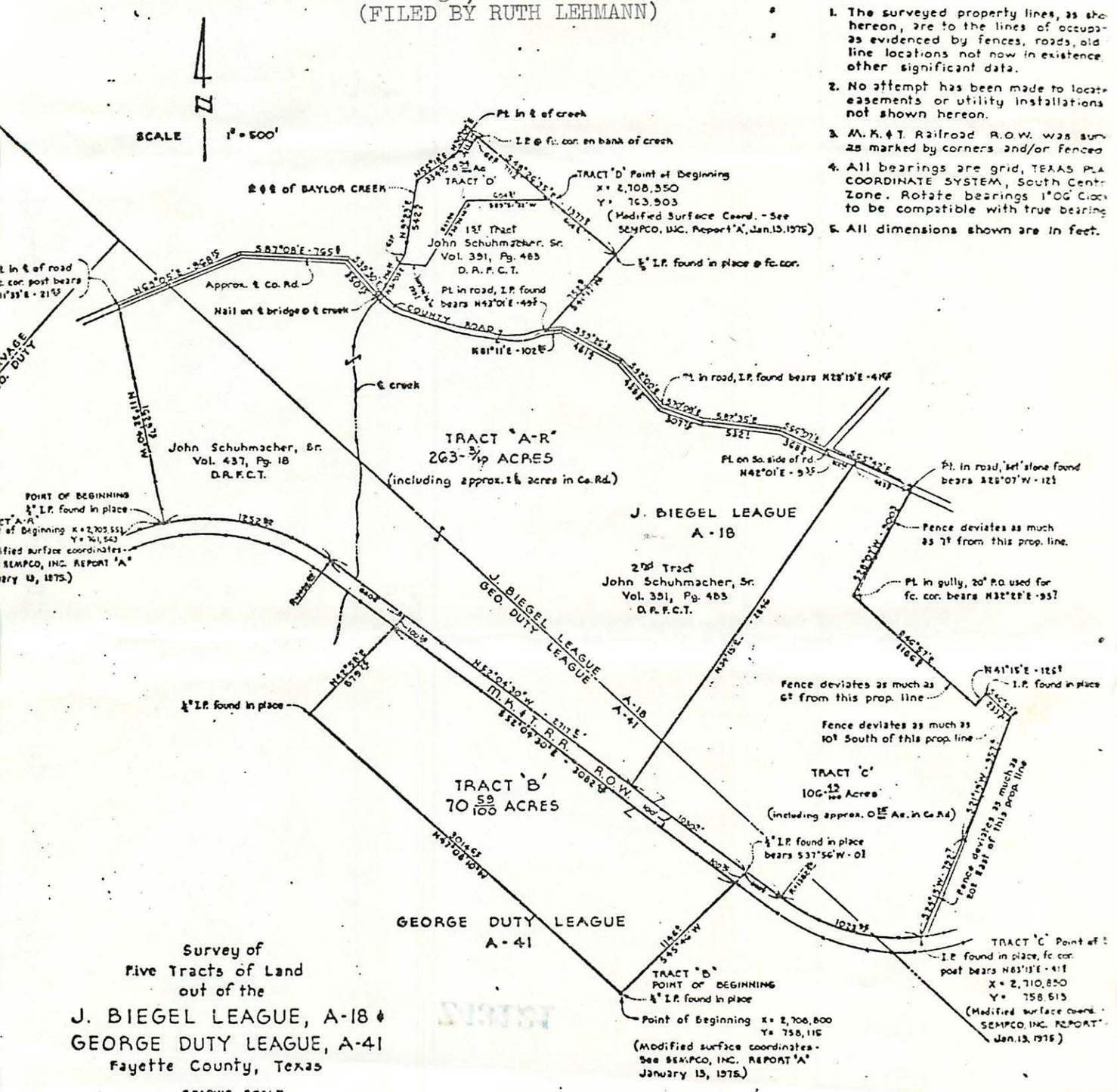
The 8th. Day of September, 1975.

JOHN A. KUBENA

Clerk County Court, Fayette County, Texas

By Gillian Walter, Deputy

Recording...$8.50 Due.
Bill to: Coates Field Service,
La Grange, Texas. 78945
Return to: Richard Halpain, Atty.
LaGrange, Texas. 78945
(FILED BY RUTH LEHMANN)



NOTES:

1. The surveyed property lines, as shown hereon, are to the lines of occupation as evidenced by fences, roads, old line locations not now in existence, and other significant data.
2. No attempt has been made to locate easements or utility installations not shown hereon.
3. M. K. & T. Railroad R.O.W. was surveyed as marked by corners and/or fences.
4. All bearings are grid, TEXAS PLANE COORDINATE SYSTEM, South Central Zone. Rotate bearings 1°00' Clockwise to be compatible with true bearings.
5. All dimensions shown are in feet.

Survey of
Five Tracts of Land
out of the
J. BIEGEL LEAGUE, A-18 &
GEORGE DUTY LEAGUE, A-41
Fayette County, Texas

GRAPHIC SCALE

Map prepared from surveys made on the ground in September, 1974.

Louis M. Hawkins
Registered Public Surveyor No. 196

STATE OF TEXAS
LOUIS M. HAWKINS
196
REGISTERED PUBLIC SURVEYOR

9-9-75
Rev. 11-5-75 Rev. 2-11-76

SEMPCO, INC.
3208 South main Street
Fort Worth, Texas 76110
1-817-926-7876

TRACT A-18(C)

Proj. No.

EXHIBIT A, PAGE 5 OF 5 PAGES
LOWER COLORADO RIVER AUTHORITY AND CITY OF AUSTIN -
JOHN SCHUMACHER, SR., ET AL

100456

046 001250

THE STATE OF TEXAS
County of Fayette,

I, John A. Kubena, Clerk of the County Court of said County, do hereby certify that the foregoing and attached instrument of writing (with its authentications) bearing the date 4 day of September A. D. 1975, was filed for record in my office at 4:45 o'clock P. M., on the 8 day of Sept. A.D. 1975, and recorded in vol. 483 upon pages 809-816 of Record of Deeds for said County at 3:00 o'clock P. M., on the 9 day of Sept. A.D. 1975

100457

To certify all of which I here to sign my name and affix my seal of office in the City of La Grange this the 9 day of September A.D. 1975

John A. Kubena

Clerk County Court, Fayette County, Texas

By Patsy Hess Deputy

Z43121

COMPARED

RECORDED

8-1-0

A-18(09)

D-1-1

Z43398 VOL 479 PAGE 597

THE STATE OF TEXAS)

COUNTY OF FAYETTE)

KNOW ALL MEN BY THESE PRESENTS, that we, SHERWOOD G. STEPHENS and wife, U. KRISTINA STEPHENS, of Harris County, Texas, for and in consideration of the sum of TEN AND NO/100 ($10.00) DOLLARS cash and other good and valuable considerations to us in hand paid by LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, the receipt of which is hereby acknowledged and confessed, and for which no lien, either express or implied, is retained, or shall exist, have GRANTED, SOLD and CONVEYED, and by these presents do GRANT, SELL and CONVEY unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, all that certain tract or parcel of land, lying and being situated in Fayette County, Texas, described as follows, to-wit:

All that certain lot, tract or parcel of land out of the J. Biegel League, Abstract 18, in Fayette County, Texas, being all that certain tract conveyed to Sherwood G. Stephens, et ux, by a deed recorded in Volume 397, Page 112, Deed Records of Fayette County, Texas, and being more particularly described by metes and bounds as follows:

BEGINNING at the Northeast corner of said Stephens tract, a point on the North side of a public road running along the North line of said Stephens tract, from which point a fence corner on the North edge of said road bears North 0° 41' East 42.6 feet and another fence corner on the North edge of said road bears North 38° 24' East 12.5 feet; said beginning point having grid coordinates of X = 2,712,262 and Y = 762,756;

THENCE with the East line of said Stephens tract, and departing said road, South 7° 57' East 322.2 feet to a point in a gulley, South 62° 39' West 864.3 feet to a point in a fence, South 49° 53' East, with said fence, 91.7 feet to a fence corner, and South 40° 07' West, with a fence, 481.3 feet to a fence corner at the Southeast corner of said Stephens tract and in the North edge of a public road running along the South line of said Stephens tract;

THENCE with the South line of said Stephens tract, in said public road, North 67° 38' West 283.4 feet to the Southwest corner of said Stephens tract in the intersection of said public road running along the South line of said Stephens tract with a public road running along the West line of said Stephens tract;

THENCE with the West line of said Stephens tract, in the public road, North 42° 01' East 873.6 feet to a nail under a fence on the North edge of the public road running along the North line of said Stephens tract, for the Northwest corner of said tract;

THENCE with the North line of said Stephens tract, North 88° 12' East 1399.8 feet to the place of beginning, containing

046 001516

in all 30.54 acres of land, more or less, including approximately 2.2 acres of land in said public roads.

LESS, HOWEVER AND SUBJECT TO certain rights granted to the Fayette Electric Co-operative, Inc., by C. W. & Mary Harlfinger by an instrument in writing dated October 24, 1947, and recorded in Volume 217, Page 43, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

LESS, ALSO, AND SUBJECT TO an Oil and Gas Lease granted to W. J. Mechura by Charles W. Harlfinger by an instrument dated July 1, 1965, and recorded in Volume 105, Page 235, Oil and Gas Lease Records of Fayette County, Texas, to which refer for any and all relevant purposes.

TO HAVE AND TO HOLD the above described premises, together with all and singular the rights and appurtenances thereto in anywise belonging unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, their successors and assigns forever. And we do hereby bind ourselves, our heirs, executors and administrators to Warrant and Forever Defend, all and singular, the said premises unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, their successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof.

IN TESTIMONY WHEREOF, witness our hands this the 21st day of April, A. D. 1975.

Sherwood G. Stephens
SHERWOOD G. STEPHENS

U. Kristina Stephens
U. KRISTINA STEPHENS

THE STATE OF TEXAS)
COUNTY OF FAYETTE)

BEFORE ME, the undersigned authority, on this day personally appeared SHERWOOD G. STEPHENS and his wife, U. KRISTINA STEPHENS, both known to me to be the persons whose names are subscribed to the foregoing instrument, and acknowledged to me that they each executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this the 21st day of April, A. D. 1975.

FILED FOR RECORD

At 3 O'clock P. M.
this 25th. Day of April 1975.
JOHN A. KUBENA
Clerk County Court, Fayette County, Texas
By Irene Gratka Deputy

Ruth Lehmann
Ruth Lehmann, Notary Public in and for Fayette County, Texas

$2.50 due
Chg. & return Charles Rhodes
Coates Field Service
La Grange, Texas
78945

(Filed by Ruth Lehmann)

THE STATE OF TEXAS
County of Fayette, } I, John A. Kubena, Clerk of the County Court of said County, do hereby certify that the foregoing and attached instrument of writing (with its authentications) bearing the date 21 day of April A. D. 1975, was filed for record in my office at 3:00 o'clock P. M., on the 25 day of April A.D. 19 75, and recorded in vol. 479 upon pages 597-598 of Record of Deeds for said County at 10:30 o'clock A. M., on the 28 day of April A.D. 19 75

To certify all of which I here to sign my name and affix my seal of office in the City of La Grange this the 28 day of April A.D. 19 75

John A. Kubena

Clerk County Court, Fayette County, Texas

By Sybil Floyd Deputy

Z43400

COMPARED

RECORDED

046 00151

D-1-3

A-18(11)

VINSON, ELKINS, SEARLS,
CONNALLY & SMITH
ATTORNEYS AT LAW
FIRST CITY NATIONAL BANK BUILDING
HOUSTON, TEXAS 77002

D-1-1
A-18(11)

RETURN TO CENTRAL FILES

VOL 499 PAGE 20

NO. 6

784897

LOWER COLORADO RIVER AUTHORITY and THE CITY OF AUSTIN	§	PROCEEDINGS IN EMINENT DOMAIN
	§	
	§	IN THE
	§	
VS.	§	155TH JUDICIAL DISTRICT COURT
	§	
CHARLES W. HARLFINGER	§	OF FAYETTE COUNTY, TEXAS

158

FINAL JUDGMENT

On this day came on to be heard the Joint Motion for Agreed Judgment of Lower Colorado River Authority and City of Austin, plaintiffs, and Charles W. Harlfinger, defendant, and the Court, finding that it has jurisdiction over the subject matter and all parties hereto and being of the opinion that judgment should be entered in accordance with the Joint Motion of the parties, it is, therefore,

ORDERED, ADJUDGED and DECREED that the plaintiffs Lower Colorado River Authority and City of Austin do have and recover of and from the defendant Charles W. Harlfinger the fee simple title in and to the real property described in Exhibit "A" attached hereto and made a part hereof for all purposes.

It is further ORDERED, ADJUDGED and DECREED that the defendant Charles W. Harlfinger do have and recover of and from the plaintiffs Lower Colorado River Authority and City of Austin the sum of Forty-Seven Thousand Two Hundred and Thirty-Two and 65/100 Dollars ($47,232.65).

It further appearing to the Court that plaintiffs have heretofore deposited said sum of $47,232.65 into the Registry of the Court subject to the Order of Withdrawal by defendant, and that defendant has withdrawn said sum from the Registry of the

Z84898

VOL 499 PAGE 21 D-1-2

Court, it is, therefore, further

ORDERED, ADJUDGED and DECREED that the defendant Charles W. Harlfinger is and shall be entitled to have and retain said sum withdrawn from the Registry of the Court in the amount of $47,232.65 in full satisfaction of the damages awarded to him in this Judgment, and plaintiffs shall be and are hereby released and discharged from further liability by reason of this action in condemnation and this Judgment.

It is further ORDERED, ADJUDGED and DECREED that plaintiffs pay all costs of Court in this behalf expended.

SIGNED, RENDERED and ENTERED this 16th day of May, 1975.

Paul Huser
JUDGE

AGREED TO AND APPROVED,
BOTH AS TO SUBSTANCE AND FORM:

SMALL, CRAIG & WERKENTHIN
900 Perry-Brooks Building
Austin, Texas 78701

Mac Umstattd, General Counsel
LOWER COLORADO RIVER AUTHORITY
P. O. Box 220
Austin, Texas 78767

Don R. Butler, City Attorney
P. O. Box 1088
Austin, Texas 78767

HART & HALPAIN
P. O. Box 369
La Grange, Texas 78945

By: Richard T. Halpain
Richard T. Halpain
ATTORNEYS FOR PLAINTIFFS

VINSON, ELKINS, SEARLS, CONNALLY & SMITH

By: Irving Werlein, Jr.

First City National Bank Building
Houston, Texas 77002 236-2376
ATTORNEYS FOR DEFENDANT CHARLES W. HARLFINGER

FILED FOR RECORD

At 2:00 O'clock P. M.

The 10th. Day of December 19 76.

JOHN A. KUBENA

Clerk County Court, Fayette County, Texas

By Irene Pratka Deputy

$4.50 due
Chg. & return to
Coates Field Service
P.O. Box 121
La Grange, Texas 78945

000598

Lower Colorado River Authority and City of Austin
Vs. Charles W. Harlfinger

Z84899

All that certain lot, tract or parcel of land out of the J. Biegel League, Abstract 18, Fayette County, Texas, being all that certain tract described in a deed to Charles W. Harlfinger recorded in Volume 185, Page 305, Deed Records of Fayette County, Texas, and being more particularly described by metes and bounds as follows:

BEGINNING at a fence corner post for the North corner of said Harlfinger tract; said fence corner post having grid coordinates of X = 2,711,677 and Y = 765,660;

THENCE with the Northeast line of the Harlfinger tract South 47 degrees 55 minutes East 1771-0/10 feet to a point for its East corner, a post oak fence corner post bears North 40 degrees 51 minutes East 1-5/10 feet;

THENCE with the Southeast line of the Harlfinger tract South 40 degrees 51 minutes West, at 910-7/10 feet a fence corner, and continuing in all 933-7/10 feet to a point in the center of a small branch;

THENCE downstream with the meanders of said branch:
South 32 degrees 01 minute East 109-3/10 feet,
and South 88 degrees 25 minutes East 115-4/10 feet,
and South 10 degrees 30 minutes East 105-8/10 feet,
and South 32 degrees 28 minutes East 61-9/10 feet,
and South 36 degrees 02 minutes East 37-9/10 feet to the Southeast corner of the Harlfinger tract, a fence corner bears South 79 degrees 37 minutes West 28-6/10 feet;

THENCE South 79 degrees 37 minutes West 464-8/10 feet to a fence corner post for the most Southerly corner of the Harlfinger tract;

THENCE North 65 degrees 44 minutes West, at 757-9/10 feet passing a fence angle point, continuing in all 898-3/10 feet to a point for the Southwest corner of the Harlfinger tract, a fence corner bears North 9 degrees 44 minutes East 51 feet;

THENCE North 9 degrees 44 minutes East 1918-1/10 feet to the place of beginning, containing some 47-47/100 acres of land, more or less.

All bearings are grid, Texas Plane Coordinates System, South Central Zone. Rotate bearings 1 degree 06 minutes clockwise to be compatible with true bearings.

DISTRICT CLERK'S CERTIFICATE

THE STATE OF TEXAS I
COUNTY OF FAYETTE I

I, WALTER SCHAEFER, Clerk of the District Court, in and for Fayette County, Texas, do hereby certify that the above and foregoing is a full and correct copy of Final Judgment as the same appears of record in my office, in ~~Volume~~ Book, ~~Page~~ No. 6, of the ~~Civil Minutes~~ Condemnation District Court, Fayette County, Texas.

WITNESS My hand and seal of office, at office in La Grange, Texas, this the 7th day of December, 1976.

Walter Schaefer
Walter Schaefer, Clerk District Court of
Fayette County, Texas
by: Virginia Wied, Deputy

FILED FOR RECORD

At 2:00 O'clock P. M.
The 10th. Day of December 1976.
JOHN A. KUBENA
Clerk County Court, Fayette County, Texas
By Irene Bratka Deputy

$4.50 due
Chg. & return to
Coates Field Service
P.O. Box 121
La Grange, Texas 78945

COMPARED

THE STATE OF TEXAS
County of Fayette,

I, John A. Kubena, Clerk of the County Court of said County, do hereby certify that the foregoing and attached instrument of writing (with its authentications) bearing the date 7 day of December A. D. 1976, was filed for record in my office at 2:00 o'clock P. M., on the 10 day of December A.D. 1976, and recorded in vol. 499 upon pages 20-23 of Record of Deeds for said County at 8:45 o'clock A. M., on the 14 day of December A.D. 1976

To certify all of which I here to sign my name and affix my seal of office in the City of La Grange this the 14 day of December A.D. 1976

John A. Kubena
Clerk County Court, Fayette County, Texas
By Patsy Hess Deputy

RECORDED

045-00-0001

h-1-9

NO. Z84906

LOWER COLORADO RIVER AUTHORITY AND THE CITY OF AUSTIN	X	PROCEEDING IN EMINENT DOMAIN
	X	
	X	IN THE 155TH JUDICIAL DISTRICT
VS.	X	
	X	COURT OF
CHARLES W. HARLFINGER	X	
	X	
	X	FAYETTE COUNTY, TEXAS

AWARD OF COMMISSIONERS

(1) On 13 March, 1975, the above designated cause, after due notice to the parties, came on for hearing before the undersigned freeholders of Fayette County, Texas, duly appointed by the Judge of the 155th Judicial District Court, Fayette County, Texas, as Special Commissioners to assess the damages arising from the intended condemnation herein.

(2) Plaintiffs were represented by their attorneys, and the following named Defendant property owners appeared:

Charles W. Harlfinger with his attorney, Ewing Werlein.

(3) After presentation of the testimony, evidence, and arguments of counsel, the Special Commissioners found that Plaintiffs are entitled to condemn and acquire the fee simple title to the tracts of land located in Fayette County, Texas described in Exhibit "A" attached hereto and to which reference is hereby made for all purposes.

(4) In conformity with the rules of damages as set forth by Revised Civil Statutes, Article 3265, and as interpreted in prior court decisions, the Special Commissioners hereby assess the damages to be paid by Plaintiffs to each Defendant as follows:

(a) Values of the tracts to be condemned: 995 pr. acres ~~plus~~ Total amount $47,232.65

(b) Diminution of the values of the remainders by reason of the severances: _____; less

(c) Offsets comprising special benefits to the remainders by reason of the improvement: _____; leaving

(d) Adjusted total damages due to each Defendant as follows: _____

(5) Cost, in conformity with Revised Civil Statutes, Article 3267, are adjudged against the Plaintiffs.

(6) Costs that have accrued to date are:

(a) $_____ for the expense of serving notices on Defendants which costs have been previously paid by Plaintiffs, and

(b) The following fees due to the Special Commissioners as set by the Court:

Will C. Moore	$100.00
C. W. Meyer	$100.00
Joe Grieve	$100.00

SIGNED 13 March, 1975.

Will C. Moore

C. W. Meyer

Joe Grieve

Special Commissioners

The foregoing Award was filed with me on March 19, 1975.

Paul Huser

JUDGE
155th Judicial District Court
of Fayette County, Texas

EXHIBIT A

Lower Colorado River Authority and City of Austin
Vs. Charles W. Harlfinger

All that certain lot, tract or parcel of land out of the J. Biegel League, Abstract 18, Fayette County, Texas, being all that certain tract described in a deed to Charles W. Harlfinger recorded in Volume 185, Page 305, Deed Records of Fayette County, Texas, and being more particularly described by metes and bounds as follows:

BEGINNING at a fence corner post for the North corner of said Harlfinger tract; said fence corner post having grid coordinates of X = 2,711,677 and Y = 765,660;

THENCE with the Northeast line of the Harlfinger tract South 47 degrees 55 minutes East 1771-0/10 feet to a point for its East corner, a post oak fence corner post bears North 40 degrees 51 minutes East 1-5/10 feet;

THENCE with the Southeast line of the Harlfinger tract South 40 degrees 51 minutes West, at 910-7/10 feet a fence corner, and continuing in all 933-7/10 feet to a point in the center of a small branch;

THENCE downstream with the meanders of said branch:
South 32 degrees 01 minute East 109-3/10 feet,
and South 88 degrees 25 minutes East 115-4/10 feet,
and South 10 degrees 30 minutes East 105-8/10 feet,
and South 32 degrees 28 minutes East 61-9/10 feet,
and South 36 degrees 02 minutes East 37-9/10 feet to the Southeast corner of the Harlfinger tract, a fence corner bears South 79 degrees 37 minutes West 28-6/10 feet;

THENCE South 79 degrees 37 minutes West 464-8/10 feet to a fence corner post for the most Southerly corner of the Harlfinger tract;

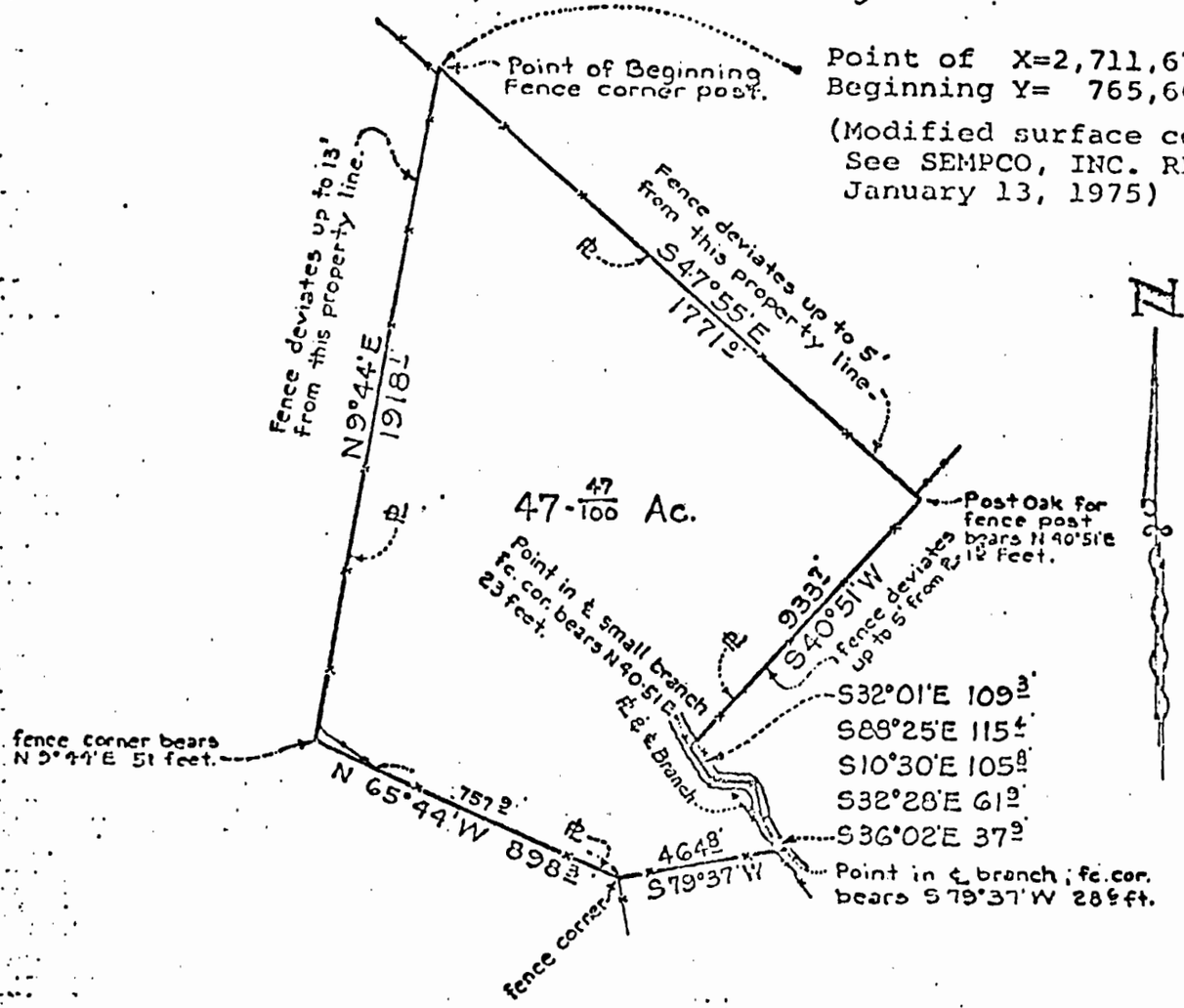
THENCE North 65 degrees 44 minutes West, at 757-9/10 feet passing a fence angle point, continuing in all 898-3/10 feet to a point for the Southwest corner of the Harlfinger tract, a fence corner bears North 9 degrees 44 minutes East 51 feet;

THENCE North 9 degrees 44 minutes East 1918-1/10 feet to the place of beginning, containing some 47-47/100 acres of land, more or less.

All bearings are grid, Texas Plane Coordinates System, South Central Zone. Rotate bearings 1 degree 06 minutes clockwise to be compatible with true bearings.

Z84909

NOTE: All bearings are grid, Texas Plane Coordinates System, South Central Zone. Rotate bearings 1°06' clockwise to be compatible with true bearings.



Survey of
A Tract of Land
out of the
J. BIEGEL LEAGUE, A-18
Fayette County, Texas

STATE OF TEXAS
No. 156
REGISTERED PUBLIC SURVEYOR

SCALE 1"=500'

Prepared from a survey made on the ground

Rev. 1-29-75

Date July 1974

SEMPCO, INC.
• SURVEYING • ENGINEERING • MAPPING • PLANNING
P O Box 1776 Phone WA3-7373
3209 SOUTH MAIN FORT WORTH — TEXAS

TRACT A-18(11)

No. 1613

EXHIBIT A, PAGE 2 of 2
Lower Colorado River Authority and the City of Austin
Vs.
Charles W. Harlfinger

045 000709

Z84910

NO.

LOWER COLORADO RIVER AUTHORITY AND THE CITY OF AUSTIN	X	PROCEEDING IN EMINENT DOMAIN
	X	
	X	IN THE 155TH JUDICIAL DISTRICT
VS.	X	
	X	COURT OF
CHARLES W. HARLFINGER	X	
	X	
	X	FAYETTE COUNTY, TEXAS

NOTICE OF HEARING

TO:
CHARLES W. HARLFINGER

On 17th of February, 1975, the Lower Colorado River Authority and the City of Austin filed with the Judge of the above designated court a condemnation petition with regard to the property therein described. The petition is attached hereto and by reference made a part hereof for all purposes.

The undersigned, duly appointed as Special Commissioners herein, have set the hearing at 10:00 o'clock, A. M. on March 13, 1975 at the courtroom of the 155th Judicial District Court in the courthouse of Fayette County in the city of La Grange, Fayette County, Texas.

You are hereby notified to appear at the time and place aforesaid to offer any evidence you desire on the issue of the damages to be assessed against the condemnors and to be paid to the property owners concerned.

SIGNED 20 February, 1975.

Joe Linam

C. W. Meyer

Wm C. Moore

Special Commissioners

045 000710

RETURN OF NOTICE

Z84911

Came to hand on the 21 day of February, 1975, and served by delivering a copy of the foregoing notice of hearing together with a copy of the Statement and Petition heretofore filed in this proceeding to each of the following:

~~R. S. Parker~~, Date: ~~2/21/75~~ Time: ~~2:45 pm~~

Charles W. Hurlfinger, Date: 2/21/75 Time: 2.45 pm

_____, Date: _____ Time: _____

R. S. Parker

THE STATE OF TEXAS)

COUNTY OF FAYETTE)

Before me, the undersigned authority, on this day personally appeared R. S. Parker, known to me to be the person whose name is subscribed to the foregoing return, and on oath stated that the facts set out in such return are true and correct, and that he is a person competent to testify.

WITNESS my hand, this the 21 day of February, 1975.

Jack Abercia
Notary Public in and for
Harris County, Texas

Cause 16306

Robert Patterson
2424 Winrich #292
77027

RECEIVED
CONSTABLE
FEB 21 2 23 PM 1975
HARRIS COUNTY
TEXAS

045-000711

Exh. 7

NO. 784912

LOWER COLORADO RIVER AUTHORITY AND THE CITY OF AUSTIN	X	PROCEEDING IN EMINENT DOMAIN
	X	IN THE 155TH JUDICIAL DISTRICT
VS.	X	
	X	COURT OF
CHARLES W. HARLFINGER	X	
	X	FAYETTE COUNTY, TEXAS

NOTICE OF HEARING

TO:
CHARLES W. HARLFINGER

On 17th of February, 1975, the Lower Colorado River Authority and the City of Austin filed with the Judge of the above designated court a condemnation petition with regard to the property therein described. The petition is attached hereto and by reference made a part hereof for all purposes.

The undersigned, duly appointed as Special Commissioners herein, have set the hearing at 10:00 o'clock, A. M. on March 13, 1975 at the courtroom of the 155th Judicial District Court in the courthouse of Fayette County in the city of La Grange, Fayette County, Texas.

You are hereby notified to appear at the time and place aforesaid to offer any evidence you desire on the issue of the damages to be assessed against the condemnors and to be paid to the property owners concerned.

SIGNED 20 February, 1975.

Joe Tinsley

D W Meyer

Alice C. Moore

Special Commissioners

Z84904

NO. 6

LOWER COLORADO RIVER AUTHORITY AND THE CITY OF AUSTIN	§	PROCEEDINGS IN EMINENT DOMAIN
	§	
	§	IN THE
	§	
VS.	§	155TH JUDICIAL DISTRICT COURT
	§	
CHARLES W. HARLFINGER	§	OF FAYETTE COUNTY, TEXAS

OBJECTIONS TO AWARD OF COMMISSIONERS

TO THE HONORABLE JUDGE OF SAID COURT:

COMES NOW Charles W. Harlfinger, hereinafter called defendant in this condemnation proceeding commenced by the Lower Colorado River Authority and the City of Austin, hereinafter called plaintiffs, and excepts and objects to the decision and award of the Special Commissioners in response to the Petition and Notice of Hearing for Condemnation in this cause, and would respectfully show to the Court and to the Jury herein:

I.

Defendant objects to the award of the Special Commissioners because it is inadequate to compensate the defendant for his damages, and the defendant hereby takes his appeal to this Honorable Court.

II.

Defendant would show the Court and the Jury that the land herein sought to be condemned by plaintiffs is situated in Fayette County, Texas, and more particularly described in plaintiffs' statement on file herein.

The location of said property and the use to which it is and can be adapted give it a market value of at least SEVENTY THOUSAND DOLLARS ($70,000.00)

045 000704

Plaintiffs' offer for said property is so low and so out of proportion to its market value as well as to its real value that it is and would be unjust, unfair and unreasonable for plaintiffs to take, condemn and receive said property at said figure, to the great and unjust loss and damage to defendant. Such a forced acquisition by plaintiffs as here referred to is in violation of the laws and Constitution of the State of Texas.

WHEREFORE, premises considered, defendant prays that plaintiffs be cited as required by law, and upon final hearing hereof that the market value of said land and premises and the improvements thereon sought to be condemned by plaintiffs, together with damages, be fixed at not less that $70,000.00, together with interest thereon as provided by law; that defendant be further awarded all costs of court herein expended, and that he have such other and further relief, both general and special, at law and in equity, to which he may show himself justly entitled.

Respectfully submitted,

VINSON, ELKINS, SEARLS,
CONNALLY & SMITH

By: /S/
F. Russell Kendall

By: /S/
Ewing Werlein, Jr.

First City National Bank Building
Houston, Texas 77002 (713) 236-2344
ATTORNEYS FOR DEFENDANT:
CHARLES W. HARLFINGER

CFS-7-73

CERTIFICATE OF TITLE

STATE OF TEXAS
COUNTY OF FAYETTE } SS.

784914

The undersigned Coates Field Service, Inc. hereby certifies that it has examined the records pertaining to the title to the following described real estate in said County and State, to-wit:

48.7 Acres

Joseph Biegel League

(SEE ATTACHED FOR DESCRIPTION)

That from such examination it appears that the record title to such land is in

Charles W. Harlfinger
1144 W. 24th Street
Houston, Texas
77008

FROM: Mary Schroeder, et vir

by a deed dated 18th day of October 19 41 ,recorded in Book 185 , Page 305 ; and that said land is subject to no liens, mortgages, deeds of trust, judgments, mechanic's liens, attachments, foreign executions, suits pending, or unpaid taxes, other than:

C.W. Harlfinger to Fayette Electric Co-operative, Inc., Easement, 10/24/47, Volume 217, Page 43.

C.W. Harlfinger to W.J. Mechura, Oil & Gas Lease, 10 years 7/1/65 to 7/1/75, Volume 105, Page 235.

W.J. Mechura to Hunt Oil Company, Assignment Oil & Gas Lease, 7/10/65, Volume 108, Page 291, Retains 1/32 of 8/8 ORR Int.

W.J. Mechura to R.E. Fendley, J.B. Whatley and T.L.M. Corp., Assignment to each 1/4 of 1/32 of 8/8 ORR Int., 8/28/67, Volume 109, Page 63.

(CONTINUED ON ATTACHED SHEET)

This certificate is made upon the mutual understanding that the maker herof has not examined all instruments and proceedings in the chain of title of the above described real estate; that the same is not intended to cover the legality or the sufficiency of any of the instruments or proceedings in the chain of title, and does not cover any instruments filed as a chattel only.

Dated at La Grange, Texas this 24th day of June , 1974 at o'clock, . M.

Records Examined as of:
December 12, 1974

Dorothy Jones

COATES FIELD SERVICE, INC.

By Coleman Bennett

MAP TRACT A-18 (11)

Revised July 12, 1974
Feb. 6, 1975

045 0007

Dana Morris

Z84915

CHAIN OF TITLE - 1941 - 1974

DEED - Mary Schroeder, et vir, to Charles W. Harlfinger, 48.7 Acres, 10/18/41, Volume 185, Page 305

EASEMENT - C.W. Harlfinger to Fayette Electric Co-operative, Inc., 10/24/47, Volume 217, Page 43

OIL & GAS LEASE - C.W. Harlfinger to W.J. Mechura, 10 years, 7/1/65 to 7/1/75, Volume 105, Page 235

ASSIGNMENT OF OIL & GAS LEASE - W.J. Mechura to Hunt Oil Company, 7/10/65, Volume 108, Page 291, Retains 1/32 of 8/8 ORR Int.

ASSIGNMENT OF ORR INT. - W.J. Mechura to R.E. Fendley, J.B. Whatley and T. L. L. Corporation, Assignment to each of 1/4 of 1/32 of 8/8 ORR Int., 8/28/67, Volume 109, Page 63

ABSTRACTOR'S NOTE:

In the Mineral Deed to Texas Osage Co-operative Royalty Pool in Volume 150, Page 84, the field notes referred to in Volume 82, Page 550 will not close and cannot be located. The 34-54/100 acres sold to Jacob Meyer cannot be located, as the deed cannot be located and was probably not recorded.

Since the Oil and Gas Lease Volume 105, Page 235 included the subject 48.7 acres among many others, and the rentals recited (at $1.00 per acre) are the same as the acreage total of the Tracts listed. We made all Tracts shown subject to Texas Osage Mineral Deed. Tract Sixth of 19 acres, Tract Seventh of 50 acres, Tract eighth of 12.15 acres were all mentioned specifically in the Mineral Deed. Yet, rentals were paid as if Harlfinger owned a full interest.

Z84916

DESCRIBED AS FOLLOWS:

It being a part of the Joseph Biegel League and part of the 328 acres homestead tract of the East corner of the same about eight miles East of the Town of La Grange and is bounded as follows, to-wit:

BEGINNING at the East corner of said tract, a stake from which a P. O. marked E bears South 80° East 15 varas, a ditto marked H bears North 76° 15' West 4 9/10 varas; THENCE South 43° West with Kroll's line to his West corner a pile of rocks from which a post marked K bears South 23° East 15 2/5 varas; THENCE down a branch with its meanderings to Helbles North corner a stake from which a Post Oak marked X bears North 50° West 9 varas; THENCE South 82° West 164 varas to a small Live Oak marked for corner from which a Post Oak marked B. bears North 20° East 17 2/5 varas; THENCE North 65° West 330 varas to a stake from which a Black Jack marked X bears North 47° East 1 vara and a Post Oak marked X bears North 32° West 14 9/10 (varas); THENCE North 12½° East 690 varas to a Post Oak marked H. bears South 8° East 24 2/5 varas, a ditto marked H. bears North 71° West 9 1/5 varas; THENCE South 46° East 633 varas with said division line to the place of beginning, containing within said limits forty-eight and 7/10 acres of land, more or less.

LESS, ALSO, AND SUBJECT TO an undivided ½ interest in the oil, gas, sulphur, and other minerals described in that deed from Charles W. Harlfinger, et ux, to Texas Osage Co-operative Royalty Pool, et al, dated February 19, 1930, and recorded in Volume 150, Pages 84-86, Deed Records of Fayette County, Texas.

Z84917

CHAIN OF TITLE - A-18 (11) - C. W. HARLFINGER

Catherine Biegel, wife of Joseph Biegel, deceased to Lewis Raymond conveyed 48.7 acres, 4/26/1879, at Volume 4 Page 494.

Louis Raymond to Mrs Barbara Raymond conveyed 48.7 acres at Volume 4, Page 494, 5/7/1880, at Volume 12, Page 486.

Mrs Barbara Raymond to Mrs. widow Catherine Biegel 48.7 acres referred to in deed at Volume 4, Page 494, 5/17/1883, at Volume 19, Page 313.

J. Baptist December, Administrator of Estate of Catherine Biegel, deceased, to Rudolph December 48.7 acres referred to the deed at Volume 4, Page 494, 7/28/1884, at Volume 23, Page 128.

3812 - Estate of Amalie December - Will filed 3/10/32, to Mary Schroeder 48.7 acres other daughters mentioned in Will are Louise Koehl, wife of E. J. Koehl, and Tinnie Koehl, wife of Frank Koehl.

From Mary Schroeder, nee December, joined by her husband, Walter A. Schroeder, 10/18/41, at Volume 185, Page 305, Louise Koehl, nee December, and husband, Tinnie Loehl, nee December, and husband to Charles W. Harlfinger.

EASEMENT - C. W. Harlfinger to Fayette Electric Co-operative, Inc., 10/24/1947, Volume 217, Page 43.

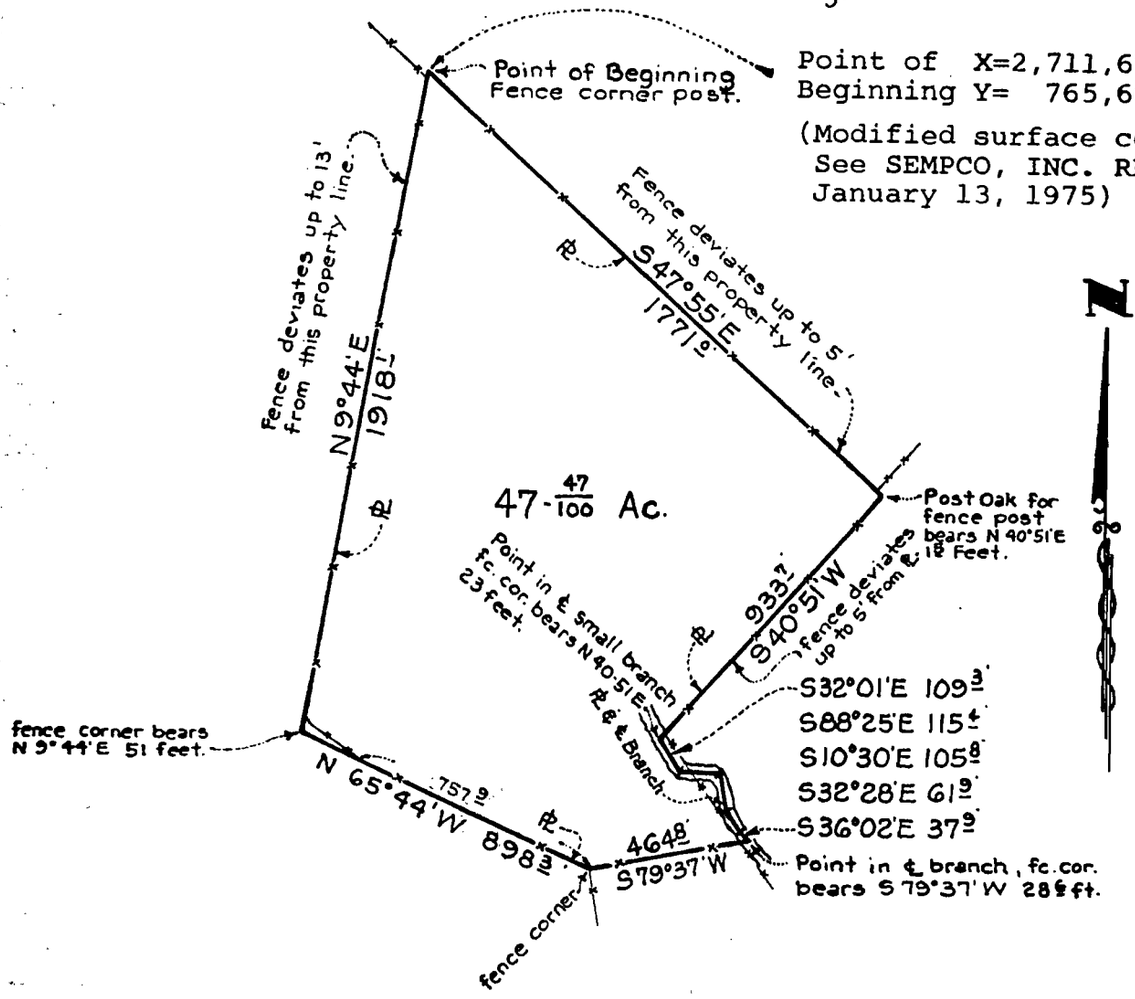
OIL & GAS LEASE - C. W. Harlfinger to M. J. Mechura, 10 years, 7/1/1965, to 7/1/1975, Volume 105, Page 235.

ASSIGNEMENT OF OIL & GAS LEASE - W. J. Mechura to Hunt Oil Company, 7/10/1965, Volume 108, Page 291, Retains 1/32 of 8/8 ORR Int.

ASSIGNMENT OF ORR INT. - W. J. Mechura to R. E. Fendley, J. B. Whatley & T.L.M. Corporation, Assignment to each of 1/4 of 1/32 of 8/8 ORR Int., Volume 109, Page 63.

Z84918

NOTE: All bearings are grid, Texas Plane Coordinates System, South Central Zone. Rotate bearings 1°06' clockwise to be compatible with true bearings.



Survey of
A Tract of Land
out of the
J. BIEGEL LEAGUE, A-18
Fayette County, Texas

Being all that certain tract conveyed to Charles W. Harlfinger by a deed recorded in Vol. 185, Pg. 305, Deed Records, Fayette County, Texas

STATE OF TEXAS
No. 196
REGISTERED PUBLIC SURVEYOR

Rev. 1-23-75

SCALE 1" = 500'

o ---------- STEEL ROD

□ ------- BOIS D'ARC STK.

Prepared from a survey made on the ground.

Date July 1974

SEMPCO, INC.

· SURVEYING · ENGINEERING · MAPPING · PLANNING

P O Box 1776 Phone WA6-7876

3208 SOUTH MAIN FORT WORTH – TEXAS

TRACT A-18(11)

No. 1613

Z84919

SEMPCO, INC. 3208 SOUTH MAIN STREET, Fort Worth, Texas 76110

SURVEYING - ENGINEERING - MAPPING - PLANNING

Phone 926-7876
Area Code 817

Louis M. Hawkins, R.S.
Fred A. Barnett, R.S.
David A. Watson, R.S.
Don M. Wood, R.S.
John L. Hawkins, R.S.
David A. White, R.S.

Hobert Bartlett, R.S., 1922-1970

August 14, 1974

All bearings are grid, Texas Plane Coordinates System, South Central Zone. Rotate bearings 1 degree 06 minutes clockwise to be compatible with true bearings.

FIELD NOTES

Charles W. Harlfinger Property - Tract A-18 (11)

All that certain lot, tract or parcel of land out of the J. Biegel League, Abstract 18, Fayette County, Texas, being all that certain tract conveyed to Charles W. Harlfinger by a deed recorded in Volume 185, Page 305, Deed Records of Fayette County, Texas, and being more particularly described by metes and bounds as follows:

BEGINNING at a fence corner post for the North corner of said Harlfinger tract;

THENCE with the Northeast line of the Harlfinger tract South 47 degrees 55 minutes East 1771-0/10 feet to a point for its East corner, a post oak fence corner post bears North 40 degrees 51 minutes East 1-5/10 feet;

THENCE with the Southeast line of the Harlfinger tract South 40 degrees 51 minutes West, at 910-7/10 feet a fence corner, and continuing in all 933-7/10 feet to a point in the center of a small branch;

THENCE downstream with the meanders of said branch:
South 32 degrees 01 minute East 109-3/10 feet,
and South 88 degrees 25 minutes East 115-4/10 feet,
and South 10 degrees 30 minutes East 105-8/10 feet,
and South 32 degrees 28 minutes East 61-9/10 feet,
and South 36 degrees 02 minutes East 37-9/10 feet to the Southeast corner of the Harlfinger tract, a fence corner bears South 79 degrees 37 minutes West 28-6/10 feet;

THENCE South 79 degrees 37 minutes West 464-8/10 feet to a fence corner post for the most Southerly corner of the Harlfinger tract;

THENCE North 65 degrees 44 minutes West, at 757-9/10 feet passing a fence angle point, continuing in all 898-3/10 feet to a point for the Southwest corner of the Harlfinger tract, a fence corner bears North 9 degrees 44 minutes East 51 feet;

045 000717

Z84920

Field Notes
Charles W. Harlfinger Property
Sempco, Inc., Fort Worth, Texas

August 14, 1974

THENCE North 9 degrees 44 minutes East 1918-1/10 feet to the place of beginning, containing some 47-47/100 acres of land.

Prepared from surveys made on the ground in July, 1974.

Louis M. Hawkins
R.P.S. No. 196

The point of beginning of these field notes has the following coordinated value:

X = 2,711,677
Y = 765,660

(Modified surface coordinates, See SEMPCO, INC. REPORT "A" January 13, 1975.)



Rev. 1-23-75

THE STATE OF TEXAS,

To CHARLES W. HARLFINGER 284921

Greeting:

WHEREAS, Lower Colorado River Authority

filed its petition in the District Court of Fayette County, Texas,

on the 2nd day of July, A. D., 1974, in a suit numbered 12,150 on the Docket of

said Court, wherein Lower Colorado River Authority is

plaintiff and Bennie H. Schmidt, Adolph F. Schmidt, Howard C. Mills, E. A. Barker, Sherwood G. Stephens and wife, U. Kristina Stephens, Charlie Polasek, Jr. and wife, Lorina Polasek, and Charles W. Harlfinger are

defendants alleging the necessity for plaintiff and its agents and employees to have access to certain lands now owned by defendants for the purpose of making surveys and conducting core drilling tests,

all of which is more fully shown by a true and correct copy of plaintiff's petition which is attached hereto;

and upon presentation of said petition to him and consideration thereof, the Honorable PAUL HUSER Judge of said court, made the following order thereon: Ordered the Clerk of this Court to issue a temporary restraining order restraining and enjoining the defendants from denying plaintiff, its agents, employees or independent contractors the right of ingress and egress over, on and through certain lands described herein for the purpose of making surveys, obtaining necessary information to acquire such properties for the purpose of building a steam generating plant and related facilities, including the right to core drill upon said properties and further restraining defendants from removing any stakes placed upon said properties or from interfering with plaintiff's work in conducting such tests; all of which is shown by a true and correct copy of the Judge's Fiat attached hereto.

You are therefore commanded to desist and refrain from denying plaintiff, its agents, employees or independent contractors the right of ingress and egress over, on and through the lands described herein, for the purpose of surveying and for the purpose of conducting necessary tests and investigations, including core drilling, and further from removing any stakes or other markers placed upon said properties as a result of such tests, and further from interfering with plaintiff, its agents, employees and independent contractors in conducting such tests, all as set out in the Judge's Fiat, until and pending the hearing of such petition upon plaintiff's application for a temporary injunction before the judge of said court at 9:00 A. M. on the 8th day of July 19 74, in the District court room in the court house of Fayette County, in the City of La Grange, Texas when and where you will appear to show cause why injunction should not be granted upon such petition effective until final decree in such suit.

Issued the 3rd day of July A. D., 19 74

Given under my hand and seal of said Court, at office in La Grange, Texas

this 3rd day of July, A. D., 19 74

Dottie Schaefer Clerk,

District Court, Fayette County.

By Deputy.

TAX CERTIFICATE

Z84930

THE STATE OF TEXAS,
COUNTY OF FAYETTE

I, Leonard Dominey, Tax Assessor-Collector in and for Fayette County, Texas, hereby certify that I have made a careful examination of the Tax Records of Fayette County, Texas on file in my office, and find that all taxes for state, county, road and school district ..... purposes assessed against

48.70 Acres, part of the J. Biegel League, Abstract 18

situated in Fayette County, Texas, appearing now in the name of Harlfinger, C. W. and Anna Mae ..... on the Tax Rolls of said county, have been paid, including the taxes for the year 1974 ..... and all prior years, being all the taxes said property is subject to, except None.

Given under my hand and seal of office, at office in La Grange, Texas, this the 7th ..... day of March ..... A. D. 19 75 ...

(L. S.) Leonard Dominey,

Tax Assessor-Collector, Fayette County, Texas.

By Leonard Dominey ..... Deputy.

045 000728

A-18(12)

VINSON, ELKINS, SEARLS,
CONNALLY & SMITH
ATTORNEYS AT LAW
FIRST CITY NATIONAL BANK BUILDING
HOUSTON, TEXAS 77002

D-1-L
A-18(12)

RETURN TO CENTRAL FILES

VOL 499 PAGE 132

CAUSE NO. 12,262

(Condemnation Proceeding No. 15)

LOWER COLORADO RIVER AUTHORITY and THE CITY OF AUSTIN	§	PROCEEDINGS IN EMINENT DOMAIN
	§	
	§	IN THE
	§	
Vs.	§	155TH JUDICIAL DISTRICT COURT
	§	
HOWARD C. MILLS, ET UX	§	OF FAYETTE COUNTY, TEXAS

FINAL JUDGMENT

Z86742

BE IT REMEMBERED that on the 29th day of September, 1975, came on to be heard the above entitled and numbered cause, wherein the Lower Colorado River Authority and The City of Austin are plaintiffs, and Howard C. Mills and wife, Sydney Mills, are defendants, and came the plaintiffs by and through their attorneys of record and, in open Court and all parties having announced ready for trial and a jury having been demanded, there came a lawful jury which was duly impaneled and sworn for the trial of said cause, whereupon the Court directed the trial to proceed upon the issue of damages which all parties stipulated was the sole remaining issue to be determined.

During the trial one juror became disabled by illness and, with the consent of all parties, was excused by the Court from further jury service. Subsequently, when the evidence for all parties had been submitted to the Court and jury, and when both sides had rested their cause, the Court, on October 2, 1975, submitted the same to the jury with instructions as required by Rule 226A, Texas Rules of Civil Procedure, and with special instructions and definitions as contained in the Charge, and one special issue, as follows:

VOL 499 PAGE 133

"SPECIAL ISSUE NO. 1

"From a preponderance of the evidence, what do you find to be the market value of Mr. and Mrs. Mills' 178.7 acres of land, together with the improvements thereon, condemned by the Lower Colorado River Authority and City of Austin on May 7, 1975?

"Answer by stating an amount in dollars and cents:

Z86743

$_____"

After hearing argument of counsel on both sides, the jury retired to consider their verdict and, after due deliberation, returned into open Court their verdict, duly signed by ten (10) jurors, which answered the sole special issue as follows: "$365,000.00."

And the Court, having examined the verdict, signed by Ms. Leslie Greive, Mrs. A. F. Earley, Ms. Elaura Neumann, Milton H. Gabler, Sterling Jackson, Nolan L. Havemann, Jerry Faltisek, Ms. Marvin L. Freytag, Edgar Brunner, and Marc Wolfram, received the said finding and filed and entered it of record in the minutes of the Court, and being of the opinion that judgment should be entered upon the verdict of the jury, it is, therefore,

ORDERED, ADJUDGED and DECREED that Lower Colorado River Authority and the City of Austin do have and recover of and from the aforesaid defendants the fee simple title in and to that certain real property consisting of 178.70 acres, more particularly described in Exhibit "A" attached hereto and made a part hereof as if set out in full at this place in the judgment.

It is further ORDERED, ADJUDGED and DECREED that the defendants, Howard C. Mills and wife, Sydney Mills, do have and recover of and from the Lower Colorado River Authority and City of Austin, plaintiffs, the sum of Three Hundred and Sixty-Five

OFFICIAL RECORDS

Thousand and 00/100 Dollars ($365,000.00); and it appearing to the Court that the plaintiffs have heretofore deposited into the Registry of the Court the sum of Three Hundred and Thirty-Three Thousand, Two Hundred and Fifty and 00/100 Dollars ($333,250.00), being the Award of the Special Commissioners, which sum has heretofore been withdrawn by the defendants, it is, therefore, further

ORDERED, ADJUDGED and DECREED that the aforesaid sum of Three Hundred and Thirty-Three Thousand, Two Hundred and Fifty and 00/100 Dollars ($333,250.00), be and the same is hereby credited against the aforesaid sum of Three Hundred and Sixty-Five Thousand and 00/100 Dollars ($365,000.00), recovered herein, leaving an unpaid balance of said recovery in the sum of Thirty-One Thousand, Seven Hundred and Fifty and 00/100 Dollars ($31,750.00), and

It is further ORDERED, ADJUDGED and DECREED that the defendants Howard C. Mills and wife, Sydney Mills, do have and recover of and from the Lower Colorado River Authority and City of Austin, plaintiffs, interest on said sum of Thirty-One Thousand, Seven Hundred and Fifty and no/100 Dollars ($31,750.00) at the rate of six percent (6%) per annum thereon from May 7, 1975, until the date of this Judgment, which interest on the date of Judgment totals Eight Hundred and Eighty-Seven and 26/100 Dollars ($887.26).

It is further ORDERED, ADJUDGED and DECREED that this Judgment for said sum of $31,750.00, and interest to date of Judgment in the amount of $887.26, which sums total Thirty-Two Thousand, Six Hundred and Thirty-Seven and 26/100 Dollars ($32,637.26), constitute the total unpaid principal balance of

defendants' recovery hereunder on the date of Judgment, which total sum shall bear interest at the rate of nine percent (9%) per annum from and after the date of this Judgment until paid, for all of which let execution issue.

It is further ORDERED, ADJUDGED and DECREED that all costs of Court are taxed against the plaintiffs, for which let execution issue if not seasonably paid; to which such action of the Court and the action of the Court in entering a money judgment in favor of defendants, the plaintiffs duly excepted.

SIGNED, RENDERED and ENTERED this 24th day of October, 1975.

Paul Huser
JUDGE

APPROVED AS TO FORM:

SMALL, CRAIG & WERKENTHIN
900 Perry-Brooks Building
Austin, Texas 78701

Mac Umstattd, General Counsel
LOWER COLORADO RIVER AUTHORITY
P. O. Box 220
Austin, Texas 78767

Don R. Butler, City Attorney
P. O. Box 1088
Austin, Texas 78767

HART & HALPAIN
P. O. Box 369
La Grange, Texas 78945

By: Paul B Werkenthin

ATTORNEYS FOR PLAINTIFFS

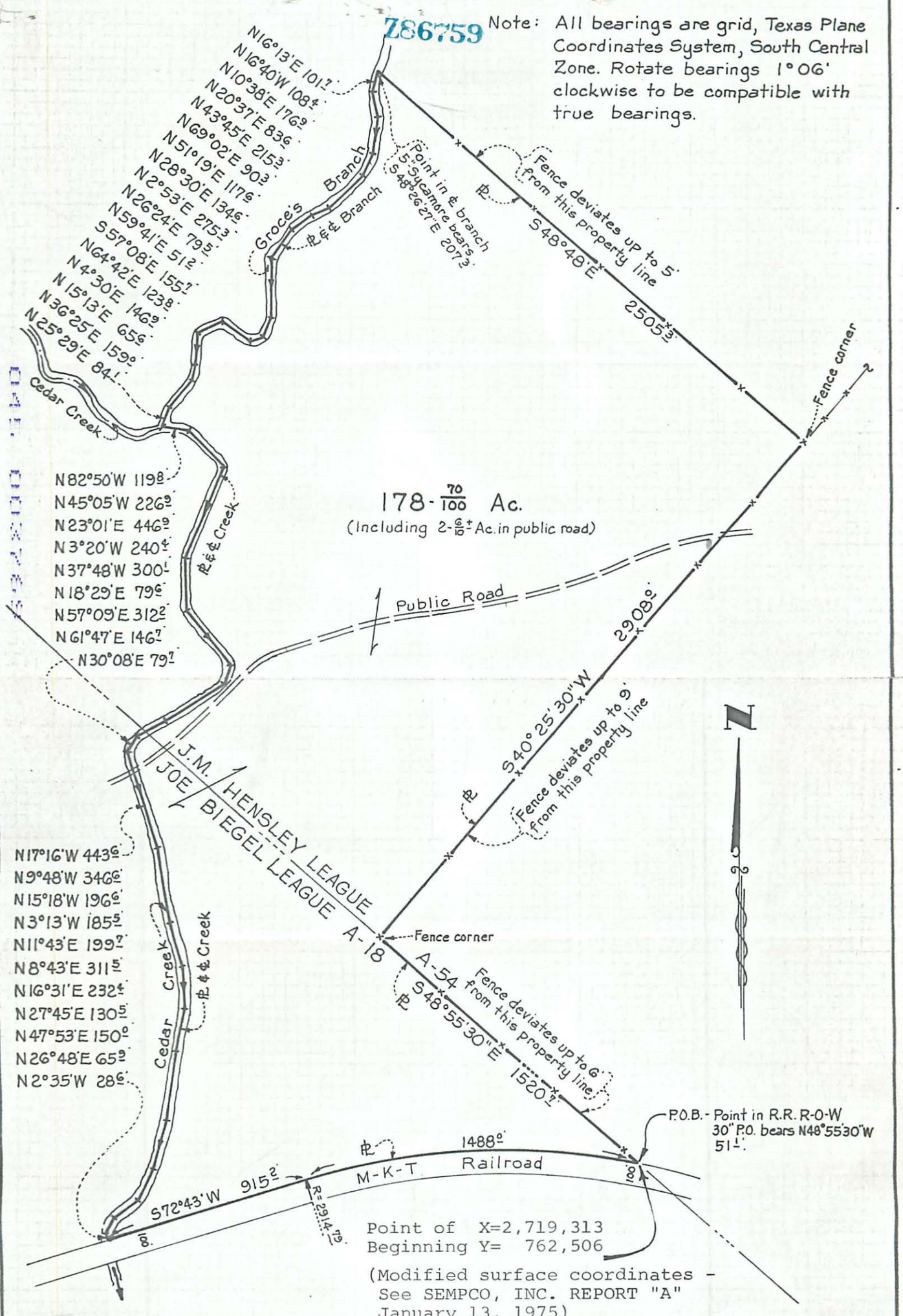
FILED
At 2:10 o'clock P M.
OCT 28 1975
Dolly Schaefer
Clerk District Court, Fayette County, Texas
By ..... Deputy

FILED, RECORDED

D-1-7

Z86759

Note: All bearings are grid, Texas Plane Coordinates System, South Central Zone. Rotate bearings 1°06' clockwise to be compatible with true bearings.



Point of Beginning X=2,719,313
Y= 762,506

(Modified surface coordinates - See SEMPCO, INC. REPORT "A" January 13, 1975)

Survey of A Tract of Land out of the J. BIEGEL, A-18 & J. M. HENSLEY, A-54, LEAGUES Fayette County, Texas

Being all that certain tract conveyed to Howard C. Mills by a deed recorded in Vol. 373, Pg 550 D.R. Fayette Co. Texas

STATE OF TEXAS
196
REGISTERED PUBLIC SURVEYOR

SCALE 1" = 500'

STEEL ROD
BOIS D'ARC STK.

Prepared from a survey made on the ground.

July 1974

VOL 499 PAGE 133

VINSON, ELKINS, SEARLS,
CONNALLY & SMITH

By: Ewing Werlein, Jr.
F. Russell Kendall
Ewing Werlein, Jr.
First City National Bank Building
Houston, Texas 77002 236-2376

Of Counsel:
Dan R. Beck
Fayette County Courthouse
La Grange, Texas 78945

Z86746

ATTORNEYS FOR DEFENDANTS HOWARD C.
MILLS and wife, SYDNEY MILLS

045 00327

EXHIBIT A
Lower Colorado River Authority and City of Austin vs.
HOWARD C. MILLS, ET UX

PROPERTY DESCRIPTION Z86747

All that certain lot, tract, or parcel of land out of the J. Biegel, Abstract 18 and J. M. Hensley, Abstract 54, Leagues, Fayette County, Texas, being all that certain tract conveyed to Howard C. Mills by a deed recorded in Volume 373, Page 550, Deed Records of Fayette County, Texas, and being more particularly described by metes and bounds as follows:

BEGINNING at the most Southerly East corner of said Mills tract, a point in the line common to said Biegel and Hensley Leagues, and in the North right-of-way line of the M-K-T Railroad, from which point a 30 inch Post Oak bears North 48 degrees 55 minutes 30 seconds West 51-1/10 feet; said point of beginning having grid coordinates of X = 2,719,313 and Y = 762,506;

THENCE with the South line of said Mills tract and the North right-of-way line of the M-K-T Railroad, in a Westerly direction around the arc of a curve to the left having a radius of 2914-79/100 feet, a distance of 1488-0/10 feet to the end of said curve, and South 72 degrees 43 minutes West 915-2/10 feet to a point at the intersection of said right-of-way line with the centerline of Cedar Creek, said point being the Southwest corner of said Mills tract;

THENCE with the West line of said Mills tract and up the centerline of Cedar Creek, North 2 degrees 35 minutes West 28-6/10 feet, North 26 degrees 48 minutes East 65-9/10 feet, North 47 degrees 53 minutes East 150-0/10 feet, North 27 degrees 45 minutes East 130-5/10 feet, North 16 degrees 31 minutes East 232-4/10 feet, North 8 degrees 43 minutes East 311-5/10 feet, North 11 degrees 43 minutes East 199-7/10 feet, North 3 degrees 13 minutes West 185-5/10 feet, North 15 degrees 18 minutes West 196-6/10 feet, North 9 degrees 48 minutes West 346-6/10 feet, North 17 degrees 16 minutes West, crossing a public road, in all 443-6/10 feet, North 30 degrees 08 minutes East 79-7/10 feet, North 61 degrees 47 minutes East, crossing the line common to said Biegel and Hensley Leagues, in all 146-7/10 feet, North 57 degrees 09 minutes East 312-2/10 feet, North 18 degrees 29 minutes East 79-6/10 feet, North 37 degrees 48 minutes West 300-1/10 feet, North 3 degrees 20 minutes West 240-4/10 feet, North 23 degrees 01 minute East 446-9/10 feet, North 45 degrees 05 minutes West 226-9/10 feet, and North 82 degrees 50 minutes West 119-8/10 feet to the junction of the centerline of Cedar Creek with the centerline of Groce's Branch;

THENCE continuing with the West line of said Mills tract and up the centerline of Groce's Branch, North 25 degrees 29 minutes East 84-1/10 feet, North 36 degrees 25 minutes East 159-0/10 feet, North 15 degrees 13 minutes East 65-6/10 feet, North 4 degrees 30 minutes East 146-9/10 feet, North 64 degrees 42 minutes East 123-8/10 feet, South 57 degrees 08 minutes East

D45 00267

North 26 degrees 24 minutes East 79-5/10 feet, North 2 degrees 53 minutes East 275-3/10 feet, North 28 degrees 30 minutes East 134-6/10 feet, North 51 degrees 19 minutes East 117-6/10 feet, North 69 degrees 02 minutes East 90-3/10 feet, North 43 degrees 45 minutes East 215-3/10 feet, North 20 degrees 37 minutes East 83-6/10 feet, North 10 degrees 38 minutes East 176-9/10 feet, North 16 degrees 40 minutes West 108-4/10 feet, and North 16 degrees 13 minutes East 101-7/10 feet to the North corner of said Mills tract, from which a 5 inch Sycamore bears South 48 degrees 26 minutes 27 seconds East 207-3/10 feet;

THENCE with the most Northerly Northeast line of said Mills tract, crossing and re-crossing a meandering fence, South 48 degrees 48 minutes East 2505-3/10 feet to a fence corner at the most Northerly East corner of said Mills tract;

THENCE with the Southeast line of said Mills tract, crossing and re-crossing a meandering fence, South 40 degrees 25 minutes 30 seconds West, crossing a public road, in all 2908-0/10 feet to a fence corner in the line common to said Biegel and Hensley Leagues, being a re-entrant corner of said Mills tract:

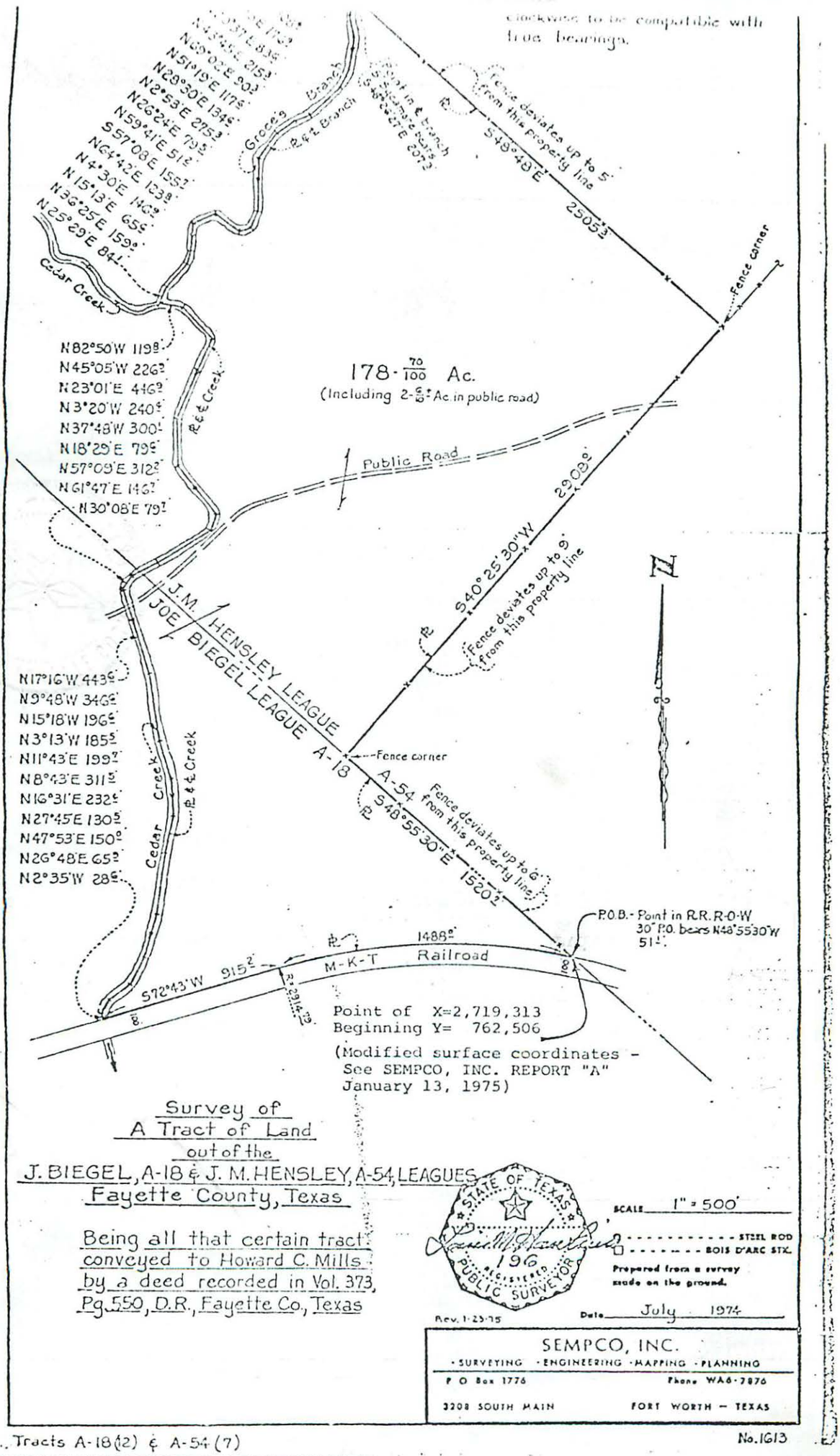
THENCE with the most Southerly Northeast line of said Mills tract and the line common to said Biegel and Hensley Leagues, crossing and re-crossing a meandering fence, South 48 degrees 55 minutes 30 seconds East 1520-7/10 feet to the place of beginning, containing in all 178-70/100 acres of land, more or less, of which 47-6/10 acres, more or less, are in the Biegel League and 131-1/10 acres, more or less, are in the Hensley League, including 2-6/10 acres, more or less, in the public road.

All bearings are grid, Texas Plane Coordinate System, South Central Zone. Rotate bearings 1 degree 06 minutes clockwise to be compatible with true bearings.

D-1-8

Z86749

VOL 499 PAGE 139



Survey of
A Tract of Land
out of the
J. BIEGEL, A-18 & J. M. HENSLEY, A-54, LEAGUES
Fayette County, Texas

Being all that certain tract conveyed to Howard C. Mills by a deed recorded in Vol. 373, Pg. 550, D.R., Fayette Co., Texas

Tracts A-18(2) & A-54(7)

No. 1613

EXHIBIT A, PAGE 3 of 3
Lower Colorado River Authority and City of Austin vs.
HOWARD C. MILLS, ET UX

045 00274

Vol 16 P- 87-90

VOL 499 PAGE 140

DISTRICT CLERK'S CERTIFICATE

THE STATE OF TEXAS }
COUNTY OF FAYETTE }

I, WALTER SCHAEFER, Clerk of the District Court, in and for Fayette County, Texas, do hereby certify that the above and foregoing is a full and correct copy of Final Judgment as the same appears of record in my office, in Volume 16, Page 81-90, of the Civil Minutes District Court, Fayette County, Texas.

WITNESS My hand and seal of office, at office in La Grange, Texas, this the 7th day of December, 1976.

Walter Schaefer
Walter Schaefer, Clerk District Court of
Fayette County, Texas

by: Virginia Wied

FILED FOR RECORD

At 2:00 O'clock P. M.

The 10th. Day of December 19 76.

JOHN A. KUBENA

Clerk County Court, Fayette County, Texas

By Irene Pratka Deputy

$9.50 due
Chg. & return to
Coates Field Service
P.O. Box 121
La Grange, Texas 78945

Z86750

COMPARED

THE STATE OF TEXAS }
County of Fayette, } I, John A. Kubena, Clerk of the County Court of said County, do hereby certify that the foregoing and attached instrument of writing (with its authentications) bearing the date 7 day of December A. D. 1976, was filed for record in my office at 2:00 o'clock P. M., on the 10 day of December A.D. 1976, and recorded in vol. 499 upon pages 132-140 of Record of Deeds for said County at 9:50 o'clock A. M., on the 14 day of December A.D. 1976

To certify all of which I here to sign my name and affix my seal of office in the City of La Grange this the 14 day of December A.D. 1976

John A. Kubena

Clerk County Court, Fayette County, Texas

By Patsy Hess Deputy

RECORDED

6-1-0

A-18(014)

D-1-1

RETURN TO CENTRAL FILES

VOL 482 PAGE 128

THE STATE OF TEXAS)

COUNTY OF FAYETTE)

KNOW ALL MEN BY THESE PRESENTS, that we, LEONARD L. BACA and wife, MILDRED N. BACA, of Fayette County, Texas, for and in consideration of the sum of TEN AND NO/100 ($10.00) DOLLARS cash and other good and valuable considerations to us in hand paid by LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, the receipt of which is hereby acknowledged and confessed, and for which no lien, either express or implied, is retained, or shall exist, have GRANTED, SOLD and CONVEYED, and by these presents do GRANT, SELL and CONVEY unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, all that certain tract or parcel of land, lying and being situated in Fayette County, Texas, described as follows, to-wit:

All that certain lot, tract or parcel of land out of the J. Biegel League, Abstract 18, in Fayette County, Texas, being all that certain tract conveyed to Leonard L. Baca and wife, Mildred N. Baca, in the deed recorded in Volume 464, Page 432, Deed Records of Fayette County, Texas, and being more particularly described by metes and bounds as follows:

BEGINNING at a 5/8 inch iron pin found in place at an old fence corner, in a branch, for a point in the East line of the above described Leonard L. Baca, et ux, tract; said point of beginning haveing grid coordinates of X = 2,714,562 and Y = 763,047;

THENCE with said East line, Southwesterly and downstream with the center of said branch, South 4° 17' 30" West 92.85 feet to a 3/8 inch iron pin found in place for the South corner of the Baca tract;

THENCE with the fenced West line of the Baca tract, North 31° 52' West 121.23 feet to an angle point in said line, and continuing North 26° 58' West, at 452.8 feet passing a 3/8 inch iron pin found in place on the South side of County Road No. 120, and continuing in all 490.0 feet to a point in the South line of that certain 8 acre tract conveyed to Charles Polasek, et ux, in the deed recorded in Volume 330, Page 604, Deed Records of Fayette County, Texas, for the Northwest corner of the Baca tract;

THENCE with the South line of the Charles Polasek, et ux, tract, along the North side of County Road No. 120, for the North line of the tract herein described, North 78° 00' East, at 440.3 feet passing the fenced East corner of the Polasek tract, in all 471.42 feet to a point on the North side of County Road No. 120 and the West side of County Road No. 119 for the Northeast corner of the Baca tract;

THENCE South 17° 07' 30" West, at 53.9 feet passing a 3/4 inch pipe found in place on the South side of County Road No. 120, and continuing in all 570.42 feet to the place of beginning, containing in all some 3.102 acres of land, including approximately 0.4 of an acre in County Road No. 120.

Z33157

044 003451

All bearings are grid, Texas Plane Coordinate System, South Central Zone. Rotate bearings 1° 06' clockwise to be compatible with true bearings.

LESS, HOWEVER, AND SUBJECT TO certain rights granted to Fayette Electric Co-operative, Inc. by Charles Polasek, et ux, by an instrument in writing dated September 17, 1945, and recorded in Volume 217, Page 190, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

TO HAVE AND TO HOLD the above described premises, together with all and singular the rights and appurtenances thereto in anywise belonging unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, their successors and assigns forever. And we do hereby bind ourselves, our heirs, executors and administrators to Warrant and Forever Defend, all and singular, the said premises unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, their successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof.

IN TESTIMONY WHEREOF, witness our hands this the 27th day of June, A. D. 1975.

Leonard L. Baca
LEONARD L. BACA

Mildred N. Baca
MILDRED N. BACA

THE STATE OF TEXAS)(

COUNTY OF FAYETTE)(

BEFORE ME, the undersigned authority, on this day personally appeared LEONARD L. BACA and his wife, MILDRED N. BACA, both known to me to be the persons whose names are subscribed to the foregoing instrument, and acknowledged to me that they each executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this the 27th day of June, A. D. 1975.

Ruth Lehmann
Ruth Lehmann, Notary Public in and for Fayette County, Texas.

FILED FOR RECORD

At 10 O'clock A. M.

The 30th. Day of June 1975.

JOHN A. KUBENA

Clerk County Court, Fayette County, Texas

By Irene Pratka Deputy

$2.50 due
Chg. Charles Rhodes
Coates Field Service
La Grange, Texas 78945
Filed by & return to
Richard T. Halpain, Atty.
P.O. Box 369
La Grange, Texas 78945

044 003452 Z33158

233159

THE STATE OF TEXAS }
County of Fayette, } I, John A. Kubena, Clerk of the County Court of said County, do hereby certify that the foregoing and attached instrument of writing (with its authentications) bearing the date 27 day of June A. D. 1975, was filed for record in my office at 10 o'clock A. M., on the 30 day of June A.D. 19 75, and recorded in vol. 482 upon pages 128-129 of Record of Deeds for said County at 3:45 o'clock P. M., on the 1 day of July A.D. 19 75

To certify all of which I here to sign my name and affix my seal of office in the City of La Grange this the 1 day of July A.D. 19 75.

John A. Kubena

Clerk County Court, Fayette County, Texas

By Lufil Floyd Deputy

233159

D-1-3

A-18(14A)

D-1-1

RETURN TO CENTRAL FILES

VOL. 482 PAGE 248

THE STATE OF TEXAS §

COUNTY OF FAYETTE §

WHEREAS, by an Order of the County Court of Fayette County, Texas, sitting in matters of probate, made on the 23rd day of June, 1975, directing the sale of the land hereinafter mentioned, belonging to the Estates of Angela Wallace, Donna Wallace and Marianna Wallace, Minors, which was then and is now pending in said court, pursuant to an application for an order to sell land belonging to s said estates made to said court on the 17th day of June, 1975, I, Mildred Baca, Guardian of the Estates of Angela Wallace, Donna Wallace and Marianna Wallace, Minors, did on the 27th day of June, 1975, sell at private sale, at La Grange, in the County of Fayette, the said land to LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, for the sum of FORTY ONE THOUSAND THREE HUNDRED SEVENTY SIX AND 30/100 ($41,376.30) DOLLARS, on these terms, viz.: For cash, in accordance with said Order of Sale; and WHEREAS, the report of said sale, having been filed on the 27th day of June, 1975, and made to said Court, such sale was, on the 2nd day of July, 1975, in all respects confirmed by the Decree of said Court, which Decree read and reads and was and is as follows:

"NO. 7,503

IN THE GUARDIANSHIP OF	IN THE COUNTY COURT
ANGELA WALLACE, DONNA	
WALLACE AND MARIANNA	OF
WALLACE, MINORS	FAYETTE COUNTY, TEXAS

This the 2nd day of July, 1975, came on to be heard in the above entitled and numbered proceeding, at a regular term of the above court, the report of sale of Mildred Baca, Guardian of the Estates of Angela Wallace, Donna Wallace and Marianna Wallace, Minors, hereinafter called the "representative", of the following described property belonging to said estates, to-wit:

All that certain tract or parcel of land out of the J. Biegel League, Abstract 18, in Fayette County, Texas, being all of that certain tract, lying North of the M. K. & T. Railroad right-of-way, conveyed to Mildred Baca in Volume 396, Page 503, Deed Records of Fayette County, Texas, and being more particularly described by metes and bounds as follows:

BEGINNING at an iron rod found in place at a fence corner the most Northerly corner of said Baca tract; said point of beginning having grid coordinates of X = 2,714,561 and Y = 763,048;

Z06928

045 002698

THENCE generally with a fence, South 47° 13' 45" East 1798.1 feet to a point in the fenced North line of the M. K. & T. Railroad right-of-way, a 1 inch iron pipe bears South 47° 13' 45" East 1.7 feet;

THENCE with said fenced North right-of-way line, South 72° 47" West 615.78 feet, to a point at the beginning of a curve to the left, having a radius of 1482.69 feet;

THENCE continuing with said North right-of-way line, and the arc of said curve to the left, 1060.0 feet to a point where the centerline of a creek intersects said right-of-way line, a nail in the centerline of railroad trestle bears South 71° 18' East 52.8 feet;

THENCE departing said right-of-way, and up said creek with its meanders, North 71° 18' West 89.5 feet to a point, and North 17° 21' West 138.0 feet to a point, and North 71° 55' West 293.8 feet to a point, and North 38° 37' West 137.2 feet to a point, and North 7° 27' West 165.1 feet to a point where a branch joins the creek from the Northeast;

THENCE in a Northeasterly direction, up said branch with its meanders, North 65° 10' East 127.5 feet to a point, and North 48° 35' East 226.7 feet to a point, and North 22° 11' East 205.3 feet to a point, and North 39° 44' East 151.2 feet to a point, and North 10° 00' East 129.1 feet to a point, and North 17° 24' East 173.0 feet to a point, and North 3° 44' West 112.6 feet to a point, and North 32° 17' East 112.4 feet to a point, and North 0° 07' East 105.4 feet to a point, and North 23° 36' East 86.9 feet to a point, and North 6° 56' West 230.4 feet to an iron rod found in said branch, for corner;

THENCE North 4° 19' East 92.85 feet to the place of beginning, containing some 35.70 acres of land, more or less.

All bearings are grid, Texas Plane Coordinate System, South Central Zone. Rotate bearings 1° 06' clockwise to be compatible with true bearings.

LESS, HOWEVER, AND SUBJECT TO the mineral reservation reserved in the deed of conveyance from E. J. Koehl, et al, to J. A. Novosad, dated April 1, 1942, and recorded in Volume 186, Page 257, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

LESS, ALSO, AND SUBJECT TO certain rights granted to Taylor, Bastrop and Houston Railway Company by B. December, by an instrument in writing dated April 30, 1887, and recorded in Volume 35, Page 347, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

LESS, ALSO, AND SUBJECT TO an Oil and Gas Lease from Emily Novosad to W. J. Mechura, dated July 9, 1965, and recorded in Volume 105, Page 297, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

And further a conveyance of a permanent easement for use as a roadway over and across the following described property:

All that certain tract or parcel of land out of the Joseph Biegel League, Abstract 18, in Fayette County, Texas, being a portion of that certain tract conveyed to Angela Wallace, et al, by a deed recorded in Volume 465, Page 409, Deed Records of Fayette County, Texas, and being more particularly described by metes and bounds as follows:

BEGINNING at a point in the West line of said Wallace, et al tract in the center of a creek at its intersection with the curved Southeast right-of-way line of the M.K.T. Railroad; said point of beginning having grid coordinates of X = 2,714,548 and Y = 760,942;

THENCE Northeasterly with said right-of-way line and with the arc of a curve to the right having a radius of 1382.69 feet a distance of 200.0 feet to a point;

THENCE, departing said right-of-way line, South 50° 39' East 100.0 feet to a point;

THENCE South 12° 38' West, 283.1 feet to a point in the center of a creek, for the West line of said Wallace, et al tract and the East line of that certain property conveyed to Annie Cude under "First Tract" in the deed recorded in Volume 363, Page 378, Deed Records of Fayette County, Texas;

THENCE with the line common to the Wallace, et al, tract and the Annie Cude tract, and upstream with the meanders of the center of said creek the following courses and distances:

North 19° 39' West 72.8 feet to a point;
North 60° 47' West 81.8 feet to a point; and
North 27° 09' West 76.2 feet to the place of beginning,

containing in all some 0.77 acre of land, more or less;

made on the 27th day of June, 1975, in obedience to the order of this court made on the 23rd day of June, 1975, and entered upon the minutes of this court; and it appearing to the Court that five days have expired after the day of the filing of said report and that on the 16 day of June, 1975, the representative heretofore gave and filed herein a good and sufficient general bond as required by law, which bond is sufficient to protect the estates after the proceeds of the sale are received, and which said bond was on the 16 day of June, 1975, in all things approved by this Court, and the Court, having venue and jurisdiction in all respects, inquired into the manner in which said sale was made, and having heard evidence in support of and against said report, is satisfied that such report is true and correct, that the sale was properly made and after due notice and in conformity with law and was made for a fair price and is satisfactory and in conformity with all provisions of Texas Probate Code applying thereto and that it should be confirmed, it is therefore ORDERED, ADJUDGED and DECREED by the Court that the said sale be, and the same is here now, in all respects approved and confirmed. It is further ORDERED that the said report be recorded by the Clerk of this Court, and that the proper conveyance of the above described property be made by said representative to said LOWER COLORADO RIVER AUTHORITY and THE CITY OF AUSTIN, TEXAS, the purchasers named in said report, upon their compliance with the terms of said sale, which terms are as follows, viz.: That LOWER COLORADO RIVER AUTHORITY and THE CITY OF AUSTIN, TEXAS, the purchasers, pay and deliver to the representative the sum of FORTY ONE THOUSAND THREE HUNDRED SEVENTY SIX AND 30/100 ($41,376.30) DOLLARS in cash for the said wards' lands;

And it appearing, on this the same day, viz.: The 2nd day of July, 1975, that said purchasers have fully and in all things complied with such terms of sale and the law and that the representative has fully complied with what is above and under the law required of her and that same ought to be and are hereby approved, it is fully and finally ORDERED, ADJUDGED and DECREED that such sale be, and the same is hereby, approved and confirmed and the representative is ordered to execute and deliver to the purchaser a proper deed conveying the wards' lands to LOWER COLORADO RIVER AUTHORITY and THE CITY OF AUSTIN, TEXAS, upon their compliance with the terms of said sale.

/s/ Fritz Lobpries
Judge of the County Court of
Fayette County, Texas."

706930

046 002700

and whereas, such purchasers have complied with such terms of sale:

NOW, THEREFORE, in consideration of the premises and of FORTY ONE THOUSAND THREE HUNDRED SEVENTY SIX AND 30/100 ($41,376.30) DOLLARS cash to me in hand paid by said LOWER COLORADO RIVER AUTHORITY and THE CITY OF AUSTIN, TEXAS, hereinafter called "purchaser", I, Mildred Baca, Guardian of the Estates of Angela Wallace, Donna Wallace and Marianna Wallace, Minors, have GRANTED, SOLD and CONVEYED, and by these presents do GRANT, SELL and CONVEY unto the said LOWER COLORADO RIVER AUTHORITY and THE CITY OF AUSTIN, TEXAS, all the right, title and interest of the said estates in and to all that certain tract or parcel of land situated in the County of Fayette and State of Texas, more particularly described as follows, to-wit:

All that certain tract or parcel of land out of the J. Biegel League, Abstract 18, in Fayette County, Texas, being all of that certain tract, lying North of the M. K. & T. Railroad right-of-way, conveyed to Mildred Baca in Volume 396, Page 503, Deed Records of Fayette County, Texas, and being more particularly described by metes and bounds as follows:

BEGINNING at an iron rod found in place at a fence corner the most Northerly corner of said Baca tract; said point of beginning having grid coordinates of X = 2,714,561 and Y = 763,048;

THENCE generally with a fence, South 47° 13' 45" East 1798.1 feet to a point in the fenced North line of the M. K. & T. Railroad right-of-way, a 1 inch iron pipe bears South 47° 13' 45" East 1.7 feet;

THENCE with said fenced North right-of-way line, South 72° 47' West 615.78 feet to a point at the beginning of a curve to the left, having a radius of 1482.69 feet;

THENCE continuing with said North right-of-way line, and the arc of said curve to the left, 1060.0 feet to a point where the centerline of a creek intersects said right-of-way line, a nail in the centerline of railroad trestle bears South 71° 18' East 52.8 feet;

THENCE departing said right-of-way, and up said creek with its meanders, North 71° 18' West 89.5 feet to a point, and North 17° 21' West 138.0 feet to a point, and North 71° 55' West 293.8 feet to a point, and North 38° 37' West 137.2 feet to a point, and North 7° 27' West 165.1 feet to a point where a branch joins the creek from the Northeast;

THENCE in a Northeasterly direction, up said branch with its meanders, North 65° 10' East 127.5 feet to a point, and North 48° 35' East 226.7 feet to a point, and North 22° 11' East 205.3 feet to a point, and North 39° 44' East 151.2 feet to a point, and North 10° 00' East 129.1 feet to a point, and North 17° 24' East 173.0 feet to a point, and

North 3° 44' West 112.6 feet to a point, and North 32° 17' East 112.4 feet to a point, and North 0° 07' East 105.4 feet to a point, and North 23° 36' East 86.9 feet to a point, and North 6° 56' West 230.4 feet to an iron rod found in said branch, for corner;

THENCE North 4° 19' East 92.85 feet to the place of beginning, containing some 35.70 acres of land, more or less.

All bearins are grid, Texas Plane Coordinate System, South Central Zone. Rotate bearings 1° 06' clockwise to be compatible with true bearings.

LESS, HOWEVER, AND SUBJECT TO the mineral reservation reserved in the deed of conveyance from E. J. Koehl, et al, to J. A. Novosad, dated April 1, 1942, and recorded in Volume 186, Page 257, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

LESS, ALSO, AND SUBJECT TO certain rights granted to Taylor, Bastrop and Houston Railway Company by B. December, by an instrument in writing dated April 30, 1887, and recorded in Volume 35, Page 347, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

LESS, ALSO, AND SUBJECT TO an Oil and Gas Lease from Emily Novosad to W. J. Mechura, dated July 9, 1965, and recorded in Volume 105, Page 297, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

TO HAVE AND TO HOLD the above described right and title, together with all and singular the rights and appurtencances thereto in anywise belonging, unto the said LOWER COLORADO RIVER AUTHORITY and THE CITY OF AUSTIN, TEXAS, their successors and assigns forever.

In addition thereto and in consideration of the premises as above described, I, Mildred Baca, Guardian of the Estates of Angela Wallace, Donna Wallace and Marianna Wallace, Minors, have GRANTED and CONVEYED, and by these presents do GRANT and CONVEY, unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, their successors and assigns, the free and uninterrupted use, liberty, privilege and easement of passing in and along a certain way across a certain .77 of an acre tract of land, said way being described by metes and bounds as follows:

All that certain tract or parcel of land out of the Joseph Biegel League, Abstract 18, in Fayette County, Texas, being a portion of that certain tract conveyed to Angela Wallace, et al, by deed recorded in Volume 465, Page 409, Deed Records of Fayette County, Texas, and being more particularly described by metes and bounds as follows:

D-1-6

BEGINNING at a point in the West line of said Wallace, et al tract in the center of a creek at its intersection with the curved Southeast right-of-way line of the M.K.T. Railroad; said point of beginning having grid coordinates of X = 2,714,548 and Y = 760,942;

THENCE Northeasterly with said right-of-way line and with the arc of a curve to the right having a radius of 1382.69 feet a distance of 200.0 feet to a point;

THENCE, departing said right-of-way line, South 50° 39' East 100.0 feet to a point;

THENCE South 12° 38' West, 283.1 feet to a point in the center of a creek, for the West line of said Wallace, et al tract and the East line of that certain property conveyed to Annie Cude under "First Tract" in the deed recorded in Volume 363, Page 378, Deed Records of Fayette County, Texas;

THENCE with the line common to the Wallace, et al, tract and the Annie Cude tract, and upstream with the meanders of the center of said creek the following courses and distances:

North 19° 39' West 72.8 feet to a point;
North 60° 47' West 81.8 feet to a point; and
North 27° 09' West 76.2 feet to the place of beginning,

containing in all some 0.77 acre of land, more or less;

together with free ingress, egress, regress to and for the said Grantees, their successors and assigns, and their successors, assigns and tenants, by foot, with carts, wagons, carriages, automobiles and other veicles, horses, mules or cattle, as by them shall be necessary or convenient at all times and seasons forever, in, along, upon and out of said way, in common with them, the said Angela Wallace, Donna Wallace and Marianna Wallace, their heirs and assigns, and their tenants;

TO HAVE AND TO HOLD all and singular, the rights and privileges aforesaid to them, the said LOWER COLORADO RIVER AUTHORITY and THE CITY OF AUSTIN, TEXAS, their successors and assigns, to their proper use and behoof, in common with them, the said Angela Wallace, Donna Wallace and Marianna Wallace, their heirs and assigns and their tenants.

IN TESTIMONY WHEREOF, witness my hand this the 3rd day of July, 1975.

Mildred Baca
MILDRED BACA
Guardian of the Estates of
Angela Wallace, Donna Wallace
and Marianna Wallace, Minors.

Z06933

046 002703

D-1-7

VOL 482 PAGE 254 -7-

THE STATE OF TEXAS ()

COUNTY OF FAYETTE ()

BEFORE ME, the undersigned authority, on this day personally appeared MILDRED BACA, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that she executed the same as Guardian of the Estates of Angela Wallace, Donna Wallace and Marianna Wallace, Minors, for the purposes and consideration therein expressed and in the capacity therein stated.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this the 3rd day of July, A. D. 1975.

Ruth Lehmann
Ruth Lehmann, Notary Public in and for Fayette County, Texas.

FILED FOR RECORD

At 10 O'clock A. M.

The 8th. Day of July 1975.

JOHN A. KUBENA

Clerk County Court, Fayette County, Texas

By Irene Vratka Deputy

$7.50 due
Chg. Charles Rhodes
Coates Field Service
La Grange, Texas 78945

Filed by & return to
Richard T. Halpain, Atty.
P.O. Box 369
La Grange, Texas 78945

THE STATE OF TEXAS
County of Fayette, } I, John A. Kubena, Clerk of the County Court of said County, do hereby certify that the foregoing and attached instrument of writing (with its authentications) bearing the date 3 day of July A. D. 1975, was filed for record in my office at 10:00 o'clock A. M., on the 8 day of July A.D. 1975 and recorded in vol. 482 upon pages 248-254 of Record of Deed for said County at 10:40 o'clock A. M., on the 10 day of July A.D. 1975

To certify all of which I here to sign my name and affix my seal of office in the City of La Grange this the 10 day of July A.D. 1975.

John A. Kubena

Clerk County Court, Fayette County, Texas

By Patsy Hentschel Deputy

Z06934

046 002704

A-18(15)

D-1-1

RETURN TO CENTRAL FILES

Z83667

THE STATE OF TEXAS)

COUNTY OF FAYETTE)

VOL 478 PAGE 867

166

KNOW ALL MEN BY THESE PRESENTS, that we, FRED E. ERDMAN and wife, ANNIE H. ERDMAN, of Fayette County, Texas, for and in consideration of the sum of TEN AND NO/100 ($10.00) DOLLARS cash and other good and valuable considerations to us in hand paid by LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, the receipt of which is hereby acknowledged and confessed, and for which no lien, either express or implied, is retained, or shall exist, have GRANTED, SOLD and CONVEYED, and by these presents do GRANT, SELL and CONVEY unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, all that certain tract or parcel of land, lying and being situated in Fayette County, Texas, described as follows, to-wit:

All that certain lot, tract or parcel of land out of the J. Biegel League, Abstract 18, Fayette County, Texas, being a portion of that certain tract conveyed to Fred E. Erdman in Volume 241, Page 411, Deed Records of Fayette County, Texas, and being more particularly described by metes and bounds as follows:

BEGINNING at a point in the curved Northwest right-of-way line of the M. K. & T. Railroad, at its intersection with the East line of County Road No. 121, from which an iron rod at a fence corner bears North 46° 19' West 1.2 feet, said rod having grid coordinates of X = 2,713,977 and Y = 759,771;

THENCE departing said M. K. & T. right-of-way with the fenced East line of County Road No. 121, North 46° 19' West, at 1.2 feet passing an iron rod at a fence corner, continuing in all 271.47 feet to an iron rod found in place 1.5 feet Northeast of said fence;

THENCE departing said county road, North 88° 30' East at 310.23 feet passing an iron rod Northwest of a right-of-way fence, continuing in all 312.93 feet to a point for corner in said fence, on the curved North right-of-way line of the M. K. & T. Railroad;

THENCE Southwesterly with said right-of-way line and with the arc of a curve to the right, having a radius of 1370-85/100 feet a distance of 227.75 feet to the place of beginning, containing some 0.71 acre of land.

LESS, HOWEVER, AND SUBJECT TO certain rights granted to the Taylor, Bastrop and Houston Railway Company by C. Niederauer by an instrument in writing dated May 7, 1887, and recorded in Volume 35, Page 342, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

LESS, ALSO, AND SUBJECT TO certain rights granted to the Fayette Electric Cooperative, Inc., by Elo C. Drawe, et ux, by an instrument in writing dated January 14, 1948, and recorded in Volume 221, Page 175, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

044 005013

TO HAVE AND TO HOLD the above described premises, together with all and singular the rights and appurtenances thereto in anywise belonging unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, their successors and assigns forever. And we do hereby bind ourselves, our heirs, executors and administrators to Warrant and Forever Defend, all and singular, the said premises unto the said LOWER COLORADO RIVER AUTHORITY and the City of AUSTIN, TEXAS, their successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof.

IN TESTIMONY WHEREOF, witness our hands this the 11th day of March, A. D. 1975.

Fred E Erdman
FRED E. ERDMAN

Annie H. Erdman
ANNIE H. ERDMAN

THE STATE OF TEXAS)(

COUNTY OF FAYETTE)(

BEFORE ME, the undersigned authority, on this day personally appeared FRED E. ERDMAN and his wife, ANNIE H. ERDMAN, both known to me to be the persons whose names are subscribed to the foregoing instrument, and acknowledged to me that they each executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this the 11th day of March, A. D. 1975.

Richard T. Halpain
Richard T. Halpain, Notary Public in and for Fayette County, Texas.

FILED FOR RECORD

At 11:45 O'clock A. M.

The 18th. Day of March 19 75.

JOHN A. KUBENA

Clerk County Court, Fayette County, Texas

By Irene Pratka Deputy

$2.50 due
Chg. Charles Rhodes
Coates Field Service
La Grange, Texas 78945
Filed by & return to
Richard T.Halpain, Atty.
P.O. Box 369
La Grange, Texas 78945

044 005014

THE STATE OF TEXAS
County of Fayette,

I, John A. Kubena, Clerk of the County Court of said County, do hereby certify that the foregoing and attached instrument of writing (with its authentications) bearing the date 11 day of March A. D. 1975, was filed for record in my office at 11:45 o'clock A. M., on the 18 day of March A.D. 1975, and recorded in vol. 478 upon pages 867 & 868 of Record of Deeds for said County at 9:55 o'clock A. M., on the 19 day of Mar. A.D. 1975

To certify all of which I here to sign my name and affix my seal of office in the City of La Grange this the 19 day of March A.D. 1975

John A. Kubena

Clerk County Court, Fayette County, Texas

By Patsy Hentschel Deputy

044 005015

699687

D-1-3

A-18(17)

D-1-1

RETURN TO CENTRAL FILES

THE STATE OF TEXAS ⟨ 283537 VOL 481 PAGE 577

COUNTY OF FAYETTE ⟨

KNOW ALL MEN BY THESE PRESENTS, that we, ANNIE B. CUDE, joined pro forma by her husband, IRA CUDE, of Harris County, Texas, for and in consideration of the sum of TEN AND NO/100 ($10.00) DOLLARS cash and other good and valuable considerations to us in hand paid by LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, the receipt of which is hereby acknowledged and confessed, and for which no lien, either express or implied, is retained, or shall exist, have GRANTED, SOLD and CONVEYED, and by these presents do GRANT, SELL and CONVEY unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, all that certain tract or parcel of land, lying and being situated in Fayette County, Texas, described as follows, to-wit:

All that certain lot, tract or parcel of land in the J. Biegel League, Abstract 18, Fayette County, Texas, being all of those certain four tracts conveyed to Annie Cude in Volume 363, Page 378, Deed Records, Fayette County, Texas, and being more particularly described by metes and bounds as follows:

BEGINNING at an iron pin found in place in the Northeast line of County Road No. 121 for the Southwest corner of the Cude tract described under "First Tract" in said Volume 363, Page 378; said beginning point having grid coordinates of X = 2,713,780 and Y = 759,959;
THENCE with the Southwest line of the Cude property North 49° 35' West 576.42 feet to a point in the approximate center of County Road No. 121;

THENCE continuing with said Southwest line and with the approximate center of said County Road the following courses and distances: North 54° 39' West 425.5 feet to a point, North 55° 12' West 539.9 feet to a point, North 56° 16' West 466.75 feet to a point for the most Westerly corner of the Cude "Third Tract";

THENCE departing the County Road with the fenced Northwest line of said "Third Tract" North 40° 28' East 228.9 feet to an iron pin for its most Northerly corner;

THENCE with the fenced Northeast line of said "Third Tract" South 44° 58' East 261.1 feet to a fence corner, for the Westerly corner of the Cude "Second Tract" described in Volume 363, Page 378, Deed Records of Fayette County, Texas;

THENCE with the fenced Northwest line of said "Second Tract" North 42° 08' East 1405.8 feet to a point in the center of a creek, for the Northerly corner of the Cude property;

THENCE downstream with the meanders of the center of said creek, for the Northeast line of the Cude "Second Tract" and "First Tract" the following courses and distances:

044 004868

Z83538

North 66° 48' East 22.5 feet to a point,
South 42° 40' East 101.1 feet to a point,
South 72° 35' East 190.1 feet to a point,
South 23° 33' East 28.2 feet to a point,
South 14° 39' West 123.4 feet to a point,
South 89° 44 ' East 236.1 feet to a point,
South 76° 43' East 41.9 feet to a point,
South 61° 43' West 167.1 feet to a point,
South 50° 09' West 80.0 feet to a point,
South 47° 16' East 163.0 feet to a point,
North 47° 06' East 113.3 feet to a point,
South 30° 45' East 152.4 feet to a point,
South 76° 36' West 87.0 feet to a point,
South 36° 33' West 49.7 feet to a point,
South 68° 18' East 39.5 feet to a point where a branch joins with said creek,
South 7° 27' East 165.1 feet to a point,
South 38° 37' East 137.2 feet to a point,
South 71° 55' East 293.8 feet to a point,
South 17° 21' East 138.0 feet to a point, and
South 71° 18' East 142.3 feet to a nail set in the center of the M.K.T. Railroad trestle, over the center of the creek;

THENCE continuing downstream with the meanders of the center of the creek, for the Northeast line of the Cude "First Tract" the following courses and distances:
South 27° 09' East 133.1 feet to a point,
South 60° 47' East 81.8 feet to a point,
South 19° 39' East 83.4 feet to a point,
South 43° 22' West 47.1 feet to a point,
South 55° 22' West 51.9 feet to a point,
South 10° 18' West 82.1 feet to a point,
South 51° 23' East 113.5 feet to a point,
South 82° 29' East 74.2 feet to a point,
South 18° 37' East 248.1 feet to a point,
South 89° 15' East 110.5 feet to a point,
South 27° 38' East 16.8 feet to a point, and
South 4° 32' West 125.3 feet to a point;

THENCE South 18° 53' West, at 35.2 feet passing an iron pin found in place at a fence on the Northwest bank of the creek, and continuing in all 166.75 feet to an iron pin found in place at a fence corner for the Southeast corner of the Cude "First Tract";

THENCE with the fenced South line of the Cude "First Tract" South 87° 51' West 688.2 feet to an iron pin found in place at a fence corner on the East side of the M.K.T. Railroad;

THENCE continuing with said South line South 88° 42' West, at 109 feet an iron pin found in place on the West side of the M.K.T. Railroad bears North 1° 18' West 1.1 feet, and continuing in all 422.0 feet to the place of beginning, containing in all some 68.37 acres of land, including approximately 1.0 acre in County Road No. 121, and including approximately 2.46 acres in a 100 foot wide easement for the M. K. T. Railroad. Surveyed in September of 1974 and January of 1975, all bearings are grid, Texas Plane Coordinate System, South Central Zone. Rotate bearings 1° 06' clockwise to be compatible with true bearings.

LESS, HOWEVER, AND SUBJECT TO certain rights granted to the Taylor, Bastrop and Houston Railway by Agreed Judgment dated May 13, 1889, in Cause No. 4068, styled Taylor, Bastrop and Houston Railway vs. D. H. Weber, in the District Court of Fayette County, Texas.

ZS3539

LESS, ALSO, AND SUBJECT TO certain rights granted to Southwestern Bell Telephone Company by Julius Legler, et ux, by an instrument in writing dated April 1, 1930, and recorded in Volume 150, pages 218-219, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

LESS, ALSO, AND SUBJECT TO certain rights granted to Fayette Electric Cooperative, Inc., by Julius Legler, et ux, by an instrument in writing dated September 17, 1945, recorded in Volume 217, pages 23-24, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

TO HAVE AND TO HOLD the above described premises, together with all and singular the rights and appurtenances thereto in anywise belonging unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, their successors and assigns forever. And we do hereby bind ourselves, our heirs, executors and administrators to Warrant and Forever Defend, all and singular, the said premises unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, their successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof.

IN TESTIMONY WHEREOF, witness our hands this the 13th day of May, A. D. 1975.

Annie B. Cude
ANNIE B. CUDE

Ira Cude
IRA CUDE

THE STATE OF TEXAS ()

COUNTY OF FAYETTE ()

BEFORE ME, the undersigned authority, on this day personally appeared IRA CUDE and his wife, ANNIE B. CUDE, both known to me to be the persons whose names are subscribed to the foregoing instrument, and acknowledged to me that they each executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this the 13th day of May, A. D. 1975.

Kay Lung
, Notary Public in and for Harris County, Texas.

FILED FOR RECORD

At 2:30 O'clock P. M.

On the 3rd. Day of June 1975.

JOHN A. KUBENA

Clerk County Court, Fayette County, Texas

By Irene Gratka Deputy

$3.50 due
Chg. Charles Rhodes
Coates Field Serv.
La Grange, Texas 78945

Filed by & return to
Richard T. Halpain, Atty.
P.O. Box 369
La Grange, Texas 78945

044 004870

THE STATE OF TEXAS }
County of Fayette, } I, John A. Kubena, Clerk of the County Court of said County, do hereby certify that the foregoing and attached instrument of writing (with its authentications) bearing the date 13 day of May A. D. 1975, was filed for record in my office at 2:30 o'clock P. M., on the 3 day of June A.D. 1975, and recorded in vol. 481 upon pages 577-579 of Record of Deeds for said County at 8:20 o'clock A. M., on the 9 day of June A.D. 1975

To certify all of which I here to sign my name and affix my seal of office in the City of La Grange this the 9 day of June A.D. 1975

John A. Kubena

Clerk County Court, Fayette County, Texas

By Patsy Hentschel Deputy

753540

044 004871

b-1-9

A-18(18)

A-18(18)
D-1-\

D

Z42777

CAUSE NO. 12,317
ADMINISTRATIVE NO. 11

LOWER COLORADO RIVER AUTHORITY and THE CITY OF AUSTIN, TEXAS	§	PROCEEDINGS IN EMINENT DOMAIN
	§	IN THE 155TH JUDICIAL
VS.	§	DISTRICT COURT OF
ADOLPH F. SCHMIDT, ET AL	§	FAYETTE COUNTY, TEXAS

160

FINAL JUDGMENT

On this day came on to be considered the above entitled and numbered cause, and came the plaintiffs Lower Colorado River Authority and The City of Austin, Texas, by and through their respective attorneys of record and came the defendants, Adolph F. Schmidt and wife, Elvira, and Bennie H. Schmidt, by and through their respective attorneys of record, whereupon the parties announced in open Court that all matters in controversy had been compromised and settled, whereupon the plaintiffs and defendants jointly moved for entry of this agreed Final Judgment.

And the Court, having found that it has jurisdiction of the subject matter and of the parties and being of the opinion that such Final Judgment should be entered, it is, therefore,

ORDERED, ADJUDGED and DECREED that the plaintiffs, Lower Colorado River Authority and The City of Austin, Texas, do have and recover from the defendants, Adolph F. Schmidt and wife, Elvira, and Bennie H. Schmidt, all of that certain real property consisting in the aggregate of 912.91 acres, more or less, and described in two tracts denominated as Tract "A-R" and Tract "B" in Exhibit "A"

048 000305

242778

(including the reversionary interests defendants may have, if any, in and to State Highway 159 insofar as such highway abuts any of said Tract "A-R" and Tract "B"), said Exhibit "A" being attached hereto and included as a part of this Final Judgment for the purpose of setting forth all legal descriptions referred to herein; and

It is further ORDERED, ADJUDGED and DECREED that the plaintiffs, Lower Colorado River Authority and The City of Austin, Texas, do have and recover from the defendants, Adolph F. Schmidt and wife, Elvira, and Bennie H. Schmidt, an easement consisting of 6.89 acres of land, more or less, more particularly described on Page 8 of Exhibit "A" attached hereto, the terms of such easement being for the construction, maintenance, repair, replacement, removal and operation of electric transmission lines and communication lines to be utilized in connection with the Fayette County Power Project; and within such easement plaintiffs have the rights to construct, maintain, repair, replace, remove and operate electric transmission lines and communication lines, each consisting of a variable number of wires and all necessary and desirable appurtenances and attachments, including poles, "H" frames, metal towers, guy wires and guy anchorages. This Judgment vests in plaintiffs no other ownership rights or title in Tract "C", described on Page 6 of Exhibit "A" attached hereto, consisting of 31.94 acres of land, more or less, except for the above described easement consisting of 6.89 acres, and all of the defendants' other ownership rights and title to said Tract "C" are retained by said defendants.

048 00858

Z42779

IT IS FURTHER ORDERED, ADJUDGED AND DECREED that the defendants, Adolph F. Schmidt and wife, Elvira, and Bennie H. Schmidt, do have and recover of and from the plaintiffs, Lower Colorado River Authority and the City of Austin, Texas, the total sum of $1,314,310.00, of which sum $1,286,755.00 constitutes full payment for the land and improvements and the easement, and the remaining sum of $27,555.00 constitutes full payment of damages to the remainder of the defendants' property, the same described as Tract "C" in Exhibit "A" attached hereto, subject to the above described easement herein adjudged to plaintiffs; and it appearing to the Court that the plaintiffs have heretofore deposited said total sum of $1,314,310.00 into the Registry of the Court, which total sum has heretofore been withdrawn by the defendants, it is, therefore, further

ORDERED, ADJUDGED and DECREED that the defendants Adolph F. Schmidt and wife, Elvira, and Bennie H. Schmidt, are and shall be entitled to have and retain said total sum withdrawn from the Registry of the Court in the amount of $1,314,310.00 in full satisfaction of the damages awarded to them in this Judgment, and plaintiffs shall be and are hereby released and discharged from further liability by reason of this action in condemnation and this Judgment.

It is further ORDERED, ADJUDGED and DECREED that plaintiffs pay all costs of Court in this behalf expended.

SIGNED, RENDERED and ENTERED this 21st day of May, 1976.

FILED
At 11:55 o'clock A M.
MAY 26 1976
Clerk District Court, Fayette County, Texas
By ..... Deputy

Paul Nasser
Judge of the District Court
of Fayette County, Texas

D-1-4

VOL 499 PAGE 34

Z42780

AGREED TO AND APPROVED,
BOTH AS TO FORM AND SUBSTANCE:

SMALL, CRAIG & WERKENTHIN
900 Perry-Brooks Building
Austin, Texas 78701

By: E. Small

Mac Umstattd, General Counsel
LOWER COLORADO RIVER AUTHORITY
P. O. Box 220
Austin, Texas 78767

Jan L. Kubicek, Acting City Attorney
P. O. Box 1088
Austin, Texas 78767

HART & HALPAIN
P. O. Box 369
La Grange, Texas 78945

By: Richard T. Halpain
Richard T. Halpain
ATTORNEYS FOR PLAINTIFFS

VINSON, ELKINS, SEARLS, CONNALLY & SMITH
First City National Bank Building
Houston, Texas 77002

By: Ewing Werlein, Jr.
Ewing Werlein, Jr.
ATTORNEYS FOR DEFENDANTS

Adolph F. Schmidt
Adolph F. Schmidt

Elvira H. Schmidt
Elvira Schmidt

Bennie H. Schmidt
Bennie H. Schmidt

046 000908

D-1-S

Z42781

VOL 499 PAGE 35

EXHIBIT A
Lower Colorado River Authority and City of Austin vs.
ADOLPH F. SCHMIDT, ET AL

Tracts "A-R", "B" and "C" together constitute all those certain tracts of land out of Joseph Biegel League, Abstract 18, and the J. M. Hensley League, Abstract 54, both in Fayette County, Texas, conveyed to Bennie H. Schmidt, et al, in the following deed references: First Tract 0-35/100 acre and Third Tract 2-8/10 acres, Volume 218, Pages 454 and 455; 58 acres, Volume 218, Page 456; 159-2/10 acres, Volume 313, Page 437; First Tract 320 acres, Second Tract (A) 34 acres, Second Tract (B) 53 acres, Third Tract (A) 104 acres, Third Tract (B) 50 acres, Volume 384, Page 163; and First Tract 40-5/10 acres, Second Tract 53-5/10 acres, Third Tract 59-27/100 acres, Volume 405, Page 105, all references being within the Deed Records of Fayette County, Texas, and being more particularly described by metes and bounds in three tracts as follows:

TRACT "A-R"

BEGINNING at a point in said HENSLEY LEAGUE, from which a fence corner bears South 40 degrees 55 minutes West 1-3/10 feet, said point being the East corner of said 2-8/10 acre tract in the Southwest right-of-way of State Highway No. 159 (old S.H. No. 73);

THENCE with the Southeast line of said 2-8/10 acre tract and said 104 acre tract, South 40 degrees 55 minutes 30 seconds West 2681-2/10 feet to a fence corner for the North corner of said 50 acre tract:

THENCE with the Northeast and Southeast lines of said 50 acre tract, South 48 degrees 51 minutes East 890-9/10 feet to a 3/4" x 1 1/2" steel bar found at a fence corner and South 40 degrees 47 minutes 30 seconds West 1892-0/10 feet to a fence corner for the North corner of said 59-27/100 acre tract;

048 000909

D-1-6

242782

VOL 499 PAGE 36

THENCE with the Northeast and Southeast lines of said 59-27/100 acre tract, South 49 degrees 10 minutes East 2262-2/10 feet to a fence corner and South 39 degrees 23 minutes West 559-1/10 feet to a point in a fence line from which a fence corner bears South 39 degrees 23 minutes West 62-7/10 feet, said point being on the line common to said HENSLEY and BIEGEL LEAGUES, as occupied on the ground;

THENCE with said Survey Line and a Northeast line of said 59-27/100 acre tract, South 49 degrees 10 minutes East 235-6/10 feet to the most Southerly East corner thereof and the North corner of said 53-5/10 acre tract, said point being a 5/8" steel rod set in County Road No. 119 from which a fence corner bears North 63 degrees 42 minutes West 12-7/10 feet and South 42 degrees 45 minutes West 5-2/10 feet;

THENCE with the Northeast line of said 53-5/10 acre tract and said Survey Line, as occupied, South 47 degrees 58 minutes 30 seconds East 1452-0/10 feet to a point in said road on a projection of the Northwest line of said Road where it turns Southwest, from which a fence corner bears South 47 degrees 58 minutes 30 seconds East 34-5/10 feet;

THENCE departing said Survey Line, and with the Northwest line of said County Road No. 119, and the Southeast line of said 53-5/10 acre tract and said 40-5/10 acre tract; South 15 degrees 27 minutes 30 seconds West 2401-1/10 feet to a point, for the most Easterly South corner of said 40-5/10 acre tract, from which an 18" post oak tree bears South 15 degrees 28 minutes West 6-5/10 feet, said point also being at the Northwest intersection of County Roads 119 and 120;

THENCE with the North line of said County Road No. 120, South 78 degrees 00 minutes West 30-1/10 feet to a fence corner for the most Southerly West corner of said 40-5/10 acre tract;

THENCE with the Southwest line of said 40-5/10 acre tract, North 48 degrees 19 minutes West 750-9/10 feet to a fence corner and North 47 degrees 29 minutes 30 seconds West 1105-4/10 feet to a post oak tree at a fence corner for a point in the Southeast line of said 53 acre tract;

THENCE with a Southeast line of said 53 acre tract, South 45 degrees 19 minutes West 489-9/10 feet to a point from which a fence corner bears South 45 degrees 19 minutes West 1-0/10 feet, said point being the South corner of said tract and in the approximate centerline of an old road;

THENCE with a fence along said old road, North 47 degrees 55 minutes West, passing the West corner of said 53 acre tract at

D-1-7

Z42783

VOL 499 PAGE 37

1542-1/10 feet, and continuing in all, 1749-0/10 feet to a fence corner in the Southwest line of said 320 acre tract;

THENCE South 45 degrees 43 minutes West 13-1/10 feet to a fence corner and North 47 degrees 38 minutes West 748-2/10 feet to a point in a gully from which a fence corner bears South 47 degrees 38 minutes East 191-5/10 feet and South 64 degrees 13 minutes West 183-6/10 feet;

THENCE South 64 degrees 13 minutes West 449-0/10 feet to a point from which a fence corner bears North 47 degrees 26 minutes West 29-0/10 feet and a 20" post oak tree bears North 64 degrees 13 minutes East 10-4/10 feet, said point also being in the Southwest line of an apparent abandoned road;

THENCE with said Southwest line, approximately as fenced, North 47 degrees 26 minutes West 958-3/10 feet to a point in said road, and North 57 degrees 38 minutes West, passing a fence corner at 1014-7/10 feet where said old road turns Southwest to cross Baylor Creek, and continuing on a projection Northwesterly of said old road West line, in all 1395-0/10 feet to a point in the centerline of Baylor Creek, said point being the most Westerly Southwest corner of said 320 acre tract;

THENCE upstream with the centerline of Baylor Creek and the West line of said 320 acre tract, the following courses and distances:

North 5 degrees 48 minutes East 263-4/10 feet,
North 40 degrees 54 minutes West 317-9/10 feet,
North 34 degrees 30 minutes East 569-8/10 feet,
North 9 degrees 58 minutes East 400-0/10 feet,
North 28 degrees 30 minutes East 557-7/10 feet,
North 21 degrees 47 minutes West 241-9/10 feet,
North 85 degrees 35 minutes West 733-6/10 feet,
North 40 degrees 23 minutes West 394-9/10 feet,
North 0 degrees 51 minutes West 295-0/10 feet,
North 67 degrees 04 minutes East 100-0/10 feet,
South 26 degrees 44 minutes East 313-9/10 feet,
North 48 degrees 36 minutes East 624-8/10 feet,
North 22 degrees 06 minutes West 163-0/10 feet,
North 73 degrees 42 minutes West 184-3/10 feet,
North 5 degrees 44 minutes West 308-9/10 feet,
North 35 degrees 39 minutes East 311-1/10 feet,
North 30 degrees 29 minutes West 314-9/10 feet,
and North 53 degrees 34 minutes East 372-8/10 feet to a point for the intersection of said creek centerline with a fence, said point also being in the line common to said BIEGEL and HENSLEY LEAGUES, as fenced;

THENCE departing said creek centerline and with a fence, South 49 degrees 22 minutes East 472-2/10 feet to a fence corner;

242784

THENCE departing said common Survey Line, North 57 degrees 23 minutes East 404-8/10 feet to a point in a gully in line with a Northwest-Southeast fence, said point being a North corner of said 320 acre tract in the Southwest line of said 159-2/10 acre tract;

THENCE with the Southwest line of said 159-2/10 acre tract, North 47 degrees 48 minutes West 587-7/10 feet to a fence corner for the West corner thereof;

THENCE with the Northwest line of said 159-2/10 acre tract, North 39 degrees 43 minutes 30 seconds East 1582-3/10 feet to a steel rod in concrete found in a fence, and North 40 degrees 19 minutes East 825-7/10 feet to a point;

THENCE departing said Northwest line, across the 159-2/10 acre tract the following courses:

South 43 degrees 02 minutes East 248-65/100 feet,
South 24 degrees 16 minutes 30 seconds West 410-0/10 feet;
South 74 degrees 40 minutes 30 seconds East 645-0/10 feet,
North 52 degrees 08 minutes East 380-75/100 feet,
North 12 degrees 16 minutes East 365-0/10 feet,
North 37 degrees 01 minute East 339-9/10 feet,
North 15 degrees 25 minutes East 307-2/10 feet,
North 37 degrees 28 minutes West 252-9/10 feet,
North 6 degrees 58 minutes West 453-35/100 feet,

and North 88 degrees 35 minutes East 392-15/100 feet to a point in the fenced Northeast line of said 159-2/10 acre tract;

THENCE with said Northeast line, South 48 degrees 50 minutes East 288-6/10 feet to a fence corner for a re-entrant corner in said line;

THENCE North 39 degrees 55 minutes East 266-8/10 feet to a fence corner for the Easterly Northwest corner of the 159-2/10 acre tract, and the Southwest right-of-way line of State Highway No. 15

THENCE with said Highway right-of-way as fenced and/or monumented and the Northeast line of said 159-2/10 acre tract, South 49 degrees 10 minutes East 336-1/10 feet to a Texas Highway Department concrete monument found for the beginning of a curve to the left having a radius point which bears North 41 degrees 09 minutes East 11,509-16/100 feet, and around the arc of said curve, in a Southeasterly direction 274-5/10 feet to a T.H.D. concrete monument found for the end of said curve, at which point said radius point bears North 39 degrees 47 minutes East 11,509-16/100 feet, and South 50 degrees 20 minutes East 321-8/10 feet to a fence corner for the East corner of said 159-2/10 acre tract;

THENCE departing said Highway right-of-way, and with the fenced Southeast line of said 159-2/10 acre tract, South 41 degrees 06 minutes West 3910-7/10 feet to a fence corner;

046 000912

242785

THENCE with a Northeast line of said 320 acre tract, South 49 degrees 20 minutes East 1144-9/10 feet to a fence corner, said point being in the Northwest line of said 104 acre tract;

THENCE with said Northwest line, as fenced, North 41 degrees 21 minutes 30 seconds East 3923-3/10 feet to a fence corner for the North corner of said 104 acre tract, said point also being in the Southwest line of said 0-35/100 acre tract;

THENCE with said Southwest line as fenced, North 46 degrees 35 minutes West 393-5/10 feet to a fence corner in the curved Southwest right-of-way of State Highway No. 159, said point also being the Northwest corner of said 0-35/100 acre tract;

THENCE around the arc of said curve, having a radius of 2505-53/100 feet, to the left and in a Southeasterly direction, 18-1/10 feet to a T.H.D. concrete monument for the end of said curve, from which the radius point of said curve bears North 32 degrees 23 minutes East 2505-53/100 feet;

THENCE continuing with said Highway right-of-way, South 57 degrees 44 minutes East, passing a T.H.D. concrete monument at 389-1/10 feet for the East corner of said 0-35/100 acre tract and the North corner of a 60 foot lane, and continuing with the Northeast line of said lane and the Northeast line of said 2-8/10 acre tract, in all, 1302-2/10 feet to the place of beginning, containing some 853-83/100 acres of land, including approximately 0-3/10 of an acre in County Road No. 119.

TRACT "B"

BEGINNING at a point from which a fence corner bears North 40 degrees 06 minutes East 1-3/10 feet, said point being in the Northeast right-of-way of State Highway No. 159 (old Highway No. 73), said point also being the South corner of said 58 acre tract, which bears South 67 degrees 36 minutes East 583-9/10 feet from the East corner of said 2-8/10 acre tract, and the point of beginning for Tract "A-R" as previously described herein;

THENCE with said Highway right-of-way, North 57 degrees 44 minutes West 1877-4/10 feet to a Texas Highway Department concrete monument found for the beginning of a curve to the right, having a radius point which bears North 32 degrees 08 minutes East 2405-53/100 feet, and around the arc of said curve, in a Northwesterly direction, 41-6/10 feet to a point from which a fence corner bears North 41 degrees 55 minutes East 1-0/10 foot, said point being the West corner of said 58 acre tract;

THENCE departing said Highway right-of-way, and with the fenced Northwest line of said tract, North 41 degrees 55 minutes 30 seconds East 1572-1/10 feet to a fence corner at the North corner thereof;

048 00093

THENCE with the Southeast line of said tract, South 22 degrees 01 minute West 797-0/10 feet to a fence corner and South 40 degrees 06 minutes 30 seconds West 521-1/10 feet to the point of beginning, containing some 59-08/100 acres of land.

TRACT "C"

Tract "C" is the balance of the Bennie Schmidt, et al property lying Southwest of State Highway No. 159, the hereinabove described Tract "A-R" and Tract "C" together constituting all of the Bennie Schmidt, et al property lying Southwest of State Highway No. 159, said Tract "C" being described by metes and bounds as follows:

BEGINNING at a fence corner for the most Northerly corner of the 159-2/10 acre tract described in Volume 313, Page 437, Deed Records of Fayette County, Texas, said fence corner being on the Southeast side of a private road running along the Northwest line of said 159-2/10 acre tract;

THENCE with the fenced Northeast line of the 159-2/10 acre tract South 48 degrees 50 minutes East 384-7/10 feet to a point;

THENCE departing said Northeast line, across the 159-2/10 acre tract, the following courses:

South 88 degrees 35 minutes West 392-15/100 feet,
South 6 degrees 58 minutes East 453-35/100 feet,
South 37 degrees 28 minutes East 252-9/10 feet,
South 15 degrees 25 minutes West 307-2/10 feet,
South 37 degrees 01 minute West 339-9/10 feet,
South 12 degrees 16 minutes West 365-0/10 feet,
South 52 degrees 08 minutes West 380-75/100 feet,
North 74 degrees 40 minutes 30 seconds West 645-0/10 feet,
North 24 degrees 16 minutes 30 seconds East 410-0/10 feet,

and North 43 degrees 02 minutes West 248-65/100 feet to a point in the Northwest line of the 159-2/10 acre tract;

THENCE with said Northwest line, North 40 degrees 19 minutes East 296-4/10 feet to a steel rod in concrete found in place in a fence line, a fence corner bears North 74 degrees 30 minutes East 13-0/10 feet, said steel rod being at the Southwest end and in the approximate center of a private road;

THENCE continuing with said Northwest line, down said private road, North 41 degrees 28 minutes East 1494-6/10 feet to the place of beginning, containing in all some 31-94/100 acres of land.

The three tracts herein described contain a total of some 944-85/100 acres of land, more or less.

The points of beginning of these field notes have the following coordinated values:

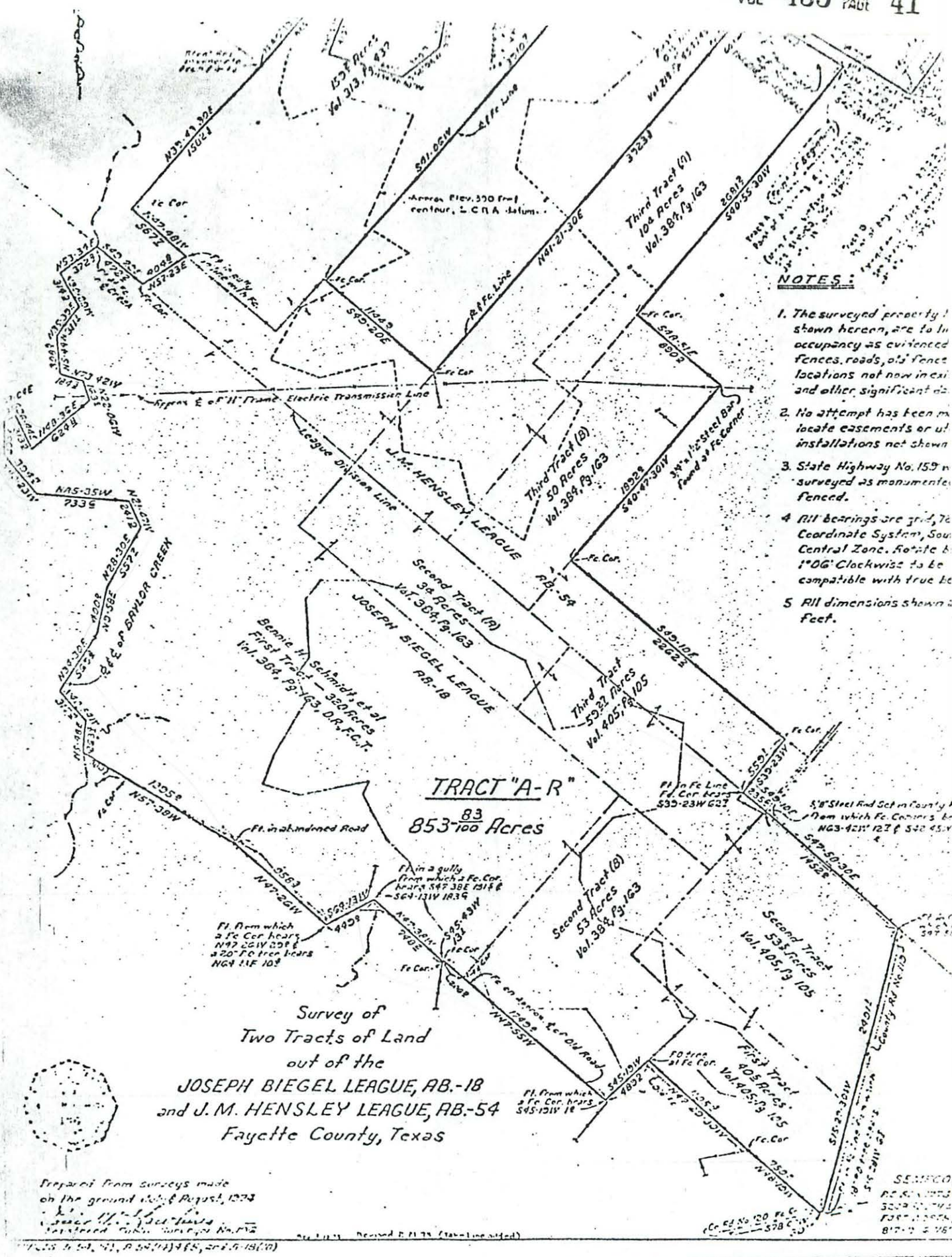
Tract "A-R"	Tract "B"	Tract "C"
X = 2,715,077	X = 2,715,617	X = 2,711,967
Y = 772,988	Y = 772,766	Y = 775,013

All bearings are grid, Texas Plane Coordinate System, South Central Zone. Rotate bearings 1 degree 06 minutes clockwise to be compatible with true bearings.

D-1-12

Z42787

VOL 499 PAGE 41



D-1-11

Z42788

VOL 499 PAGE 42

EASEMENT ACROSS TRACT "C"

A strip of land 200 feet wide across the tract of land hereinabove previously described as Tract "C" being also across a certain 159-2/10 acre tract out of the J. M. HENSLEY LEAGUE, Abstract 54, Fayette County, Texas, originally conveyed to Bennie H. Schmidt, et al, by deed recorded in Volume 313, Page 437, Deed Records, Fayette County, Texas, such strip being more particularly described by metes and bounds as follows:

BEGINNING at a point on the Northwest line of said 159-2/10 acre tract in a private road, said point being South 41 degrees 28 minutes West 432-35/100 feet from a fence corner found for the most Northerly Northeast corner of said 159-2/10 acre tract; said point of beginning having grid coordinate of X= 2,711,681 and Y = 774,689.

THENCE, departing said Northwest line, SOUTH 1536-31/100 feet to a point;

THENCE South 52 degrees 08 minutes West 253-34/100 feet to a point;

THENCE NORTH 1465-51/100 feet to a point on said Northwest property line in said private road, said point being North 41 degrees 28 minutes East 760-23/100 feet from a steel rod found in concrete for an angle point in the Northwest line of said 159-2/10 acre tract;

THENCE, with said Northwest line, and with said private road, North 41 degrees 28 minutes East 302-02/100 feet to the place of beginning, containing 6-89/100 acres of land, more or less.

All bearings are grid, Texas Plane Coordinate System, South Central Zone. Rotate bearings 1 degree 06 minutes clockwise to be compatible with true bearings.

046 00095

A-18(19)

D-1-1

RETURN TO CENTRAL FILES

VOL 485 PAGE 930

Z43241

THE STATE OF TEXAS)

COUNTY OF FAYETTE)

KNOW ALL MEN BY THESE PRESENTS, that I, BETTY BENNETT ANDREWS ADAMS SHEARER, of Harris County, Texas, for and in consideration of the sum of TEN AND NO/100 ($10.00) DOLLARS cash and other good and valuable considerations to me in hand paid by LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, the receipt of which is hereby acknowledged and confessed, and for which no lien, either express or implied, is retained, or shall exist, have GRANTED, SOLD and CONVEYED, and by these presents do GRANT, SELL and CONVEY unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, except as below stated, all that certain tract or parcel of land, lying and being situated in Fayette County, Texas, described as follows, to-wit:

All that certain tract or parcel of land out of the Joseph Biegel League, Abstract 18, in Fayette County, Texas, being all that certain tract conveyed to Betty Bennett Andrews Adams by deed from the Veterans Land Board of Texas recorded in Volume 485, upon page 927, Deed Records of Fayette County, Texas, and being more particularly described by metes and bounds as follows:

BEGINNING at a 5/8 inch iron pin found in place for the North corner of said tract, from which a fence corner bears North 41° 37' East 33.3 feet; said point of beginning having grid coordinates of X = 2,709,963 and Y = 763,553;

THENCE with the Northeast line of said tract, South 46° 57' 30" East 1230.9 feet to a nail set under a fence for the East corner of said tract at an angle point in County Road No. 120;

THENCE with the Southeast line of said tract in said County Road, South 42° 01' West 882.95 feet to the South corner of said tract on the South side of said County Road;

THENCE with the Southwest line of said tract in County Road No. 120, North 66° 07' West 368.9 feet, North 82° 35' West 532.1 feet and North 70° 08' West 307.75 feet to the West corner of said tract in said County Road, from which an iron pin found in place bears North 28° 19' East 41.65 feet;

THENCE with the Northwest line of said tract and with a fence, North 28° 16' East 621.5 feet to an iron pin found in place, and North 41° 22' East 834.25 feet to the place of beginning, containing some 32.18 acres of land, including approximately 1.2 acres in said County Road No. 120.

All bearings are grid, Texas Plane Coordinate System, South Central Zone. Rotate bearings 1° 06' clockwise to be compatible with true bearings.

D-1-B

VOL 485 PAGE 931

Z 43242

LESS, HOWEVER, AND SUBJECT TO an undivided one-half (1/2) interest in the oil, gas, sulphur and other minerals described in a deed from Charles W. Harlfinger, et ux, to Texas Osage Co-operative Royalty Pool, et al, dated February 19, 1930, and recorded in Volume 150, Pages 84-86, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

LESS, ALSO AND SUBJECT TO certain rights granted to Fayette Electric Co-operative, Inc. by an instrument in writing from Mary Harlfinger, et al, dated October 24, 1947, and recorded in Volume 217, Page 43, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

LESS, ALSO, AND SUBJECT TO certain rights granted to Southwestern Bell Telephone Co. by an instrument in writing from R. December, dated April 1, 1930, and recorded in Volume 150, Page 217, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

LESS, ALSO, AND SUBJECT TO an Oil and Gas Lease from Charles W. Harlfinger to W. J. Mechura, dated July 1, 1965, and recorded in Volume 105, Page 235, of the Oil and Gas Lease Records of Fayette County, Texas, to which refer for any and all relevant purposes.

LESS, ALSO, AND SUBJECT TO the rights of the public and Fayette County to any part of the premises that lie in a public road.

LESS, ALSO, AND SUBJECT TO an undivided one-half (1/2) mineral interest described in a deed from Charles W. Harlfinger to Elbert Hill, et al, dated July 2, 1966, and recorded in Volume 38, Page 303, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

TO HAVE AND TO HOLD the above described premises, together with all and singular the rights and appurtenances thereto in anywise belonging unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, their successors and assigns forever. And I do hereby bind myself, my heirs, executors and administrators to Warrant and Forever Defend, all and singular, the said premises unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, their successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof.

IN TESTIMONY WHEREOF, witness my hand this the 22nd day of October, A. D. 1975.

Betty Bennett Andrews Adams Shearer

BETTY BENNETT ANDREWS ADAMS SHEARER

046 001358

D-L-3

VOL 485 PAGE 932

-3-

Z43243

THE STATE OF TEXAS }

COUNTY OF FAYETTE }

BEFORE ME, the undersigned authority, on this day personally appeared BETTY BENNETT ANDREWS ADAMS SHEARER, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that she executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this the 23rd day of October, A. D. 1975.

Ruth Lehmann

Ruth Lehmann, Notary Public in and for Fayette County, Texas.

FILED FOR RECORD

At 3:00 o'clock P. M.

The 23rd. Day of October, 1975

JOHN A. KUBENA

Clerk County Court, Fayette County, Texas

By Patsy Hess Deputy (FILED BY RUTH LEHMANN)

$3.50-Due

Charge to: Coates Field Service
La Grange, Texas 78945

Return to: Hart & Halpain, Attys.
P.O. Box 369
La Grange, Texas 78945

THE STATE OF TEXAS }
County of Fayette, } I, John A. Kubena, Clerk of the County Court of said County, do hereby certify that the foregoing and attached instrument of writing (with its authentications) bearing the date 23 day of October A. D. 1975, was filed for record in my office at 3:00 o'clock P. M., on the 23 day of October A.D. 1975, and recorded in vol. 485 upon pages 930-932 of Record of Deeds for said County at 11:00 o'clock A. M., on the 24 day of October A.D. 1975

To certify all of which I here to sign my name and affix my seal of office in the City of La Grange this the 24 day of October A.D. 1975.

John A. Kubena

Clerk County Court, Fayette County, Texas

By Patsy Hess Deputy

046 001369

A-18(20)

D-1-1

RETURN TO CENTRAL FILES

741502

VOL 482 PAGE 367

THE STATE OF TEXAS ()

COUNTY OF FAYETTE ()

KNOW ALL MEN BY THESE PRESENTS, that I, J. DICKSON ROGERS, Trustee, of Harris County, Texas, for and in consideration of the sum of TEN AND NO/100 ($10.00) DOLLARS cash and other good and valuable considerations to me in hand paid by LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, the receipt of which is hereby acknowledged and confessed, and for which no lien, either express or implied, is retained, or shall exist, have GRANTED, SOLD and CONVEYED, and by these presents do GRANT, SELL and CONVEY unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, except as below stated, all that certain tract or parcel of land, lying and being situated in Fayette County, Texas, described as follows, to-wit:

All that certain tract or parcel of land out of the Jospeh Biegel League, Abstract 18, in Fayette County, Texas, being all that certain tract conveyed to J. Dickson Rogers, Trustee, by a deed recorded in Volume 461, Page 841, Deed Records of Fayette County, Texas, and being more particularly described by metes and bounds as follows:

BEGINNING at a ½ inch iron pin in a rock pile found in place for the North corner of said Rogers tract, from which a fence corner bears North 34° 32' West 7.0 feet; said point of beginning having grid coordinates of X = 2,709,352 and Y = 764,124;

THENCE with the Northeast line of said Rogers tract, South 46° 57' 30" East 836.9 feet to a 5/8 inch iron pin found in place for the East corner of said Rogers tract, from which a fence corner bears North 41° 37' East 33.3 feet;

THENCE with the Southeast line of said Rogers tract and with a fence, South 41° 22' West 834.25 feet to an iron pin found in place, and South 28° 16' West 621.5 feet to the South corner of said Rogers tract in County Road No. 120, from which an iron pin found in place bears North 28° 19' East 41.65 feet;

THENCE with the Southwest line of said Rogers tract in said County Road, North 42° 00' West 439.5 feet, North 59° 26' West 481.4 feet, and South 81° 11' West 102.85 feet to the West corner of said Rogers tract in said County Road, from which an iron pin found in place bears North 43° 01' East 49.5 feet;

THENCE with the Northwest line of said Rogers tract and the remains of an old fence, North 41° 17' East 752.9 feet to a 5/8 inch iron pin found in place at a fence corner, and North 41° 18' East 829.6 feet to the place of beginning, containing some 28.63 acres of land, including approximately 0.6 of an acre in said County Road No. 120.

045 005106

VOL 482 PAGE 368

741503

All bearings are grid, Texas Plane Coordinate System, South Central Zone. Rotate bearings 1° 06' clockwise to be compatible with true bearings.

LESS, HOWEVER, AND SUBJECT TO an undivided one-half interest in the oil, gas, sulphur and other minerals described in a deed from Charles W. Harlfinger, et ux, to Texas Osage Co-operative Royalty Pool, et al, dated February 19, 1930, and recorded in Volume 150, Pages 84-86, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

LESS, ALSO, AND SUBJECT TO certain rights granted to Fayette Electric Cooperative, Inc., by an instrument in writing from Mary Harlfinger, et al, dated October 24, 1947, and recorded in Volume 217, Page 43, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

LESS, ALSO, AND SUBJECT TO certain rights granted to Southwestern Bell Telephone Co., by an instrument in writing from R. December, dated April 1, 1930, and recorded in Volume 150, Page 217, Deed Records of Fayette County, Texas, to which refer for any and all relevant purposes.

LESS, ALSO, AND SUBJECT TO an Oil and Gas Lease from Charles W. Harlfinger to W. J. Mechura, dated July 1, 1965, and recorded in Volume 105, Page 235, of the Oil and Gas Lease Records of Fayette County, Texas, to which refer for any and all relevant purposes.

TO HAVE AND TO HOLD the above described premises, together with all and singular the rights and appurtenances thereto in anywise belonging unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, their successors and assigns forever. And I do hereby bind myself, my heirs, executors and administrators to Warrant and Forever Defend, all and singular, the said premises unto the said LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, TEXAS, their successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof.

IN TESTIMONY WHEREOF, witness my hand this the 10th day of July, A. D. 1975.

J. Dickson Rogers, Trustee
J. DICKSON ROGERS, Trustee

THE STATE OF TEXAS)(
COUNTY OF ~~HARRIS~~ FAYETTE)(

BEFORE ME, the undersigned authority, on this day personally appeared J. DICKSON ROGERS, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purposes and consideration therein expressed, and in the capacity therein stated.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this the 10th day of July, A. D. 1975.

Richard T. Halpain
Richard T. Halpain, Notary Public in and for Fayette County, Texas.

FILED FOR RECORD
At 2:30 O'clock P. M.
The 10th Day of July 1975.
JOHN A. KUBENA
Clerk County Court, Fayette County, Texas
By Erma Matka Deputy

$2.50 due
Chg. Charles Rhodes
Coates Field Service
La Grange, Texas 78945
Filed by & return to Richard T. Halpain, Atty.
P.O. Box 369
La Grange, Texas 78945

THE STATE OF TEXAS }
County of Fayette, } I, John A. Kubena, Clerk of the County Court of said County, do hereby certify that the foregoing and attached instrument of writing (with its authentications) bearing the date 10 day of July A. D. 1975, was filed for record in my office at 2:30 o'clock P. M., on the 10 day of July A.D. 19 75, and recorded in vol. 482 upon pages 367 & 368 of Record of Deeds for said County at 11:50 o'clock A. M., on the 11 day of July A.D. 19 75

To certify all of which I here to sign my name and affix my seal of office in the City of La Grange this the 11 day of July A.D. 19 75

John A. Kubena

Clerk County Court, Fayette County, Texas

741504

By Patsy Hentschel Deputy

045 00514 0203

E-1-0

A-18(24)

D-1-1

VOL. 481 PAGE 593

WARRANTY DEED

THE STATE OF TEXAS]
] KNOW ALL MEN BY THESE PRESENTS:
COUNTY OF FAYETTE]

That we, Morris E. Albers and wife, Vivian Albers of Bexar County, Texas, and Wilburn F. Albers and wife, Marilyn Albers, of Harris County, Texas, for and in consideration of the sum of TEN DOLLARS ($10.00) and other valuable consideration to the undersigned paid by the Grantees herein named, the receipt of which is hereby acknowledged, have GRANTED, SOLD and CONVEYED, and by these presents do GRANT, SELL and CONVEY unto the LOWER COLORADO RIVER AUTHORITY and the CITY OF AUSTIN, all of the land described in Exhibits 1 and 2 attached hereto and made a part hereof for all purposes, such land lying and being situated in Fayette County, Texas, SAVE AND EXCEPT, HOWEVER, oil, gas, sulphur and all other minerals of whatsoever kind or nature (hereinafter referred to as "minerals"), except sand, rock, limestone and gravel [redacted], in and under and which may be produced therefrom, such mineral estate being reserved to Grantors, their successors and assigns, and not conveyed hereby, PROVIDED, HOWEVER, that such reservation shall not include any right or easement to the use of the surface of such land for the exploration, development or production of such minerals or for any other purpose in connection with such reserved mineral interests and PROVIDED FURTHER, that Grantors, their successors and assigns, shall have no right to use the subsurface of such land or the mineral estate reserved hereby in such a manner as to interfere with, tend to

044 [illegible] 22798

interfere with, jeopardize, or diminish the full use and enjoyment of the lands conveyed to Grantors hereby, and any use of such reserved mineral estate shall be subservient to all rights, titles and interests conveyed hereby to Grantees.

TO HAVE AND TO HOLD the rights, titles and interests conveyed hereby in the premises described in Exhibit 1 attached hereto together with all and singular the rights and appurtenances thereto in anywise belonging unto Grantees, their successors and assigns forever, and TO HAVE AND TO HOLD the rights, titles and interests conveyed hereby in the premises described in Exhibit 2 attached hereto, together with all and singular the rights and appurtenances thereto in anywise belonging unto Grantees, their successors and assigns, for a period of five (5) years from the date hereof and so long thereafter as a roadway for vehicular traffic is maintained thereon, provided that after such period of time and upon the cessation of use of said premises described in Exhibit 2 for such purpose, the same shall revert to Grantors, their successors and assigns.

EXECUTED this 19th day of May, 1975.

Morris E Albers
Morris E. Albers

Vivian Albers
Vivian Albers

Wilburn F Albers
Wilburn F. Albers

Marilyn Albers
Marilyn Albers

044 003243 Z32799

THE STATE OF TEXAS]

COUNTY OF FAYETTE]

BEFORE ME, the undersigned authority, on this day personally appeared MORRIS E. ALBERS and his wife, VIVIAN ALBERS, BOTH known to me to be the persons whose names are subscribed to the foregoing instrument and acknowledged to me that they executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this 19th day of May, 1975.

Ruth Lehmann (Ruth Lehmann)
Notary Public in and for
Fayette County, Texas

THE STATE OF TEXAS]

COUNTY OF FAYETTE]

BEFORE ME, the undersigned authority, on this day personally appeared WILBURN F. ALBERS and his wife, MARILYN ALBERS, both known to me to be the persons whose names are subscribed to the foregoing instrument and acknowledged to me that they executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this 19th day of May, 1975.

Ruth Lehmann (Ruth Lehmann)
Notary Public in and for
Fayette County, Texas

Z32800

044 003244

EXHIBIT 1
MORRIS E. ALBERS, ET AL. TO
LOWER COLORADO RIVER AUTHORITY AND CITY OF AUSTIN

PROPERTY DESCRIPTION OF TRACT A

All that certain lot, tract, or parcel of land out of the J. Biegel League, Abstract 18, Fayette County, Texas, being the fee simple interest in all of those certain tracts, lying North of the M.K.&T. right-of-way, described in a deed to Morris E. and Wilburn F. Albers in Volume 266, Page 152, Deed Records, Fayette County, Texas, and being more particularly described by metes and bounds as follows:

BEGINNING at a point in the curved and fenced North right-of-way line of aforesaid M.K.&T. Railroad right-of-way, from which an iron rod found bears North 46 degrees 19 minutes West 1-2/10 feet, said point of beginning being further described as being in the Northeast line of a 40 acre tract described in Volume 266, Page 152, Deed Records, Fayette County, Texas, said beginning point having grid coordinates of X=2,713,977 and Y=759,771;

THENCE in a Southwesterly direction, with said North right-of-way and arc of said curve to the right, having a radius of 1370-85/100 feet, 867-57/100 feet to the end of said curve;

THENCE continuing with said fenced North right-of-way line, South 71 degrees 40 minutes 30 seconds West 2185-2/10 feet to the beginning of a curve to the right, having a radius of 1382-69/100 feet;

THENCE in a Westerly direction, with said fenced right-of-way and arc of said curve to the right, 331-5/10 feet to an iron rod found in place, from which a fence corner post bears North 83 degrees 13 minutes East 41-8/10 feet;

THENCE West of an existing fence, North 24 degrees 15 minutes East 792-7/10 feet to a point, and North 21 degrees 19 minutes East 957-4/10 feet to a point for a corner;

THENCE North 46 degrees 57 minutes West 233-3/10 feet to an iron rod found in place, for a corner;

THENCE South 41 degrees 15 minutes West 125-0/10 feet to a point for a corner;

THENCE generally with a fence, North 46 degrees 57 minutes West 1186-9/10 feet to a point in a gully, from which a 20 inch Post Oak, used for a fence corner, bears North 32 degrees 29 minutes East 93-7/10 feet;

THENCE along a fence, North 28 degrees 07 minutes East at 887-9/10 feet passing a 'set' stone found, continuing in all 900-3/10 feet to a point in County Road No. 121;

THENCE with said county road South 65 degrees 42 minutes East 186-05/100 feet to a point, and South 67 degrees 38 minutes East 283-4/10 feet to a fence corner in the East or North line of said road;

Z32801

044 003245

THENCE departing said East or North line of said road, and continuing with same, South 61 degrees 37 minutes East 982-1/10 feet to a point, and South 56 degrees 16 minutes East 466-75/100 feet to a point, and South 55 degrees 12 minutes East 539-9/10 feet to a point, and South 54 degrees 39 minutes East 425-5/10 feet to a point, and South 49 degrees 35 minutes East 576-42/100 feet to an iron rod found in place, in the fenced East line of said road;

THENCE with said East line, South 46 degrees 19 minutes East 271-47/100 feet to the place of beginning, containing some 125-41/100 acres of land, more or less, including approximately 2 acres in County Road No. 121.

All bearings are grid, Texas Plane Coordinates System, South Central Zone. Rotate bearings 1 degree 06 minutes clockwise to be compatible with true bearings.

Z32802

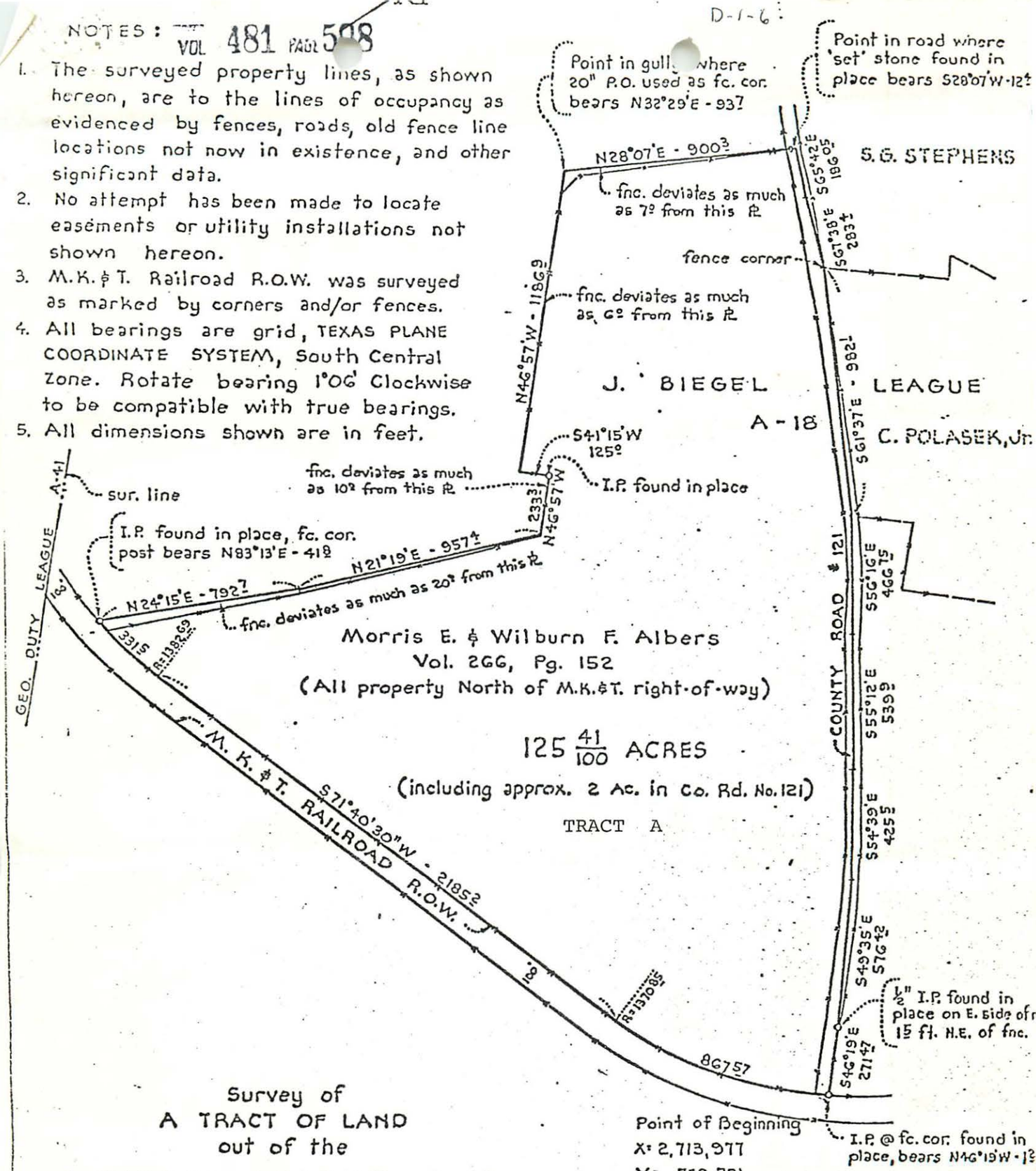
044 003246

D-1-6

VOL 481 PAGE 508

NOTES:

1. The surveyed property lines, as shown hereon, are to the lines of occupancy as evidenced by fences, roads, old fence line locations not now in existence, and other significant data.
2. No attempt has been made to locate easements or utility installations not shown hereon.
3. M.K.&T. Railroad R.O.W. was surveyed as marked by corners and/or fences.
4. All bearings are grid, TEXAS PLANE COORDINATE SYSTEM, South Central Zone. Rotate bearing 1°06' Clockwise to be compatible with true bearings.
5. All dimensions shown are in feet.



Survey of
A TRACT OF LAND
out of the
J. BIEGEL LEAGUE, A-18
Fayette, County, Texas

Point of Beginning
X= 2,713,977
Y= 759,771
(Modified surface coordinates - See SEMPCO, INC. REPORT "A", Jan. 13, 1975)

STATE OF TEXAS
196
REGISTERED PUBLIC SURVEYOR

SCALE 1" = 500'

○ - - - - - - - - - - STEEL ROD
□ - - - - - - - - BOIS D'ARC STK

Prepared from a survey made on the ground.

P.O.B. coord. added 2-22-75

Date September, 1974

SEMPCO, INC.
• SURVEYING • ENGINEERING • MAPPING • PLANNING
P O Box 1776 Phone WA6-7876
3208 SOUTH MAIN FORT WORTH — TEXAS

Z32803
MORRIS E. ALBERS, ET AL. TO
LOWER COLORADO RIVER AUTHORITY AND CITY OF AUSTIN

EXHIBIT 2
MORRIS E. ALBERS, ET AL. TO
LOWER COLORADO RIVER AUTHORITY AND CITY OF AUSTIN

FIELD NOTES TO TRACTS B AND C

Boundary description of a 100 foot wide strip and a 60 foot wide strip of land in the JOSEPH BIEGEL LEAGUE, Abstract 18, Fayette County, Texas, said 100 foot wide strip of land being across a portion of that certain property conveyed to Morris E. and Wilburn F. Albers under "(a) SECOND TRACT" in the deed recorded in Volume 266, Page 152, Deed Records of Fayette County, Texas, and said 60 foot wide strip of land being portions of the residue of the following:

(a) SECOND TRACT, (b) THIRD TRACT, (c) THIRD TRACT, and (e) a 40 ACRE TRACT, all of which were conveyed to Morris E. and Wilburn F. Albers in the deed recorded in Volume 266, Page 152, Deed Records of Fayette County, Texas, and being more particularly described by metes and bounds in two tracts as follows:

TRACT "B"

A 100 foot wide strip of land across a portion of the Morris E. and Wilburn F. Albers property.

BEGINNING at a point in the curved South right-of-way line of the M. K.&T. Railroad, said point being Easterly along said right-of-way line and along the arc of a curve to the left having a radius of 1482-69/100 feet a distance of 257-7/10 feet from a fence corner post used for the intersection of the Southwest line of the Albers tract with said curved South right-of-way line, the radius point of the curve bears North 7 degrees 34 minutes West from said point of beginning;

THENCE departing said railroad right-of-way line and crossing the Albers property South 5 degrees 50 minutes 20 seconds East 133-0/10 feet to the beginning of a curve to the right having a radius of 945-04/100 feet, AND CONTINUING Southerly with the arc of said curve 137-1/10 feet to a point in the Southwest line of the Albers property;

THENCE with the Southwest line of the Albers property North 46 degrees 42 minutes West 138-6/10 feet to a point;

THENCE Northerly across the Albers property and with the arc of a curve to the left having a radius of 845-04/100 feet a distance of 31-8/10 feet to its point of tangency, AND CONTINUING North 5 degrees 50 minutes 20 seconds West 133-4/10 feet to a point in the curved South right-of-way line of the M.K.&T. Railroad;

THENCE Easterly with said right-of-way line and with the arc of a curve to the left having a radius of 1482-69/100 feet a distance of 100-0/10 feet to the place of beginning, containing in all some 0-50/100 acre of land.

Z32804

044 003248

TRACT "C"

A 60 foot wide strip of land across a portion of the Morris E. and Wilburn F. Albers property.

BEGINNING at a point in the curved South right-of-way line of the M.K.&T. Railroad, said point being Easterly along said right-of-way line and along the arc of a curve to the left having a radius of 1482-69/100 feet a distance of 257-7/10 feet from a fence corner post used for the intersection of the Southwest line of the Albers tract with said curved South right-of-way line, the radius point of the curve bears North 7 degrees 34 minutes West from said point of beginning;

THENCE Easterly along said right-of-way line and with the arc of a curve to the left having a radius of 1482-69/100 feet a distance of 278-1/10 feet to the end of the curve;

THENCE continuing with the South right-of-way line of the M.K.&T. Railroad North 71 degrees 40 minutes 30 seconds East 2185-2/10 feet to the beginning of a curve to the left whose radius point bears North 18 degrees 13 minutes West 1470-85/100 feet, AND CONTINUING Northeasterly with the arc of said curve a distance of 925-5/10 feet to a point in the Northeast line of the above described "(e) 40 acre tract", a ½ inch iron pin found in place bears North 48 degrees 06 minutes West 2-3/10 feet;

THENCE with said Northeast line South 48 degrees 06 minutes East 60-3/10 feet to a point;

THENCE Southwesterly with the arc of a curve to the right having a radius of 1530-85/100 feet, concentric with and 60 feet Southeasterly from the Southeast line of the M.K.&T. Railroad right-of-way, a distance of 956-7/10 feet to the end of the curve;

THENCE South 71 degrees 40 minutes 30 seconds West, parallel with and 60 feet Southeasterly from said right-of-way line a distance of 2185-2/10 feet to the beginning of a curve to the right having a radius of 1542-69/100 feet AND CONTINUING Westerly with the arc of said curve a distance of 215-0/10 feet to a point;

THENCE South 38 degrees 46 minutes West 108-3/10 feet to a point in the East line of Tract "A" hereinabove described;

THENCE with said East line North 5 degrees 50 minutes 20 seconds West 133-0/10 feet to the place of beginning, containing in all some 4-76/100 acres of land.

The two tracts hereinabove described contain a total of some 5- 26/100 acres of land.

The points of beginning of these field notes have the following coordinated values:

TRACTS A and B

X = 2,710,976
Y = 758,422

(Modified surface coordinates - See SEMPCO, INC. REPORT "A", January 13, 1975)

Z22805

044 003249

D-1-9

$9.50 due
Chg. Charles Rhodes
Coates Field Service
La Grange, Texas 78945

FILED FOR RECORD

At 2:30 O'clock P. M.

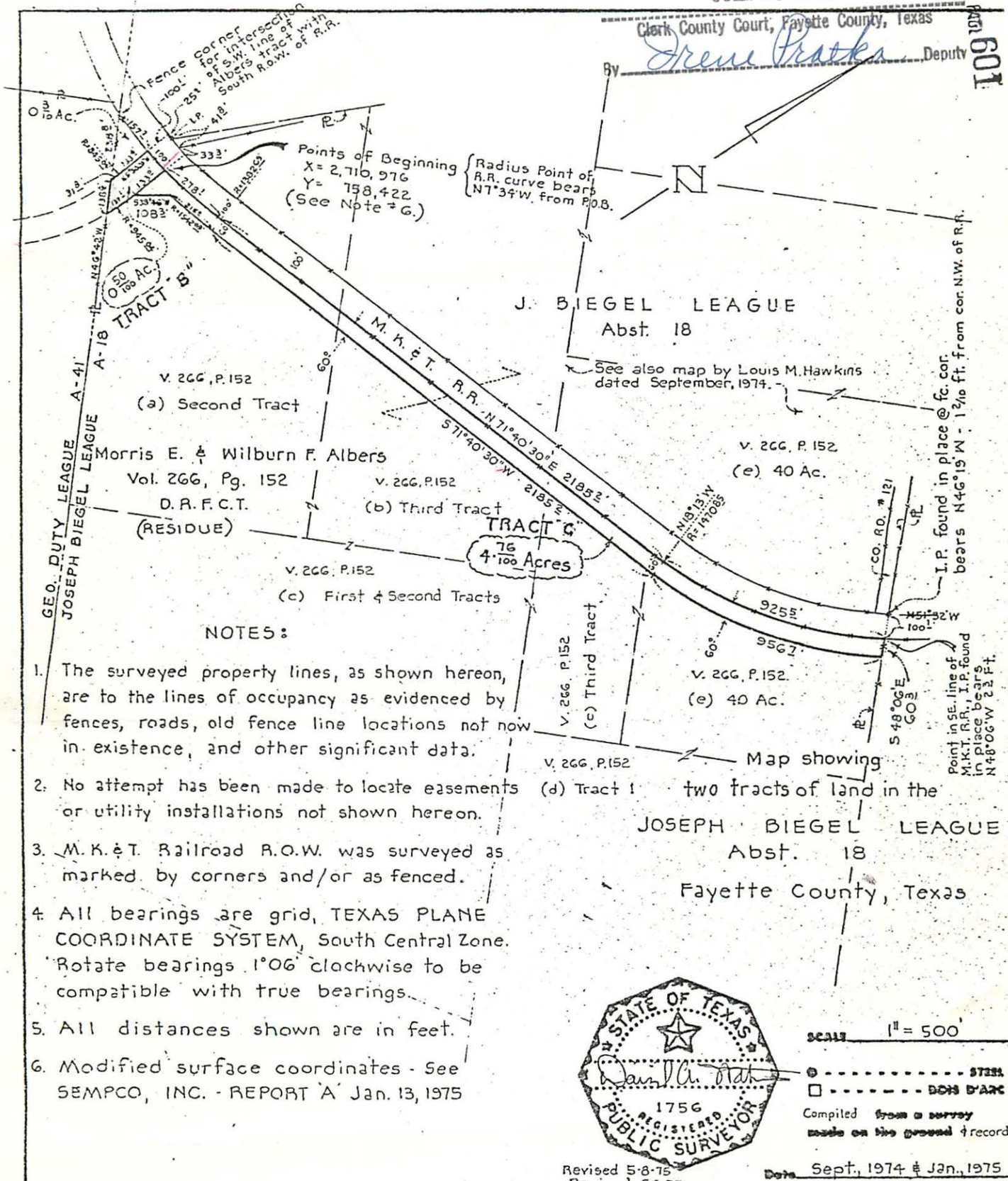
The 3rd. Day of June 19 75

JOHN A. KUBENA

Clerk County Court, Fayette County, Texas

By Irene Pratka Deputy

VOL 481 PAGE 601



NOTES:

1. The surveyed property lines, as shown hereon, are to the lines of occupancy as evidenced by fences, roads, old fence line locations not now in existence, and other significant data.
2. No attempt has been made to locate easements or utility installations not shown hereon.
3. M.K.&T. Railroad R.O.W. was surveyed as marked by corners and/or as fenced.
4. All bearings are grid, TEXAS PLANE COORDINATE SYSTEM, South Central Zone. Rotate bearings 1°06' clockwise to be compatible with true bearings.
5. All distances shown are in feet.
6. Modified surface coordinates - See SEMPCO, INC. - REPORT 'A' Jan. 13, 1975

(SEE ATTACHED FIELD NOTES)

Map showing two tracts of land in the JOSEPH BIEGEL LEAGUE Abst. 18 Fayette County, Texas

STATE OF TEXAS
1756
REGISTERED PUBLIC SURVEYOR

SCALE 1" = 500'

Compiled from a survey made on the ground & records.

Date Sept., 1974 & Jan., 1975

Revised 5-8-75
Revised 5-3-75

SEMPCO, INC.
· SURVEYING · ENGINEERING · MAPPING · PLANNING
P O Box 1776 Phone WA6-7876
3203 SOUTH MAIN FORT WORTH — TEXAS

TRACT A-18 (24)

Proj. No. 1613

Filed by & return to
Richard T. Halpain, Atty.
P.O. Box 369
La Grange, Texas 78945

Z32805

EXHIBIT 2, Page 3 of 3
MORRIS E. ALBERS, ET AL. TO
LOWER COLORADO RIVER AUTHORITY AND CITY OF AUSTIN

044 00325

LO8692

THE STATE OF TEXAS
County of Fayette, } I, John A. Kubena, Clerk of the County Court of said County, do hereby certify that the foregoing and attached Instrument of writing (with its authentications) bearing the date 19 day of May A. D. 1975, was filed for record in my office at 2:30 o'clock P. M., on the 3 day of June A.D. 1975, and recorded in vol. 481 upon pages 593-601 of Record of Deeds for said County at 8:40 o'clock A. M., on the 9 day of June A.D. 1975

To certify all of which I here to sign my name and affix my seal of office in the City of La Grange this the 9 day of June A.D. 1975

John A. Kubena

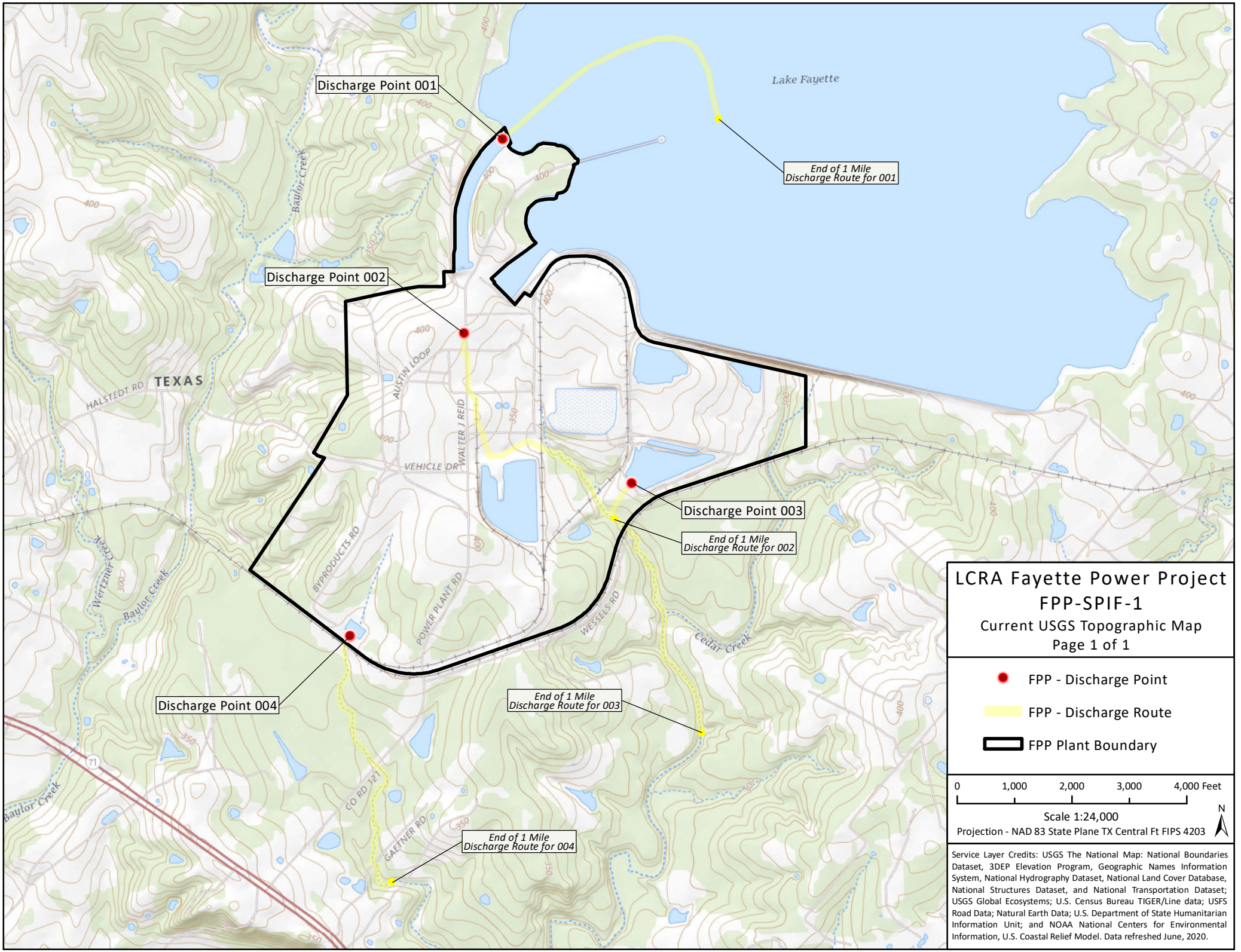
Clerk County Court, Fayette County, Texas

By Patsy Hentschel Deputy

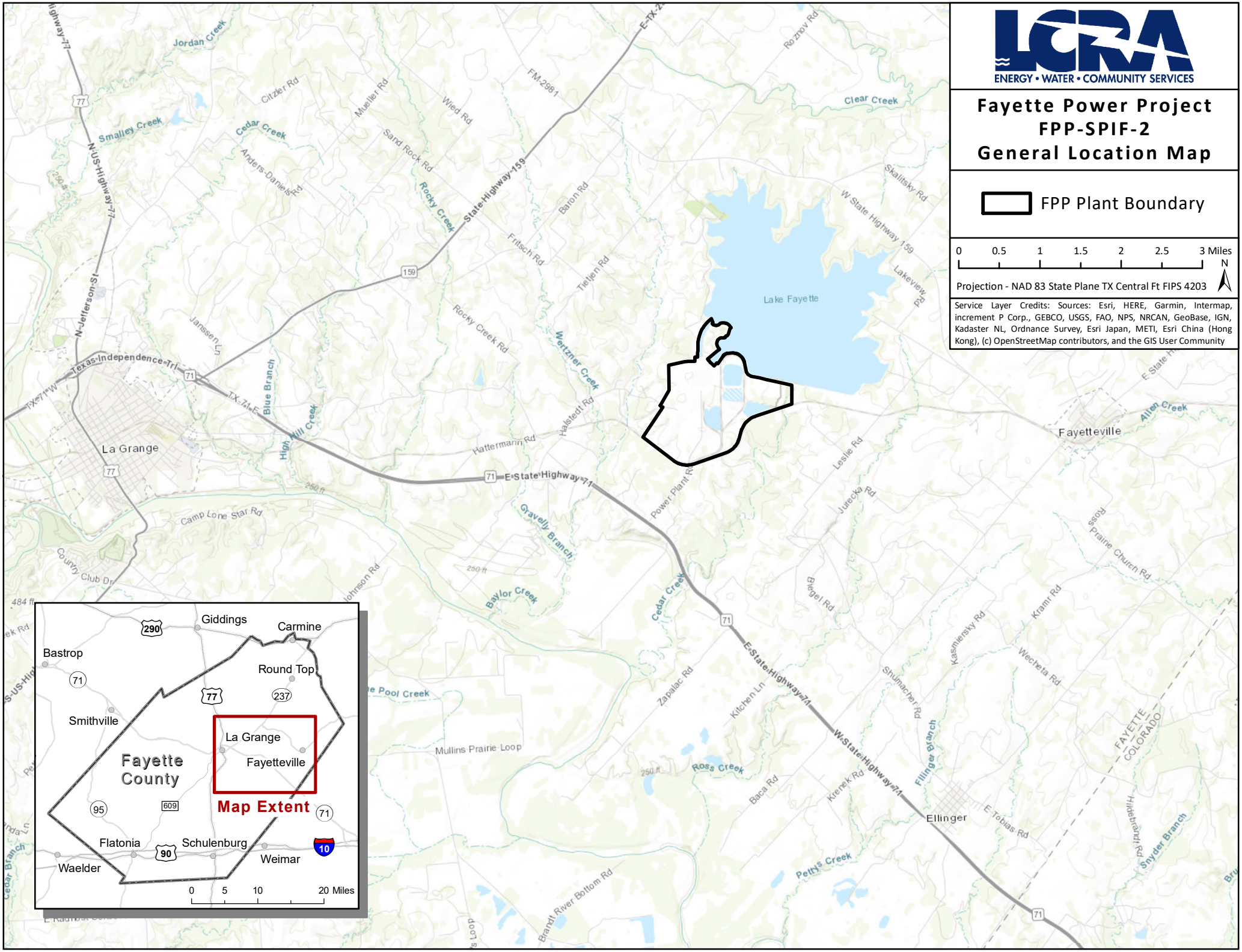
COMPARED

RECORDED

01-1-0



Service Layer Credits: USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census Bureau TIGER/Line data; USFS Road Data; Natural Earth Data; U.S. Department of State Humanitarian Information Unit; and NOAA National Centers for Environmental Information, U.S. Coastal Relief Model. Data refreshed June, 2020.


LCRA
ENERGY • WATER • COMMUNITY SERVICES
Fayette Power Project
FPP-SPIF-2
General Location Map
FPP Plant Boundary
0 0.5 1 1.5 2 2.5 3 Miles
N
Projection - NAD 83 State Plane TX Central Ft FIPS 4203
Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community
Lake Fayette
La Grange
Fayetteville
Ellinger
Giddings
Carmine
Bastrop
Round Top
Smithville
Fayette County
Map Extent
Flatonia
Schulenburg
Weimar
Waelder
0 5 10 20 Miles
E State Highway 71
W State Highway 71
State Highway 159
Texas Independence Trl
Jordan Creek
Smalley Creek
Cedar Creek
Rocky Creek
Blue Branch
High Hill Creek
Gravelly Branch
Baylor Creek
Ross Creek
Pettys Creek
Allen Creek
Fillinger Branch
Snyder Branch
Mullins Prairie Loop
Brandt River Bottom Rd
Camp Lone Star Rd
Hattermann Rd
Power Plant Rd
Leslie Rd
Jurecka Rd
Ross Prairie Church Rd
Kramr Rd
Wecheta Rd
Kasmiersky Rd
Shumacher Rd
Kitchen Ln
Zapalac Rd
Kiereck Rd
Baca Rd
E Tobias Rd
Hildebrandt Rd
Biegel Rd
Country Club Dr
Johnson Rd
Janssen Ln
Mueller Rd
Citzler Rd
Wied Rd
Sand Rock Rd
Anders-Daniels Rd
Baron Rd
Fritsch Rd
Tietjen Rd
Rocky Creek Rd
Wettzner Creek
Halstedt Rd
Clear Creek
Rozmov Rd
Skalitsky Rd
W State Highway 159
Lakeview Rd
FM 2981
N Jefferson St
N US Highway 77
TX-71-W
TX-71-E
E-TX-2
77
71
159
290
237
609
95
90
10



Attachment : FPP-SPIF-3 Original Photographs of
Structures 50 years or older

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

INDUSTRIAL WASTEWATER PERMIT APPLICATION TECHNICAL REPORT 1.0

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

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

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

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

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

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

Fayette Power Project is a steam electric generating station. SIC code is 4911.

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

Refer to Attachment: FPP-TECH-1 Wastewater Processes.

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

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

Materials List

Raw Materials	Intermediate Products	Final Products
Coal	Steam	Electricity
Limestone		Coal Combustion Byproducts
Water		
Activated Carbon		

Attachment: Click to enter text.

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

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

Attachment: FPP-TECH-2 Facility Map

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

☐ Yes ☒ No

If **yes**, provide background discussion: Click to enter text.

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

☒ Yes ☐ No

List source(s) used to determine 100-year frequency flood plain: Federal Emergency Management Agency; 48149C0270C (10/17/2006)

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

Attachment: Click to enter text.

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

☐ Yes ☒ No ☐ N/A (renewal only)

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

☐ Yes ☐ No N/A

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

If **no**, provide an approximate date of application submittal to the USACE: Click to enter text.

Item 2. Treatment System (Instructions, Page 40)

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

Wastewater Treatment Processes:

Gravity Oil Water Separator/Dissolved Air Flotation: separates oil from water
--Used for some low volume waste sources
--Discharges through Outfall 003 or 301

Coal Pile Runoff Pond: allows settling
--Used for coal pile runoff, stormwater, low volume waste sources, truck wash water, dust suppression water from coal pile and plant area, and coal handling wash down
--Discharges through Outfall 003 or 301; alternative route is to Reclaim Pond or can be used for dust suppression

Combustion Byproducts Landfill (CBL) Pond : allows settling
--Used for low volume waste sources, stormwater runoff from CBL, and truck wash water
--Discharges through Outfall 004; alternative route is to Reclaim Pond, can be transferred to Cell 2D pond, or can be used as dust suppression.

Domestic Wastewater Treatment Plant: primary and secondary treatment
--Used for domestic wastewater
--Does not discharge off-site; routed to Reclaim Pond, which is used for internal plant processes

Water Treatment Processes:

Cooling water (once-through and auxiliary): chemical treatment to reduce biofouling and scaling, includes chlorination.
--Used for once-through circulating water and auxiliary cooling water
--Discharges through Outfall 001, 002, and 003/301.

High purity feed water: reverse osmosis (RO) and ion exchange systems
--Treatment processes include chemical additives, filtration, reverse osmosis, and demineralization to produce steam make-up water
--RO brine discharges through Outfall 201. Alternate routes for the RO brine are to Coal Pile Runoff Pond and to Reclaim Pond

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

Attachment: FPP-TECH-3 Water Balance

Item 3. Impoundments (Instructions, Page 40)

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

☒ Yes ☐ No

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

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

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

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

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

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

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

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

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

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

Impoundment Information

Parameter	Reclaim Pond	Coal Pile Runoff Pond	Combustion Byproducts Landfill Pond	Ash Loading Runoff Pond	Cell 2D Pond
Use Designation: (T) (D) (C) or (E)	C	T	T	T	C
Associated Outfall Number	None	003, 301	004	None	None
Liner Type (C) (I) (S) or (A)	See FPP-TECH-4 for liner description	See FPP-TECH-4 for liner description	See FPP-TECH-4 for liner description	See FPP-TECH-4 for liner description	A

Parameter	Reclaim Pond	Coal Pile Runoff Pond	Combustion Byproducts Landfill Pond	Ash Loading Runoff Pond	Cell 2D Pond
Alt. Liner Attachment Reference	N/A	N/A	N/A	N/A	FPP-TECH-5
Leak Detection System, Y/N	N	N	N	N	N
Groundwater Monitoring Wells, Y/N	Y	N	Y	N	Y
Groundwater Monitoring Data Attachment	See Attachment FPP-TECH-6	N/A	See Attachment FPP-TECH-6	N/A	See Attachment FPP-TECH-6
Pond Bottom Located Above The Seasonal High-Water Table, Y/N	Y	Y	Y	Y	Y
Length (ft)	irregular	irregular	~430	~170	~290
Width (ft)	irregular	irregular	~300	~115	~240
Max Depth From Water Surface (ft), Not Including Freeboard	19	21	8	6	~9
Freeboard (ft)	2	2	2	2	2
Surface Area (acres)	25	16	N/A	N/A	N/A
Storage Capacity (gallons)	~98,000,000	~100,000,000	~5,600,000	~1,000,000	~2,600,000
40 CFR Part 257, Subpart D, Y/N	N	N	N	N	N
Date of Construction	~1988	~1978	~1988	~1988	2015

Attachment: See FPP-TECH-4 Pond Liner Information, FPP-TECH-5 Cell 2D Pond Information, and FPP-TECH-6 Groundwater Monitoring Plan

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

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

1. Liner data

☐ Yes ☐ No ☐ Not yet designed

2. Leak detection system or groundwater monitoring data

☐ Yes ☐ No ☐ Not yet designed

3. Groundwater impacts

☐ Yes ☐ No ☐ Not yet designed

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

Attachment: N/A

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

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

Attachment: N/A

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

Attachment: N/A

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

Attachment: N/A

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

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

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

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

Outfall Longitude and Latitude

Outfall No.	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)
001	29.92641	-96.75111
002*	29.91673042	-96.75335322
003	29.90958037	-96.74479325
004	29.90263591	-96.76049755
201	29.91784183	-96.75299468

Outfall No.	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)
301	29.91152979	-96.74447260
* Outfall 002 consists of multiple sources. Only one latitude/longitude is provided here.		

Outfall Location Description

Outfall No.	Location Description
001	End of the discharge canal
002	End of pipe or hose from Units 1, 2, or 3
003	Coal pile runoff pond spillway
004	Combustion byproducts landfill pond at end of spillway
201	Reverse osmosis water treatment system
301	Coal pile runoff pond

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

Outfall No.	Description of sampling point
001	Same as outfall location
002	Sampling occurs in multiple locations from sources of non-contact cooling water from Units 1, 2, or 3 condensers and circulating water pipes.
003	Same as outfall location
004	Sampling occurs either at pump (on southwest side of pond) or at spillway
201	Same as outfall location
301	Pump at outfall location

Outfall Flow Information – Permitted and Proposed

Outfall No.	Permitted Daily Avg Flow (MGD)	Permitted Daily Max Flow (MGD)	Proposed Daily Avg Flow (MGD)	Proposed Daily Max Flow (MGD)	Anticipated Discharge Date (mm/dd/yy)
001	1165*	1165*	N/A	N/A	Existing
002	2.5	Report	N/A	N/A	Existing
003	Report	Report	N/A	N/A	Existing
004	Report	Report	N/A	N/A	Existing
201	Report	Report	N/A	N/A	Existing
301	Report	Report	N/A	N/A	Existing
* Permitted flow will increase to 1509 MGD upon start-up of Unit 4					

Outfall Discharge – Method and Measurement

Outfall No.	Pumped Discharge? Y/N	Gravity Discharge? Y/N	Type of Flow Measurement Device Used
001	Y	N	Pump Curve

Outfall No.	Pumped Discharge? Y/N	Gravity Discharge? Y/N	Type of Flow Measurement Device Used
002	Y	Y	Pump Curve (when pumped) or Estimate (when gravity)
003	Y (siphon pump)	Y (from siphon pump or spillway)	Totalizer (Pump) or Estimate (Spillway)
004	Y (pump)	Y (spillway)	Totalizer and/or Pump Capacity (Pump) or Estimate (Spillway)
201	Y	N	Totalizer
301	Y	N	Totalizer

Outfall Discharge – Flow Characteristics

Outfall No.	Intermittent Discharge? Y/N	Continuous Discharge? Y/N	Seasonal Discharge? Y/N	Discharge Duration (hrs/day)	Discharge Duration (days/mo)	Discharge Duration (mo/yr)
001	N	Y	N	24	31	12
002	Y	N	N	Varies	Varies	Varies
003	Y	N	N	Varies	Varies	Varies
004	Y	N	N	Varies	Infrequent	Infrequent
201	Y	N	N	Varies	Varies	Varies
301	Y	N	N	Varies	Varies	Varies

Outfall Wastestream Contributions

Outfall No. **001***

Contributing Wastestream	Volume (MGD)	Percent (%) of Total Flow
Once-through cooling water and other cooling water	946.75	99.9%
Internal Outfall 201 (Previously Monitored Effluent)	0.13	0.01%
Internal Outfall 301 (Previously Monitored Effluent)	0.94	0.10%
Stormwater runoff (based on average annual rainfall of 38 inches)	0.03	<0.01
*Make up water from the Colorado River enters at the beginning of the discharge canal, which contributes an intermittent non-wastewater flow to Outfall 001.		

Outfall No. **002**

Contributing Wastestream	Volume (MGD)	Percent (%) of Total Flow
Once-through cooling water and cooling water from other sources (intermittent)	0.004	100%

Outfall No. **003**

Contributing Wastestream	Volume (MGD)	Percent (%) of Total Flow
Coal pile runoff	0.34	57%
Low volume waste sources, including but not limited to, oily waste treatment system, blowdown, condenser drains, coal handling equipment wash down, and reject stream from reverse osmosis system	0.21	36%
Stormwater runoff (based on annual average rainfall of 38 inches)	0.04	7%

Attachment: FPP-TECH-7 Wastestream Contributions for Outfalls 004, 201, and 301

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

a. Indicate if the facility currently or proposes to:

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

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

☒ Yes ☐ No Discharge once-through cooling water

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

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

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

- Concentration of whole product or active ingredient, as appropriate, in wastestream.

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

Attachment: FPP-Tech-8 Chemical Information

c. Cooling Towers and Boilers

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

Cooling Towers and Boilers

Type of Unit	Number of Units	Daily Avg Blowdown (gallons/day)	Daily Max Blowdown (gallons/day)
Cooling Towers	0	-	-
Boilers	3	~125,280	~187,920

Item 6. Stormwater Management (Instructions, Page 44)

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

☒ Yes ☐ No

If **yes**, briefly describe the industrial processes and activities that occur outdoors or in a manner which may result in exposure of the activities or materials to stormwater: Coal is handled in outdoor piles. Coal handling facilities are outdoors. Combustion byproducts are disposed of in a landfill and/or stored in areas exposed to rain. Boiler bottom ash is exposed to rain. Limestone handling facilities are located outdoors. Equipment that requires lubes/grease/oil, such as pumps and compressors are exposed to rain. All runoff from above is routed to TPDES wastewater outfall or reclaimed and used in plant processes.

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

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

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

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

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

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

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

☐ Facility is a POTW. Complete Worksheet 5.0.

☐ Domestic sewage is not generated on-site.

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

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

Domestic Sewage Plant/Hauler Name

Plant/Hauler Name	Permit/Registration No.
Domestic sewage routed to on-site wastewater treatment facility	Treated domestic wastewater is routed to Reclaim Pond (no discharge pond)
Domestic sludge is transported by S&M Vacuum and Waste Service, LTD	20089
Domestic sludge is received by Grandy Ranch, LTD	WQ0004458000

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

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

☐ Yes ☒ No

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

☐ Yes ☒ No

c. If **yes** to either 8.a **or** 8.b, provide a brief summary of the requirements and a status update: Click to enter text.

Item 9. Toxicity Testing (Instructions, Page 45)

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

☒ Yes ☐ No

If **yes**, identify the tests and describe their purposes: TPDES Permit No. WO0002105000 requires that whole effluent testing (biomonitoring) be performed on Outfall 001. Requirements include the chronic static renewal survival and reproduction test using the water flea and chronic static renewal 7-day larval survival and growth test using the fathead minnow. Results are sent to TCEQ.

Additionally, attach a copy of all tests performed which **have not** been submitted to the TCEQ or EPA. **Attachment:** N/A

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

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

☐ Yes ☒ No

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

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

b. Attach the following information to the application:

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

Attachment: N/A

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

☐ Yes ☒ No

If **yes**, provide the name, address, and TCEQ, NPDES, or TPDES permit number of the contributing facility and a copy of any agreements or contracts relating to this activity.

Attachment: N/A

d. Is this facility a POTW that accepts/will accept process wastewater from any SIU and has/is required to have an approved pretreatment program under the NPDES/TPDES program?

☐ Yes ☒ No

If **yes**, **Worksheet 6.0** of this application **is required**.

Item 11. Radioactive Materials (Instructions, Page 46)

a. Are/will radioactive materials be mined, used, stored, or processed at this facility?

☒ Yes ☐ No

If **yes**, use the following table to provide the results of one analysis of the effluent for all radioactive materials that may be present. Provide results in pCi/L.

Radioactive Materials Mined, Used, Stored, or Processed

Radioactive Material Name	Concentration (pCi/L)
The Lower Colorado River Authority is authorized by the Texas Department of State Health Services to store and use radioactive material in fixed measuring devices and gauges. The measuring devices and gauges contain a sealed source of radioactive material (C-137).	N/A

b. Does the applicant or anyone at the facility have any knowledge or reason to believe that radioactive materials may be present in the discharge, including naturally occurring radioactive materials in the source waters or on the facility property?

☐ Yes ☒ No

If **yes**, use the following table to provide the results of one analysis of the effluent for all radioactive materials that may be present. Provide results in pCi/L. Do not include information provided in response to Item 11.a.

Radioactive Materials Present in the Discharge

Radioactive Material Name	Concentration (pCi/L)
N/A	

Item 12. Cooling Water (Instructions, Page 46)

a. Does the facility use or propose to use water for cooling purposes?

☒ Yes ☐ No

If **no**, stop here. If **yes**, complete Items 12.b thru 12.f.

b. Cooling water is/will be obtained from a groundwater source (e.g., on-site well).

☐ Yes ☒ No

If **yes**, stop here. If **no**, continue.

c. Cooling Water Supplier

1. Provide the name of the owner(s) and operator(s) for the CWIS that supplies or will supply water for cooling purposes to the facility.

Cooling Water Intake Structure(s) Owner(s) and Operator(s)

CWIS ID	001	River Pump (make up water)		
Owner	LCRA	LCRA		
Operator	LCRA	LCRA		

2. Cooling water is/will be obtained from a Public Water Supplier (PWS)

☐ Yes ☒ No

If **no**, continue. If **yes**, provide the PWS Registration No. and stop here: PWS No. Click to enter text.

3. Cooling water is/will be obtained from a reclaimed water source?

☐ Yes ☒ No

If **no**, continue. If **yes**, provide the Reuse Authorization No. and stop here: Click to enter text.

4. Cooling water is/will be obtained from an Independent Supplier

☐ Yes ☒ No

If **no**, proceed to Item 12.d. If **yes**, provide the actual intake flow of the Independent Supplier's CWIS that is/will be used to provide water for cooling purposes and proceed:

Click to enter text.

d. 316(b) General Criteria

1. The CWIS(s) used to provide water for cooling purposes to the facility has or will have a cumulative design intake flow of 2 MGD or greater.

☒ Yes ☐ No

2. At least 25% of the total water withdrawn by the CWIS is/will be used at the facility exclusively for cooling purposes on an annual average basis.

☒ Yes ☐ No

3. The CWIS(s) withdraw(s)/propose(s) to withdraw water for cooling purposes from surface waters that meet the definition of Waters of the United States in *40 CFR § 122.2*.

☒ Yes ☐ No

If **no**, provide an explanation of how the waterbody does not meet the definition of Waters of the United States in *40 CFR § 122.2*: Click to enter text.

If **yes** to all three questions in Item 12.d, the facility **meets** the minimum criteria to be subject to the full requirements of Section 316(b) of the CWA. Proceed to **Item 12.f**.

If **no** to any of the questions in Item 12.d, the facility **does not meet** the minimum criteria to be subject to the full requirements of Section 316(b) of the CWA; however, a determination is required based upon BPJ. Proceed to **Item 12.e**.

e. The facility does not meet the minimum requirements to be subject to the fill requirements of Section 316(b) **and uses/**proposes **to use cooling towers**.

☐ Yes ☐ No

If **yes**, stop here. If **no**, complete Worksheet 11.0, Items 1.a, 1.b.1-3 and 6, 2.b.1, and 3.a to allow for a determination based upon BPJ.

f. Oil and Gas Exploration and Production

1. The facility is subject to requirements at 40 CFR Part 435, Subparts A or D.

☐ Yes ☒ No

If **yes**, continue. If **no**, skip to Item 12.g.

2. The facility is an existing facility as defined at 40 CFR § 125.92(k) or a new unit at an existing facility as defined at 40 CFR § 125.92(u).

☐ Yes ☐ No

If **yes**, complete Worksheet 11.0, Items 1.a, 1.b.1-3 and 6, 2.b.1, and 3.a to allow for a determination based upon BPJ. If **no**, skip to Item 12.g.3.

g. Compliance Phase and Track Selection

1. Phase I – New facility subject to 40 CFR Part 125, Subpart I

☐ Yes ☒ No

If **yes**, check the box next to the compliance track selection, attach the requested information, and complete Worksheet 11.0, Items 2 and 3, and Worksheet 11.2.

☐ Track I – AIF greater than 2 MGD, but less than 10 MGD

- Attach information required by *40 CFR §§ 125.86(b)(2)-(4)*.

☐ Track I – AIF greater than 10 MGD

- Attach information required by *40 CFR § 125.86(b)*.

☐ Track II

- Attach information required by *40 CFR § 125.86(c)*.

Attachment: Click to enter text.

2. Phase II – Existing facility subject to 40 CFR Part 125, Subpart J

☒ Yes ☐ No

If **yes**, complete Worksheets 11.0 through 11.3, as applicable.

3. Phase III – New facility subject to 40 CFR Part 125, Subpart N

☐ Yes ☒ No

If **yes**, check the box next to the compliance track selection and provide the requested information.

☐ Track I – Fixed facility

- Attach information required by 40 CFR § 125.136(b) and complete Worksheet 11.0, Items 2 and 3, and Worksheet 11.2.

☐ Track I – Not a fixed facility

- Attach information required by 40 CFR § 125.136(b) and complete Worksheet 11.0, Item 2 (except CWIS latitude/longitude under Item 2.a).

☐ Track II – Fixed facility

- Attach information required by 40 CFR § 125.136(c) and complete Worksheet 11.0, Items 2 and 3.

Attachment: Click to enter text.

Item 13. Permit Change Requests (Instructions, Page 48)

This item is only applicable to existing permitted facilities.

a. Is the facility requesting a **major amendment** of an existing permit?

☒ Yes ☐ No

If **yes**, list each request individually and provide the following information: 1) detailed information regarding the scope of each request and 2) a justification for each request. Attach any supplemental information or additional data to support each request.

Permittee requests the following major amendments:

1.) Remove selenium limits from external Outfalls 003 and 004 and internal Outfall 301;

2.) Amend Other Requirement 3 (G) from "10-year, 24-hour rainfall event" to a longer duration event (up to a 10-year, 10-day rainfall event);

3.) Amend Other Requirement 3 (G) to include coal pile runoff from Outfall 301, which is the same effluent as Outfall 003;

4.) Reduce sampling frequency from weekly to monthly for Outfall 201 for TSS, oil and grease, and pH

See Attachment **FPP-TECH-9 Amendment Requests** for details on these amendment requests.

b. Is the facility requesting any **minor amendments** to the permit?

☒ Yes ☐ No

If **yes**, list and describe each change individually.

Permittee requests the following minor amendments:

1.) On page 2d of Permit, remove reference to Footnote 1 from Outfall 002's minimum self-monitoring requirement for temperature. When discharging multiple sources, it is not possible to prepare a physical flow-weighted sample that can be used for analysis because daily flow cannot be determined until the flows are completed for the day.

2.) On page 2d of Permit, modify Footnote 3 to read "…into the west plant drainage ditch system prior to entering the unnamed tributary of Cedar Creek" and update Note 4 to use the same language. This change is requested to improve the accuracy of the sample location description and to make Footnote 3 and Note 4 consistent.

These minor amendment requests do not change the quantity or quality of the existing discharge.

c. Is the facility requesting any **minor modifications** to the permit?

☐ Yes ☒ No

If **yes**, list and describe each change individually.

Item 14. Laboratory Accreditation (Instructions, Page 49)

All laboratory tests performed must meet the requirements of *30 TAC Chapter 25, Environmental Testing Laboratory Accreditation and Certification*, which includes the following general exemptions from National Environmental Laboratory Accreditation Program (NELAP) certification requirements:

- The laboratory is an in-house laboratory and is:
  - periodically inspected by the TCEQ; or
  - located in another state and is accredited or inspected by that state; or
  - performing work for another company with a unit located in the same site; or
  - performing pro bono work for a governmental agency or charitable organization.
- The laboratory is accredited under federal law.
- The data are needed for emergency-response activities, and a laboratory accredited under the Texas Laboratory Accreditation Program is not available.
- The laboratory supplies data for which the TCEQ does not offer accreditation.

The applicant should review *30 TAC Chapter 25* for specific requirements.

The following certification statement shall be signed and submitted with every application. See the *Signature Page* section in the Instructions, for a list of designated representatives who may sign the certification.

CERTIFICATION:

I certify that all laboratory tests submitted with this application meet the requirements of *30 TAC Chapter 25, Environmental Testing Laboratory Accreditation and Certification.*

Printed Name: Andrew Valencia, PE

Title: Sr. VP Generation

Signature: _____

Date: 5/19/2025

INDUSTRIAL WASTEWATER PERMIT APPLICATION WORKSHEET 1.0: EPA CATEGORICAL EFFLUENT GUIDELINES

This worksheet **is required** for all applications for TPDES permits for discharges of wastewaters subject to EPA categorical effluent limitation guidelines (ELGs).

Item 1. Categorical Industries (Instructions, Page 53)

Is this facility subject to any 40 CFR categorical ELGs outlined on page 53 of the instructions?

☒ Yes ☐ No

If **no**, this worksheet is not required. If **yes**, provide the appropriate information below.

40 CFR Effluent Guideline

Industry	40 CFR Part
Steam Electric Power Generating	40 CFR Part 423

Item 2. Production/Process Data (Instructions, Page 54)

NOTE: For all TPDES permit applications requesting individual permit coverage for discharges of oil and gas exploration and production wastewater (discharges into or adjacent to water in the state, falling under the Oil and Gas Extraction Effluent Guidelines – 40 CFR Part 435), see Worksheet 12.0, Item 2 instead.

a. Production Data

Provide appropriate data for effluent guidelines with production-based effluent limitations.

Production Data

Subcategory	Actual Quantity/Day	Design Quantity/Day	Units
N/A			

b. Organic Chemicals, Plastics, and Synthetic Fibers Manufacturing Data (40 CFR Part 414)

Provide each applicable subpart and the percent of total production. Provide data for metal-bearing and cyanide-bearing wastestreams, as required by *40 CFR Part 414, Appendices A and B*.

Percentage of Total Production

Subcategory	Percent of Total Production	Appendix A and B - Metals	Appendix A - Cyanide
N/A			

Subcategory	Percent of Total Production	Appendix A and B - Metals	Appendix A - Cyanide

c. Refineries (40 CFR Part 419)

Provide the applicable subcategory and a brief justification.

N/A

Item 3. Process/Non-Process Wastewater Flows (Instructions, Page 54)

Provide a breakdown of wastewater flow(s) generated by the facility, including both process and non-process wastewater flow(s). Specify which wastewater flows are to be authorized for discharge under this permit and the disposal practices for wastewater flows, excluding domestic, which are not to be authorized for discharge under this permit.

Process wastewater (discharged via permit):
—once through circulating water (used to cool main condensers)
—auxiliary cooling water (used to cool equipment)
—coal pile and coal area runoff
—reverse osmosis reject
—low volume waste

Process wastewater (sent to Reclaim Pond for recirculating through plant processes; not discharged)
—leachate from capped and closed ash pond (pond was closed and capped and converted to a landfill in 2012)
—flue-gas desulfurization (FGD) wastewater
—metal cleaning waste
—low volume waste

Other
—industrial stormwater (discharged under the plant's TCEQ Multisector General Permit for Industrial Facilities authorization).
—other wastewaters (disposed of as solid waste using a third-party vendor, as needed)

Item 4. New Source Determination (Instructions, Page 54)

Provide a list of all wastewater-generating processes subject to EPA categorical ELGs, identify the appropriate guideline Part and Subpart, and provide the date the process/construction commenced.

Wastewater Generating Processes Subject to Effluent Guidelines

Process	EPA Guideline Part	EPA Guideline Subpart	Date Process/ Construction Commenced
Once through cooling water	40 CFR Part 423	12	1978
Low volume waste	40 CFR Part 423	12	1978
Metal cleaning waste	40 CFR Part 423	12	1978
Coal pile runoff	40 CFR Part 423	12	1978

INDUSTRIAL WASTEWATER PERMIT APPLICATION WORKSHEET 2.0: POLLUTANT ANALYSIS

Worksheet 2.0 **is required** for all applications submitted for a TPDES permit. Worksheet 2.0 is not required for applications for a permit to dispose of all wastewater by land disposal or for discharges solely of stormwater associated with industrial activities.

Item 1. General Testing Requirements (Instructions, Page 55)

a. Provide the date range of all sampling events conducted to obtain the analytical data submitted with this application (e.g., 05/01/2018-05/30/2018): October 29, 2024 – March 11, 2025

b. ☒ Check the box to confirm all samples were collected no more than 12 months prior to the date of application submittal.

c. Read the general testing requirements in the instructions for important information about sampling, test methods, and MALs. If a contact laboratory was used, attach a list which includes the name, contact information, and pollutants analyzed for each laboratory/firm. **Attachment:** FPP-TECH-10 Laboratory Contract List

Item 2. Specific Testing Requirements (Instructions, Page 56)

Attach correspondence from TCEQ approving submittal of less than the required number of samples, if applicable. **Attachment:** FPP-TECH-11 TCEQ Correspondence Approving Sampling

TABLE 1 and TABLE 2 (Instructions, Page 58)

Completion of Tables 1 and 2 is required for all external outfalls for all TPDES permit applications. See Attachment FPP-TECH-12 Pollutant Analysis for Outfalls 002, 003, and 004

Table 1 for Outfall No.: 001 Samples are (check one): ☒ Composite ☒ Grab (indicated with *)

Pollutant	Sample 1 (mg/L)	Sample 2 (mg/L)	Sample 3 (mg/L)	Sample 4 (mg/L)
BOD (5-day)	5	5	8	11
CBOD (5-day)	4	4	5	5
Chemical oxygen demand	47.3	39.9	39.2	54.0
Total organic carbon	12.5	12.1	11.7	12.3
Dissolved oxygen*	5.8	5.64	4.22	6.33
Ammonia nitrogen	<0.02	0.249	0.185	0.132
Total suspended solids	13.5	11.0	34.8	23.8
Nitrate nitrogen	<0.01	0.137	0.362	0.0967
Total organic nitrogen	3.46	3.27	2.38	4.18
Total phosphorus	0.137	0.168	0.243	0.354
Oil and grease*	<2.50	<2.50	<2.50	<2.50

Pollutant	Sample 1 (mg/L)	Sample 2 (mg/L)	Sample 3 (mg/L)	Sample 4 (mg/L)
Total residual chlorine*	0.06	0.05	0.01	0.06
Total dissolved solids	781	779	795	759
Sulfate	139	135	137	136
Chloride	217	211	210	212
Fluoride	1.10	1.06	1.07	1.02
Total alkalinity (mg/L as CaCO3)	235	234	232	236
Temperature (˚F)*	88.57	78.44	81.77	77.05
pH (standard units)*	8.64	8.54	8.42	8.25

Table 2 for Outfall No.: 001 Samples are (check one): ☒ Composite ☒ Grab (indicated with *)

Pollutant	Sample 1 (µg/L)	Sample 2 (µg/L)	Sample 3 (µg/L)	Sample 4 (µg/L)	MAL (µg/L)
Aluminum, total	67.5	88.4	59.7	236	2.5
Antimony, total	<5.00	<5.00	<5.00	<5.00	5
Arsenic, total	8.45	8.33	7.88	7.57	0.5
Barium, total	108	102	104	110	3
Beryllium, total	<0.500	<0.500	<0.500	<0.500	0.5
Cadmium, total	<1.00	<1.00	<1.00	<1.00	1
Chromium, total	1.19	<3.00	<0.625	0.980	3
Chromium, hexavalent	<3.00	<3.00	<3.00	<3.00	3
Chromium, trivalent	<3.62	<3.00	<3.62	<3.62	N/A
Copper, total	7.27	6.92	10.8	13.1	2
Cyanide, ~~available~~ (amenable)*	2.20	<2.20	<2.20	<2.20	2/10
Lead, total	<0.500	<0.500	<0.500	<0.500	0.5
Mercury, total	0.000452	0.00014	0.000925	0.000323	0.005/0.0005
Nickel, total	4.49	4.43	4.59	4.86	2
Selenium, total	<5.00	<5.00	<5.00	<5.00	5
Silver, total	<0.500	<0.500	<0.500	<0.500	0.5
Thallium, total	<0.500	<0.500	<0.500	<0.500	0.5
Zinc, total	<5.00	<5.00	<5.00	<5.00	5.0

TABLE 3 (Instructions, Page 58)

Completion of Table 3 **is required** for all **external outfalls** which discharge process wastewater.

Partial completion of Table 3 **is required** for all **external outfalls** which discharge non-process wastewater and stormwater associated with industrial activities commingled with other wastestreams (see instructions for additional guidance).

Table 3 for Outfall No.: 001 **Samples are (check one): ☒ Composite ☐ Grab**

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
Acrylonitrile	<3.00	<3.00	<3.00	<3.00	50
Anthracene	<1.01	<1.01	<0.993	<0.993	10
Benzene	<1.00	<1.00	<1.00	<1.00	10
Benzidine	<20.2	<20.2	<19.9	<19.9	50
Benzo(a)anthracene	<1.01	<1.01	<0.993	<0.993	5
Benzo(a)pyrene	<1.01	<1.01	<0.993	<0.993	5
Bis(2-chloroethyl)ether	<1.01	<1.01	<0.993	<0.993	10
Bis(2-ethylhexyl)phthalate	<7.56	<7.56	<7.45	<7.45	10
Bromodichloromethane [Dichlorobromomethane]	<1.00	<1.00	<1.00	<1.00	10
Bromoform	<1.00	<1.00	<1.00	<1.00	10
Carbon tetrachloride	<1.00	<1.00	<1.00	<1.00	2
Chlorobenzene	<1.00	<1.00	<1.00	<1.00	10
Chlorodibromomethane [Dibromochloromethane]	<1.00	<1.00	<1.00	<1.00	10
Chloroform	<1.00	<1.00	<1.00	<1.00	10
Chrysene	<1.01	<1.01	<0.993	<0.993	5
m-Cresol [3-Methylphenol] reported as m&p-Cresol	<6.25	<6.25	<6.16	<6.16	10
o-Cresol [2-Methylphenol]	<5.24	<5.24	<5.16	<5.16	10
p-Cresol [4-Methylphenol] reported as m&p-Cresol	<6.25	<6.25	<6.16	<6.16	10
1,2-Dibromoethane	<1.00	<1.00	<1.00	<1.00	10
m-Dichlorobenzene [1,3-Dichlorobenzene]	<1.01	<1.01	<0.993	<0.993	10
o-Dichlorobenzene [1,2-Dichlorobenzene]	<1.01	<1.01	<0.993	<0.993	10
p-Dichlorobenzene [1,4-Dichlorobenzene]	<1.01	<1.01	<0.993	<0.993	10
3,3'-Dichlorobenzidine	<5.00	<5.00	<4.97	<4.97	5

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
1,2-Dichloroethane	<1.00	<1.00	<1.00	<1.00	10
1,1-Dichloroethene [1,1-Dichloroethylene]	<1.00	<1.00	<1.00	<1.00	10
Dichloromethane [Methylene chloride]	<2.50	<2.50	<2.50	<2.50	20
1,2-Dichloropropane	<1.00	<1.00	<1.00	<1.00	10
1,3-Dichloropropene [1,3-Dichloropropylene] reported as cis and trans	<1.00	<1.00	<1.00	<1.00	10
2,4-Dimethylphenol	<2.42	<2.42	<2.38	<2.38	10
Di-n-Butyl phthalate	<7.56	<7.56	<7.45	<7.45	10
Ethylbenzene	<1.00	<1.00	<1.00	<1.00	10
Fluoride	0.0011	0.00106	0.00107	0.00102	500
Hexachlorobenzene	<1.01	<1.01	<0.993	<0.993	5
Hexachlorobutadiene	<1.01	<1.01	<0.993	<0.993	10
Hexachlorocyclopentadiene	<9.07	<9.07	<8.94	<8.94	10
Hexachloroethane	<1.01	<1.01	<0.993	<0.993	20
Methyl ethyl ketone [2-Butanone]	<15.0	<15.0	<15.0	<15.0	50
Nitrobenzene	<1.01	<1.01	<0.993	<0.993	10
N-Nitrosodiethylamine	<1.01	<1.01	<0.993	<0.993	20
N-Nitroso-di-n-butylamine	<1.01	<1.01	<0.993	<0.993	20
Nonylphenol	<29.8	<29.0	<30.3	<30.1	333
Pentachlorobenzene	<1.01	<1.01	<0.993	<0.993	20
Pentachlorophenol	<1.01	<1.01	<0.993	<0.993	5
Phenanthrene	<1.01	<1.01	<0.993	<0.993	10
Polychlorinated biphenyls (PCBs) (**)	<0.196	<0.198	<1.94	<0.20	0.2
Pyridine	<5.44	<5.44	<5.36	<5.36	20
1,2,4,5-Tetrachlorobenzene	<1.01	<1.01	<0.993	<0.993	20
1,1,2,2-Tetrachloroethane	<1.00	<1.00	<1.00	<1.00	10
Tetrachloroethene [Tetrachloroethylene]	<1.00	<2.00	<2.00	<2.00	10
Toluene	<2.00	<2.00	<2.00	<2.00	10
1,1,1-Trichloroethane	<1.00	<1.00	<1.00	<1.00	10
1,1,2-Trichloroethane	<1.00	<1.00	<1.00	<1.00	10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
Trichloroethene [Trichloroethylene]	<1.00	<1.00	<1.00	<1.00	10
2,4,5-Trichlorophenol	<1.01	<1.01	<0.993	<0.993	50
TTHM (Total trihalomethanes)	<5.00	<5.00	<5.00	<5.00	10
Vinyl chloride	<1.00	<1.00	<1.00	<1.00	10

(*) Indicate units if different from µg/L.

(**) Total of detects for PCB-1242, PCB-1254, PCB-1221, PCB-1232, PCB-1248, PCB-1260, and PCB-1016. If all non-detects, enter the highest non-detect preceded by a "<".

TABLE 4 (Instructions, Pages 58-59)

Partial completion of Table 4 **is required** for each **external outfall** based on the conditions below.

a. **Tributyltin**

Is this facility an industrial/commercial facility which currently or proposes to directly dispose of wastewater from the types of operations listed below or a domestic facility which currently or proposes to receive wastewater from the types of industrial/commercial operations listed below?

☐ Yes ☒ No

If **yes**, check the box next to each of the following criteria which apply and provide the appropriate testing results in Table 4 below (check all that apply).

☐ Manufacturers and formulators of tributyltin or related compounds.

☐ Painting of ships, boats and marine structures.

☐ Ship and boat building and repairing.

☐ Ship and boat cleaning, salvage, wrecking and scaling.

☐ Operation and maintenance of marine cargo handling facilities and marinas.

☐ Facilities engaged in wood preserving.

☐ Any other industrial/commercial facility for which tributyltin is known to be present, or for which there is any reason to believe that tributyltin may be present in the effluent.

b. **Enterococci (discharge to saltwater)**

This facility discharges/proposes to discharge directly into saltwater receiving waters **and** Enterococci bacteria are expected to be present in the discharge based on facility processes.

☐ Yes ☒ No

Domestic wastewater is/will be discharged.

☐ Yes ☒ No

If **yes to either** question, provide the appropriate testing results in Table 4 below.

c. **E. coli (discharge to freshwater)**

This facility discharges/proposes to discharge directly into freshwater receiving waters **and** *E. coli* bacteria are expected to be present in the discharge based on facility processes.

☐ Yes ☒ No

Domestic wastewater is/will be discharged.

☐ Yes ☒ No

If **yes to either** question, provide the appropriate testing results in Table 4 below.

Table 4 for Outfall No.: N/A **Samples are (check one): ☐ Composite ☐ Grab**

Pollutant	Sample 1	Sample 2	Sample 3	Sample 4	MAL
Tributyltin (µg/L)					0.010
Enterococci (cfu or MPN/100 mL)					N/A
E. coli (cfu or MPN/100 mL)					N/A

TABLE 5 (Instructions, Page 59)

Completion of Table 5 **is required** for all **external outfalls** which discharge process wastewater from a facility which manufactures or formulates pesticides or herbicides or other wastewaters which may contain pesticides or herbicides.

If this facility does not/will not manufacture or formulate pesticides or herbicides and does not/will not discharge other wastewaters that may contain pesticides or herbicides, check N/A.

☒ N/A

Table 5 for Outfall No.: N/A **Samples are (check one): ☐ Composite ☐ Grab**

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
Aldrin					0.01
Carbaryl					5
Chlordane					0.2
Chlorpyrifos					0.05
4,4'-DDD					0.1
4,4'-DDE					0.1
4,4'-DDT					0.02
2,4-D					0.7
Danitol [Fenpropathrin]					—
Demeton					0.20
Diazinon					0.5/0.1
Dicofol [Kelthane]					1
Dieldrin					0.02

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
Diuron					0.090
Endosulfan I (*alpha*)					0.01
Endosulfan II (*beta*)					0.02
Endosulfan sulfate					0.1
Endrin					0.02
Guthion [Azinphos methyl]					0.1
Heptachlor					0.01
Heptachlor epoxide					0.01
Hexachlorocyclohexane (*alpha*)					0.05
Hexachlorocyclohexane (*beta*)					0.05
Hexachlorocyclohexane (*gamma*) [Lindane]					0.05
Hexachlorophene					10
Malathion					0.1
Methoxychlor					2.0
Mirex					0.02
Parathion (ethyl)					0.1
Toxaphene					0.3
2,4,5-TP [Silvex]					0.3

* Indicate units if different from µg/L.

TABLE 6 (Instructions, Page 59)

Completion of Table 6 **is required** for all **external outfalls**.

Table 6 for Outfall No.: 001

Samples are (check one): ☒ Composite ☐ Grab

Pollutants	Believed Present	Believed Absent	Sample 1 (mg/L)	Sample 2 (mg/L)	Sample 3 (mg/L)	Sample 4 (mg/L)	MAL (µg/L)*
Bromide	☒	☐	3.79	--	--	--	400
Color (PCU) true	☒	☐	10	--	--	--	—
Nitrate-Nitrite (as N)	☒	☐	<0.02	--	--	--	—
Sulfide (as S)	☒	☐	<0.01	--	--	--	—
Sulfite (as SO3)	☐	☒	--				—
Surfactants (MBAS)	☒	☐	0.3690	--	--	--	—
Boron, total	☒	☐	0.516	--	--	--	20
Cobalt, total	☒	☐	<0.0003	--	--	--	0.3
Iron, total	☒	☐	0.191	--	--	--	7
Magnesium, total	☒	☐	62.10	--	--	--	20
Manganese, total	☒	☐	0.0279	--	--	--	0.5
Molybdenum, total	☒	☐	0.00186	--	--	--	1
Tin, total	☒	☐	<0.005	--	--	--	5
Titanium, total	☒	☐	0.150	--	--	--	30

TABLE 7 (Instructions, Page 60)

Check the box next to any of the industrial categories applicable to this facility. If no categories are applicable, check N/A. If GC/MS testing is required, check the box provided to confirm the testing results for the appropriate parameters are provided with the application.

☐ N/A

Table 7 for Applicable Industrial Categories

Industrial Category	40 CFR Part	Volatiles Table 8	Acids Table 9	Bases/ Neutrals Table 10	Pesticides Table 11
☐ Adhesives and Sealants		☐ Yes	☐ Yes	☐ Yes	No
☐ Aluminum Forming	467	☐ Yes	☐ Yes	☐ Yes	No
☐ Auto and Other Laundries		☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Battery Manufacturing	461	☐ Yes	No	☐ Yes	No
☐ Coal Mining	434	No	No	No	No
☐ Coil Coating	465	☐ Yes	☐ Yes	☐ Yes	No
☐ Copper Forming	468	☐ Yes	☐ Yes	☐ Yes	No
☐ Electric and Electronic Components	469	☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Electroplating	413	☐ Yes	☐ Yes	☐ Yes	No
☐ Explosives Manufacturing	457	No	☐ Yes	☐ Yes	No
☐ Foundries		☐ Yes	☐ Yes	☐ Yes	No
☐ Gum and Wood Chemicals - Subparts A,B,C,E	454	☐ Yes	☐ Yes	No	No
☐ Gum and Wood Chemicals - Subparts D,F	454	☐ Yes	☐ Yes	☐ Yes	No
☐ Inorganic Chemicals Manufacturing	415	☐ Yes	☐ Yes	☐ Yes	No
☐ Iron and Steel Manufacturing	420	☐ Yes	☐ Yes	☐ Yes	No
☐ Leather Tanning and Finishing	425	☐ Yes	☐ Yes	☐ Yes	No
☐ Mechanical Products Manufacturing		☐ Yes	☐ Yes	☐ Yes	No
☐ Nonferrous Metals Manufacturing	421,471	☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Oil and Gas Extraction - Subparts A, D, E, F, G, H	435	☐ Yes	☐ Yes	☐ Yes	No
☐ Ore Mining - Subpart B	440	No	☐ Yes	No	No
☐ Organic Chemicals Manufacturing	414	☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Paint and Ink Formulation	446,447	☐ Yes	☐ Yes	☐ Yes	No
☐ Pesticides	455	☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Petroleum Refining	419	☐ Yes	No	No	No
☐ Pharmaceutical Preparations	439	☐ Yes	☐ Yes	☐ Yes	No
☐ Photographic Equipment and Supplies	459	☐ Yes	☐ Yes	☐ Yes	No
☐ Plastic and Synthetic Materials Manufacturing	414	☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Plastic Processing	463	☐ Yes	No	No	No
☐ Porcelain Enameling	466	No	No	No	No
☐ Printing and Publishing		☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Pulp and Paperboard Mills - Subpart C	430	☐ *	☐ Yes	☐ *	☐ Yes
☐ Pulp and Paperboard Mills - Subparts F, K	430	☐ *	☐ Yes	☐ *	☐ *
☐ Pulp and Paperboard Mills - Subparts A, B, D, G, H	430	☐ Yes	☐ Yes	☐ *	☐ *
☐ Pulp and Paperboard Mills - Subparts I, J, L	430	☐ Yes	☐ Yes	☐ *	☐ Yes
☐ Pulp and Paperboard Mills - Subpart E	430	☐ Yes	☐ Yes	☐ Yes	☐ *
☐ Rubber Processing	428	☐ Yes	☐ Yes	☐ Yes	No
☐ Soap and Detergent Manufacturing	417	☐ Yes	☐ Yes	☐ Yes	No
☒ Steam Electric Power Plants	423	☒ Yes	☒ Yes	No	No
☐ Textile Mills (Not Subpart C)	410	☐ Yes	☐ Yes	☐ Yes	No
☐ Timber Products Processing	429	☐ Yes	☐ Yes	☐ Yes	☐ Yes

* Test if believed present.

TABLES 8, 9, 10, and 11 (Instructions, Page 60)

Completion of Tables 8, 9, 10, and 11 **is required** as specified in Table 7 for all **external outfalls** that contain process wastewater.

Completion of Tables 8, 9, 10, and 11 **may be required** for types of industry not specified in Table 7 for specific parameters that are believed to be present in the wastewater.

Table 8 for Outfall No.: 001

Samples are (check one): ☐ Composite ☒ Grab

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Acrolein	<15.0	<15.0	<15.00	<15.00	50
Acrylonitrile	<3.00	<3.0	<3.00	<3.00	50
Benzene	<1.00	<1.00	<1.00	<1.00	10
Bromoform	<1.00	<1.00	<1.00	<1.00	10
Carbon tetrachloride	<1.00	<1.00	<1.00	<1.00	2
Chlorobenzene	<1.00	<1.00	<1.00	<1.00	10
Chlorodibromomethane	<1.00	<1.00	<1.00	<1.00	10
Chloroethane	<2.00	<2.00	<2.00	<2.00	50
2-Chloroethylvinyl ether	<6.00	<6.00	<6.00	<6.00	10
Chloroform	<1.00	<1.00	<1.00	<1.00	10
Dichlorobromomethane [Bromodichloromethane]	<1.00	<1.00	<1.00	<1.00	10
1,1-Dichloroethane	<1.00	<1.00	<1.00	<1.00	10
1,2-Dichloroethane	<1.00	<1.00	<1.00	<1.00	10
1,1-Dichloroethylene [1,1-Dichloroethene]	<1.00	<1.00	<1.00	<1.00	10
1,2-Dichloropropane	<1.00	<1.00	<1.00	<1.00	10
1,3-Dichloropropylene [1,3-Dichloropropene] reported as cis and trans	<1.00	<1.00	<1.00	<1.00	10
Ethylbenzene	<1.00	<1.00	<1.00	<1.00	10
Methyl bromide [Bromomethane]	<5.00	<5.00	<5.00	<5.00	50
Methyl chloride [Chloromethane]	<1.00	<1.00	<1.00	<1.00	50
Methylene chloride [Dichloromethane]	<2.50	<2.50	<2.50	<2.50	20
1,1,2,2-Tetrachloroethane	<1.00	<1.00	<1.00	<1.00	10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Tetrachloroethylene [Tetrachloroethene]	<2.00	<2.00	<2.00	<2.00	10
Toluene	<2.00	<2.00	<2.00	<2.00	10
1,2-Trans-dichloroethylene [1,2-Trans-dichloroethene]	<1.00	<1.00	<1.00	<1.00	10
1,1,1-Trichloroethane	<1.00	<1.00	<1.00	<1.00	10
1,1,2-Trichloroethane	<1.00	<1.00	<1.00	<1.00	10
Trichloroethylene [Trichloroethene]	<1.00	<1.00	<1.00	<1.00	10
Vinyl chloride	<1.00	<1.00	<1.00	<1.00	10

* Indicate units if different from µg/L.

Table 9 for Outfall No.: 001

Samples are (check one): ☒ Composite ☐ Grab

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
2-Chlorophenol	<1.01	<1.01	<0.993	<0.993	10
2,4-Dichlorophenol	<1.01	<1.01	<0.993	<0.993	10
2,4-Dimethylphenol	<2.42	<2.42	<2.38	<2.38	10
4,6-Dinitro-o-cresol	<8.06	<8.06	<7.94	<7.94	50
2,4-Dinitrophenol	<9.07	<9.07	<8.94	<8.94	50
2-Nitrophenol	<1.01	<1.01	<0.993	<0.993	20
4-Nitrophenol	<1.01	<1.01	<0.993	<0.993	50
p-Chloro-m-cresol	<2.42	<2.42	<2.38	<2.38	10
Pentachlorophenol	<1.01	<1.01	<0.993	<0.993	5
Phenol	<1.51	<1.51	<1.49	<1.49	10
2,4,6-Trichlorophenol	<1.01	<1.01	<0.993	<0.993	10

* Indicate units if different from µg/L.

Table 10 for Outfall No.: N/A **Samples are (check one):** ☐ Composite ☐ Grab

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Acenaphthene					10
Acenaphthylene					10
Anthracene					10
Benzidine					50

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Benzo(a)anthracene					5
Benzo(a)pyrene					5
3,4-Benzofluoranthene [Benzo(b)fluoranthene]					10
Benzo(ghi)perylene					20
Benzo(k)fluoranthene					5
Bis(2-chloroethoxy)methane					10
Bis(2-chloroethyl)ether					10
Bis(2-chloroisopropyl)ether					10
Bis(2-ethylhexyl)phthalate					10
4-Bromophenyl phenyl ether					10
Butylbenzyl phthalate					10
2-Chloronaphthalene					10
4-Chlorophenyl phenyl ether					10
Chrysene					5
Dibenzo(a,h)anthracene					5
1,2-Dichlorobenzene [o-Dichlorobenzene]					10
1,3-Dichlorobenzene [m-Dichlorobenzene]					10
1,4-Dichlorobenzene [p-Dichlorobenzene]					10
3,3'-Dichlorobenzidine					5
Diethyl phthalate					10
Dimethyl phthalate					10
Di-n-butyl phthalate					10
2,4-Dinitrotoluene					10
2,6-Dinitrotoluene					10
Di-n-octyl phthalate					10
1,2-Diphenylhydrazine (as Azobenzene)					20
Fluoranthene					10
Fluorene					10
Hexachlorobenzene					5
Hexachlorobutadiene					10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Hexachlorocyclopentadiene					10
Hexachloroethane					20
Indeno(1,2,3-cd)pyrene					5
Isophorone					10
Naphthalene					10
Nitrobenzene					10
N-Nitrosodimethylamine					50
N-Nitrosodi-n-propylamine					20
N-Nitrosodiphenylamine					20
Phenanthrene					10
Pyrene					10
1,2,4-Trichlorobenzene					10

* Indicate units if different from µg/L.

Table 11 for Outfall No.: N/A **Samples are (check one): ☐ Composite ☐ Grab**

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Aldrin					0.01
alpha-BHC [alpha-Hexachlorocyclohexane]					0.05
beta-BHC [beta-Hexachlorocyclohexane]					0.05
gamma-BHC [gamma-Hexachlorocyclohexane]					0.05
delta-BHC [delta-Hexachlorocyclohexane]					0.05
Chlordane					0.2
4,4'-DDT					0.02
4,4'-DDE					0.1
4,4'-DDD					0.1
Dieldrin					0.02
Endosulfan I (alpha)					0.01
Endosulfan II (beta)					0.02
Endosulfan sulfate					0.1
Endrin					0.02
Endrin aldehyde					0.1

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Heptachlor					0.01
Heptachlor epoxide					0.01
PCB 1242					0.2
PCB 1254					0.2
PCB 1221					0.2
PCB 1232					0.2
PCB 1248					0.2
PCB 1260					0.2
PCB 1016					0.2
Toxaphene					0.3

* Indicate units if different from µg/L.

Attachment: N/A

TABLE 12 (DIOXINS/FURAN COMPOUNDS)

Complete of Table 12 **is required** for **external outfalls**, as directed below. (Instructions, Pages 59-60)

Indicate which compound(s) are manufactured or used at the facility and provide a brief description of the conditions of its/their presence at the facility (check all that apply).

- ☐ 2,4,5-trichlorophenoxy acetic acid (2,4,5-T) CASRN 93-76-5
- ☐ 2-(2,4,5-trichlorophenoxy) propanoic acid (Silvex, 2,4,5-TP) CASRN 93-72-1
- ☐ 2-(2,4,5-trichlorophenoxy) ethyl 2,2-dichloropropionate (Erbon) CASRN 136-25-4
- ☐ 0,0-dimethyl 0-(2,4,5-trichlorophenyl) phosphorothioate (Ronnel) CASRN 299-84-3
- ☐ 2,4,5-trichlorophenol (TCP) CASRN 95-95-4
- ☐ hexachlorophene (HCP) CASRN 70-30-4
- ☐ None of the above

Description: N/A

Does the applicant or anyone at the facility know or have any reason to believe that 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) or any congeners of TCDD may be present in the effluent proposed for discharge?

- ☐ Yes ☒ No

Description: N/A

If **yes** to either Items a **or** b, complete Table 12 as instructed.

Table 12 for Outfall No.: N/A Samples are (check one): ☐ Composite ☐ Grab

Compound	Toxicity Equivalent Factors	Wastewater Concentration (ppq)	Wastewater Toxicity Equivalents (ppq)	Sludge Concentration (ppt)	Sludge Toxicity Equivalents (ppt)	MAL (ppq)
2,3,7,8-TCDD	1					10
1,2,3,7,8-PeCDD	1.0					50
2,3,7,8-HxCDDs	0.1					50
1,2,3,4,6,7,8-HpCDD	0.01					50
2,3,7,8-TCDF	0.1					10
1,2,3,7,8-PeCDF	0.03					50
2,3,4,7,8-PeCDF	0.3					50
2,3,7,8-HxCDFs	0.1					50
2,3,4,7,8-HpCDFs	0.01					50
OCDD	0.0003					100
OCDF	0.0003					100
PCB 77	0.0001					500
PCB 81	0.0003					500
PCB 126	0.1					500
PCB 169	0.03					500
Total						

TABLE 13 (HAZARDOUS SUBSTANCES)

Complete Table 13 **is required** for all **external outfalls** as directed below. (Instructions, Pages 60-61)

Are there any pollutants listed in the instructions (pages 55-62) believed present in the discharge?

☐ Yes ☒ No See Attachment: FPP-TECH-12 for Table 13 for Outfall 003.

Are there pollutants listed in Item 1.c. of Technical Report 1.0 which are believed present in the discharge and have not been analytically quantified elsewhere in this application?

☐ Yes ☒ No

If **yes** to either Items a **or** b, complete Table 13 as instructed.

Table 13 for Outfall No.: N/A Samples are (check one): ☐ Composite ☐ Grab

Pollutant	CASRN	Sample 1 (µg/L)	Sample 2 (µg/L)	Sample 3 (µg/L)	Sample 4 (µg/L)	Analytical Method

INDUSTRIAL WASTEWATER PERMIT APPLICATION WORKSHEET 4.0: RECEIVING WATERS

This worksheet **is required** for all TPDES permit applications. Outfall 001

(See FPP-TECH-13 Receiving Waters for Outfall 002, 003, and 004)

Item 1. Domestic Drinking Water Supply (Instructions, Page 80)

a. There is a surface water intake for domestic drinking water supply located within 5 (five) miles downstream from the point/proposed point of discharge.

☐ Yes ☒ No

If **no**, stop here and proceed to Item 2. If **yes**, provide the following information:

1. The legal name of the owner of the drinking water supply intake: Click to enter text.
2. The distance and direction from the outfall to the drinking water supply intake: Click to enter text.

b. Locate and identify the intake on the USGS 7.5-minute topographic map provided for Administrative Report 1.0.

☐ Check this box to confirm the above requested information is provided.

Item 2. Discharge Into Tidally Influenced Waters (Instructions, Page 80)

If the discharge is to tidally influenced waters, complete this section. Otherwise, proceed to Item 3.

a. Width of the receiving water at the outfall: Click to enter text. feet

b. Are there oyster reefs in the vicinity of the discharge?

☐ Yes ☐ No

If **yes**, provide the distance and direction from the outfall(s) to the oyster reefs: Click to enter text.

c. Are there sea grasses within the vicinity of the point of discharge?

☐ Yes ☐ No

If **yes**, provide the distance and direction from the outfall(s) to the grasses: Click to enter text.

Item 3. Classified Segment (Instructions, Page 80)

The discharge is/will be directly into (or within 300 feet of) a classified segment.

☐ Yes ☒ No

If **yes**, stop here and do not complete Items 4 and 5 of this worksheet or Worksheet 4.1.

If **no**, complete Items 4 and 5 and Worksheet 4.1 may be required.

Item 4. Description of Immediate Receiving Waters (Instructions, Page 80)

a. Name of the immediate receiving waters: **Lake Fayette (Outfall 001)**

b. Check the appropriate description of the immediate receiving waters:

☒ Lake or Pond

- Surface area (acres): 2400 (approximate)
- Average depth of the entire water body (feet): 20 (estimate)
- Average depth of water body within a 500-foot radius of the discharge point (feet): 20 (estimate)

☐ Man-Made Channel or Ditch

☐ Stream or Creek

☐ Freshwater Swamp or Marsh

☐ Tidal Stream, Bayou, or Marsh

☐ Open Bay

☐ Other, specify:

If **Man-Made Channel or Ditch** or **Stream or Creek** were selected above, provide responses to Items 4.c – 4.g below:

c. For **existing discharges**, check the description below that best characterizes the area **upstream** of the discharge.

For **new discharges**, check the description below that best characterizes the area **downstream** of the discharge.

☐ Intermittent (dry for at least one week during most years)

☐ Intermittent with Perennial Pools (enduring pools containing habitat to maintain aquatic life uses)

☐ Perennial (normally flowing)

Check the source(s) of the information used to characterize the area upstream (existing discharge) or downstream (new discharge):

☐ USGS flow records

☐ personal observation

☐ historical observation by adjacent landowner(s)

☐ other, specify: Click to enter text.

d. List the names of all perennial streams that join the receiving water within three miles downstream of the discharge point: Click to enter text.

e. The receiving water characteristics change within three miles downstream of the discharge (e.g., natural or man-made dams, ponds, reservoirs, etc.).

☐ Yes ☐ No

If **yes**, describe how: Click to enter text.

f. General observations of the water body during normal dry weather conditions: Click to enter text.

Date and time of observation: Click to enter text.

g. The water body was influenced by stormwater runoff during observations.

☐ Yes ☐ No

If **yes**, describe how: Click to enter text.

Item 5. General Characteristics of Water Body (Instructions, Page 81)

a. Is the receiving water upstream of the existing discharge or proposed discharge site influenced by any of the following (check all that apply):

☐ oil field activities
☐ agricultural runoff
☐ upstream discharges
☐ urban runoff
☐ septic tanks
☒ other, specify: None applicable

b. Uses of water body observed or evidence of such uses (check all that apply):

☐ livestock watering
☒ non-contact recreation
☐ domestic water supply
☒ contact recreation
☒ fishing
☒ industrial water supply
☐ irrigation withdrawal
☐ navigation
☒ picnic/park activities
☐ other, specify: Click to enter text.

c. Description which best describes the aesthetics of the receiving water and the surrounding area (check only one):

☐ **Wilderness:** outstanding natural beauty; usually wooded or un-pastured area: water clarity exceptional

☐ **Natural Area:** trees or native vegetation common; some development evident (from fields, pastures, dwellings); water clarity discolored

☒ **Common Setting:** not offensive, developed but uncluttered; water may be colored or turbid

☐ **Offensive:** stream does not enhance aesthetics; cluttered; highly developed; dumping areas; water discolored

INDUSTRIAL WASTEWATER PERMIT APPLICATION WORKSHEET 4.1: WATERBODY PHYSICAL CHARACTERISTICS

Not required for Outfall 001 (lake). See Attachment FPP-TECH-13 Receiving Waters for Outfall 002, 003, and 004.

The following information **is required** for new applications, EPA-designated Major facilities, and major amendment applications requesting to add an outfall if the receiving waters are perennial or intermittent with perennial pools (including impoundments) for a TDPES permit.

Complete the transects downstream of the existing or proposed discharges.

Item 1. Data Collection (Instructions, Page 82)

a. Date of study: Click to enter text. Time of study: Click to enter text.

Waterbody name: Click to enter text.

General location: Click to enter text.

b. Type of stream upstream of an existing discharge or downstream of a proposed discharge (check only one):

☐ perennial ☐ intermittent with perennial pools ☐ impoundment

c. No. of defined stream bends:

Well: Click to enter text. Moderately: Click to enter text. Poorly: Click to enter text.

d. No. of riffles: Click to enter text.

e. Evidence of flow fluctuations (check one):

☐ Minor ☐ Moderate ☐ Severe

f. Provide the observed stream uses and where there is evidence of channel obstructions/modifications: Click to enter text.

g. Complete the following table with information regarding the transect measurements.

Stream Transect Data

Transect Location	Habitat Type*	Water Surface Width (ft)	Stream Depths (ft)**								

Transect Location	Habitat Type*	Water Surface Width (ft)	Stream Depths (ft)**								

* riffle, run, glide, or pool
** channel bed to water surface

Item 2. Summarize Measurements (Instructions, Page 83)

Provide the following information regarding the transect measurements:

Streambed slope of entire reach (from USGS map in ft. /ft.): Click to enter text.

Approximate drainage area above the most downstream transect from USGS map or county highway map (square miles): Click to enter text.

Length of stream evaluated (ft): Click to enter text.

Number of lateral transects made: Click to enter text.

Average stream width (ft): Click to enter text.

Average stream depth (ft): Click to enter text.

Average stream velocity (ft/sec): Click to enter text.

Instantaneous stream flow (ft^3/sec): Click to enter text.

Indicate flow measurement method (VERY IMPORTANT – type of meter, floating chip timed over a fixed distance, etc.): Click to enter text.

Flow fluctuations (i.e., minor, moderate, or severe): Click to enter text.

Size of pools (i.e., large, small, moderate, or none): Click to enter text.

Maximum pool depth (ft): Click to enter text.

Total number of stream bends: Click to enter text.

Number well defined: Click to enter text.

Number moderately defined: Click to enter text.

Number poorly defined: Click to enter text.

Total number of riffles: Click to enter text.

INDUSTRIAL WASTEWATER PERMIT APPLICATION WORKSHEET 5.0: SEWAGE SLUDGE MANAGEMENT AND DISPOSAL

The following information **is required** for all TPDES permit applications that meet the conditions as outlined in Technical Report 1.0, Item 7.

Item 1. Sewage Sludge Solids Management Plan (Instructions, Page 84)

a. Is this a new permit application or an amendment permit application?

☒ Yes ☐ No

b. Does or will the facility discharge in the Lake Houston watershed?

☐ Yes ☒ No

If **yes** to either Item 1.a **or** 1.b, attach a solids management plan. **Attachment:** FPP-TECH-14 Solids Management Plan

Item 2. Sewage Sludge Management and Disposal (Instructions, Page 84)

a. Check the box next to the sludge disposal method(s) authorized under the facility's existing permit (check all that apply).

☐ Permitted landfill

☐ Marketing and distribution by the permittee, attach Form TCEQ-00551

☐ Registered land application site, attach Form TCEQ-00565

☐ Processed by the permittee, attach Form TCEQ-00744

☐ Surface disposal site (sludge monofill), attach Form TCEQ-00744

☒ Transported to another WWTP (Note: site is permitted for land application)

☐ Beneficial land application, attach Form TCEQ-10451

☐ Incineration, attach Form TCEQ-00744

Based on the selection(s) made above, complete and attach the required TCEQ forms as directed. Failure to submit the required TCEQ form will result in delays in processing the application

Attachment: N/A

b. Provide the following information for each disposal site:

Disposal site name: Grandy Ranch Ltd

TCEQ Permit/Registration Number: WQ0004458000

County where disposal site is located: Bell County

c. Method of sewage sludge transportation:

☒ truck ☐ train ☐ pipe ☐ other: Click to enter text.

TCEQ Hauler Registration Number: S&M Vacuum and Waste Ltd (Sludge registration: 200089)

d. Sludge is transported as a:

☐ liquid ☒ semi-liquid ☐ semi-solid ☐ solid

e. Purpose of land application: ☐ reclamation ☒ soil conditioning ☐ N/A

f. If sewage sludge is transported to another WWTP for treatment, attach a written statement or copy of contractual agreements confirming that the WWTP identified above will accept and be responsible for the sludge from this facility for the life of the permit (at least 5 years).

Attachment: N/A – sludge is transported to the site for disposal but not treatment

Item 3. Authorization for Sewage Sludge Disposal (Instructions, Page 85)

If this is a new or major amendment application which requests authorization of a new sewage sludge disposal method, check the new sewage disposal method(s) requested for authorization (check all that apply):

☐ Marketing and distribution by the permittee, attach Form TCEQ-00551

☐ Processed by the permittee, attach Form TCEQ-00744

☐ Surface disposal site (sludge monofill), attach Form TCEQ-00744

☐ Beneficial land application, attach Form TCEQ-10451

☐ Incineration, attach Form TCEQ-00744

Based on the selection(s) made above, complete and attach any required TCEQ forms, as directed. Failure to submit the required TCEQ form will result in delays in processing the application.

Attachment: Click to enter text.

NOTE: New authorization for beneficial land application, incineration, processing, or disposal in the TPDES permit or TLAP **requires a major amendment to the permit**. New authorization for composting may require a major amendment to the permit. See the instructions to determine if a major amendment is required or if authorization for composting can be added through the renewal process.

INDUSTRIAL WASTEWATER PERMIT APPLICATION WORKSHEET 11.0: COOLING WATER SYSTEM INFORMATION

This worksheet **is required** for all TPDES permit applications **that meet the conditions outlined in Technical Report 1.0, Item 12.**

Item 1. Cooling Water System Data (Instructions, Page 104)

a. Complete the following table with information regarding the cooling water system.

Cooling Water System Data

Parameter	Volume (include units)
Total DIF	1157 million gallons per day (MGD)
Total AIF	916 million gallons per year (average AIF from 2002-2024)
Intake Flow Use(s) (%)	--
Contact cooling	0%
Non-contact cooling	99.9%
Process Wastewater	0.10%
Other	0%

b. Attach the following information:

1. A narrative description of the design and annual operation of the facility's cooling water system and its relationship to the CWIS(s).

2. A scaled map depicting the location of each CWIS, impoundment, intake pipe, and canals, pipes, or waterways used to convey cooling water to, or within, the cooling water system. Provide the latitude and longitude for each CWIS and any intake pipe(s) on the map. Indicate the position of the intake pipe within the water column.

3. A description of water reuse activities, if applicable, reductions in total water withdrawals, if applicable, and the proportion of the source waterbody withdrawn (on a monthly basis).

4. Design and engineering calculations prepared by a qualified professional and data to support the information provided in above item a.

5. Previous year (a minimum of 12 months) of AIF data.

6. A narrative description of existing or proposed impingement and entrainment technologies or operation measures and a summary of their performance, including, but not limited to, reductions in impingement mortality and entrainment due to intake location and reductions in total water withdrawals and usage.

Attachment: FPP-TECH-15 Cooling Water

Item 2. Cooling Water Intake Structure(s) Data (Instructions, Page 105)

a. Complete the following table with information regarding each cooling water intake structure (this includes primary and make-up CWIS(s)).

Cooling Water Intake Structure(s) Data

CWIS ID	001 (Primary)	River Pump (Make up)		
DIF (include units)	1157 MGD	~40 MGD		
AIF (include units)	916 million gallons per year (average AIF from 2002-2024)	5.3 million gallons per year (average AIF from 2002-2024)		
Intake Flow Use(s) (%)	--	--		
Contact cooling	0%	0%		
Non-contact cooling	99.9%	100% (pond make up water)		
Process Wastewater	0.10%	0%		
Other	0%	0%		
Latitude (decimal degrees)	29.91913306	29.86834209		
Longitude (decimal degrees)	-96.75134521	-96.77563328		

b. Attach the following information regarding the CWIS(s):

1. A narrative description of the configuration of each CWIS, annual and daily operation, including any seasonal changes, and where it is located in the water body and in the water column.

2. Engineering calculations for each CWIS.

Attachment: FPP-TECH-15: Cooling Water

Item 3. Source Water Physical Data (Instructions, Page 105)

a. Complete the following table with information regarding the CWIS(s) source waterbody (this includes primary and make-up CWIS(s)).

Source Waterbody Data

CWIS ID	001	River Pump		
Source Waterbody	Lake Fayette	Colorado River		
Mean Annual Flow	No flow (impoundment)	2189 cfs (1989-2024)		
Source	LCRA	USGS Surface Water Annual Statistics		

b. Attach the following information regarding the source waterbody.

1. A narrative description of the source water for each CWIS, including areal dimensions, depths, salinity and temperature regimes, and other documentation that supports this determination of the water body type where each cooling water intake structure is located.

2. A narrative description of the source waterbody's hydrological and geomorphological features.

3. Scaled drawings showing the physical configuration of all source water bodies used by the facility, including the source waterbody's hydrological and geomorphological features. **NOTE:** The source waterbody's hydrological and geomorphological features may be included on the map submitted for item 1.b.ii of this worksheet.

4. A description of the methods used to conduct any physical studies to determine the intake's area of influence within the waterbody and the results of such studies.

Attachment: FPP-TECH-15 Cooling Water

Item 4. Operational Status (Instructions, Page 106)

a. Is this application for a power production or steam generation facility?

☒ Yes ☐ No

If **no**, proceed to Item 4.b. If **yes**, provide the following information as an attachment:

1. Describe the operating status of each individual unit, including age, capacity utilization rate (or equivalent) for the previous five years (a minimum of 60 months), and any seasonal changes in operation.

2. Describe any extended or unusual outages or other factors which significantly affect current data for flow, impingement, entrainment.

3. Identify any operating unit with a capacity utilization rate of less than 8 percent averaged over a contiguous period of two years (a minimum of 24 months).

4. Describe any major upgrades completed within the last 15 years, including but not limited to boiler replacement, condenser replacement, turbine replacement, or changes of fuel type.

Attachment: FPP-TECH-15 Cooling Water

b. Process Units

1. Is this application for a facility which has process units that use cooling water (other than for power production or steam generation)?

☐ Yes ☒ No

If **no**, proceed to Item 4.c. If **yes**, continue.

2. Does the facility use or intend to use reductions in flow or changes in operations to meet the requirements of *40 CFR § 125.94(c)*?

☐ Yes ☒ No

If **no**, proceed to Item 4.c. If **yes**, attach descriptions of the following information:

- Individual production processes and product lines
- The operating status, including age of each line and seasonal operation
- Any extended or unusual outages that significantly affect current data for flow, impingement, entrainment, or other factors
- Any major upgrades completed within the last 15 years and plans or schedules for decommissioning or replacement of process units or production processes and product lines.

Attachment: Click to enter text.

c. Is this an application for a nuclear power production facility?

☐ Yes ☒ No

If **no**, proceed to Item 4.d. If **yes**, attach a description of completed, approved, or scheduled upgrades and the Nuclear Regulatory Commission relicensing status for each unit at the facility.

Attachment: Click to enter text.

d. Is this an application for a manufacturing facility?

☐ Yes ☒ No

If **no**, proceed to Worksheet 11.1. If **yes**, attach descriptions of current and future production schedules and any plans or schedules for any new units planned within the next five years (a minimum of 60 mos)

Attachment: Click to enter text.

INDUSTRIAL WASTEWATER PERMIT APPLICATION WORKSHEET 11.1: IMPINGEMENT MORTALITY

This worksheet **is required** for all TPDES permit applications **that meet the conditions outlined in Technical Report 1.0, Item 12.** Complete one copy of this worksheet for **each** individual CWIS the facility uses or proposes to use.

CWIS ID: 001

Item 1. Impingement Compliance Technology Selection (Instructions, Page 107)

Check the box next to the method of compliance for the Impingement Mortality Standard selected by the facility.

- ☒ Closed-cycle recirculating system(CCRS) [*40 CFR § 125.94(c)(1)*]
- ☐ 0.5 ft/s Through-Screen Design Velocity [*40 CFR § 125.94(c)(2)*] – Proceed to Worksheet 11.2
- ☐ 0.5 ft/s Through Screen Actual Velocity [*40 CFR § 125.94(c)(3)*]
- ☐ Existing offshore velocity cap [*40 CFR § 125.94(c)(4)*] – Proceed to Worksheet 11.2
- ☐ Modified traveling screens [*40 CFR § 125.94(c)(5)*]
- ☐ System of technologies [*40 CFR § 125.94(c)(6)*]
- ☐ Impingement mortality performance standard [*40 CFR § 125.94(c)(7)*]
- ☐ De minimis rate of impingement [*40 CFR § 125.94(c)(11)*]
- ☐ Low capacity utilization power-generation facilities [*40 CFR § 125.94(c)(12)*]

If 0.5 ft/s Through-Screen Design Velocity [*40 CFR § 125.94(c)(2)*] or existing offshore velocity cap [*40 CFR § 125.94(c)(4)*] was selected, proceed to Worksheet 11.2. Otherwise, continue to Item 2.

Item 2. Impingement Compliance Technology Information (Instructions, Page 107)

Complete the following sections based on the selection made for item 1 above.

a. CCRS [*40 CFR § 125.94(c)(1)*]

☒ Check this box to confirm the CWS meets the definition of CCRS located at *40 CFR § 125.91(c)* and provide a response to the following questions.

1. Does the facility use or propose to use a CWIS to replenish water losses to the CWS?

   ☒ Yes ☐ No

   If **no**, proceed to item a.2. If **yes**, provide the following information as an attachment and continue.

   - CWIS ID
   - 12 months of intake flow data for any CWIS used for make-up intake flows to replenish cooling water losses, excluding intakes for losses due to blowdown, drift, or evaporation.

- A narrative description of any physical or operational measures taken to minimize make-up withdraws.

Attachment: FPP-TECH-15 Cooling Water

NOTE: Do not complete a separate Worksheet 11.1 for a make-up CWIS.

2. Does the facility use or propose to use cooling towers?

☐ Yes ☒ No

If **no**, proceed to Worksheet 11.2. If **yes**, provide the following information and proceed to Worksheet 11.2.

- Average number of cycles of concentration (COCs) prior to blowdown:

Average COCs Prior to Blowdown

Cooling Tower ID				
COCs				

- Attach COC monitoring data for each cooling tower from the previous year (a minimum of 12 months): Click to enter text.
- Maximum number of COCs each cooling tower can accomplish based on design of the system.

Calculated COCs Prior to Blowdown

Cooling Tower ID				
COCs				

- Describe conditions that may limit the number of COCs prior to blowdown, if any, including but not limited to permit conditions: Click to enter text.

b. 0.5 ft/s Through Screen Actual Velocity [*40 CFR § 125.94(c)(3)*]

Provide daily intake flow measurement monitoring data from the previous year (a minimum of 12 months) as an attachment and proceed to Worksheet 11.2.

Attachment: Click to enter text.

c. Modified traveling screens [*40 CFR § 125.94(c)(5)*]

Provide the following information as an attachment and proceed to Worksheet 11.2.

1. A description of the modified traveling screens and associated equipment.
2. A site-specific impingement technology performance optimization study that includes a narrative description of the biological data collection methods
3. Biological sampling data from the previous two years (a minimum of 24 months).

Attachment: Click to enter text.

d. System of technologies [*40 CFR § 125.94(c)(6)*] or impingement mortality performance standard [*40 CFR § 125.94(c)(7)]*

Provide the following information as an attachment and proceed to Worksheet 11.2.

1. A description of the system of technologies used or proposed for use by the facility to achieve compliance with the impingement mortality standard.

2. A site-specific impingement technology performance optimization study that includes a narrative description of the biological data collection methods.

3. Biological sampling data from the previous two years (a minimum of 24 months).

Attachment: Click to enter text.

e. De minimis rate of impingement [*40 CFR § 125.94(c)(11)*]

Provide the following information and proceed to Worksheet 11.2.

1. Attach monitoring data from the previous year (a minimum of 12 months) of intake flow measured at a frequency of 1/day on days of operation.

   Attachment: Click to enter text.

2. If the rate of impingement caused by the CWIS is extremely low (at an organism or age-one equivalent count), attach supplemental information to Worksheet 11.0, item 1.b.6. to support this determination.

   Attachment: Click to enter text.

f. Low capacity utilization power-generation facilities [*40 CFR § 125.94(c)(12)*]

Attach monthly utilization data from the previous 2 years (a minimum of 24 months) for each operating unit and proceed to Worksheet 11.2.

Attachment: Click to enter text.

INDUSTRIAL WASTEWATER PERMIT APPLICATION WORKSHEET 11.2: SOURCE WATER BIOLOGICAL DATA

This worksheet **is required** for all TPDES permit applications that **meet the conditions outlined in Technical Report 1.0, Item 12**. Complete one copy of this worksheet for **each** source waterbody of a CWIS for which a facility has selected an Impingement Mortality Technology Option described at *40 CFR §§ 125.94(c)(1)-(7)*.

Name of source waterbody: Lake Fayette

Item 1. Species Management (Instructions, Page 109)

a. The facility has obtained an incidental take permit for its cooling water intake structure(s) from the USFWS or the NMFS.

☐ Yes ☒ No

If yes, attach any information submitted in order to obtain that permit, which may be used to supplement the permit application information requirements of paragraph *40 CFR § 125.95(f)*.

Attachment: Click to enter text.

b. Is the facility requesting a waiver from application requirements at *40 CFR § 122.21(r)(4)* in accordance with *40 CFR § 125.95* for any CWIS(s) that withdraw from a man-made reservoir that is stocked and managed by a state or federal natural resources agency or the equivalent?

☒ Yes ☐ No

If **yes**, attach a copy of the most recent managed fisheries report to TPWD, or equivalent.

Attachment: FPP-TECH-16 TPWD Fisheries Report

c. There are no federally listed threatened or endangered species or critical habitat designations within the source water body.

☒ True ☐ False

Item 2. Source Water Biological Data (Instructions, Page 109)

New Facilities (Phase I, Track I and II)

- Provide responses to all items in this section and stop.

Existing Facilities (Phase II)

- If the answer to **1.b.** above was **no**, provide responses to all items in this section and proceed to Worksheet 11.3.
- If the answer to **1.b.** was **yes** and **1.c.** was **true**, do not complete any items in this section and proceed to Worksheet 11.3.
- If the answer to **1.b.** was **yes** and **1.c.** was **false**, attach a response for any item in this section that is not contained within the most recent TPWD, or equivalent and proceed to Worksheet 11.3.

Attachment: Click to enter text.

a. A list of the data requested at *40 CFR § 122.21(r)(4)(ii)* through *(vi)* that are not available, and efforts made to identify sources of the data.

b. Provide a list of species (or relevant taxa) in the vicinity of the CWIS and identify the following information regarding each species listed.
   - all life stages and their relative abundance,
   - identification of all species and life stages that would be most susceptible to impingement and entrainment,
   - forage base,
   - significance to commercial fisheries,
   - significance to recreational fisheries,
   - primary period of reproduction,
   - larval recruitment, and
   - period of peak abundance for relevant taxa.

c. Data representative of the seasonal and daily activities (e.g., feeding and water column migration) of biological organisms in the vicinity of the CWIS(s).

d. Identify all threatened, endangered, and other protected species that might be susceptible to impingement and entrainment at the CWIS(s).

e. Documentation of any public participation or consultation with federal or state agencies undertaken.

The following is required for existing facilities only. Include the following information with the above listed attachment.

f. Identify any protective measures and stabilization activities that have been implemented and provide a description of how these measures and activities affected the baseline water condition in the vicinity of the intake.

g. A list of fragile species, as defined at *40 CFR § 125.92(m)*, at the facility. The applicant need only identify those species not already identified as fragile at *40 CFR § 125.92(m)*.

NOTE: New units at an existing facility are not required to resubmit this information if the cooling water withdrawals for the operation of the new unit are from an existing intake.

INDUSTRIAL WASTEWATER PERMIT APPLICATION WORKSHEET 11.3: ENTRAINMENT

This worksheet **is required** for all TPDES permit applications that **meet the conditions outlined in Technical Report 1.0, Item 12**. Complete one copy of this worksheet for **each** individual CWIS the facility uses or proposes to use.

CWIS ID: 001

Item 1. Applicability (Instructions, Page 111)

Is the AIF of the CWIS identified above greater than, or equal to, 125 MGD?

☒ Yes ☐ No

- If **no** or the facility has selected **CCRS** [*40 CFR § 125.94(c)(1)*] for the impingement mortality compliance method, complete Item 2 and stop here.
- If **yes** and the facility is **seeking a waiver** from application requirements in accordance with *40 CFR § 125.95* for any CWIS(s) that withdraw from a man-made reservoir that is stocked and managed by a state or federal natural resources agency or the equivalent, complete item 2 and stop.
- If **yes** and the facility is **not seeking a waiver** from application requirements in accordance *with 40 CFR § 125.95*, complete item 2 and provide any required and completed studies listed in item 3. For any required studies in item 3 that are not complete, provide a detailed explanation for the delay and an anticipated schedule for completion and submittal.

Item 2. Existing Entrainment Performance Studies (Instructions, Page 111)

Attach any previously conducted studies or studies obtained from other facilities addressing technology efficacy, through-facility entrainment survival, and other entrainment studies.

Attachment: FPP-TECH-17 Existing Entrainment Studies

Item 3. Facility Entrainment Performance Studies (Instructions, Page 111)

a. Attach an entrainment characterization study, as described at *40 CFR § 122.21(r)(9)*: Click to enter text.

b. Attach a comprehensive feasibility study, as described as *40 CFR § 122.21(r)(10)*: Click to enter text.

c. Attach a benefits valuation study, as described as *40 CFR § 122.21(r)(11)*: Click to enter text.

d. Attach a non-water quality environmental and other impacts study, as described as *40 CFR § 122.21(r)(12)*: Click to enter text.

e. Attach a peer review analysis, as described as *40 CFR § 122.21(r)(13)*: Click to enter text.

TECHNICAL REPORT

ATTACHMENTS

1. FPP-TECH-1 Wastewater Processes
2. FPP-TECH-2 Facility Map
3. FPP-TECH-3 Water Balance
4. FPP-TECH-4 Pond Liner Information
5. FPP-TECH-5 Alternative Liner Information (Cell 2D Pond)
6. FPP-TECH-6 Groundwater Monitoring Plan
7. FPP-TECH-7 Wastestream Contributions for Outfalls 004, 201, and 301
8. FPP-TECH-8 Chemical Information
9. FPP-TECH-9 Amendment Requests
10. FPP-TECH-10 Laboratory Contract List
11. FPP-TECH-11 TCEQ Correspondence Approving Sampling
12. FPP-TECH-12 Pollutant Analysis for Outfall 002, 003, and 004
13. FPP-TECH-13 Receiving Waters for Outfall 002, 003, and 004
14. FPP-TECH-14 Solids Management Plan
15. FPP-TECH-15 Cooling Water
16. FPP-TECH-16 TPWD Fisheries Management Survey Report
17. FPP-TECH-17 Existing Entrainment Studies
18. FPP-TECH-18 Engineering Calculations and Pump Curves

ATTACHMENT FPP–TECH-1

Wastewater Generation Processes

The Fayette Power Project (FPP) is a steam electric power generating station. This facility has three coal fired generating units. The three coal-fired boilers have a total gross generation capacity of approximately 1,760 megawatts. Unit 1 came online for commercial use in 1979; Unit 2 in 1980; and Unit 3 in 1988. Units 1 and 2 are jointly owned by the Lower Colorado River Authority (LCRA) and the City of Austin, Texas. Unit 3 is wholly owned by the LCRA. The entire facility is operated by the LCRA.

FPP is located on the shores of Cedar Creek Reservoir/ Lake Fayette, in Fayette County, Texas about 7 1/2 miles east of La Grange, Texas. Cedar Creek Reservoir/Lake Fayette is a man-made reservoir, built for the specific purpose of providing cooling water for the plant's generating units. A river pumping station is installed on the Colorado River approximately 4.3 air miles from FPP, which intermittently pumps water into the beginning of the FPP discharge canal as make-up water for the reservoir. Wastewaters generated at the plant are authorized to be discharged by Texas Pollutant Discharge Elimination System (TPDES) Individual Permit No. WQ0002105000. This permit authorizes discharges from four external outfalls (001, 002, 003, and 004) and two internal outfalls (201 and 301).

Coal is delivered to FPP by rail and stored in outdoor piles. Activated carbon is delivered to FPP by truck and stored in silos. The carbon is pneumatically conveyed into Units 1, 2 and 3. The carbon is injected into each unit's flue gas stream.

Circulating and cooling water is pumped from the intake structure, treated with chemicals as necessary to reduce scale deposits and algae, used for cooling, and returned to the reservoir via Outfall 001. Circulating water travels through the unit condensers and cooling water (also known as auxiliary water) is used to cool the auxiliary equipment and for fire protection.

Units 1, 2 and 3 are equipped with wet limestone flue gas desulfurization (FGD) scrubbers. Limestone rock is transported to the plant via truck and stored in an enclosed building. The limestone rock is conveyed and then crushed and mixed with water to form slurry which is pumped to each unit's scrubber. In the scrubbers, the limestone slurry reacts with the flue gas to produce gypsum slurry which is pumped to a dewatering system where the solids and liquids are separated. The liquid portion is sent to the Reclaim Pond and to other holding tanks where it is reused in the scrubber and limestone preparation area. The solids are conveyed to a covered dome and then either sold or transported by truck to the Combustion Byproduct Landfill (CBL) or to a temporary storage building.

Fly ash is pneumatically transported to silos where it is loaded into trucks via telescoping chutes for sale or for transfer to the CBL for disposal or sale. Storm water runoff and truck wash water from the area around the Units 1 and 2 ash silos drain to the Ash Loading Runoff Pond and then is pumped to the Reclaim Pond. Storm water and truck wash water from the Unit 3 ash silo area drain directly to the Reclaim Pond.

Bottom ash is moved via a chain conveyor system and collected in concrete bunkers and then is transported via truck to the CBL for disposal or sale. Storm water at the U1 and U2 bottom ash bunkers

drains to a sump which is routed to the Reclaim Pond. Storm water at the U3 bottom ash bunker goes to the Unit 3 boiler area sump and then to the Reclaim Pond.

The Coal Pile Runoff (CPR) Pond receives storm water runoff from the coal pile and adjacent areas, low volume wastes, and stormwater from fuel storage, lube oil storage, transformers and other plant areas. Flocculent is added to the runoff prior to entering the CPR Pond. The CPR Pond has a settling chamber to allow the solids to settle out prior to entering the main body of the pond. This pond also receives wastewater from an oil-water separator, which receives wastewater from the turbine building drains. During maintenance or outages when plant equipment and piping must be drained, once-through cooling water, non-contact cooling water, or condensate water may be routed to this pond either via turbine floor drains (and oily water separator) or via surface drainage ditches. Water from this pond may be discharged via Outfall 003 to an unnamed tributary of Cedar Creek, discharged via Outfall 301 to the discharge canal (Outfall 001), or transferred to the Reclaim Pond.

The CBL Pond receives low volume wastes, truck wash water, and contact storm water from within the active areas of the CBL and from the Cell 2D storm water retention pond. Water from the CBL Pond can be discharged via Outfall 004 to an unnamed tributary of Cedar Creek, transferred to the Reclaim Pond, or used for dust suppression within the active area of the CBL.

The Cell 2D storm water retention pond receives contact storm water from the CBL Cell 2D and is transferred to the CBL Pond. Cell 2D pond water is used for mixing with materials in the landfill to create saleable products or can be used for dust suppression in the landfill. The CBL pond may also transfer water back to the Cell 2D pond.

Outfall 201 discharges the reject stream from the Reverse Osmosis (RO) water treatment system. The RO system reject streams may include chemicals used to protect and clean the RO membranes. Outfall 201 discharges into the discharge canal (Outfall 001). The reject stream from the RO can also be sent to the Reclaim Pond or the CPR Pond.

Outfall 002 discharges once-through cooling water or non-contact cooling water that is drained from plant equipment and piping during maintenance or unit outage. The equipment is drained, and the water then flows through a drainage system (i.e. west plant drainage ditch system) to an unnamed tributary to Cedar Creek. The location of Outfall 002 includes multiple locations where the various sources of water enter the drainage system within the plant.

Domestic wastewater is treated by a domestic wastewater package plant and the effluent is routed to the Reclaim Pond. A second wastewater treatment plant is currently not in use.

The Reclaim Pond is a process pond that recirculates wastewater for use in the plant's scrubber system. The Reclaim Pond receives wastewaters from various sources including, but not limited to, cooling water, coal pile runoff, low volume waste sources, treated domestic wastewater, boiler blowdown, metal cleaning waste, stormwater, wastewater from the Ash Loading Runoff Pond, CBL Pond, CPR Pond, and leachate from the Ash Pond (closed and capped and converted to a landfill in 2012) via the lateral drain sump. The Reclaim Pond is a no-discharge pond.

Stormwater runoff from the industrial areas of the Fayette Power Plant not covered under this industrial wastewater permit is authorized under the industrial stormwater Texas Pollutant Discharge Elimination System (TPDES) General Permit No. TXR050000.

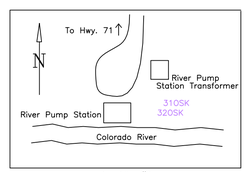
SUMP LOCATIONS

1. Lateral Drains Sump
2. Coal Reclaim Tunnel 6 Sump (Bottom of #6 Conveyor)
3. Coal Reclaim Conveyor 15 Sump
4. Tunnel 1 Sump (Car Dumper Sump)
5. Limestone Receiving Conveyor 51 Sump
6. Limestone Reclaim Conveyor 52 A/B Sump
7. Gypsum Conveyors 65 & 66 Sump
8. Dewatering Seal Water Sump
9. Dewatering Over-Flow Sump
10. Filter Feed Tank Area Sump
11. Unit 3 Domestic Waste Lift Station
12. Unit 3 Thickener Underflow Sump
13. Unit 3 Spare Thickener Underflow Sump
14. Pipe Rack Sump
15. Unit 3 Light Oil Storage Area Sump
16. Unit B Limestone Prep Sump
17. Unit C Limestone Prep Sump
18. Shared Facilities Switchgear Vault Sump
19. T4 Crusher Building Sump
20. Unit 3 Limestone Booster Pump Area Sump
21. Unit 3 Waste Slurry Sump
22. Unit 3 FGD Elevator Sump
23. Unit 3 Boiler Area Sump
24. Unit 3 Boiler Elevator Sump
25. Unit 3 Control Elevator Sump
26. Unit 3 Neutralization Basin
27. Unit 2 Turbine Building Sump
28. Unit 1 Turbine Building Sump
29. Units 1&2 Domestic Waste Lift Station
30. Unit 1 Condenser Pit Sump
31. Unit 2 Condenser Pit Sump
32. Unit 2 Boiler Elevator Sump
33. Unit 1 Boiler Elevator Sump
34. Unit 2 Ash Area Sump
35. Unit 1 Ash Area Sump
36. Units 1&2 Neutralization Basin Sump
37. Oil/Water Separator Sump
38. Unit 2 Absorber Sump
39. Units 1&2 Absorber Elevator Sump
40. Unit 1 Absorber Sump
41. Units 1&2 Scrubber Electrical Building Sump
42. Units 1&2 Scrubber Electrical Building Vault Sumps (North & South)
43. Units 1&2 Scrubber Compressor Building Sump
44. Unit 3 Domestic Effluent Sump
45. Unit 3 Domestic Waste Grinder Pump Lift Station
46. Shared Facilities Sump
47. Unit 2 Polisher Building Sump
48. Unit 1 Polisher Building Sump
49. A2E Electrical Building Center Vault Sump
50. Unit A Scrubber Emergency Holding Tank Sump

Baylor Creek
CDL SEED
INACTIVE CONSTRUCTION LANDFILL
Surface Area-0.5 ac.
Ash Loading Runoff Pond
1.15 Paved Road 19.37 Acres
SANITARY LANDFILL
Austin Loop
Halsted Road
300SK
001 (END OF DISCHARGE CANEL)
Discharge Channel
Wildlife Pond
ENTRANCE & EXIT TO PARK
Scenic Park Drive
Lakeview Drive
Intake
200SK 210SK
220SK 230SK
Lakeview Drive
Cooling Pond
U1&2 SWITCHYARD
ADMIN. BLDG.
160SK
140SK
Oily Waste Separator
130SK
ASH MARKETER
SANDBLAST AREA
PARKING LOT
9ASK
220SK
12SK
201
1MSK
UNIT
Watt Way
U1 Activated Carbon Silo
6ASK
002
240SK
150SK
205SK
180SK
002MSK
UNIT
245SK
405SK
U2 Activated Carbon Silo
805SK
002
40SK
145SK
270SK
405SK
002
UNIT
U3 Activated Carbon Silo
5MSK
60SK
BOILER BUILDING
170SK
12OSK
120SK
60SK
270SK
BA3
BTU Blvd.
House St.
Ash Alley
Generator Plain
Main Road
FGD
50SK
70SK
140SK
UNITS 1 & 2 COAL STOCK PILE
100SK
280SK
290SK
Domestic Wastewater Treatment Plant
UNIT 3 COAL STOCK PILE
ASH POND LANDFILL CLOSED AND CAPPED
Cedar Creek Trail
TOE DRAIN #8
OVERFLOW OUTLET
TOE DRAIN #7
CUTOFF TRENCH DRAINS
Deer Run
Cedar Creek Trail
10ASK
UNIT 3 SWITCHYARD
LUBE OIL STORAGE
FGD DEWATER
LIMESTONE HANDLING
A-FRAME
350SK
180SK
380SK
FGD BY-PRODUCT DOME
90SK
6ASK
11ASK
Limestone Lane
FGD STACKOUT
FLY ASH SILOS
Vehicle Drive
110SK
7ASK
Reclaim Road
62.8 AC Paved Road or Surface 173.90 AC
301
COAL PILE RUNOFF POND
003
Cedar Creek
Surface Water Receiving Stream
Unnamed Tributary of Cedar Creek
Miller J. Reid Avenue
Byproducts Road
COMBUSTION BYPRODUCT LANDFILL EXISTING CELL
RECLAIM POND
COMBUSTION BYPRODUCT LANDFILL CELL 2D
CELL 2D POND
Deer Run
370SK
Entrance & Exit Guard Gate
COMBUSTION BYPRODUCTS LANDFILL POND
004
TO HWY 71 & RIVER PUMP STATION (See Detail #1)

LEGEND

- Sumps
- Roof Drains
- Storm Drains
- Manholes
- Lift Stations
- Surface Drainage Ditch
- Fire Hydrants
- Slide Gates
- Wastewater Outfall Location
- ST — Sewage Treatment Plant
- OSK — Oil Spill Kits
- DSK — Drain Spill Kits
- MSK — Mercury Spill Kits
- ASK — Acid/Caustic Spill Kits
- Intermittent Stream
- Perennial Stream



DETAIL #1

N

0 SCALE 500'

APPROXIMATE

REV.	DATE	REVISION DESCRIPTION	BY	CHKD.	APPD.	APPD.
4	08/03 2021	REVISED PER– Outfall changes– Julie's Request	EV			
3	11–28 2017	REVISED PER– ADDED SUMPS	EV			
2	11–08 2017	REVISED PER– JULIE'S REQUEST	EV			
1	06–09 2013	REVISED FOR PERMIT	SEB	JP	JP	
5	09/09 2021	REVISED PER– JULIE'S REQUEST	EV			

DRAWN SEB
CHECKED
ENGR. SUPV.
APPROVED

LOWER COLORADO RIVER AUTHORITY
FPP DRAFTING DEPARTMENT LAGRANGE, TEXAS

FAYETTE POWER PROJECT

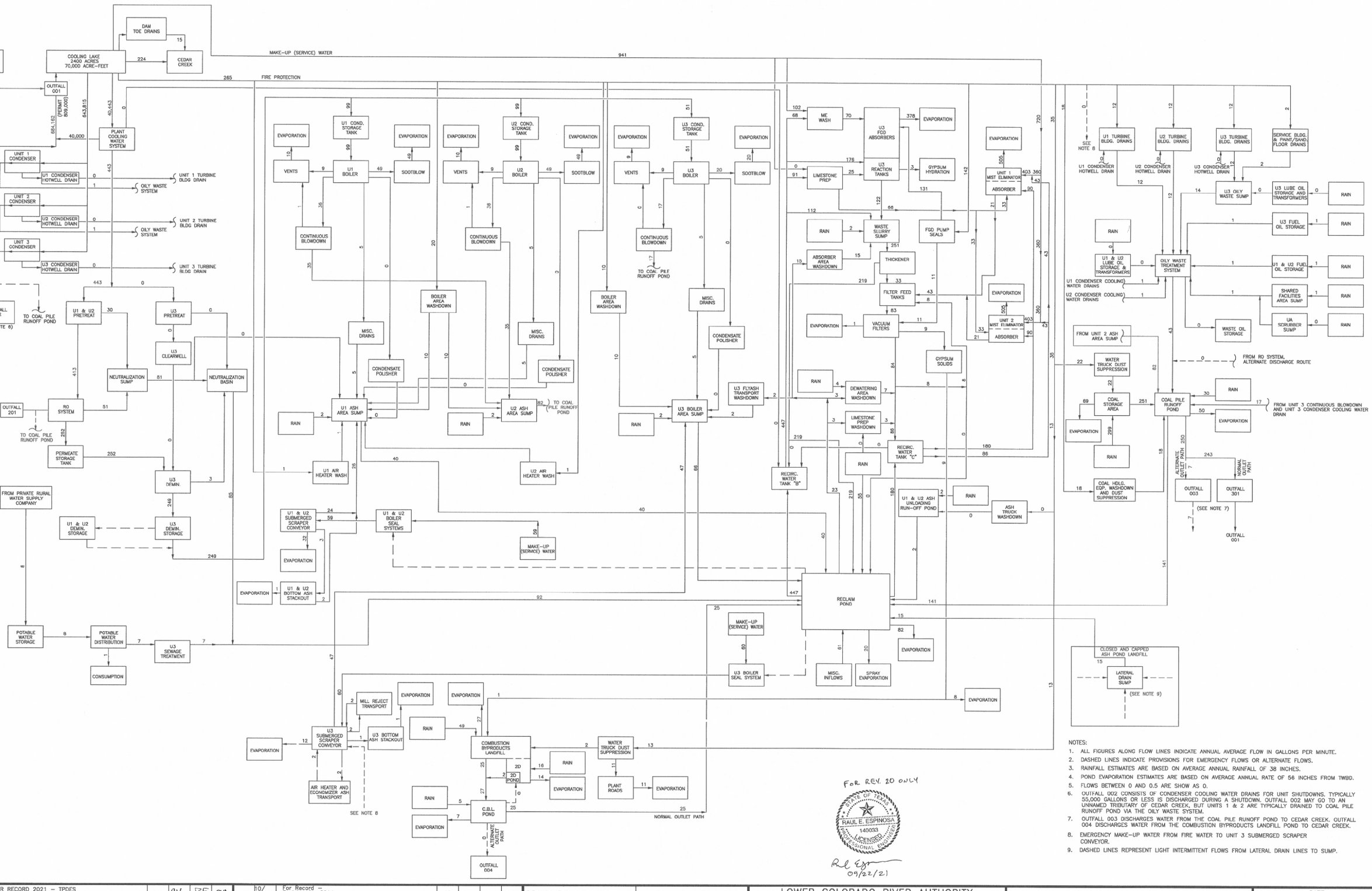
FAYETTE POWER PROJECT
FPP–TECH–2
FACILITY MAP

CAD VERSION
FILE NAME
FILE DATE
DATE | SCALE AS NOTED
DWG. NO.
FACILITY PERMIT

1 2 3 4 5 6 7 8

A B C D E F G H

5



NOTES:

1. ALL FIGURES ALONG FLOW LINES INDICATE ANNUAL AVERAGE FLOW IN GALLONS PER MINUTE.
2. DASHED LINES INDICATE PROVISIONS FOR EMERGENCY FLOWS OR ALTERNATE FLOWS.
3. RAINFALL ESTIMATES ARE BASED ON AVERAGE ANNUAL RAINFALL OF 38 INCHES.
4. POND EVAPORATION ESTIMATES ARE BASED ON AVERAGE ANNUAL RATE OF 56 INCHES FROM TWBD.
5. FLOWS BETWEEN 0 AND 0.5 ARE SHOW AS 0.
6. OUTFALL 002 CONSISTS OF CONDENSER COOLING WATER DRAINS FOR UNIT SHUTDOWNS. TYPICALLY 55,000 GALLONS OR LESS IS DISCHARGED DURING A SHUTDOWN. OUTFALL 002 MAY GO TO AN UNNAMED TRIBUTARY OF CEDAR CREEK, BUT UNITS 1 & 2 ARE TYPICALLY DRAINED TO COAL PILE RUNOFF POND VIA THE OILY WASTE SYSTEM.
7. OUTFALL 003 DISCHARGES WATER FROM THE COAL PILE RUNOFF POND TO CEDAR CREEK. OUTFALL 004 DISCHARGES WATER FROM THE COMBUSTION BYPRODUCTS LANDFILL POND TO CEDAR CREEK.
8. EMERGENCY MAKE-UP WATER FROM FIRE WATER TO UNIT 3 SUBMERGED SCRAPER CONVEYOR.
9. DASHED LINES REPRESENT LIGHT INTERMITTENT FLOWS FROM LATERAL DRAIN LINES TO SUMP.

FOR REV. 20 ONLY

STATE OF TEXAS
RAUL E. ESPINOSA
140033
LICENSED
PROFESSIONAL ENGINEER

09/22/21

Ltr.	Date	Revision	By	Chkd.	Appd.	Appd.
20	9/22/21	FOR RECORD 2021 – TPDES INDUSTRIAL WASTEWATER DISCHARGE MAJOR AMENDMENT	FS	EV	RE	AW
19	02/05/19	FOR RECORD – 2019	EV	FS	CS	AW
18	11/03/17	FOR RECORD END OF 2017 RECORD	FS	EV	CS	AW
17	10/21/14	For Record – Revision for 2014 Wastewater Discharge Permit Renewal Application	CR	RF	CS	SBA
16	10/02/14	For Record – Revision for 2014 Wastewater Discharge Permit Renewal Application	CR	RC	CS	SBA
15	9/17/14	For Record – Revision for 2014 Wastewater Permit Renewal Application	CR	RF	CS	SBA

DRAWN BY: C.RAMIREZ
CHECKED BY: E. Vera
APPROVED BY: CHRISTOPHER A. STEWART
APPROVED BY: AZAM WAUGH

LOWER COLORADO RIVER AUTHORITY
LAGRANGE, TEXAS
LOCATION
FAYETTE POWER PROJECT

UNITS 1,2, & 3 PLANT WATER BALANCE

DATE 1/29/97
SCALE NONE
DWG. NO. B-M-1WB-067

ATTACHMENT: FPP-TECH-4 Pond Liner Information

Reclaim Pond

- Bottom: 12 inches of recompacted clay topped by 12 inches of Type II fill.
- Side Slopes: 12 inches of recompacted clay, topped by 12 inches of Type II fill, topped by 6 inches of Class 5 riprap bedding, topped by 12 inches of Class 12 riprap.

Coal Pile Runoff Pond (CPR) Pond

- Bottom: 12 inches of clay and sandy clay recompacted to 95% of maximum density within 2% of optimum moisture content.
- Side Slopes: Embankment of Type I and II cohesive fill in 8-inch lift recompacted to 95% of maximum density within 2% of optimum moisture content. In 2024, riprap was added to the south slope of the embankment to address an area of erosion. The project was assessed by an engineer to ensure design permeability was maintained.

Combustion Byproducts Landfill (CBL) Pond

- Bottom and side slopes: 12 inches of recompacted clay, topped by 12 inches of Type II fill.

Ash Silo Pond (also known as Ash Loading Runoff Pond)

- Bottom: 12 inches of recompacted clay, topped by 12 inches of Type II fill.
- Side Slopes: 12 inches of recompacted clay, topped by 6 inches of Class 5 riprap bedding, topped by 12 inches of Class 12 riprap. The bottom and side slopes have also been lined with a flexible membrane liner.

Liner Permeability Data:

Liners for the impoundments, most of which were built in the late 1970s, were constructed to meet a criterion of a minimum three feet of cohesive soil with a permeability of 1×10^{-7} cm/sec. The thickness of the liner was adjusted for the permeability of the liner material. For example, to achieve an equivalent seepage control in the Ash Pond (now closed and capped and converted to a landfill) a liner thickness of 4.8 feet was used to adjust for the average permeability of in-situ soils of 1.6×10^{-7} cm/sec. (National Soil Services, Inc. Report No. 7767, August 12, 1977).

In-Situ Soils Data:

The geology of the power plant site is generally described as follows: Clay units of the basal Willis Formation overlying interbedded sand, sandy clay and clay layers of the uppermost Oakville Formation. On the east side of the plant, the Ash Pond (now closed and capped and converted to a landfill) and the Coal Pile Runoff Pond are underlain by firm sandy clay of variable thickness, with an average permeability of 1.6×10^{-7} cm/sec (range: 0.04 x 10-7 cm/sec to 5.92 x 10-7 cm/sec). Beneath the surficial clay is a transmissive layer of dense silty sand and fine sand about 10 to 20 feet thick. This is the shallowest water-bearing unit, but it is not an aquifer used for water supply in the area. Underlying the sand unit is a hard gray clay about 40 to 50 feet thick, which effectively forms a confining bed preventing downward percolation of groundwater to major aquifers at the power plant.

ATTACHMENT: FPP-TECH-5 Alternative Liner Information (Cell 2D Pond)

TCEQ Interoffice Memorandum

To: Karen V. Holligan, -Industrial Permit Writer

Thru: Mike Lindner, Industrial Permits Team Leader

From: Louis C. Herrin, III, P.E., Water Quality Division

Date: March 10, 2014

Subject: **Alternate Pond Liner Proposal, LCRA Fayette power Plant WQ0002105-005**

RE: **Log Number 0114/092**

I have review the information that was submitted by Nancy Overesch, from Lower Colorado River Authority (LCRA) on the alternate pond liner proposal. LCRA is proposing to construct a new pond Sub cell 2D Contact Water Retention Pond (pond). The pond is approximately 1.6 surface acres, a working depth of 9 feet with two feet of freeboard. The operating capacity of the pond is approximately 2.6 million gallons. The proposed alternate liner consist of a 60-mil thick high density polyethylene (HDPE) and 2 foot thick clay liner with a permeability equal to or less than $1x10^{-7}$ cm/sec.

Based on the information that I review, I would grant the alternate pond liner proposal.

02/4/002

TCEQ Interoffice Memorandum

To: Louis C. Herrin, III, P.E. Engineer - Wastewater Permitting Section

James Moore, P.E., Engineer - Water Quality Assessment Section

From: David W. Hastings, P.G. Geologist - Water Quality Assessment Team

Date: February 5, 2014

RECEIVED
JAN 31 2014
WATER QUALITY DIVISION
TCEQ

Subject: **Alternate Pond Liner Proposal, LCRA Fayette Power Plant, WQ0002105-000**

Summary:

On January 31, 2014, the Water Quality Assessment (WQA) Team received a plan for the contact water retention pond for Subcell 2D of their existing Combustion Byproduct Landfill (CBL) at the LCRA's Fayette Power Plant (FPP) in La Grange. The plan was submitted by Ms. Nancy Overesch, of LCRA, and is entitled "2012 Annual Groundwater Monitoring Plan". The document includes a "Proposed Alternate Liner (Geomembrane/Compacted Soil Composite Liner)" for Subcell 2D Contact Water Retention Pond. The plan was signed and sealed by M. Zahirul Islam, Ph.D., P.E. and Beth A. Gross, Ph.D., P.E., both State of Texas licensed, under a Texas licensed Engineering Firm.

LCRA has submitted a minor amendment to the TCEQ for expansion of their CBL and TCEQ Water Quality Division permit writer has included the standard permit language for liners for new ponds:

All wastewater ponds must be lined in compliance with one of the following requirements:

(1) Soil Liner: The soil liner must contain clay-rich soil material (at least 30% of the liner material passing through a #200 mesh sieve, liquid limit greater than or equal to 30, and plasticity index greater than or equal to 15) along the sides and bottom of the pond. The liner material must be compacted in lifts of no more than 8 inches to 95% standard proctor density at the optimum moisture content in accordance with ASTM D 698 to achieve a permeability equal to or less than 1 × 10-7 cm/sec. The liner must be a minimum thickness of 2.0 feet for water depths less than or equal to 8.0 feet and a minimum thickness of 3.0 feet for water depths greater than 8.0 feet.

(2) Synthetic/Plastic/Rubber Liner: The liner must be either a plastic or rubber membrane liner at least 40 mils in thickness which completely covers the sides and the bottom of the pond and which is not subject to degradation due to reaction with wastewater with which it will come into contact. If this lining material is vulnerable to ozone or ultraviolet deterioration it must be covered with a protective layer of soil of at least six inches. A wastewater pond with a membrane liner must include an underdrain with a leachate detection and collection system.

(3) Alternate Liner: The permittee shall submit plans for any other pond lining method. Pond liner plans must be approved in writing by the Executive Director of the Texas Commission on Environmental Quality (TCEQ) prior to pond construction.

The alternate liner plan proposed by LCRA consists of a 60-mil thick HDPE geomembrane liner overlying a 2-foot thick compacted soil (clay-rich) liner to achieve a hydraulic conductivity of

equal to or less than 1 x 10-7 cm/sec. No underdrain with leachate detection and collection system is proposed. The operating depth of the pond is 9 feet with a freeboard of 2 feet. The capacity of the pond is approximately 2,600,000 gallons.

An alternate moisture-density range is proposed using the Proctor compaction test (ASTM D 1557), with the soil liner to be compacted to meet a maximum dry density equal to or greater than 1 percentage point dry of optimum as determined by the modified Proctor compaction test (ASTM D 1557). The proposal indicates the standard Proctor compaction test (ASTM D 698) or alternate approach (ASTM D 1557) is allowed by TCEQ for construction of compacted soil liners for MSW and hazardous waste landfills.

Issue(s) for WQD engineer

- Is the alternate approach (ASTM D 1557) for moisture-density and compaction allowed to meet the liner requirements?
- Would the proposal require leak detection? No leak detection system was proposed for the synthetic liner, although monitor wells are in place.

Local Geology:
The Lower Colorado River Authority (LCRA) property lies over the Oakville Sandstone and the Willis Formation. The Oakville Sandstone is composed of sandstone and clay and is 200 to 500 feet thick. The Fleming Formation is composed of clay and sandstone and is approximately 1200 feet thick. The Willis Formation is composed of gravel, sand, silt, and clay; mostly gravel inland. The Willis Formation is approximately 100 feet thick.

Groundwater:
The facility is located on the Gulf Coast aquifer, designated a major aquifer by the Texas Water Development Board (TWDB). The Gulf Coast aquifer consists of complex interbedded clays, silts, sands, and gravels of Cenozoic age, which are hydrologically connected to form a large, leaky artesian aquifer system. Water well drillers reports indicate an alternating sequence of sand, sandstone, clay, shale, and some gravel. Well depths range from 26 (upper Oakville) to 800 feet (Oakville) below ground level (bgl). Static water levels range from 17 to 200 feet bgl.

LCRA identifies three groundwater bearing units underlying the facility, the Upper, Middle, and Lower Sand units. The Upper Sand unit is discontinuous on the property with a thickness of 5 to 20 feet. LCRA states that water infiltrating into this unit probably drains out through seeps along a hill side within the facility boundaries. The Middle Sand unit is a laterally-contiguous groundwater unit that occurs under most of the facility. The unit is approximately 20 to 30 feet thick and thins to the south and southwest. A clay-rich layer separates the Upper and Middle sands. The Middle sands are thought to be in communication with Cedar Creek Reservoir. This unit is thought to extend beyond the property boundaries. A 50 to 70 foot clay layer separates the Middle and Lower sand units.

The facility has been performing semi-annual routine groundwater monitoring for several years and some contaminants of concern (COCs) have been identified in the groundwater at levels exceeding either a drinking water maximum contaminant level or

a protective contaminant level under the Texas Risk Reduction Program (TRRP). LCRA is working with TCEQ Remediation Division (Gary Beyer) to identify the remedial activities required for the site and to initiate closing the ash pond (likely source of groundwater contamination).

Two monitor wells appear to be down-gradient to the pond, CBL-3061 and CBL-3. Both wells monitor the intermediate sand. The upper sand appears to thin and/or "pinch out" in the subsurface in the area of the proposed pond as shown in Figure 6 "Potentiometric Surface Map of the Upper Sand". It is possible that these monitor wells might be suitable to monitor the retention pond for leaks to groundwater and could be used as the leak detection system.

The facility collected additional geotechnical and hyrdrogeologic information as part of the development of the Cell 2 plan and specifically in the area of Subcell 2D. It appears that the intermediate sand units are not present within 5 feet of the base of the proposed liner system.

Existence of any perched groundwater:
Literature does not indicate the existence of a perched groundwater table.

Groundwater use (irrigation, stock, drinking, rig supply, etc:
The Gulf Coast Aquifer is the principal aquifer for this area. Groundwater use appears to be mostly domestic, and for stock and irrigation.

Identification of local soil types (from Web Soil Survey):
According to the Web Soil Survey, the retention pond appears to be located on a soil type mapped as Straber gravelly loam fine sand, 2 to 5 percent slopes. No shallow water table was noted for this soil type. This soil is rated as somewhat limited for use as a retention pond and as a pond reservoir due to slope.

Drastic rating:
95 - 109

ATTACHMENT: FPP-TECH-6 Groundwater Monitoring Plan

Per the TCEQ TPDES Permit Conditions, FPP submits an annual and semi-annual groundwater monitoring report to the TCEQ Water Monitoring Division. The most recent report was submitted on March 14, 2025 to Ms. April Hoh, Water Quality Assessment Team, TCEQ.

ATTACHMENT: FPP-TECH-7 Wastestream Contributions for Outfalls 004, 201, and 301

Industrial Wastewater Permit Application Technical Report, Item 4

Outfall No.: 004

Contributing Wastestreams	Volume (MGD)	% of Total Flow
Stormwater runoff and low volume waste sources, including truck wash water from combustion byproducts landfill area	0.00*	100%
*has not discharged since 2021		

Outfall No.: 201

Contributing Wastestreams	Volume (MGD)	% of Total Flow
Low volume wastes including reject stream from reverse osmosis system	0.13	100%

Outfall No.: 301

Contributing Wastestreams	Volume (MGD)	% of Total Flow
Coal pile runoff	0.54	57%
Low volume waste sources, including but not limited to, oily waste treatment system, blowdown, condenser drains, coal handling equipment wash down, and reject stream from reverse osmosis system	0.34	36%
Stormwater runoff	0.06	7%

Attachment: FPP-TECH-08 Chemical Information

Fayette Power Project Chemical Information

Number	Product Name[1]	Product Use	Product Classification	Chemical Composition	CAS Registry Number	Weight Percent	Product/ Active Ingredient Half-Life	Plant Use Rate[2]	Product Use Frequency	Concentration of Productin Outfall 001 in Waste Stream	Ecological Information (Species/Exposure/TestType/Value/TestDescriptor)	Outfall	Waste Stream
1	**Univar Sodium Hypochlorite**	Source of chlorine	From Safety Data Sheet (SDS): No data available.	Sodium Hypochlorite Sodium Hydroxide	7681-52-9 1310-73-2	12.5% 0-5%	No data is available on SDS.	Up to 1.0 ppm per hour	Up to 2 hr per Unit per day for 7 days a week	Salts of sodium chloride, sodium bromide, and water (concentration not calculated)	TOXICITY TO AQUATIC ORGANISMS: FISH RESULTS: Rainbow fish/ 96 hrs/ LC50/ 0.06 mg/L Fathead minnow/ 96 hrs/ LC50/ 5.9 mg/L INVERTEBRATE RESULTS : Ceriodaphnia dubia/ 48 hrs/ EC50/ 0.035 mg/L Daphnia magna/ 48 hrs/ EC50/ 0.141 mg/L	001	Circulating and Aux Cooling Water
2	**ChemTreat CL41**	Biocide	From SDS: Not determined	Sodium bromide	7647-15-6	40%	No data is available on SDS.	Up to 0.834 lbs/MG per Unit	Up to 2 hr per Unit per day for 7 days a week	Salts of sodium bromide and water. (Concentration not calculated)	TOXICITY TO AQUATIC ORGANISMS: FISH RESULTS: Fathead minnow/ 96 hrs/ LC50/ >10000 mg/L Sheepshead minnow/ 96 hrs/ LC50/ >10000 mg/L INVERTEBRATE RESULTS : Ceriodaphnia dubia/ 48 hrs/ LC50/ 7650 mg/L Mysid Shrimp/ 48 hrs/ LC50/ >10000 mg/L	001	Circulating and Aux Cooling Water
3	**UNIVAR K-Brom 40 (backup for ChemTreat CL41)**	Biocide	From SDS: No data available on SDS	Sodium bromide	7647-15-6	38.8-41.2%	No data is available on SDS.	Up to 0.834 lbs/MG per Unit	Up to 2 hr per Unit per day for 7 days a week	Salts of sodium bromide and water. (Concentration not calculated)	TOXICITY TO AQUATIC ORGANISMS: Bluegill/ 96 hrs / LC50/ 1,000 mg/l/ Active Ingredient Water Flea (Daphnia magna)/24 hrs/ EC50/ 5,800,000 ug/l/ Active Ingredient	001	Circulating and Aux Cooling Water
4	**ChemTreat CL4635**	Scale and Corrosion Inhibitor	From SDS: Not determined.	From SDS: Components are either non hazardous or in concentration of less than 1%	From SDS: N/A	N/A	No data is available on SDS.	Up to 0.2085 lbs/MG per Unit	Continuous	Concentration not calculated	TOXICITY TO AQUATIC Ceriodaphnia dubia/ 48 hrs/ LC50/ 1005 mg/L Fathead minnow/ 96 hrs/ LC50/ 6325 mg/L	001	Circulating and Aux Cooling Water
5	**Aqueous Ammonia (29% at FPP)**	pH Control	From SDS: No data available.	Ammonium Hydroxide Water	1136-21-6 7732-18-5	>=10 - <=35% >=65 - <=90%	No data is available on SDS.	As needed (~250 gallons per year for all Units)	Dosed to maintain a pH of 9.1 – 9.3 in the condensate pump discharge on each unit.	Concentration not calculated	TOXICITY TO AQUATIC FISH RESULTS: Fathead minnow/ 24 hrs/ LC50/ 17 mg/L /Ammonium Hydroxide Goldfish/ 24 hrs/ LC50/ 17 mg/L /Ammonium Hydroxide Western Moquitofish/ 24 hrs/ LC50/ 18 mg/L /Ammonium Hydroxide Channel Catfish/ 24 hrs/ LC50/ 2.36 mg/L /Ammonium Hydroxide Fathead minnow/ 24 hrs/ LC50/ 23.02 mg/L /Ammonium Hydroxide INVERTEBRATE RESULTS : Water flea (Daphnia magna)/ 25 hrs/ LC50/ 60 mg/L /Ammonium Hydroxide Water flea (Ceriodaphnia dubia)/ 48 hrs/ LC50/ >0 - <10 mg/L /Ammonium Hydroxide Water flea (Daphnia magna)/ 50 hrs/ LC50/ 32 mg/L /Ammonium Hydroxide Water flea (Daphnia magna)/ 100 hrs/ LC50/ 20 mg/L /Ammonium Hydroxide	301 or 003	Boiler Blowdown

Acronyms:

CAS - Chemical Abstracts Service	mg/L - Milligrams Per Liter
EC50 - Half Maximal Effective Concentration	ppm - Parts Per Million
hr - Hour	ug/L - Micrograms Per Liter
lbs/MG - Pounds Per Million Gallon	SDS-Safety Data Sheet

LC50 - The effluent concentration which is lethal to 50 percent of the test organisms in the time period prescribed by the test

Notes:

1. Per permit application instructions, chemicals used in boilers and cooling water are included. Chemicals used in water treatment systems are not included.
2. Quantity is either based on actual use or estimated use

Prepared by Julie Podbielski, LCRA. Confirmed by Ty Brown, Power Plant Chemist

Safety Data Sheet
SODIUM HYPOCHLORITE 12.5% LIQUICHLOR®

Version 1.14 Revision Date: 03/31/2021

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : SODIUM HYPOCHLORITE 12.5% LIQUICHLOR®

Recommended use of the chemical and restrictions on use

Recommended use : Industrial chemical
Disinfectant.

Manufacturer or supplier's details

Company : Univar Solutions USA, Inc.
Address 3075 Highland Pkwy Suite 200
Downers Grove, IL 60515
United States of America (USA)

Emergency telephone number:
Transport North America: CHEMTREC (1-800-424-9300)
CHEMTREC INTERNATIONAL Tel # 703-527-3887

Additional Information: : Responsible Party: Product Compliance Department
E-mail: SDSNA@univarsolutions.com
SDS Requests: 1-855-429-2661
Website: www.univarsolutions.com

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Corrosive to metals : Category 1

Skin corrosion : Category 1

Serious eye damage : Category 1

GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.

Precautionary statements : **Prevention:**
P234 Keep only in original container.
P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately

all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
P363 Wash contaminated clothing before reuse.
P390 Absorb spillage to prevent material damage.
Storage:
P405 Store locked up.
P406 Store in corrosive resistant container with a resistant inner liner.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

CAS-No.	Chemical name	Weight percent
7681-52-9	Sodium hypochlorite	12.5
1310-73-2	Sodium hydroxide	0 - 5

Actual concentration is withheld as a trade secret
Any Concentration shown as a range is due to batch variation.

SECTION 4. FIRST AID MEASURES

General advice : Show this safety data sheet to the doctor in attendance.
Move out of dangerous area.
Consult a physician.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.

If inhaled : Take victim immediately to hospital.

Move to fresh air.

If breathing has stopped, apply artificial respiration.

If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician.

In case of skin contact : In case of contact, immediately flush skin with plenty of water

for at least 15 minutes while removing contaminated clothing and shoes.
Remove contaminated clothing. If irritation develops, get medical attention.
Burns must be treated by a physician.

Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.
If on skin, rinse well with water.
If on clothes, remove clothes.

In case of eye contact : In case of eye contact
Immediately flush eye(s) with plenty of water.
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
If easy to do, remove contact lens, if worn.
If eye irritation persists, consult a specialist.
Take victim immediately to hospital.

Small amounts splashed into eyes can cause irreversible tissue damage and blindness.
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Continue rinsing eyes during transport to hospital.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.

If swallowed : Take victim immediately to hospital.
Do NOT induce vomiting.
Rinse mouth with water.
If victim is fully conscious, give a cupful of water.
If a person vomits when lying on his back, place him in the recovery position.

Clean mouth with water and drink afterwards plenty of water.
Keep respiratory tract clear.
Do NOT induce vomiting.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.
Take victim immediately to hospital.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Keep containers and surroundings cool with water spray.
Carbon dioxide (CO2)
Water spray
Foam
Dry powder

Unsuitable extinguishing media	:	High volume water jet
		High volume water jet
Specific hazards during fire-fighting	:	Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	:	No hazardous combustion products are known
Further information	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Special protective equipment for firefighters	:	Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment.
Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Neutralise with acid. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.
Advice on safe handling	:	Do not breathe vapours/dust. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. To avoid spills during handling keep bottle on a metal tray. Dispose of rinse water in accordance with local and national regulations.
Conditions for safe storage	:	Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and

kept upright to prevent leakage.
Observe label precautions.
Electrical installations / working materials must comply with the technological safety standards.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

CAS-No.	Components	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
7681-52-9	Sodium hypochlorite	STEL	2 mg/m3	US WEEL
1310-73-2	Sodium hydroxide	C	2 mg/m3	ACGIH
		C	2 mg/m3	NIOSH REL
		TWA	2 mg/m3	OSHA Z-1
		C	2 mg/m3	OSHA P0

Personal protective equipment

Respiratory protection : General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

Hand protection

Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Eye wash bottle with pure water
Tightly fitting safety goggles
Wear face-shield and protective suit for abnormal processing problems.

Skin and body protection : Impervious clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures : When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Colour	:	clear yellow
Odour	:	Chlorine
Odour Threshold	:	No data available
pH	:	11.5 - 13
Freezing Point (Melting point/freezing point)	:	-20 - -15 °C (-4 - 5 °F)
Boiling Point ()	:	230 °F (230 °F) Decomposition: Decomposition temperature
Flash point	:	Not Flammable
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Upper explosion limit	:	No data available
Lower explosion limit	:	No data available
Vapour pressure	:	12 - 17.5 mmHg @ 20 °C (68 °F)
Relative vapour density	:	No data available
Relative density	:	1.17 @ 20 °C (68 °F) Reference substance: (water = 1)
Density	:	No data available
Solubility(ies) Water solubility	:	completely soluble
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Thermal decomposition	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No decomposition if stored and applied as directed.

Chemical stability	:	No decomposition if stored and applied as directed.
Possibility of hazardous reactions	:	No decomposition if stored and applied as directed.
Conditions to avoid	:	No data available
Incompatible materials	:	Acids Combustible material Halogenated compounds Metals metal salts Organic materials organic nitro compounds Zinc

SECTION 11. TOXICOLOGICAL INFORMATION

Skin corrosion/irritation

Product:

Remarks: Extremely corrosive and destructive to tissue.

Components:

7681-52-9:
Species: Rabbit
Result: Causes burns.

1310-73-2:
Species: Rabbit
Result: Causes severe burns.

Serious eye damage/eye irritation

Product:

Remarks: May cause irreversible eye damage.

Components:

7681-52-9:
Species: Rabbit
Result: Risk of serious damage to eyes.

1310-73-2:
Species: Rabbit
Result: Risk of serious damage to eyes.

Carcinogenicity

IARC	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.
NTP	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

STOT - single exposure

Components:

7681-52-9:
Assessment: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

Further information

Product:

Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

7681-52-9:

Toxicity to fish	:	LC50 (Salmo gairdneri (Rainbow Fish)): 0.06 mg/l Exposure time: 96 h Test Type: flow-through test LC50 (Pimephales promelas (fathead minnow)): 5.9 mg/l Exposure time: 96 h Test Type: static test
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0.141 mg/l Exposure time: 48 h Test Type: flow-through test EC50 (Ceriodaphnia dubia): 0.035 mg/l Exposure time: 48 h Test Type: flow-through test
Toxicity to algae	:	IC50: 0.023 mg/l Exposure time: 7 d Test Type: flow-through test
M-Factor (Acute aquatic toxicity)	:	10

Acute aquatic toxicity- Assessment	:	Very toxic to aquatic life.
Chronic aquatic toxicity- Assessment	:	Toxic to aquatic life with long lasting effects.

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

Product:

Ozone-Depletion Potential	:	Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).
Additional ecological information	:	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic life. Harmful to aquatic life with long lasting effects.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company.
Contaminated packaging	:	Empty remaining contents. Dispose of as unused product. Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

DOT (Department of Transportation):
UN1791, Hypochlorite solutions, 8, III , Marine Pollutant (SODIUM HYPOCHLORITE)

IATA (International Air Transport Association):
UN1791, Hypochlorite solution, 8, III

IMDG (International Maritime Dangerous Goods):
UN1791, HYPOCHLORITE SOLUTION, 8, III, Marine Pollutant (SODIUM HYPOCHLORITE)

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Sodium hypochlorite	7681-52-9	100	800
Sodium hydroxide	1310-73-2	1000	20000

SARA 304 Extremely Hazardous Substances Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Corrosive to metals
Skin corrosion or irritation
Serious eye damage or eye irritation

SARA 302 : This material does not contain any components with a section 302 EHS TPQ.

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:
7681-52-9 Sodium hypochlorite
1310-73-2 Sodium hydroxide
The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:
7681-52-9 Sodium hypochlorite
1310-73-2 Sodium hydroxide
This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

Massachusetts Right To Know

7681-52-9 Sodium hypochlorite
1310-73-2 Sodium hydroxide

Pennsylvania Right To Know

7732-18-5	Water
7681-52-9	Sodium hypochlorite
1310-73-2	Sodium hydroxide

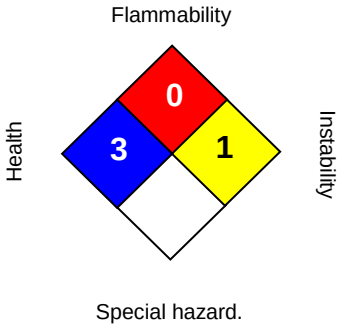
California Prop 65 : This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

The components of this product are reported in the following inventories:

TSCA	:	On TSCA Inventory
DSL	:	All components of this product are on the Canadian DSL
AICS	:	On the inventory, or in compliance with the inventory
NZIoC	:	Not in compliance with the inventory
ENCS	:	On the inventory, or in compliance with the inventory
KECI	:	On the inventory, or in compliance with the inventory
PICCS	:	On the inventory, or in compliance with the inventory
IECSC	:	On the inventory, or in compliance with the inventory

SECTION16. OTHER INFORMATION

NFPA:



HMIS III:

HEALTH	3/
FLAMMABILITY	0
PHYSICAL HAZARD	1

0 = not significant, 1 =Slight,
2 = Moderate, 3 = High
4 =Extreme, * = Chronic

The information accumulated is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made become available subsequently to the date hereof, we do not assume any responsibility for the results of its use. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This SDS has been prepared by Univar Solutions Product Compliance Department (1-855-429-2661) SDSNA@univarsolutions.com.

Revision Date : 03/31/2021

Legacy SDS: : R0004191

Material number:
16164756, 16164762, 16164766, 16173035, 16172686, 16173104, 16164347, 16164592, 16164731, 16164730, 16164686, 16164337, 16172598, 16147922, 16146040, 16151002, 16149524, 16158615, 16145640, 16148059, 16144666, 16147989, 16163791, 16160423, 16160441, 16158853, 16151253, 16149870, 16148071, 16148060, 16147684, 16147117, 16146776, 16146856, 16146855, 16146854, 16145965, 16145895, 16145890, 16145584, 16145260, 16145144, 16145142, 16145140, 16145138, 16145137, 16145133, 16145130, 16145079, 16163854, 16159810, 16150495, 16149123, 16147041, 16145471, 16144665, 16145772, 16145833, 16148433, 16148183, 16148162, 16145145, 16145046, 16143737, 16135287, 16163624, 16161401, 16148721, 16155765, 16158840, 16145484, 16166710, 16148748, 16148260, 16166763, 16166591, 16145834, 16166014, 16159793, 16162934, 16165524, 16165444, 16165066, 16137963, 16137823, 16137455, 16137753, 16147687, 16144215, 16149245, 16150496, 16149504, 16145673, 16149243, 16136536, 16153596, 16156860, 16160599, 16160181, 16160290

Key or legend to abbreviations and acronyms used in the safety data sheet			
ACGIH	American Conference of Government Industrial Hygienists	LD50	Lethal Dose 50%
AICS	Australia, Inventory of Chemical Substances	LOAEL	Lowest Observed Adverse Effect Level
DSL	Canada, Domestic Substances List	NFPA	National Fire Protection Agency
NDSL	Canada, Non-Domestic Substances List	NIOSH	National Institute for Occupational Safety & Health
CNS	Central Nervous System	NTP	National Toxicology Program
CAS	Chemical Abstract Service	NZIoC	New Zealand Inventory of Chemicals
EC50	Effective Concentration	NOAEL	No Observable Adverse Effect Level
EC50	Effective Concentration 50%	NOEC	No Observed Effect Concentration
EGEST	EOSCA Generic Exposure Scenario Tool	OSHA	Occupational Safety & Health Administration
EOSCA	European Oilfield Specialty Chemicals Association	PEL	Permissible Exposure Limit
EINECS	European Inventory of Existing Chemical Substances	PICCS	Philippines Inventory of Commercial Chemical Substances
MAK	Germany Maximum Concentration Values	PRNT	Presumed Not Toxic
GHS	Globally Harmonized System	RCRA	Resource Conservation Recovery Act
>=	Greater Than or Equal To	STEL	Short-term Exposure Limit
IC50	Inhibition Concentration 50%	SARA	Superfund Amendments and Reauthorization Act.
IARC	International Agency for Research on Cancer	TLV	Threshold Limit Value
IECSC	Inventory of Existing Chemical Substances in China	TWA	Time Weighted Average
ENCS	Japan, Inventory of Existing and	TSCA	Toxic Substance Control Act

	New Chemical Substances		
KECI	Korea, Existing Chemical Inventory	UVCB	Unknown or Variable Composition, Complex Reaction Products, and Biological Materials
<=	Less Than or Equal To	WHMIS	Workplace Hazardous Materials Information System
LC50	Lethal Concentration 50%		

SAFETY DATA SHEET

Section 1. Chemical Product and Company Identification

Product Name:	Chemical Treatment CL41
Product Use:	Cooling Water Microbiocide
Supplier's Name:	ChemTreat, Inc.
Emergency Telephone Number:	(800)424−9300 (Toll Free)
Address (Corporate Headquarters):	5640 Cox Road Glen Allen, VA 23060
Telephone Number for Information:	(800)648−4579
Date of SDS:	February 7, 2019
Revision Date:	February 7, 2019
Revision Number:	19020701AN

Section 2. Hazard(s) Identification

Signal Word: **None**

GHS Classification(s): Non−Hazardous Substance

Hazard Statement(s): Non−Hazardous Substance

Precautionary Statement(s):

Prevention: P264 Wash thoroughly after handling.

Response: P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing
P301 + 330 + 331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P314 Get medical advice/attention if you feel unwell.

Storage: None.

Disposal: None.

System of Classification Used: Classification under 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Hazards Not Otherwise Classified: None.

Section 3. Composition/Hazardous Ingredients

Component	CAS Registry #	Wt.%
Sodium bromide	7647−15−6	40

Comments If chemical identity and/or exact percentage of composition has been withheld, this information is considered to be a trade secret.

Section 4. First Aid Measures

Inhalation: Call a POISON CENTER or doctor/physician if you feel unwell.

Eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention.

Skin: Call a poison center or doctor/physician if you feel unwell.

Ingestion: Rinse mouth. Call a poison center or doctor/physician if you feel unwell.

Most Important Symptoms: N/D

Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary: Have the product container, label or MSDS with you when calling a poison control center or doctor, or when going for treatment.

Section 5. Fire Fighting Measures

Flammability of the Product: Not flammable.

Suitable Extinguishing Media: Use extinguishing media suitable to surrounding fire.

Specific Hazards Arising from the Chemical: None known.

Protective Equipment: If product is involved in a fire, wear full protective clothing including a positive−pressure, NIOSH approved, self−contained breathing apparatus.

Section 6. Accidental Release Measures

Personal Precautions: Use appropriate Personal Protective Equipment (PPE).

Environmental Precautions: Do not discharge effluent containing this product into lakes, ponds, streams, estuaries, oceans or public waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit, and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

Methods for Cleaning up: Contain and recover liquid when possible. Flush spill area with water spray.

Other Statements: None.

Section 7. Handling and Storage

Handling: Wear appropriate Personal Protective Equipment (PPE) when handling this product. Do not get in eyes, or on skin and clothing. Wash thoroughly after handling. Do not ingest. Avoid breathing vapors, mist or dust.

Storage: Store away from incompatible materials (see Section 10). Store at ambient temperatures. Keep container securely closed when not in use. Label precautions also apply to empty container. Recondition or dispose of empty containers in accordance with government regulations. For Industrial use only.
Store above Freeze Point.

Section 8. Exposure Controls/Personal Protection

Exposure Limits

Component	Source	Exposure Limits
Sodium bromide	N/E	N/E

Engineering Controls: Use only with adequate ventilation. The use of local ventilation is recommended to control emission near the source.

Personal Protection

Eyes: Wear chemical splash goggles or safety glasses with full−face shield. Maintain eyewash fountain in work area.

Skin: Wear appropriate chemical resistant gloves.

Respiratory: Under normal use conditions, this product does not create airborne exposures above the OSHA PEL for listed constituents.

Section 9. Physical and Chemical Properties

Physical State and Appearance:	Liquid, Colorless, Clear
Specific Gravity:	1.432 @ 20°C
pH:	7.5 @ 20°C, 100.0%
Freezing Point:	<−11°F
Flash Point:	N/D
Odor:	Odorless
Melting Point:	N/D
Initial Boiling Point and Boiling Range:	N/D
Solubility in Water:	N/D
Evaporation Rate:	N/A
Vapor Density:	N/D
Molecular Weight:	N/D
Viscosity:	<100 CPS @ 20°C
Flammability (solid, gas):	N/D
Flammable Limits:	N/A
Autoignition Temperature:	N/A
Density:	11.94 LB/GA
Vapor Pressure:	N/D
% VOC:	0
Odor Threshold	N/D
n−octanol Partition Coefficient	N/D

Decomposition Temperature N/D

Section 10. Stability and Reactivity

Chemical Stability: Stable at normal temperatures and pressures.

Incompatibility with Various Substances: Strong acids, Strong oxidizers.

Hazardous Decomposition Products: Bromine.

Possibility of Hazardous Reactions: None known.

Reactivity: N/D

Conditions To Avoid: N/D

Section 11. Toxicological Information

Acute Toxicity

Chemical Name	Exposure	Type of Effect	Concentration	Species
Sodium bromide	Oral	LD50	3500 MG/KG	Rat
	Dermal	LD50	2000 MG/KG	Rabbit
Chemical Treatment CL41	Oral	LD50	>5000 MG/KG	Rat
	Dermal	LD50	>2000 MG/KG	Rabbit

Carcinogenicity Category

Component	Source	Code	Brief Description
Sodium bromide	N/E	N/E	N/E

Likely Routes of Exposure: N/D

Symptoms

Inhalation: N/D

Eye Contact: N/D

Skin Contact: N/D

Ingestion: N/D

Skin Corrosion/Irritation: N/D

Serious Eye Damage/Eye Irritation: N/D

Sensitization: N/D

Germ Cell Mutagenicity: N/D

Reproductive/Developmental Toxicity: N/D

Specific Target Organ Toxicity

Single Exposure: N/D

Repeated Exposure: N/D

Aspiration Hazard: N/D

Comments: None.

Section 12. Ecological Information

Ecotoxicity

Species	Duration	Type of Effect	Test Results
Ceriodaphnia dubia	48h	LC50	7650 mg/l
Fathead Minnow	96h	LC50	>10000 mg/l
Mysid Shrimp	48h	LC50	>10000 mg/l
Sheepshead Minnow	96h	LC50	>10000 mg/l

Persistence and Biodegradability: N/D

Bioaccumulative Potential: N/D

Mobility In Soil: N/D

Other Adverse Effects: N/D

Comments: Based on active ingredient

Section 13. Disposal Considerations

PESTICIDE DISPOSAL: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.
CONTAINER DISPOSAL: Non−refillable container. Do not reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by procedures approved by state and local authorities.

Section 14. Transport Information

Controlling Regulation	UN/NA#:	Proper Shipping Name:	Technical Name:	Hazard Class:	Packing Group:
DOT	N/A	COMPOUND, INDUSTRIAL WATER TREATMENT, LIQUID	N/A	N/A	N/A
IMDG	N/A	COMPOUND, INDUSTRIAL WATER TREATMENT, LIQUID	N/A	N/A	N/A
TDG	N/A	COMPOUND, INDUSTRIAL WATER TREATMENT, LIQUID	N/A	N/A	N/A
ICAO	N/A	COMPOUND, INDUSTRIAL WATER TREATMENT, LIQUID	N/A	N/A	N/A
ANTT	N/A	COMPOUND, INDUSTRIAL WATER TREATMENT, LIQUID	N/A	N/A	N/A

Note: N/A

Section 15. Regulatory Information

Inventory Status

United States (TSCA): All ingredients listed.
Canada (DSL/NDSL): All ingredients listed.

Federal Regulations

SARA Title III Rules

Sections 311/312 Hazard Classes

Fire Hazard:	No
Reactive Hazard:	No
Release of Pressure:	No
Acute Health Hazard:	No
Chronic Health Hazard:	No

Other Sections

Component	Section 313 Toxic Chemical	Section 302 EHS TPQ	CERCLA RQ
Sodium bromide	N/A	N/A	N/A

Comments: None.

State Regulations

California Proposition 65: None known.

Special Regulations

Component	States
Sodium bromide	None.

Compliance Information

NSF: N/A

Food Regulations: N/A

KOSHER: This product is certified by the Orthodox Union as Kosher for Passover and year−round use.
Only when prepared by the following ChemTreat facilities: Ashland, VA; Eldridge, IA; Nederland, TX; Fontana, CA.

Halal: This product has not been evaluated for Halal approval.

FIFRA: Registered pesticide under 40 CFR 152.10, Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), EPA Registration Number: 15300−26.

Other: PMRA biocide registration NO. 30146.

Comments: None.

Section 16. Other Information

HMIS Hazard Rating

Health:	0
Flammability:	0
Physical Hazard:	0
PPE:	X

Notes: The PPE rating depends on circumstances of use. See Section 8 for recommended PPE.
The Hazardous Material Information System (HMIS) is a voluntary, subjective alpha−numeric symbolic system for recommending hazard risk and personal protection equipment information. It is a subjective rating system based on the evaluator's understanding of the chemical associated risks. The end−user must determine if the code is appropriate for their use.

Abbreviations

Abbreviation	Definition
<	Less Than
>	Greater Than
ACGIH	American Conference of Governmental Industrial Hygienists
EHS	Environmental Health and Safety Dept
N/A	Not Applicable
N/D	Not Determined
N/E	Not Established
OSHA	Occupational Health and Safety Dept
PEL	Personal Exposure Limit
STEL	Short Term Exposure Limit
TLV	Threshold Limit Value
TWA	Time Weight Average
UNK	Unknown

Prepared by: Product Compliance Department; ProductCompliance@chemtreat.com

Revision Date: February 7, 2019

Disclaimer

Although the information and recommendations set forth herein (hereinafter "information") are presented in good faith and believed to be correct as of the date hereof, ChemTreat, Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will ChemTreat, Inc. be responsible for damages of any nature whatsoever resulting from the use or reliance upon information. No representation or warranties, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature are made hereunder with respect to information or the product to which information refers.

Univar USA Inc Safety Data Sheet

SDS No:	
Version No:	002 2015-07-13
Order No:	

3075 Highland Pkwy, Ste 200, Downers Grove, IL 60515
(425) 889 3400

Emergency Assistance

For emergency assistance involving chemicals call
Chemtrec - (800) 424-9300

K-BROM 40

SAFETY DATA SHEET

Printed: 04/08/2015
Revision: 04/08/2015
Supersedes Revision: 09/04/2014

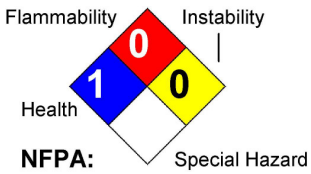
1. PRODUCT AND COMPANY IDENTIFICATION

Product Code: 210814
Product Name: K-BROM 40
Category: Biocide
Company Name: Water Science Technologies, LLC
5520 Parkwood Circle
Bessemer, AL 35022
Phone Number: (866)284-9244
Emergency Contact: ChemTel, Inc. (US) (800)255-3924
ChemTel, Inc. (Int'l) (813)248-0585
Information: Company EPA #: 88714

2. HAZARDS IDENTIFICATION

GHS Signal Word: **None**
GHS Hazard Phrases: No phrases apply.
GHS Precaution Phrases: No phrases apply.
GHS Response Phrases: No phrases apply.
GHS Storage and Disposal Phrases: No phrases apply.

Hazard Rating System:



Potential Health Effects (Acute and Chronic): Chronic: Chronic ingestion may cause central nervous system failure.

Inhalation: Inhalation of high concentrations may cause central nervous system effects characterized by nausea, headache, dizziness, unconsciousness and coma. May cause respiratory tract irritation. May be harmful if inhaled.

Skin Contact: May cause skin irritation. May be harmful if absorbed through the skin.

Eye Contact: Causes mild eye irritation.

Ingestion: May cause irritation of the digestive tract. Symptoms may include: headache, excitement, fatigue, nausea, vomiting, stupor, and coma. May be harmful if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS #	Ingredient(s)	Concentration
7647-15-6	Sodium bromide	38.8 -41.2 %

K-BROM 40

SAFETY DATA SHEET

Printed: 04/08/2015
Revision: 04/08/2015
Supersedes Revision: 09/04/2014

4. FIRST AID MEASURES

Emergency and First Aid Procedures:

In Case of Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

In Case of Skin Contact: Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

In Case of Eye Contact: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

In Case of Ingestion: Get medical aid immediately. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.

Note to Physician: Treat symptomatically and supportively.

5. FIRE FIGHTING MEASURES

Flash Pt: NA Method Used: Estimate

Explosive Limits: LEL: No data. UEL: No data.

Autoignition Pt: NA

Suitable Extinguishing Media: Use water spray, dry chemical, carbon dioxide, or appropriate foam.

Fire Fighting Instructions: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear.

Flammable Properties and Hazards: No data available.

6. ACCIDENTAL RELEASE MEASURES

Steps To Be Taken In Case Material Is Released Or Spilled: Absorb on sand or vermiculite and place in closed containers for disposal. Use proper personal protective equipment as indicated in Section 8.
Avoid generating dusty conditions. Provide ventilation.

7. HANDLING AND STORAGE

Precautions To Be Taken in Handling: Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation.

Precautions To Be Taken in Storing: Use with adequate ventilation. Store in a cool, dry place. Store in a tightly closed container.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

CAS #	Components (Chemical Name)	OSHA TWA	ACGIH TWA	Other Limits
7647-15-6	Sodium bromide	No data.	No data.	No data.

K-BROM 40

Printed: 04/08/2015
Revision: 04/08/2015
Supersedes Revision: 09/04/2014

SAFETY DATA SHEET

Respiratory Equipment (Specify Type):	Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.
Eye Protection:	Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
Protective Gloves:	Wear appropriate gloves to prevent skin exposure.
Other Protective Clothing:	Wear appropriate protective clothing to minimize contact with skin.
Engineering Controls (Ventilation etc.):	Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical States:	[ ] Gas [X] Liquid [ ] Solid
Appearance and Odor:	colorless. Odorless.
Melting Point:	No data.
Boiling Point:	No data.
Autoignition Pt:	NA
Flash Pt:	NA Method Used: Estimate
Explosive Limits:	LEL: No data. UEL: No data.
Specific Gravity (Water = 1):	1.41+/-0.05
Vapor Pressure (vs. Air or mm Hg):	No data.
Vapor Density (vs. Air = 1):	No data.
Evaporation Rate:	as of water (Ether=1)
Solubility in Water:	100% soluble
pH:	7.0+/-1.0
Percent Volatile:	No data.

10. STABILITY AND REACTIVITY

Stability:	Unstable [ ] Stable [X]
Conditions To Avoid - Instability:	Incompatible materials, heating to decomposition.
Incompatibility - Materials To Avoid:	Strong acids, bromine trifluoride.
Hazardous Decomposition Or Byproducts:	hydrogen bromide. sodium oxide. bromine fumes.
Possibility of Hazardous Reactions:	Will occur [ ] Will not occur [X]
Conditions To Avoid - Hazardous Reactions:	No data available.

K-BROM 40

SAFETY DATA SHEET

Printed: 04/08/2015
Revision: 04/08/2015
Supersedes Revision: 09/04/2014

11. TOXICOLOGICAL INFORMATION

Toxicological Information:

Epidemiology: No information available.
Teratogenicity: No information available. Reproductive Effects: Adverse reproductive effects have occurred in experimental animals.
Mutagenicity: Neurotoxicity:
CAS# 7647-15-6:

Carcinogenicity/Other Information:

Acute toxicity, LD50, Oral, Rat, 3500. MG/KG.
Result:
Liver: Jaundice, other or unclassified.
Kidney, Ureter, Bladder:Interstitial nephritis.
Biochemical:Metabolism (intermediary): Other.
- Journal of Pharmacology and Experimental Therapeutics, Williams & Wilkins Co., 428 E. Preston St., Baltimore, MD 21202, Vol/p/yr: 55,200, 1935

CAS# 7647-15-6: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

CAS #	Ingredient(s)	NTP	IARC	ACGIH	OSHA
7647-15-6	Sodium bromide	n.a.	n.a.	n.a.	n.a.

12. ECOLOGICAL INFORMATION

No data available.

Results of PBT and vPvB assessment:

CAS# 7647-15-6:
LC50, Bluegill (Lepomis macrochirus), 1000. MG/L, 96 H, Mortality, Water temperature: 21.50 C (70.7 F) C, pH: 7.49, Hardness: 36.00 MG/L; The Acute Toxicity of Sodium Bromide to the Bluegill Sunfish Lepomis macrochirus Rafinesque with Attachments and Cover Letter Dated 033178, Union Carbide Corp., 1978

Effective concentration to 50% of test organisms., Water Flea (Daphnia magna), 5800000. UG/L, 24 H, Water temperature: 19.00 C (66.2 F) C; Study on the Toxicity of Sodium Bromide to Different Freshwater Organisms, Canton, J.H., P.W. Wester, and E.A.M. Mathijssen-Spiekman, 1983

Effective concentration to 50% of test organisms., Green Algae (Scenedesmus pannonicus), Exponential Growth Phase, 5800000. UG/L, 24 H, Population, Water temperature: 23.00 C (73.4 F) C; Study on the Toxicity of Sodium Bromide to Different Freshwater Organisms, Canton, J.H., P.W. Wester, and E.A.M. Mathijssen-Spiekman, 1983

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method:

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.
RCRA P-Series: None listed.
RCRA U-Series: None listed.

K-BROM 40

SAFETY DATA SHEET

Printed: 04/08/2015
Revision: 04/08/2015
Supersedes Revision: 09/04/2014

14. TRANSPORT INFORMATION

LAND TRANSPORT (US DOT):

DOT Proper Shipping Name: Not Regulated.
DOT Hazard Class:
UN/NA Number:

LAND TRANSPORT (Canadian TDG):

TDG Shipping Name: Not Regulated.
UN Number:
Hazard Class: **TDG Classification:**

MARINE TRANSPORT (IMDG/IMO):

IMDG/IMO Shipping Name: Not Regulated.

AIR TRANSPORT (ICAO/IATA):

ICAO/IATA Shipping Name: Not Regulated.

15. REGULATORY INFORMATION

EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

CAS #	Ingredient(s)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
7647-15-6	Sodium bromide	No	No	No

This material meets the EPA 'Hazard Categories' defined for SARA Title III Sections 311/312 as indicated:	[ ] Yes [X] No	Acute (immediate) Health Hazard
	[ ] Yes [X] No	Chronic (delayed) Health Hazard
	[ ] Yes [X] No	Fire Hazard
	[ ] Yes [X] No	Sudden Release of Pressure Hazard
	[ ] Yes [X] No	Reactive Hazard

CAS #	Ingredient(s)	Canadian NPRI	Canadian IDL	Canadian DSL
7647-15-6	Sodium bromide	No	Yes	Yes

CAS #	Ingredient(s)	Other US EPA or State Lists
7647-15-6	Sodium bromide	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No

CAS #	Ingredient(s)	International Regulatory Lists
7647-15-6	Sodium bromide	

Canadian WHMIS Classification:

No data available.

Regulatory Information:

US Regulatory information:
Primary EPA Registration # : 88714-3
This product is subject to registration under FIFRA.
All ingredients are reported in the EPA TSCA Inventory.

Canada Regulatory information:
This product complies to the Pest Control Products Act.and is considered exempt from from WHMIS classification.
Registration No.: 31031 Pest Control Products Act.
Canadian regulations: This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the SDS contains all the information required by the CPR.

K-BROM 40

Printed: 04/08/2015
Revision: 04/08/2015
Supersedes Revision: 09/04/2014

SAFETY DATA SHEET

16. OTHER INFORMATION

Revision Date: 04/08/2015

Additional Information About This Product: No data available.

Company Policy or Disclaimer: The information accumulated herein is believed to be accurate based on the information provided, although no guarantee or warranty, either expressed or implied is made as to the accuracy or completeness of this information, whether originating with this company or not. Recipients are advised to confirm in advance of need that the information is correct, applicable and suitable to their circumstances. The conditions or methods of handling, storage, use and disposal of the product and container are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage or use of this information or product. If the product is used as a component in another product, this information may not be applicable.

Univar USA Inc Safety Data Sheet

For Additional Information contact SDS Coordinator during business hours, Pacific time: (425) 889-3400

Notice

Univar USA Inc. (”Univar”) expressly disclaims all express or implied warranties of merchantability and fitness for a particular purpose, with respect to the product or information provided herein, and shall under no circumstances be liable for incidental or consequential damages.

Do not use ingredient information and/or ingredient percentages in this SDS as a product specification. For product specification information refer to a product specification sheet and/or a certificate of analysis. These can be obtained from your local Univar sales office.

All information appearing herein is based upon data obtained from the manufacturer and/or recognized technical sources. While the information is believed to be accurate, Univar makes no representations as to its accuracy or sufficiency. Conditions of use are beyond Univar's control and therefore users are responsible to verify this data under their own operating conditions to determine whether the product is suitable for their particular purposes and they assume all risks of their use, handling, and disposal of the product, or from the publication or use of, or reliance upon, information contained herein.

This information relates only to the product designated herein, and does not relate to its use in combination with any other material or in any other process

SAFETY DATA SHEET

Section 1. Chemical Product and Company Identification

Product Name:	ChemTreat CL4635
Product Use:	Scale and Corrosion Inhibitor
Supplier's Name:	ChemTreat, Inc.
Emergency Telephone Number:	(800)424−9300 (Toll Free)
Address (Corporate Headquarters):	5640 Cox Road Glen Allen, VA 23060
Telephone Number for Information:	(800)648−4579
Date of SDS:	February 7, 2019
Revision Date:	February 7, 2019
Revision Number:	19020701AN

Section 2. Hazard(s) Identification

Signal Word: **None**

GHS Classification(s): Non−Hazardous Substance

Hazard Statement(s): Non−Hazardous Substance

Precautionary Statement(s): No significant health risks are expected from exposures under normal conditions of use.

- **Prevention:** None.
- **Response:** None.
- **Storage:** None.
- **Disposal:** None.

System of Classification Used: Classification under 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Hazards Not Otherwise Classified: None.

Section 3. Composition/Hazardous Ingredients

Component	CAS Registry #	Wt.%
Components not listed are either non hazardous or in concentration of less than 1%	N/A	N/A

Comments If chemical identity and/or exact percentage of composition has been withheld, this information is considered to be a trade secret.

Section 4. First Aid Measures

Inhalation: Call a POISON CENTER or doctor/physician if you feel unwell.

Eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention.

Skin: Call a poison center or doctor/physician if you feel unwell.

Ingestion: Rinse mouth. Call a poison center or doctor/physician if you feel unwell.

Most Important Symptoms: N/D

Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary: N/A

Section 5. Fire Fighting Measures

Flammability of the Product: Not flammable.

Suitable Extinguishing Media: Use extinguishing media suitable to surrounding fire.

Specific Hazards Arising from the Chemical: None known.

Protective Equipment: If product is involved in a fire, wear full protective clothing including a positive−pressure, NIOSH approved, self−contained breathing apparatus.

Section 6. Accidental Release Measures

Personal Precautions: Use appropriate Personal Protective Equipment (PPE).

Environmental Precautions: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains, and sewers.

Methods for Cleaning up: Contain and/or absorb spill with inert material then place in suitable container.

Other Statements: None.

Section 7. Handling and Storage

Handling: Wear appropriate Personal Protective Equipment (PPE) when handling this product. Do not get in eyes, or on skin and clothing. Wash thoroughly after handling. Do not ingest. Avoid breathing vapors, mist or dust.

Storage: Store away from incompatible materials (see Section 10). Store at ambient temperatures. Keep container securely closed when not in use. Label precautions also apply to empty container. Recondition or dispose of empty containers in accordance with government regulations. For Industrial use only.
Store above Freeze Point.

Section 8. Exposure Controls/Personal Protection

Exposure Limits

Component	Source	Exposure Limits
Components not listed are either non hazardous or in concentration of less than 1%	N/E	N/E

Engineering Controls: Use only with adequate ventilation. The use of local ventilation is recommended to control emission near the source.

Personal Protection

Eyes:	Safety glasses are recommended if risk of eye contact.
Skin:	Wear butyl rubber or neoprene gloves. Wash them after each use and replace as necessary. If conditions warrant, wear protective clothing such as boots, aprons, and coveralls to prevent skin contact.
Respiratory:	If misting occurs, use NIOSH approved organic vapor/acid gas dual cartridge respirator with a dust/mist prefilter in accordance with 29 CFR 1910.134.

Section 9. Physical and Chemical Properties

Physical State and Appearance:	Liquid, Light Straw, Clear
Specific Gravity:	1.182 @ 20°C
pH:	4.1 @ 20°C, 100.0%
Freezing Point:	28°F
Flash Point:	N/D
Odor:	Mild
Melting Point:	N/A
Initial Boiling Point and Boiling Range:	212°F
Solubility in Water:	Soluble
Evaporation Rate:	N/D
Vapor Density:	N/D
Molecular Weight:	N/D
Viscosity:	N/A
Flammability (solid, gas):	N/D
Flammable Limits:	N/A
Autoignition Temperature:	N/A
Density:	9.86 LB/GA
Vapor Pressure:	N/D
% VOC:	0
Odor Threshold	N/D
n−octanol Partition Coefficient	N/D
Decomposition Temperature	N/D

Section 10. Stability and Reactivity

Chemical Stability: Stable at normal temperatures and pressures.

Incompatibility with Various Substances: Strong oxidizers, Strong bases.

Hazardous Decomposition Products: Oxides of carbon, Acetic acid.

Possibility of Hazardous Reactions: None known.

Reactivity: N/D

Conditions To Avoid: N/D

Section 11. Toxicological Information

Acute Toxicity

Chemical Name	Exposure	Type of Effect	Concentration	Species
N/D	N/D	N/D	N/D	N/D

Carcinogenicity Category

Component	Source	Code	Brief Description
Components not listed are either non hazardous or in concentration of less than 1%	N/E	N/E	N/E

Likely Routes of Exposure: N/D

Symptoms

Inhalation: N/D

Eye Contact: N/D

Skin Contact: N/D

Ingestion: N/D

Skin Corrosion/Irritation: N/D

Serious Eye Damage/Eye Irritation: N/D

Sensitization: N/D

Germ Cell Mutagenicity: N/D

Reproductive/Developmental Toxicity: N/D

Specific Target Organ Toxicity

Single Exposure: N/D

Repeated Exposure: N/D

Aspiration Hazard: N/D

Comments: None.

Section 12. Ecological Information

Ecotoxicity

Species	Duration	Type of Effect	Test Results
Ceriodaphnia dubia	48h	LC50	1005 mg/l
Fathead Minnow	96h	LC50	6325 mg/l

Persistence and Biodegradability: N/D

Bioaccumulative Potential: N/D

Mobility In Soil: N/D

Other Adverse Effects: N/D

Comments: None.

Section 13. Disposal Considerations

Dispose of in accordance with local, state and federal regulations.

Section 14. Transport Information

Controlling Regulation	UN/NA#:	Proper Shipping Name:	Technical Name:	Hazard Class:	Packing Group:
DOT	N/A	COMPOUND, INDUSTRIAL WATER TREATMENT, LIQUID	N/A	N/A	N/A

Note: N/A

Section 15. Regulatory Information

Inventory Status

United States (TSCA): All ingredients listed.
Canada (DSL/NDSL): All ingredients listed.

Federal Regulations

SARA Title III Rules

Sections 311/312 Hazard Classes

Fire Hazard: No
Reactive Hazard: No
Release of Pressure: No
Acute Health Hazard: Yes
Chronic Health Hazard: No

Other Sections

Component	Section 313 Toxic Chemical	Section 302 EHS TPQ	CERCLA RQ
Components not listed are either non hazardous or in concentration of less than 1%	N/A	N/A	N/A

Comments: None.

State Regulations

California Proposition 65: None known.

Special Regulations

Component	States
Components not listed are either non hazardous or in concentration of less than 1%	None.

Compliance Information

NSF: Certified to NSF/ANSI Standard 60
Maximum use rate for potable water − 10 mg/L
This product ships as NSF from:
Ashland, VA
Eldridge, IA
Nederland, TX

Food Regulations: N/A

KOSHER: This product is certified by the Orthodox Union as kosher pareve.
Only when prepared by the following ChemTreat facilities:
Ashland, VA; Eldridge, IA; Nederland, TX.

Halal: This product has not been evaluated for Halal approval.

FIFRA: N/A

Other: None

Comments: None.

Section 16. Other Information

HMIS Hazard Rating

Health:	0
Flammability:	0
Physical Hazard:	0
PPE:	X

Notes:

The PPE rating depends on circumstances of use. See Section 8 for recommended PPE.
The Hazardous Material Information System (HMIS) is a voluntary, subjective alpha−numeric symbolic system for recommending hazard risk and personal protection equipment information. It is a subjective rating system based on the evaluator's understanding of the chemical associated risks. The end−user must determine if the code is appropriate for their use.

Abbreviations

Abbreviation	Definition
<	Less Than
>	Greater Than
ACGIH	American Conference of Governmental Industrial Hygienists
EHS	Environmental Health and Safety Dept
N/A	Not Applicable
N/D	Not Determined
N/E	Not Established
OSHA	Occupational Health and Safety Dept
PEL	Personal Exposure Limit
STEL	Short Term Exposure Limit
TLV	Threshold Limit Value
TWA	Time Weight Average
UNK	Unknown

Prepared by: Product Compliance Department; ProductCompliance@chemtreat.com

Revision Date: February 7, 2019

Disclaimer

Although the information and recommendations set forth herein (hereinafter "information") are presented in good faith and believed to be correct as of the date hereof, ChemTreat, Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will ChemTreat, Inc. be responsible for damages of any nature whatsoever resulting from the use or reliance upon information. No representation or warranties, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature are made hereunder with respect to information or the product to which information refers.

Univar
3075 Highland Pkwy STE 200
Downers Grove, IL 60515
425-889-3400

SAFETY DATA SHEET

1. Identification

Product identifier: AMMONIUM HYDROXIDE 10-35%

Other means of identification

Synonyms:	Aqua Ammonia
CAS NUMBERS:	1336-21-6
SDS number:	000100000133

Recommended use and restriction on use

Recommended use: Reserved for industrial and professional use.

Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information

Univar

3075 Highland Pkwy STE 200

Downers Grove, IL 60515

425-889-3400

Emergency telephone number:For emergency assistance Involving chemicals

call CHEMTREC day or night at: 1-800-424-9300. CHEMTREC INTERNATIONAL Tel# 703-527-3887

2. Hazard(s) identification

Hazard Classification

Health Hazards

Acute toxicity (Oral)	Category 4
Skin Corrosion/Irritation	Category 1B
Serious Eye Damage/Eye Irritation	Category 1
Specific Target Organ Toxicity - Repeated Exposure	Category 2
Environmental Hazards Acute hazards to the aquatic environment	Category 3

Version: 1.3
Revision Date: 05/20/2019

Chronic hazards to the aquatic environment	Category 1

Label Elements

Hazard Symbol



Signal Word	Danger
Hazard Statement	May cause damage to organs. Harmful if swallowed. Causes severe skin burns and eye damage. May cause respiratory irritation. Very toxic to aquatic life with long lasting effects.
Precautionary Statements	
Prevention	Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection. Do not breathe dust or mists. Use only outdoors or in a well-ventilated area.
Response	IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. IF SWALLOWED: Call a POISON CENTER/doctor if



you feel unwell. Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER/doctor. Specific treatment (see on this label). Wash contaminated clothing before reuse.

Storage Store locked up.

Disposal Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in GHS classification None.

3. Composition/information on ingredients

Substances

Chemical Identity	Common name and synonyms	CAS number	Content in percent (%)*
Ammonium Hydroxide		1336-21-6	>=10 - <=35%
Water		7732-18-5	>=65 - <=90%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

Composition Comments: The components are not hazardous or are below required disclosure limits.

4. First-aid measures

General information: Get medical advice/attention.

Ingestion: Call a physician or poison control center immediately. Only induce vomiting at the instruction of medical personnel. Never give anything by mouth to an unconscious person.

Inhalation: Move to fresh air. If breathing is difficult, give oxygen. Perform artificial respiration if breathing has stopped. Get medical attention.

Skin Contact:	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately.
Eye contact:	If in eyes, hold eyes open, flood with water for at least 15 minutes and see a doctor.

Most important symptoms/effects, acute and delayed

Symptoms:	No data available.

Indication of immediate medical attention and special treatment needed

Treatment:	No data available.

5. Fire-fighting measures

General Fire Hazards:	No unusual fire or explosion hazards noted.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media:	Use: Carbon dioxide or dry powder. Foam. Water Spray or Fog.
Unsuitable extinguishing media:	No data available.
Specific hazards arising from the chemical:	During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

Special fire fighting procedures:	No data available.
Special protective equipment for fire-fighters:	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:	Ventilate closed spaces before entering them. Keep unauthorized personnel away. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
Methods and material for containment and cleaning up:	Absorb spillage with non-combustible, absorbent material. Prevent runoff from entering drains, sewers, or streams.
Environmental Precautions:	Do not contaminate water sources or sewer.

7. Handling and storage

Precautions for safe handling: Store away from incompatible materials. Use personal protective equipment as required. Do not get in eyes, on skin, on clothing.

Conditions for safe storage, including any incompatibilities: Store locked up.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Exposure Limit Values	Source
Ammonium Hydroxide	TWA	25 ppm	US. ACGIH Threshold Limit Values (03 2013)
	STEL	35 ppm	US. ACGIH Threshold Limit Values (03 2013)
	REL	25 ppm 18 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	STEL	35 ppm 27 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	PEL	50 ppm 35 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	STEL	35 ppm 27 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	AN ESL	17 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (02 2013)
	ST ESL	170 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (02 2013)
	ST ESL	120 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (02 2013)
	AN ESL	12 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (02 2013)
	TWA PEL	25 ppm 18 mg/m3	US. California Code of Regulations,

			Title 8, Section 5155. Airborne Contaminants (02 2012)
	STEL	35 ppm 27 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (02 2012)
Chemical Identity	**Type**	**Exposure Limit Values**	**Source**
Ammonium Hydroxide	TWA	25 ppm	US. ACGIH Threshold Limit Values (03 2013)
	STEL	35 ppm	US. ACGIH Threshold Limit Values (03 2013)
	REL	25 ppm 18 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	STEL	35 ppm 27 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	PEL	50 ppm 35 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	STEL	35 ppm 27 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	AN ESL	17 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (02 2013)
	ST ESL	170 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (02 2013)
	ST ESL	120 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (02 2013)
	AN ESL	12 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (02 2013)
	TWA PEL	25 ppm 18 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (02 2012)
	STEL	35 ppm 27 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (02 2012)

Appropriate Engineering Controls	Adequate ventilation should be provided so that exposure limits are not exceeded.
Individual protection measures, such as personal protective equipment	
General information:	Provide easy access to water supply and eye wash facilities. Use personal protective equipment as required. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned.
Eye/face protection:	Wear goggles/face shield.
Skin Protection	
Hand Protection:	Chemical resistant gloves
Other:	Chemical resistant clothing
Respiratory Protection:	In case of inadequate ventilation use suitable respirator.
Hygiene measures:	Do not eat, drink or smoke when using the product. Wash hands after handling. Do not get in eyes. Observe good industrial hygiene practices. Wash contaminated clothing before reuse. Do not get this material in contact with skin. Wash hands before breaks and immediately after handling the product.

9. Physical and chemical properties

Physical state:	liquid
Form:	liquid
Color:	Clear colorless
Odor:	Pungent, Ammonia odor
Odor threshold:	1 - 50 ppm
pH:	11.6
Melting point/freezing point:	-69 °C
Initial boiling point and boiling range:	37 - 100 °C
Flash Point:	No data available.
Evaporation rate:	No data available.
Flammability (solid, gas):	No data available.
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	28 %(V)
Flammability limit - lower (%):	15 %(V)
Explosive limit - upper (%):	19.8 mg/m3
Explosive limit - lower (%):	10.6 mg/m3

Vapor pressure:	103 hPa (25 °C)
Vapor density:	0.6 AIR=1
Relative density:	0.989
Solubility(ies)	
Solubility in water:	Completely Soluble
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.
Other information	
Minimum ignition temperature:	850 °C

10. Stability and reactivity

Reactivity:	No data available.
Chemical Stability:	Material is stable under normal conditions.
Possibility of hazardous reactions:	Stable
Conditions to avoid:	Avoid heat or contamination.
Incompatible Materials:	Strong oxidizing agents. Strong acids
Hazardous Decomposition Products:	No data available.

11. Toxicological information

Symptoms related to the physical, chemical and toxicological characteristics

Ingestion:	No data available.
Inhalation:	No data available.
Skin Contact:	No data available.
Eye contact:	No data available.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral

Product: LD 50 (Rat): 350 mg/kg

Dermal

Product: No data available.

Inhalation

Product: LC L0 (Mouse,): 1,000 mg/l

Repeated dose toxicity

Product: No data available.

Skin Corrosion/Irritation

Product: Causes skin burns.

Serious Eye Damage/Eye Irritation

Product: Serious eye damage

Respiratory or Skin Sensitization

Product: Not a skin sensitizer.

Carcinogenicity

Product: No data available.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:
No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:
No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):
No carcinogenic components identified

Germ Cell Mutagenicity

In vitro

Product: No data available.

In vivo

Product: No data available.

Reproductive toxicity

Product: No data available.

Specific Target Organ Toxicity - Single Exposure

Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Aspiration Hazard

Product: No data available.

Other effects: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product: No data available.

Specified substance(s):

Ammonium Hydroxide	LC 50 (Fathead minnow (Pimephales promelas), 24 h): 17 mg/l Mortality LC 50 (Goldfish (Carassius auratus), 24 h): 17 mg/l Mortality LC 50 (Western mosquitofish (Gambusia affinis), 24 h): 18 mg/l Mortality LC 50 (Channel catfish (Ictalurus punctatus), 24 h): 2.36 mg/l Mortality LC 50 (Fathead minnow (Pimephales promelas), 24 h): 23.02 mg/l Mortality

Aquatic Invertebrates

Product:	No data available.
Specified substance(s):	
Ammonium Hydroxide	LC 50 (Water flea (Daphnia magna), 25 h): 60 mg/l Mortality LC 50 (Water flea (Ceriodaphnia dubia), 48 h): > 0 - < 10 mg/l Mortality LC 50 (Water flea (Daphnia magna), 50 h): 32 mg/l Mortality LC 50 (Water flea (Daphnia magna), 100 h): 20 mg/l Mortality

Chronic hazards to the aquatic environment:

Fish

Product:	No data available.

Aquatic Invertebrates

Product:	No data available.

Toxicity to Aquatic Plants

Product:	No data available.

Persistence and Degradability

Biodegradation

Product:	No data available.

BOD/COD Ratio

Product:	No data available.

Bioaccumulative potential

Bioconcentration Factor (BCF)

Product:	No data available.

Partition Coefficient n-octanol / water (log Kow)

Product:	No data available.

Mobility in soil: No data available.

Known or predicted distribution to environmental compartments

Ammonia, aqueous solution	No data available.
Water	No data available.

Known or predicted distribution to environmental compartments

Water	No data available.

Known or predicted distribution to environmental compartments

Ammonia, aqueous solution	No data available.
Water	No data available.

Known or predicted distribution to environmental compartments

Ammonia, aqueous solution	No data available.

13. Disposal considerations

Disposal instructions: Discharge, treatment, or disposal may be subject to national, state, or local laws.

Contaminated Packaging: Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN Number:	UN 2672
UN Proper Shipping Name:	Ammonia solutions
Transport Hazard Class(es)	
Class:	8
Label(s):	8
Packing Group:	III
Marine Pollutant:	Marine Pollutant
Special precautions for user:	–

IMDG

UN Number:	UN 2672
UN Proper Shipping Name:	AMMONIA SOLUTION
Transport Hazard Class(es)	
Class:	8
Label(s):	8
EmS No.:	F-A, S-B
Packing Group:	III
Marine Pollutant:	Marine Pollutant

Special precautions for user:	–

IATA

UN Number:	UN 2672
Proper Shipping Name:	AMMONIA SOLUTION
Transport Hazard Class(es):	
Class:	8
Label(s):	8
Packing Group:	III
Environmental Hazards	Not regulated.
Special precautions for user:	–
Other information	
Passenger and cargo aircraft:	Allowed.
Cargo aircraft only:	Allowed.

15. Regulatory information

US Federal RegulationsUS. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

Ammonium Hydroxide Reportable quantity: 1000 lbs.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

☐ Acute (Immediate) ☐ Chronic (Delayed) ☐ Fire ☐ Reactive ☐ Pressure Generating

SARA 302 Extremely Hazardous Substance

None present or none present in regulated quantities.

SARA 304 Emergency Release Notification

Chemical Identity	RQ
Ammonium Hydroxide	1000 lbs.

SARA 311/312 Hazardous Chemical

Chemical Identity	Threshold Planning Quantity
Chemical Identity	Threshold Planning Quantity
Chemical Identity	Threshold Planning Quantity
Ammonium Hydroxide	500 lbs

SARA 313 (TRI Reporting)

Chemical Identity	Reporting threshold for other users	Reporting threshold for manufacturing and processing
Ammonium Hydroxide	10000 lbs	25000 lbs.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

Ammonium Hydroxide Reportable quantity: 1000 lbs.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65

No ingredient regulated by CA Prop 65 present.

US. New Jersey Worker and Community Right-to-Know Act

Ammonium Hydroxide Listed

US. Massachusetts RTK - Substance List

Ammonium Hydroxide Listed

US. Pennsylvania RTK - Hazardous Substances

Ammonium Hydroxide Listed

US. Rhode Island RTK

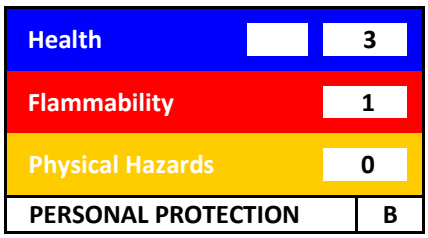
Ammonium Hydroxide Listed

Version: 1.3
Revision Date: 05/20/2019

Inventory Status: Australia AICS:	On or in compliance with the inventory
Canada DSL Inventory List:	On or in compliance with the inventory
EU EINECS List:	On or in compliance with the inventory
EU ELINCS List:	Not in compliance with the inventory.
Japan (ENCS) List:	Not in compliance with the inventory.
EU No Longer Polymers List:	Not in compliance with the inventory.
China Inv. Existing Chemical Substances:	On or in compliance with the inventory
Korea Existing Chemicals Inv. (KECI):	On or in compliance with the inventory
Canada NDSL Inventory:	Not in compliance with the inventory.
Philippines PICCS:	On or in compliance with the inventory
US TSCA Inventory:	On or in compliance with the inventory
New Zealand Inventory of Chemicals:	On or in compliance with the inventory
Japan ISHL Listing:	Not in compliance with the inventory.
Japan Pharmacopoeia Listing:	Not in compliance with the inventory.

16.Other information, including date of preparation or last revision

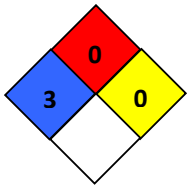
HMIS Hazard ID

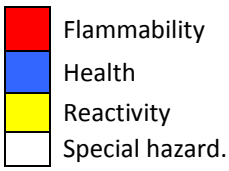


B - Safety Glasses & Gloves

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible; *Chronic health effect

NFPA Hazard ID





Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible

Issue Date:	05/20/2019
Revision Date:	No data available.
Version #:	1.3
Further Information:	No data available.

Version: 1.3
Revision Date: 05/20/2019



Univar USA Inc Safety Data Sheet

For Additional Information contact SDS Coordinator during business hours, Pacific time: (425) 889-3400

Notice

Univar USA Inc. (”Univar”) expressly disclaims all express or implied warranties of merchantability and fitness for a particular purpose, with respect to the product or information provided herein, and shall under no circumstances be liable for incidental or consequential damages.

Do not use ingredient information and/or ingredient percentages in this SDS as a product specification. For product specification information refer to a product specification sheet and/or a certificate of analysis. These can be obtained from your local Univar sales office.

All information appearing herein is based upon data obtained from the manufacturer and/or recognized technical sources. While the information is believed to be accurate, Univar makes no representations as to its accuracy or sufficiency. Conditions of use are beyond Univar's control and therefore users are responsible to verify this data under their own operating conditions to determine whether the product is suitable for their particular purposes and they assume all risks of their use, handling, and disposal of the product, or from the publication or use of, or reliance upon, information contained herein.

This information relates only to the product designated herein, and does not relate to its use in combination with any other material or in any other process

ATTACHMENT: FPP-TECH-10 Laboratory Contract List

LCRA's contract laboratory is Lower Colorado River Authority - Environmental Laboratory Services (ELS), which is a NELAP accredited laboratory (Certificate Number: T104704218-21-23) for non-potable water. ELS uses subcontractors for certain analytes.

Subcontractors:

- A & B Environmental Services, Inc.- T104704213-22-32
- Aqua-Tech- T104704371-23-27
- DHL Analytical, Inc. - T10470411-23-29
- SPL, Inc. – T104704201

See below for the pollutants analyzed by ELS and subcontractor. The sample type is also listed.

Table 1

Pollutant	Laboratory	Sample Type
BOD (5-day)	AQUA-TECH	Composite
CBOD (5-day)	AQUA-TECH	Composite
Chemical oxygen demand	ELS	Composite
Total organic carbon	ELS	Composite
Dissolved oxygen	ELS	Grab
Ammonia nitrogen	ELS	Composite
Total suspended solids	ELS	Composite
Nitrate nitrogen	ELS	Composite
Total organic nitrogen	ELS	Composite
Total phosphorus	ELS	Composite
Oil and grease	ELS	Grab
Total residual chlorine	ELS	Grab
Total dissolved solids	ELS	Composite
Sulfate	ELS	Composite
Chloride	ELS	Composite
Fluoride	ELS	Composite
Total alkalinity (mg/L as $CaCO_3$)	ELS	Composite
Temperature (°F)	ELS	Grab
pH (standard units)	ELS	Grab

Table 2

Pollutant	Laboratory	Sample Type
Aluminum, total	ELS	Composite
Antimony, total	ELS	Composite
Arsenic, total	ELS	Composite
Barium, total	ELS	Composite
Beryllium, total	ELS	Composite
Cadmium, total	ELS	Composite
Chromium, total	AQUA-TECH	Composite
Chromium, hexavalent	AQUA-TECH	Composite
Chromium, trivalent	AQUA-TECH	Composite
Copper, total	ELS	Composite
Cyanide, ~~available~~ amenable	A&B Laboratory	Composite
Lead, total	ELS	Composite
Mercury, total	A&B Laboratory	Composite
Nickel, total	ELS	Composite
Selenium, total	ELS	Composite
Silver, total	ELS	Composite
Thallium, total	ELS	Composite
Zinc, total	ELS	Composite

Table 3

Pollutant	Laboratory	Sample Type
Acrylonitrile	DHL Analytical	Composite
Anthracene	SPL Labs	Composite
Benzene	DHL Analytical	Composite
Benzidine	SPL Labs	Composite
Benzo(a)anthracene	SPL Labs	Composite
Benzo(a)pyrene	SPL Labs	Composite
Bis(2-chloroethyl)ether	SPL Labs	Composite
Bis(2-ethylhexyl)phthalate	SPL Labs	Composite
Bromodichloromethane [Dichlorobromomethane]	DHL Analytical	Composite
Bromoform	DHL Analytical	Composite
Carbon tetrachloride	DHL Analytical	Composite
Chlorobenzene	DHL Analytical	Composite
Chlorodibromomethane [Dibromochloromethane]	DHL Analytical	Composite
Chloroform	DHL Analytical	Composite
Chrysene	SPL Labs	Composite
m-Cresol [3-Methylphenol]	SPL Labs	Composite
o-Cresol [2-Methylphenol]	SPL Labs	Composite
p-Cresol [4-Methylphenol]	SPL Labs	Composite
1,2-Dibromoethane	DHL Analytical	Composite

Pollutant	Laboratory	Sample Type
m-Dichlorobenzene [1,3-Dichlorobenzene]	SPL Labs	Composite
o-Dichlorobenzene [1,2-Dichlorobenzene]	SPL Labs	Composite
p-Dichlorobenzene [1,4-Dichlorobenzene]	SPL Labs	Composite
3,3'-Dichlorobenzidine	SPL Labs	Composite
1,2-Dichloroethane	DHL Analytical	Composite
1,1-Dichloroethene [1,1-Dichloroethylene]	DHL Analytical	Composite
Dichloromethane [Methylene chloride]	DHL Analytical	Composite
1,2-Dichloropropane	DHL Analytical	Composite
1,3-Dichloropropene [1,3-Dichloropropylene]	DHL Analytical	Composite
2,4-Dimethylphenol	SPL Labs	Composite
Di-n-Butyl phthalate	SPL Labs	Composite
Ethylbenzene	DHL Analytical	Composite
Fluoride	ELS	Composite
Hexachlorobenzene	SPL Labs	Composite
Hexachlorobutadiene	SPL Labs	Composite
Hexachlorocyclopentadiene	SPL Labs	Composite
Hexachloroethane	SPL Labs	Composite
Methyl ethyl ketone	DHL Analytical	Composite
Nitrobenzene	SPL Labs	Composite
N-Nitrosodiethylamine	SPL Labs	Composite
N-Nitroso-di-n-butylamine	SPL Labs	Composite
Nonylphenol	SPL Labs	Composite
Pentachlorobenzene	SPL Labs	Composite
Pentachlorophenol	SPL Labs	Composite
Phenanthrene	SPL Labs	Composite
Polychlorinated biphenyls (PCBs) (**)	SPL Labs	Composite
Pyridine	SPL Labs	Composite
1,2,4,5-Tetrachlorobenzene	SPL Labs	Composite
1,1,2,2-Tetrachloroethane	DHL Analytical	Composite
Tetrachloroethene [Tetrachloroethylene]	DHL Analytical	Composite
Toluene	DHL Analytical	Composite
1,1,1-Trichloroethane	DHL Analytical	Composite
1,1,2-Trichloroethane	DHL Analytical	Composite
Trichloroethene [Trichloroethylene]	DHL Analytical	Composite
2,4,5-Trichlorophenol	SPL Labs	Composite
TTHM (Total trihalomethanes)	DHL Analytical	Composite
Vinyl chloride	DHL Analytical	Composite

(*) Indicate units if different from µg/L.

(**) Total of detects for PCB-1242, PCB-1254, PCB-1221, PCB-1232, PCB-1248, PCB-1260, and PCB-1016. If all non-detects, enter the highest non-detect preceded by a “<”.

Table 6

Pollutants	Laboratory	Sample Type
Bromide	ELS	Composite
Color (PCU)	AQUA-TECH	Composite
Nitrate-Nitrite (as N)	ELS	Composite
Sulfide (as S)	A&B Laboratory	Composite
Sulfite (as SO_3)	A&B Laboratory	N/A
Surfactants	SPL	Composite
Boron, total	ELS	Composite
Cobalt, total	ELS	Composite
Iron, total	ELS	Composite
Magnesium, total	ELS	Composite
Manganese, total	ELS	Composite
Molybdenum, total	ELS	Composite
Tin, total	ELS	Composite
Titanium, total	ELS	Composite

* Indicate units if different from µg/L.

Table 8

Pollutant	Laboratory	Sample Type
Acrolein	DHL Analytical	Composite
Acrylonitrile	DHL Analytical	Composite
Benzene	DHL Analytical	Composite
Bromoform	DHL Analytical	Composite
Carbon tetrachloride	DHL Analytical	Composite
Chlorobenzene	DHL Analytical	Composite
Chlorodibromomethane [Dibromochloromethane]	DHL Analytical	Composite
Chloroethane	DHL Analytical	Composite
2-Chloroethylvinyl ether	DHL Analytical	Composite
Chloroform	DHL Analytical	Composite
Dichlorobromomethane [Bromodichloromethane]	DHL Analytical	Composite
1,1-Dichloroethane	DHL Analytical	Composite
1,2-Dichloroethane	DHL Analytical	Composite
1,1-Dichloroethylene [1,1-Dichloroethene]	DHL Analytical	Composite
1,2-Dichloropropane	DHL Analytical	Composite
1,3-Dichloropropylene [1,3-Dichloropropene]	DHL Analytical	Composite
Ethylbenzene	DHL Analytical	Composite
Methyl bromide [Bromomethane]	DHL Analytical	Composite
Methyl chloride [Chloromethane]	DHL Analytical	Composite
Methylene chloride [Dichloromethane]	DHL Analytical	Composite
1,1,2,2-Tetrachloroethane	DHL Analytical	Composite

Pollutant	Laboratory	Sample Type
Tetrachloroethylene [Tetrachloroethene]	DHL Analytical	Composite
Toluene	DHL Analytical	Composite
1,2-Trans-dichloroethylene [1,2-Trans-dichloroethene]	DHL Analytical	Composite
1,1,1-Trichloroethane	DHL Analytical	Composite
1,1,2-Trichloroethane	DHL Analytical	Composite
Trichloroethylene [Trichloroethene]	DHL Analytical	Composite
Vinyl chloride	DHL Analytical	Composite

* Indicate units if different from µg/L.

Table 9

Pollutant	Laboratory	Sample Type
2-Chlorophenol	SPL Labs	Composite
2,4-Dichlorophenol	SPL Labs	Composite
2,4-Dimethylphenol	SPL Labs	Composite
4,6-Dinitro-o-cresol	SPL Labs	Composite
2,4-Dinitrophenol	SPL Labs	Composite
2-Nitrophenol	SPL Labs	Composite
4-Nitrophenol	SPL Labs	Composite
p-Chloro-m-cresol	SPL Labs	Composite
Pentachlorophenol	SPL Labs	Composite
Phenol	SPL Labs	Composite
2,4,6-Trichlorophenol	SPL Labs	Composite

* Indicate units if different from µg/L.

ATTACHMENT: FPP-TECH-11 TCEQ Correspondence Approving Sampling

Julie Podbielski

From: Matthew Kennington <Matthew.Kennington@tceq.texas.gov>
Sent: Thursday, January 23, 2025 8:32 AM
To: Julie Podbielski
Subject: RE: Question on WQ0002105000 for upcoming renewal application

Categories: Added to Sharepoint

CAUTION - EXTERNAL EMAIL
Phishing? **Click the fish** in Outlook

Good morning,

We approve your requests.

Let me know if you have any further questions,

-M

From: Julie Podbielski <Julie.Podbielski@LCRA.ORG>
Sent: Wednesday, January 22, 2025 11:48 AM
To: Matthew Kennington <Matthew.Kennington@tceq.texas.gov>
Subject: RE: Question on WQ0002105000 for upcoming renewal application

Hi Mr. Kennington,
In response to our conversation, I have listed my questions about taking samples for Worksheet 2.0 for renewal of an industrial wastewater discharge application:

- For Outfall 002, which is a discharge of cooling water during maintenance, LCRA took our first week of sampling in October 2024. We do not plan to have another discharge this year, so we are requesting approval to submit one week of sampling (versus four weeks) for Worksheet 2.0.
- For Outfall 003, which is an impoundment that discharges infrequently, LCRA does not plan to discharge prior to the application submittal. For the application submittal, LCRA is planning to take a sample from effluent stored in the impoundment, which is allowed per the instructions (page 56 of 125).
    - LCRA is requesting approval to submit one week of sampling (versus four weeks). In our last renewal application, TCEQ gave us approval to submit one week of data for Outfall 003.
    - In addition, the instructions state that composite sampling is required for most of the pollutants. We are requesting approval to take a grab sample for all pollutant sampling because we don't anticipate substantive changes to the pond water over an eight hour period (eight hours is required to take the four samples with two hours between each sample to make the composite).

Please let us know if TCEQ approves the above requests. I can be reached by email or phone if you have further questions!
Thank you in advance, Julie

Julie Podbielski
Lower Colorado River Authority | Environmental Advisor
O 512-730-5633 **C** 512-461-4294
Julie.Podbielski@lcra.org

From: Matthew Kennington <Matthew.Kennington@tceq.texas.gov>
Sent: Wednesday, January 22, 2025 10:46 AM
To: Julie Podbielski <Julie.Podbielski@LCRA.ORG>
Subject: RE: Question on WQ0002105000 for upcoming renewal application

CAUTION - EXTERNAL EMAIL
Phishing? **Click the fish** in Outlook

Sure, happy to chat anytime.

-M

From: Julie Podbielski <Julie.Podbielski@LCRA.ORG>
Sent: Wednesday, January 22, 2025 8:39 AM
To: Matthew Kennington <Matthew.Kennington@tceq.texas.gov>
Subject: Question on WQ0002105000 for upcoming renewal application

Hi Mr. Kennington,

LCRA Fayette Power Project (WQ0002105000) will be submitting a renewal application in May, 2025. I have a question regarding sampling requirements. On page 56 of 125 of the current "Instructions for Completing the Industrial Wastewater Permit Application" (last bullet of Item 1), samples of effluent from a final retention impoundment may be used to satisfy analytical requirements for facilities which have an intermittent discharge if a discharge is not foreseen in near future.

LCRA Fayette Power Project has this situation for our Coal Pile Runoff Pond (Outfall 003), so we are planning to use a sample from the pond. Would you have time for a phone call in the next week to clarify a few details regarding this sampling?

Thank you in advance, Julie

Julie Podbielski
Lower Colorado River Authority | Environmental Advisor
O 512-730-5633 **C** 512-461-4294
Julie.Podbielski@lcra.org

ATTACHMENT FPP-TECH-12: Analytical Data for Outfalls 002 and 003 (Outfall 004 - no discharge in the last 365 days)

OUTFALL 002 Analytical Data

Table 1 for Outfall 002 Samples are (check one): ☒ Composite ☒ Grab (identified with *)

Pollutant	Sample 1 (mg/L)	Sample 2 (mg/L)	Sample 3 (mg/L)	Sample 4 (mg/L)
BOD (5-day)	4			
CBOD (5-day)	2			
Chemical oxygen demand	35.0			
Total organic carbon	12.3			
Dissolved oxygen*	1.06			
Ammonia nitrogen	0.324			
Total suspended solids	3.5			
Nitrate nitrogen	<0.0100			
Total organic nitrogen	1.71			
Total phosphorus	0.0924			
Oil and grease	<2.5			
Total residual chlorine*	0.00			
Total dissolved solids	773			
Sulfate	128			
Chloride	207			
Fluoride	1.04			
Total alkalinity (mg/L as $CaCO_3$)	230			
Temperature (°F)*	85.9			
pH (standard units)*	8.72			

Table 2 for Outfall 002 Samples are (check one): ☒ Composite ☒ Grab (identified with *)

Pollutant	Sample 1 (µg/L)	Sample 2 (µg/L)	Sample 3 (µg/L)	Sample 4 (µg/L)	MAL (µg/L)
Aluminum, total	14.8				2.5
Antimony, total	<5.00				5
Arsenic, total	7.49				0.5
Barium, total	92.6				3
Beryllium, total	<0.500				0.5
Cadmium, total	<1.00				1
Chromium, total	<0.625				3
Chromium, hexavalent	<3.00				3
Chromium, trivalent	<3.62				N/A
Copper, total	29.8				2
Cyanide, ~~available~~ amenable*	<2.20				2/10
Lead, total	<0.500				0.5
Mercury, total	0.000513				0.005/0.0005

Pollutant	Sample 1 (µg/L)	Sample 2 (µg/L)	Sample 3 (µg/L)	Sample 4 (µg/L)	MAL (µg/L)
Nickel, total	8.72				2
Selenium, total	<5.00				5
Silver, total	<0.500				0.5
Thallium, total	<0.500				0.5
Zinc, total	<5.00				5.0

Table 3 for Outfall 002 **Samples are (check one):** ☒ **Composite** ☐ **Grab**

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
Acrylonitrile	<3.00				50
Anthracene	<1.05				10
Benzene	<1.00				10
Benzidine	<20.9				50
Benzo(a)anthracene	<1.05				5
Benzo(a)pyrene	<1.05				5
Bis(2-chloroethyl)ether	<1.05				10
Bis(2-ethylhexyl)phthalate	<7.85				10
Bromodichloromethane [Dichlorobromomethane]	<1.00				10
Bromoform	5.16				10
Carbon tetrachloride	<1.00				2
Chlorobenzene	<1.00				10
Chlorodibromomethane [Dibromochloromethane]	3.06				10
Chloroform	<1.00				10
Chrysene	<1.05				5
m-Cresol [3-Methylphenol] (reported as m&p cresol)	<6.49				10
o-Cresol [2-Methylphenol]	<5.44				10
p-Cresol [4-Methylphenol] (reported as m&p cresol)	<6.49				10
1,2-Dibromoethane	<1.00				10
m-Dichlorobenzene [1,3-Dichlorobenzene]	<1.05				10
o-Dichlorobenzene [1,2-Dichlorobenzene]	<1.05				10
p-Dichlorobenzene [1,4-Dichlorobenzene]	<1.05				10
3,3'-Dichlorobenzidine	<5.00				5
1,2-Dichloroethane	<1.00				10
1,1-Dichloroethene [1,1-Dichloroethylene]	<1.00				10
Dichloromethane [Methylene chloride]	<2.50				20
1,2-Dichloropropane	<1.00				10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
1,3-Dichloropropene [1,3-Dichloropropylene] (reported as cis and trans)	<1.00				10
2,4-Dimethylphenol	<2.51				10
Di-n-Butyl phthalate	<7.85				10
Ethylbenzene	<1.00				10
Fluoride	1040				500
Hexachlorobenzene	<1.05				5
Hexachlorobutadiene	<1.05				10
Hexachlorocyclopentadiene	<9.41				10
Hexachloroethane	<1.05				20
Methyl ethyl ketone (2-Butanone)	<15.0				50
Nitrobenzene	<1.05				10
N-Nitrosodiethylamine	<1.05				20
N-Nitroso-di-n-butylamine	<1.05				20
Nonylphenol	<30.6				333
Pentachlorobenzene	<1.05				20
Pentachlorophenol	<1.05				5
Phenanthrene	<1.05				10
Polychlorinated biphenyls (PCBs) (**)	<0.197				0.2
Pyridine	<5.65				20
1,2,4,5-Tetrachlorobenzene	<1.05				20
1,1,2,2-Tetrachloroethane	<1.00				10
Tetrachloroethene [Tetrachloroethylene]	<2.00				10
Toluene	<2.00				10
1,1,1-Trichloroethane	<1.00				10
1,1,2-Trichloroethane	<1.00				10
Trichloroethene [Trichloroethylene]	<1.00				10
2,4,5-Trichlorophenol	<1.05				50
TTHM (Total trihalomethanes)	8.23				10
Vinyl chloride	<1.00				10

(*) Indicate units if different from µg/L.
(**) Total of detects for PCB-1242, PCB-1254, PCB-1221, PCB-1232, PCB-1248, PCB-1260, and PCB-1016. If all non-detects, enter the highest non-detect preceded by a "<".

Table 6 for Outfall 002 **Samples are (check one):** ☒ **Composite** ☐ **Grab**

Pollutants	Believed Present	Believed Absent	Sample 1 (mg/L)	Sample 2 (mg/L)	Sample 3 (mg/L)	Sample 4 (mg/L)	MAL (µg/L)*
Bromide	☒	☐	3.88				400
Color (PCU)	☒	☐	10				—
Nitrate-Nitrite (as N)	☒	☐	<0.0200				—
Sulfide (as S)	☒	☐	<0.01				—

Pollutants	Believed Present	Believed Absent	Sample 1 (mg/L)	Sample 2 (mg/L)	Sample 3 (mg/L)	Sample 4 (mg/L)	MAL (µg/L)*
Sulfite (as SO_3)	☐	☒	<0.01				—
Surfactants (MBAS)	☒	☐	<0.200 (H)				—
Boron, total	☒	☐	0.651				20
Cobalt, total	☒	☐	<0.0003				0.3
Iron, total	☒	☐	0.150				7
Magnesium, total	☒	☐	71.2				20
Manganese, total	☒	☐	<0.0447				0.5
Molybdenum, total	☒	☐	0.00221				1
Tin, total	☒	☐	<0.005				5
Titanium, total	☒	☐	0.0993				30

* Indicate units if different from µg/L.

H-Lab subcontractor noted "Sample started outside recommended hold time".

Table 8 for Outfall 002 **Samples are (check one):** ☒ **Composite** ☐ **Grab**

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Acrolein	<15.0				50
Acrylonitrile	<3.00				50
Benzene	<1.00				10
Bromoform	5.16				10
Carbon tetrachloride	<1.00				2
Chlorobenzene	<1.00				10
Chlorodibromomethane	3.06				10
Chloroethane	<2.00				50
2-Chloroethylvinyl ether	<6.00				10
Chloroform	<1.00				10
Dichlorobromomethane [Bromodichloromethane]	<1.00				10
1,1-Dichloroethane	<1.00				10
1,2-Dichloroethane	<1.00				10
1,1-Dichloroethylene [1,1-Dichloroethene]	<1.00				10
1,2-Dichloropropane	<1.00				10
1,3-Dichloropropylene [1,3-Dichloropropene] (reported as cis and trans)	<1.00				10
Ethylbenzene	<1.00				10
Methyl bromide [Bromomethane]	<5.00				50
Methyl chloride [Chloromethane]	<1.00				50
Methylene chloride [Dichloromethane]	<2.50				20
1,1,2,2-Tetrachloroethane	<1.00				10
Tetrachloroethylene [Tetrachloroethene]	<2.00				10
Toluene	<2.00				10
1,2-Trans-dichloroethylene [1,2-Trans-dichloroethene]	<1.00				10
1,1,1-Trichloroethane	<1.00				10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
1,1,2-Trichloroethane	<1.00				10
Trichloroethylene [Trichloroethene]	<1.00				10
Vinyl chloride	<1.00				10

* Indicate units if different from µg/L.

Table 9 for Outfall 002 **Samples are (check one):** ☒ **Composite** ☐ **Grab**

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
2-Chlorophenol	<1.05				10
2,4-Dichlorophenol	<1.05				10
2,4-Dimethylphenol	<2.51				10
4,6-Dinitro-o-cresol (….2-methylphenol)	<8.37				50
2,4-Dinitrophenol	<9.41				50
2-Nitrophenol	<1.05				20
4-Nitrophenol	<1.05				50
p-Chloro-m-cresol (3&4 Methylphenol (m&p-Cresol)	<2.51				10
Pentachlorophenol	<1.05				5
Phenol*	<1.57				10
2,4,6-Trichlorophenol	<1.05				10

* Indicate units if different from µg/L.

OUTFALL 003 Analytical Data

Table 1 for Outfall 003 **Samples are (check one):** ☐ **Composite** ☒ **Grab*****

Pollutant	Sample 1 (mg/L)	Sample 2 (mg/L)	Sample 3 (mg/L)	Sample 4 (mg/L)
BOD (5-day)	1			
CBOD (5-day)	<1			
Chemical oxygen demand	41.1			
Total organic carbon	7.85			
Dissolved oxygen	8.91			
Ammonia nitrogen	<0.04			
Total suspended solids	4.4			
Nitrate nitrogen	0.307			
Total organic nitrogen	1.10			
Total phosphorus	0.162			
Oil and grease	<2.5			
Total residual chlorine	0.130			
Total dissolved solids	605			
Sulfate	111			
Chloride	165			
Fluoride	0.715			
Total alkalinity (mg/L as $CaCO_3$)	178			
Temperature (°F)	60.6			
pH (standard units)	8.84			

*** TCEQ approved "grab" for all pollutants. See Attachment FPP-TECH-11 for TCEQ Correspondence

Table 2 for Outfall 003 **Samples are (check one):** ☐ **Composite** ☒ **Grab*****

Pollutant	Sample 1 (µg/L)	Sample 2 (µg/L)	Sample 3 (µg/L)	Sample 4 (µg/L)	MAL (µg/L)
Aluminum, total	247				2.5
Antimony, total	<5.00				5
Arsenic, total	5.32				0.5
Barium, total	224				3
Beryllium, total	<0.500				0.5
Cadmium, total	<1.00				1
Chromium, total	1.54				3
Chromium, hexavalent	3.29				3
Chromium, trivalent	<3.62				N/A
Copper, total	2.56				2
Cyanide, ~~available~~ amenable	<2.20				2/10
Lead, total	<0.500				0.5
Mercury, total	0.00161				0.005/0.0005
Nickel, total	2.67				2
Selenium, total	<5.00				5
Silver, total	<0.500				0.5

Pollutant	Sample 1 (µg/L)	Sample 2 (µg/L)	Sample 3 (µg/L)	Sample 4 (µg/L)	MAL (µg/L)
Thallium, total	<0.500				0.5
Zinc, total	<5.00				5.0

*** TCEQ approved "grab" for all pollutants. See Attachment FPP-TECH-11 for TCEQ Correspondence

Table 3 for Outfall 003 **Samples are (check one):** ☐ **Composite** ☒ **Grab*****

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
Acrylonitrile	<3.00				50
Anthracene	<0.954				10
Benzene	<1.00				10
Benzidine	<19.1				50
Benzo(a)anthracene	<0.954				5
Benzo(a)pyrene	<0.954				5
Bis(2-chloroethyl)ether	<0.954				10
Bis(2-ethylhexyl)phthalate	<7.16				10
Bromodichloromethane [Dichlorobromomethane]	<1.00				10
Bromoform	<1.00				10
Carbon tetrachloride	<1.00				2
Chlorobenzene	<1.00				10
Chlorodibromomethane [Dibromochloromethane]	<1.00				10
Chloroform	<1.00				10
Chrysene	<0.954				5
m-Cresol [3-Methylphenol] (reported as m&p cresol)	<5.92				10
o-Cresol [2-Methylphenol]	<4.96				10
p-Cresol [4-Methylphenol] (reported as m&p cresol)	<5.92				10
1,2-Dibromoethane	<1.00				10
m-Dichlorobenzene [1,3-Dichlorobenzene]	<0.954				10
o-Dichlorobenzene [1,2-Dichlorobenzene]	<0.954				10
p-Dichlorobenzene [1,4-Dichlorobenzene]	<0.954				10
3,3'-Dichlorobenzidine	<4.77				5
1,2-Dichloroethane	<1.00				10
1,1-Dichloroethene [1,1-Dichloroethylene]	<1.00				10
Dichloromethane [Methylene chloride]	<2.50				20
1,2-Dichloropropane	<1.00				10
1,3-Dichloropropene [1,3-Dichloropropylene] (reported as cis and trans)	<1.00				10
2,4-Dimethylphenol	<2.29				10
Di-n-Butyl phthalate	<7.16				10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
Ethylbenzene	<1.00				10
Fluoride	715				500
Hexachlorobenzene	<0.954				5
Hexachlorobutadiene	<0.954				10
Hexachlorocyclopentadiene	<8.59				10
Hexachloroethane	<0.954				20
Methyl ethyl ketone (2-Butanone)	<15.0				50
Nitrobenzene	<0.954				10
N-Nitrosodiethylamine	<6.68				20
N-Nitroso-di-n-butylamine	<0.954				20
Nonylphenol	<30.2				333
Pentachlorobenzene	<0.954				20
Pentachlorophenol	<0.954				5
Phenanthrene	<0.954				10
Polychlorinated biphenyls (PCBs) (**)	<0.197				0.2
Pyridine	<5.15				20
1,2,4,5-Tetrachlorobenzene	<0.954				20
1,1,2,2-Tetrachloroethane	<1.00				10
Tetrachloroethene [Tetrachloroethylene]	<2.00				10
Toluene	<2.00				10
1,1,1-Trichloroethane	<1.00				10
1,1,2-Trichloroethane	<1.00				10
Trichloroethene [Trichloroethylene]	<1.00				10
2,4,5-Trichlorophenol	<0.954				50
TTHM (Total trihalomethanes)	<5.00				10
Vinyl chloride	<1.00				10

(*) Indicate units if different from µg/L.
(**) Total of detects for PCB-1242, PCB-1254, PCB-1221, PCB-1232, PCB-1248, PCB-1260, and PCB-1016. If all non-detects, enter the highest non-detect preceded by a "<".

*** TCEQ approved "grab" for all pollutants. See Attachment FPP-TECH-11 for TCEQ Correspondence

Table 6 for Outfall 003 **Samples are (check one):** ☐ **Composite** ☒ **Grab*****

Pollutants	Believed Present	Believed Absent	Sample 1 (mg/L)	Sample 2 (mg/L)	Sample 3 (mg/L)	Sample 4 (mg/L)	MAL (µg/L)*
Bromide	☒	☐	2.72				400
Color (PCU)	☒	☐	10				—
Nitrate-Nitrite (as N)	☒	☐	0.309				—
Sulfide (as S)	☒	☐	<0.01				—
Sulfite (as SO_3)	☐	☒	--				—
Surfactants (MBAS)	☒	☐	<0.369				—

Pollutants	Believed Present	Believed Absent	Sample 1 (mg/L)	Sample 2 (mg/L)	Sample 3 (mg/L)	Sample 4 (mg/L)	MAL (µg/L)*
Boron, total	☒	☐	0.856				20
Cobalt, total	☒	☐	<0.0003				0.3
Iron, total	☒	☐	0.0756				7
Magnesium, total	☒	☐	3.5				20
Manganese, total	☒	☐	0.0447				0.5
Molybdenum, total	☒	☐	0.00202				1
Tin, total	☒	☐	<0.005				5
Titanium, total	☒	☐	<0.030				30

*** TCEQ approved "grab" for all pollutants. See Attachment FPP-TECH-11 for TCEQ Correspondence

H-Lab subcontractor noted "Sample started outside recommended hold time".

Table 8 for Outfall 003 **Samples are (check one):** ☐ **Composite** ☒ **Grab*****

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Acrolein	<15.0				50
Acrylonitrile	<3.00				50
Benzene	<1.00				10
Bromoform	<1.00				10
Carbon tetrachloride	<1.00				2
Chlorobenzene	<1.00				10
Chlorodibromomethane	<1.00				10
Chloroethane	<2.00				50
2-Chloroethylvinyl ether	<6.00				10
Chloroform	<1.00				10
Dichlorobromomethane [Bromodichloromethane]	<1.00				10
1,1-Dichloroethane	<1.00				10
1,2-Dichloroethane	<1.00				10
1,1-Dichloroethylene [1,1-Dichloroethene]	<1.00				10
1,2-Dichloropropane	<1.00				10
1,3-Dichloropropylene [1,3-Dichloropropene] (reported as cis and trans)	<1.00				10
Ethylbenzene	<1.00				10
Methyl bromide [Bromomethane]	<5.00				50
Methyl chloride [Chloromethane]	<1.00				50
Methylene chloride [Dichloromethane]	<2.50				20
1,1,2,2-Tetrachloroethane	<1.00				10
Tetrachloroethylene [Tetrachloroethene]	<2.00				10
Toluene	<2.00				10
1,2-Trans-dichloroethylene [1,2-Trans-dichloroethene]	<1.00				10
1,1,1-Trichloroethane	<1.00				10
1,1,2-Trichloroethane	<1.00				10
Trichloroethylene [Trichloroethene]	<1.00				10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Vinyl chloride	<1.00				10

*** TCEQ approved "grab" for all pollutants. See Attachment FPP-TECH-11 for TCEQ Correspondence

Table 9 for Outfall 003 **Samples are (check one):** ☐ **Composite** ☒ **Grab*****

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
2-Chlorophenol	<0.954				10
2,4-Dichlorophenol	<0.954				10
2,4-Dimethylphenol	<2.29				10
4,6-Dinitro-o-cresol (....2-methylphenol)	<7.63				50
2,4-Dinitrophenol	<8.59				50
2-Nitrophenol	<0.954				20
4-Nitrophenol	<0.954				50
p-Chloro-m-cresol (3&4 Methylphenol (m&p-Cresol)	<5.92				10
Pentachlorophenol	<0.954				5
Phenol*	<1.43				10
2,4,6-Trichlorophenol	<0.954				10

*** TCEQ approved "grab" for all pollutants. See Attachment FPP-TECH-11 for TCEQ Correspondence

Table 13 for Outfall No.: 003 **Samples are (check one):** ☐ **Composite** ☒ **Grab**

Pollutant	CASRN	Sample 1 (µg/L)	Sample 2 (µg/L)	Sample 3 (µg/L)	Sample 4 (µg/L)	Analytical Method
Vanadium, Total	7440-62-2	8.73				200.8

OUTFALL 004 Analytical Data

Outfall 004 does not have pollutant analysis results because there has been no discharge in the last 365 days.

Outfall 002

INDUSTRIAL WASTEWATER PERMIT APPLICATION WORKSHEET 4.0: RECEIVING WATERS

This worksheet **is required** for all TPDES permit applications.

Item 1. Domestic Drinking Water Supply (Instructions, Page 80)

a. There is a surface water intake for domestic drinking water supply located within 5 (five) miles downstream from the point/proposed point of discharge.

☐ Yes ☒ No

If **no**, stop here and proceed to Item 2. If **yes**, provide the following information:

1. The legal name of the owner of the drinking water supply intake: Click to enter text.
2. The distance and direction from the outfall to the drinking water supply intake: Click to enter text.

b. Locate and identify the intake on the USGS 7.5-minute topographic map provided for Administrative Report 1.0.

☐ Check this box to confirm the above requested information is provided.

Item 2. Discharge Into Tidally Influenced Waters (Instructions, Page 80)

If the discharge is to tidally influenced waters, complete this section. Otherwise, proceed to Item 3.

a. Width of the receiving water at the outfall: Click to enter text. feet

b. Are there oyster reefs in the vicinity of the discharge?

☐ Yes ☐ No

If **yes**, provide the distance and direction from the outfall(s) to the oyster reefs: Click to enter text.

c. Are there sea grasses within the vicinity of the point of discharge?

☐ Yes ☐ No

If **yes**, provide the distance and direction from the outfall(s) to the grasses: Click to enter text.

Item 3. Classified Segment (Instructions, Page 80)

The discharge is/will be directly into (or within 300 feet of) a classified segment.

☐ Yes ☒ No

If **yes**, stop here and do not complete Items 4 and 5 of this worksheet or Worksheet 4.1.

If **no**, complete Items 4 and 5 and Worksheet 4.1 may be required.

Item 4. Description of Immediate Receiving Waters (Instructions, Page 80)

a. Name of the immediate receiving waters: Unnamed tributary to Cedar Creek (Outfall 002)

b. Check the appropriate description of the immediate receiving waters:

☐ Lake or Pond

- Surface area (acres): Click to enter text.
- Average depth of the entire water body (feet): Click to enter text.
- Average depth of water body within a 500-foot radius of the discharge point (feet): Click to enter text.

☒ Man-Made Channel or Ditch

☐ Stream or Creek

☐ Freshwater Swamp or Marsh

☐ Tidal Stream, Bayou, or Marsh

☐ Open Bay

☐ Other, specify:

If **Man-Made Channel or Ditch** or **Stream or Creek** were selected above, provide responses to Items 4.c – 4.g below:

c. For **existing discharges**, check the description below that best characterizes the area **upstream** of the discharge.

For **new discharges**, check the description below that best characterizes the area **downstream** of the discharge.

☐ Intermittent (dry for at least one week during most years)

☐ Intermittent with Perennial Pools (enduring pools containing habitat to maintain aquatic life uses)

☒ Perennial (normally flowing)

Check the source(s) of the information used to characterize the area upstream (existing discharge) or downstream (new discharge):

☐ USGS flow records

☒ personal observation

☐ historical observation by adjacent landowner(s)

☐ other, specify: Click to enter text.

d. List the names of all perennial streams that join the receiving water within three miles downstream of the discharge point: Cedar Creek

e. The receiving water characteristics change within three miles downstream of the discharge (e.g., natural or man-made dams, ponds, reservoirs, etc.).

☒ Yes ☐ No

If **yes**, describe how: Channelized ditch flows into a natural streambed.

f. General observations of the water body during normal dry weather conditions: Outfall 002 discharges into a man-made channelized ditch, which is dry during normal dry weather conditions. Downstream from 002, the channelized ditch flows into a natural streambed, which has a small flow during normal dry weather conditions from sources other than discharges from Outfall 002.

Date and time of observation: November 13, 2018; 1:00 pm

g. The water body was influenced by stormwater runoff during observations.

☒ Yes ☐ No

If **yes**, describe how: 0.93 inches of rain had fallen at the FPP plant between November 11 and 12 so the receiving water body likely was influenced by stormwater.

Item 5. General Characteristics of Water Body (Instructions, Page 81)

a. Is the receiving water upstream of the existing discharge or proposed discharge site influenced by any of the following (check all that apply):

☐ oil field activities
☐ agricultural runoff
☐ upstream discharges
☐ urban runoff
☐ septic tanks
☒ other, specify: N/A

b. Uses of water body observed or evidence of such uses (check all that apply):

☐ livestock watering
☐ non-contact recreation
☐ domestic water supply
☐ contact recreation
☐ fishing
☐ industrial water supply
☐ irrigation withdrawal
☐ navigation
☐ picnic/park activities
☒ other, specify: N/A

c. Description which best describes the aesthetics of the receiving water and the surrounding area (check only one):

☐ **Wilderness:** outstanding natural beauty; usually wooded or un-pastured area: water clarity exceptional

☐ **Natural Area:** trees or native vegetation common; some development evident (from fields, pastures, dwellings); water clarity discolored

☒ **Common Setting:** not offensive, developed but uncluttered; water may be colored or turbid

☐ **Offensive:** stream does not enhance aesthetics; cluttered; highly developed; dumping areas; water discolored

INDUSTRIAL WASTEWATER PERMIT APPLICATION WORKSHEET 4.1: WATERBODY PHYSICAL CHARACTERISTICS

The following information **is required** for new applications, EPA-designated Major facilities, and major amendment applications requesting to add an outfall if the receiving waters are perennial or intermittent with perennial pools (including impoundments) for a TDPES permit.

Complete the transects downstream of the existing or proposed discharges.

Item 1. Data Collection (Instructions, Page 82)

a. Date of study: November 13, 2018 Time of study: 1:00 pm

Waterbody name: Unnamed tributary to Cedar Creek

General location: Outfall 002 discharge

b. Type of stream upstream of an existing discharge or downstream of a proposed discharge (check only one):

☒ perennial ☐ intermittent with perennial pools ☐ impoundment

c. No. of defined stream bends:

Well: 1 Moderately: 3 Poorly: 3

d. No. of riffles: 2

e. Evidence of flow fluctuations (check one):

☒ Minor ☐ Moderate ☐ Severe

f. Provide the observed stream uses and where there is evidence of channel obstructions/modifications: No observed stream uses. Channelized man-made ditch for approximately 3000 ft from Outfall 002, then natural streambed. Channel obstructions/modifications include corrugated pipe culverts constructed under roads and railroad tracks, and some concrete aprons constructed in channel upstream and downstream of culverts.

g. Complete the following table with information regarding the transect measurements.

Stream Transect Data

Transect Location	Habitat Type*	Water Surface Width (ft)	Stream Depths (ft)**								
Location 2-1 (~3000 ft downstream from Outfall 002 (beginning of natural streambed)	Riffle	2					0.25”	0.17’	0.08’		
Location 2-2	Pool (small)	7.5					0.5’	1.0’	1.67’	1.83’	1.0’
Location 2-3	Run	2.5					0.25’	0.33’	0.33’	0.25’	

Outfall 002

Transect Location	Habitat Type*	Water Surface Width (ft)	Stream Depths (ft)**								
Location 2-4	Glide	4					0.5’	0.5’	0.58’	0.17’	
Location 2-5	Pool (moderate)	12.5					2.33’	2.83’	2.17’	2.17’	2.25’

* riffle, run, glide, or pool
** channel bed to water surface

Item 2. Summarize Measurements (Instructions, Page 83)

Provide the following information regarding the transect measurements:

Streambed slope of entire reach (from USGS map in ft. /ft.): 0.013 (20/1600)

Approximate drainage area above the most downstream transect from USGS map or county highway map (square miles): 0.27

Length of stream evaluated (ft): 1600

Number of lateral transects made: 5

Average stream width (ft): 9.5

Average stream depth (ft): 1.0

Average stream velocity (ft/sec): 0.0434

Instantaneous stream flow (ft^3/sec): 0.1085

Indicate flow measurement method (VERY IMPORTANT – type of meter, floating chip timed over a fixed distance, etc.): SonTek Flowtracker2 Handheld ADV (Acoustic Doppler Velocimeter)

Flow fluctuations (i.e., minor, moderate, or severe): minor

Size of pools (i.e., large, small, moderate, or none): 1 large, 4 moderate, 1 small

Maximum pool depth (ft): 2.83’

Total number of stream bends: 7

Number well defined: 1

Number moderately defined: 3

Number poorly defined: 3

Total number of riffles: 2

INDUSTRIAL WASTEWATER PERMIT APPLICATION WORKSHEET 4.0: RECEIVING WATERS

This worksheet **is required** for all TPDES permit applications.

Item 1. Domestic Drinking Water Supply (Instructions, Page 80)

a. There is a surface water intake for domestic drinking water supply located within 5 (five) miles downstream from the point/proposed point of discharge.

☐ Yes ☒ No

If **no**, stop here and proceed to Item 2. If **yes**, provide the following information:

1. The legal name of the owner of the drinking water supply intake: Click to enter text.
2. The distance and direction from the outfall to the drinking water supply intake: Click to enter text.

b. Locate and identify the intake on the USGS 7.5-minute topographic map provided for Administrative Report 1.0.

☐ Check this box to confirm the above requested information is provided.

Item 2. Discharge Into Tidally Influenced Waters (Instructions, Page 80)

If the discharge is to tidally influenced waters, complete this section. Otherwise, proceed to Item 3.

a. Width of the receiving water at the outfall: Click to enter text. feet

b. Are there oyster reefs in the vicinity of the discharge?

☐ Yes ☐ No

If **yes**, provide the distance and direction from the outfall(s) to the oyster reefs: Click to enter text.

c. Are there sea grasses within the vicinity of the point of discharge?

☐ Yes ☐ No

If **yes**, provide the distance and direction from the outfall(s) to the grasses: Click to enter text.

Item 3. Classified Segment (Instructions, Page 80)

The discharge is/will be directly into (or within 300 feet of) a classified segment.

☐ Yes ☒ No

If **yes**, stop here and do not complete Items 4 and 5 of this worksheet or Worksheet 4.1.

If **no**, complete Items 4 and 5 and Worksheet 4.1 may be required.

Item 4. Description of Immediate Receiving Waters (Instructions, Page 80)

a. Name of the immediate receiving waters: Unnamed tributary to Cedar Creek (Outfall 003)

b. Check the appropriate description of the immediate receiving waters:

☐ Lake or Pond

- Surface area (acres): Click to enter text.
- Average depth of the entire water body (feet): Click to enter text.
- Average depth of water body within a 500-foot radius of the discharge point (feet): Click to enter text.

☐ Man-Made Channel or Ditch

☒ Stream or Creek

☐ Freshwater Swamp or Marsh

☐ Tidal Stream, Bayou, or Marsh

☐ Open Bay

☐ Other, specify:

If **Man-Made Channel or Ditch** or **Stream or Creek** were selected above, provide responses to Items 4.c – 4.g below:

c. For **existing discharges**, check the description below that best characterizes the area **upstream** of the discharge.

For **new discharges**, check the description below that best characterizes the area **downstream** of the discharge.

☐ Intermittent (dry for at least one week during most years)

☐ Intermittent with Perennial Pools (enduring pools containing habitat to maintain aquatic life uses)

☒ Perennial (normally flowing)

Check the source(s) of the information used to characterize the area upstream (existing discharge) or downstream (new discharge):

☐ USGS flow records

☒ personal observation

☐ historical observation by adjacent landowner(s)

☐ other, specify: Click to enter text.

d. List the names of all perennial streams that join the receiving water within three miles downstream of the discharge point: Cedar Creek

e. The receiving water characteristics change within three miles downstream of the discharge (e.g., natural or man-made dams, ponds, reservoirs, etc.).

☐ Yes ☒ No

If **yes**, describe how: Note: Outfall 003 flows through a man-made ditch for ~550 feet before flowing into unnamed tributary of Cedar Creek.

f. General observations of the water body during normal dry weather conditions: Outfall 003 discharges into a man-made ditch, which is dry during normal dry weather conditions. The man-made ditch flows into an unnamed tributary of Cedar Creek. The unnamed tributary has a small flow during normal dry weather conditions.

Date and time of observation: November 13, 2018; 11:00 am

g. The water body was influenced by stormwater runoff during observations.

☒ Yes ☐ No

If **yes**, describe how: There was no rain on the day of observation, but 0.1 inch of rain had fallen the day before and 0.8 inch had fallen two days prior. Water body is regularly observed by plant staff in previous years, which corresponds to this observation.

Item 5. General Characteristics of Water Body (Instructions, Page 81)

a. Is the receiving water upstream of the existing discharge or proposed discharge site influenced by any of the following (check all that apply):

☐ oil field activities
☐ agricultural runoff
☐ upstream discharges
☐ urban runoff
☐ septic tanks
☒ other, specify: N/A

b. Uses of water body observed or evidence of such uses (check all that apply):

☐ livestock watering
☐ non-contact recreation
☐ domestic water supply
☐ contact recreation
☐ fishing
☐ industrial water supply
☐ irrigation withdrawal
☐ navigation
☐ picnic/park activities
☒ other, specify: N/A

c. Description which best describes the aesthetics of the receiving water and the surrounding area (check only one):

☐ **Wilderness:** outstanding natural beauty; usually wooded or un-pastured area: water clarity exceptional

☒ **Natural Area:** trees or native vegetation common; some development evident (from fields, pastures, dwellings); water clarity discolored

☐ **Common Setting:** not offensive, developed but uncluttered; water may be colored or turbid

☐ **Offensive:** stream does not enhance aesthetics; cluttered; highly developed; dumping areas; water discolored

INDUSTRIAL WASTEWATER PERMIT APPLICATION WORKSHEET 4.1: WATERBODY PHYSICAL CHARACTERISTICS

The following information **is required** for new applications, EPA-designated Major facilities, and major amendment applications requesting to add an outfall if the receiving waters are perennial or intermittent with perennial pools (including impoundments) for a TDPES permit.

Complete the transects downstream of the existing or proposed discharges.

Item 1. Data Collection (Instructions, Page 82)

a. Date of study: November 13, 2018 Time of study: 11:00 am

Waterbody name: Unnamed tributary to Cedar Creek

General location: Outfall 003

b. Type of stream upstream of an existing discharge or downstream of a proposed discharge (check only one):

☒ perennial ☐ intermittent with perennial pools ☐ impoundment

c. No. of defined stream bends:

Well: 0 Moderately: 5 Poorly: 0

d. No. of riffles: 6

e. Evidence of flow fluctuations (check one):

☐ Minor ☒ Moderate ☐ Severe

f. Provide the observed stream uses and where there is evidence of channel obstructions/modifications: No observed stream uses. Discharge from 003 flows through ~550 feet of man-made ditch before flowing into unnamed tributary. Channel obstructions/ modifications in tributary include culverts constructed under roads and railroad tracks.

g. Complete the following table with information regarding the transect measurements.

Stream Transect Data

Transect Location	Habitat Type*	Water Surface Width (ft)	Stream Depths (ft)**								
Location 3-1	Run	5.6					0.5’	0.6’	0.6’	0.5’	
Location 3-2	Pool (small)	2.5					02.25’	2.33’	2.33	2.33’	
Location 3-3	Glide	11					0.58’	0.92’	1.17’	0.75’	
Location 3-4	Riffle	3.0					0.17’	0.25’	0.083’’		

* riffle, run, glide, or pool

** channel bed to water surface

Item 2. Summarize Measurements (Instructions, Page 83)

Provide the following information regarding the transect measurements:

Streambed slope of entire reach (from USGS map in ft. /ft.): 0.014

Approximate drainage area above the most downstream transect from USGS map or county highway map (square miles): 0.32

Length of stream evaluated (ft): 350

Number of lateral transects made: 4

Average stream width (ft): 5.5

Average stream depth (ft): 1.02

Average stream velocity (ft/sec): 0.0434

Instantaneous stream flow (ft^3/sec): 0.1085

Indicate flow measurement method (VERY IMPORTANT – type of meter, floating chip timed over a fixed distance, etc.): SonTek Flowtracker2 Handheld ADV (Acoustic Doppler Velocimeter)

Flow fluctuations (i.e., minor, moderate, or severe): moderate

Size of pools (i.e., large, small, moderate, or none): small to moderate

Maximum pool depth (ft): 2.33'

Total number of stream bends: 5

Number well defined: 0

Number moderately defined: 5

Number poorly defined: 0

Total number of riffles: 6

INDUSTRIAL WASTEWATER PERMIT APPLICATION WORKSHEET 4.0: RECEIVING WATERS

This worksheet **is required** for all TPDES permit applications.

Item 1. Domestic Drinking Water Supply (Instructions, Page 80)

a. There is a surface water intake for domestic drinking water supply located within 5 (five) miles downstream from the point/proposed point of discharge.

☐ Yes ☒ No

If **no**, stop here and proceed to Item 2. If **yes**, provide the following information:

1. The legal name of the owner of the drinking water supply intake: Click to enter text.
2. The distance and direction from the outfall to the drinking water supply intake: Click to enter text.

b. Locate and identify the intake on the USGS 7.5-minute topographic map provided for Administrative Report 1.0.

☐ Check this box to confirm the above requested information is provided.

Item 2. Discharge Into Tidally Influenced Waters (Instructions, Page 80)

If the discharge is to tidally influenced waters, complete this section. Otherwise, proceed to Item 3.

a. Width of the receiving water at the outfall: Click to enter text. feet

b. Are there oyster reefs in the vicinity of the discharge?

☐ Yes ☐ No

If **yes**, provide the distance and direction from the outfall(s) to the oyster reefs: Click to enter text.

c. Are there sea grasses within the vicinity of the point of discharge?

☐ Yes ☐ No

If **yes**, provide the distance and direction from the outfall(s) to the grasses: Click to enter text.

Item 3. Classified Segment (Instructions, Page 80)

The discharge is/will be directly into (or within 300 feet of) a classified segment.

☐ Yes ☒ No

If **yes**, stop here and do not complete Items 4 and 5 of this worksheet or Worksheet 4.1.

If **no**, complete Items 4 and 5 and Worksheet 4.1 may be required.

Item 4. Description of Immediate Receiving Waters (Instructions, Page 80)

a. Name of the immediate receiving waters: Unnamed tributary to Cedar Creek (Outfall 004)

b. Check the appropriate description of the immediate receiving waters:

☐ Lake or Pond

- Surface area (acres): Click to enter text.
- Average depth of the entire water body (feet): Click to enter text.
- Average depth of water body within a 500-foot radius of the discharge point (feet): Click to enter text.

☐ Man-Made Channel or Ditch

☒ Stream or Creek

☐ Freshwater Swamp or Marsh

☐ Tidal Stream, Bayou, or Marsh

☐ Open Bay

☐ Other, specify:

If **Man-Made Channel or Ditch** or **Stream or Creek** were selected above, provide responses to Items 4.c – 4.g below:

c. For **existing discharges**, check the description below that best characterizes the area **upstream** of the discharge.

For **new discharges**, check the description below that best characterizes the area **downstream** of the discharge.

☒ Intermittent (dry for at least one week during most years)

☐ Intermittent with Perennial Pools (enduring pools containing habitat to maintain aquatic life uses)

☐ Perennial (normally flowing)

Check the source(s) of the information used to characterize the area upstream (existing discharge) or downstream (new discharge):

☐ USGS flow records

☒ personal observation

☐ historical observation by adjacent landowner(s)

☐ other, specify: Click to enter text.

d. List the names of all perennial streams that join the receiving water within three miles downstream of the discharge point: Cedar Creek

e. The receiving water characteristics change within three miles downstream of the discharge (e.g., natural or man-made dams, ponds, reservoirs, etc.).

☒ Yes ☐ No

If **yes**, describe how: Outfall 004 is the beginning of an intermittent unnamed tributary of Cedar Creek. This unnamed tributary travels for approximately 1.8 miles before intersecting with Cedar Creek, which is a perennial stream.

f. General observations of the water body during normal dry weather conditions: Outfall 004 discharges into an unnamed tributary of Cedar Creek. This unnamed tributary is dry during dry weather conditions.

Date and time of observation: October 8, 2018; 11:00 am

g. The water body was influenced by stormwater runoff during observations.

☐ Yes ☒ No

If **yes**, describe how: Click to enter text.

Item 5. General Characteristics of Water Body (Instructions, Page 81)

a. Is the receiving water upstream of the existing discharge or proposed discharge site influenced by any of the following (check all that apply):

☐ oil field activities
☐ agricultural runoff
☐ upstream discharges
☐ urban runoff
☐ septic tanks
☒ other, specify: N/A

b. Uses of water body observed or evidence of such uses (check all that apply):

☐ livestock watering
☐ non-contact recreation
☐ domestic water supply
☐ contact recreation
☐ fishing
☐ industrial water supply
☐ irrigation withdrawal
☐ navigation
☐ picnic/park activities
☒ other, specify: N/A

c. Description which best describes the aesthetics of the receiving water and the surrounding area (check only one):

☐ **Wilderness:** outstanding natural beauty; usually wooded or un-pastured area: water clarity exceptional

☐ **Natural Area:** trees or native vegetation common; some development evident (from fields, pastures, dwellings); water clarity discolored

☒ **Common Setting:** not offensive, developed but uncluttered; water may be colored or turbid

☐ **Offensive:** stream does not enhance aesthetics; cluttered; highly developed; dumping areas; water discolored

ATTACHMENT: FPP-TECH-14 Solids Management Plan

LOWER COLORADO RIVER AUTHORITY
FAYETTE POWER PROJECT
UNIT 3

SEWAGE TREATMENT SYSTEM

FILE NO. 10439.93.1920
SYSTEM DESCRIPTION AND OPERATION

CONTENTS

		Page
1.0	SYSTEM FUNCTION AND DESCRIPTION	1-1
1.1	SYSTEM FUNCTION	1-1
1.2	SYSTEM DESCRIPTION	1-1
2.0	MAJOR COMPONENTS	2-1
2.1	SEWAGE PUMPS BA AND BB	2-1
2.2	SEWAGE LIFT STATION GRINDER PUMPS BA AND BB	2-1
2.3	SEWAGE TREATMENT PLANT	2-2
2.4	AIR BLOWERS BA, BB, AND BC	2-2
2.5	CHLORINATOR	2-2
2.6	SEWAGE EFFLUENT WATER SUMP PUMPS BA AND BB	2-3
2.7	SEWAGE TREATMENT SYSTEM CONTROL PANEL	2-3
2.8	SYSTEM CONTROL	2-5
3.0	SYSTEM OPERATION	3-1
3.1	PREREQUISITES	3-1
3.2	PRECAUTIONS	3-1
3.3	PROCEDURES	3-1
4.0	REFERENCE MATERIAL	4-1

APPENDIX A SPECIFICATIONS AND DRAWINGS

LIST OF FIGURES

FIGURE 1-1	SEWAGE TREATMENT SYSTEM FLOW DIAGRAM	1-2
FIGURE 2-1	SEWAGE TREATMENT CONTROL PANEL LAYOUT	2-4
FIGURE 3-1	SETTLOMETER TEST RESULT EXAMPLE CURVES	3-13

LOWER COLORADO RIVER AUTHORITY
FAYETTE POWER PROJECT
UNIT 3

SYSTEM DESCRIPTION AND OPERATION FOR SEWAGE TREATMENT SYSTEM

1.0 SYSTEM FUNCTION AND DESCRIPTION

1.1 SYSTEM FUNCTION

The function of the Sewage Treatment System is to provide for the collection and treatment of all sanitary wastes generated from the operation of Unit 3.

1.2 SYSTEM DESCRIPTION

The Sewage Treatment System includes the following structures and equipment.

(1) One yard sewage lift station, including two sewage lift pumps, level sensors, and a local control panel.

(2) One influent sewage lift station, including two grinder pumps, a diffuser, and level sensors.

(3) One flow splitter box.

(4) One sewage treatment plant, including two parallel aeration tanks with diffusers and bar screen, and two parallel clarifier tanks with stilling chamber, scum and sludge return pumps, and effluent launder.

(5) Three air blowers.

(6) One tablet chlorinator.

(7) One chlorine contact tank with baffles and effluent weir.

(8) One sewage effluent water sump, including two sump pumps and level sensors.

(9) One Sewage Treatment System control panel.

The Sewage Treatment System is shown schematically on Figure 1-1.

The Sewage Treatment System is designed to meet the following criteria.

- Minimum Hydraulic Loading--24,000 gpd.
- Maximum Hydraulic Loading--100,800 gpd.

- Maximum Organic Loading--48 lb BOD_5 (Five-Day Biochemical Oxygen Demand) per day.
- BOD_5 (Five-Day Biochemical Oxygen Demand) Reduction--90 percent.
- Suspended Solids Reduction--90 percent.

Sewage from Units 1 and 2 Fly Ash Building, Service Building, Water Treatment Building, Turbine Generator Building, and the Inspection Office is collected in a common sewer terminating at a yard sewage lift station. The yard sewage lift station also receives sewage from the Disposal Maintenance Building. The lift station is a concrete wet well which accumulates the sewage flow at a low point in the system and boosts it with submerged pumps to a higher elevation to keep the gravity sewer system from becoming too deep. The lift station is located east of the Inspection Office and west of the Vacuum Filter Building.

Effluent from the sewage lift station and sewage from the FGD Dewatering Switchgear Building, Materials Handling Personnel Building, Lignite Stackout Switchgear Building, and Auxiliary Control Building are collected in a common sewer terminating at the sewage treatment plant influent sewage lift station. The influent sewage lift station also receives sewage from Units 1 and 2 buildings.

The influent sewage lift station located adjacent to the sewage treatment plant, includes two grinder pumps which shred the larger solids into small pieces and pump the sewage to the sewage treatment plant. An air diffuser is also provided in the lift station to maintain the sewage aerated and mixed throughout the lift station at all times, preventing the sewage from going septic.

The sewage treatment plant is an extended aeration system. The process makes use of microorganisms under aerobic conditions to capture and metabolize the organic wastes. The treatment plant consists of two independent modules, each consisting of an aeration tank and a clarifier. The sewage treatment plant is located south of the existing sewage treatment plant.

Sewage from the influent sewage lift station is equally divided in the flow splitter box between each of the two sewage treatment plant

modules and the existing sewage treatment plant. Slide gates are provided in the splitter box to isolate either half of the treatment plant or the existing sewage treatment plant. Provision for recirculation of sewage from the flow splitter box to the influent sewage lift station exists to prevent hydraulic overloading when half of the treatment plant or the existing sewage treatment plant is isolated.

Sewage reaching the aeration tank of the sewage treatment plant first passes through a bar screen to prevent leaves and floating objects from flowing into the aeration tank. In the aeration tank, the sewage is detained for approximately 24 hours for the microorganisms, or "bugs," to break down the organics in the sewage. For the bugs to come in contact and digest the organics, oxygen and mixing are required. Air blowers provide compressed air which is piped to the bottom of the aeration tank and distributed through diffusers for aerating and mixing the sewage in the aeration tank.

From the aeration tank, the sewage overflows into the clarifier where the flow rate decreases to allow the solids to settle. The clarified liquid flows over a launder weir which is positioned to allow the wastewater to overflow at a velocity slow enough to avoid disturbing the solids that have settled. Accumulated solids are constantly recycled from the bottom of the clarifier to the aeration tank by an air lift pump. The sludge return air lift pump consists of a pipe placed vertically with the suction end in the sludge. Air from the blowers enters the pipe near the bottom. The rising bubbles cause a low pressure inside the return pipe causing the sludge to be lifted back to the aeration tank. This returned sludge undergoes further digestion in the aeration tank and provides the bugs which digest incoming sewage. A scum pump is also provided in each clarifier to remove any floating scum and return it to the aeration tank. The scum pump consists of a scum cone which is positioned at the water surface. The scum collected is returned to the aeration tank by the scum return air lift pump.

Since aeration tanks and clarifiers do not completely remove disease producing bacteria, the clarified liquid then flows through a tablet

chlorinator and to the chlorine contact tank. The chlorine contact tank provides a retention time of at least 20 minutes for the wastewater before being discharged to the sewage effluent water sump. The sewage effluent sump pumps transfer the treated sewage to the reclaim pond. In the event the level in the reclaim pond starts to rise, excess sewage treatment plant effluent can be transferred to the cooling lake.

2.0 MAJOR COMPONENTS

2.1 SEWAGE PUMPS BA AND BB

The sewage pumps are totally submersible vertical pumps with a built-in moisture detector. The pump motors are induction type designed for across-the-line starting and continuous duty.

The pumps can be pulled from the lift station wet well along permanently installed guide bars without dewatering or removing the lift station from service. The pumps have quick-disconnect flanges with gaskets on the discharge for a fluid-tight connection with the permanently installed discharge elbow. The connection with the discharge elbow is made automatically when the pump is lowered into place. A check valve is provided in the discharge line of each pump to prevent backflow.

The pumps are controlled automatically by liquid level sensors in the wet well or manually from the local control panel provided with the sewage lift station. The pump and motor specifications and performance curve are given in Appendix A, Pages A-4 and A-5.

2.2 SEWAGE LIFT STATION GRINDER PUMPS BA AND BB

The sewage lift station grinder pumps are totally submersible vertical pumps designed to shred the solids contained in the sewage to a slurry that can be pumped under low pressure. The pumps have a two-stage grinder assembly: a primary grinder to macerate the solids and a secondary cutter, cutting in a plane perpendicular to the first, to further reduce the solids to a fine slurry for pumping by the centrifugal impeller. The pump motors are induction type designed for across-the-line starting and continuous duty.

The grinder pumps can be pulled from the lift station wet well along permanently installed guide bars without dewatering or removing the lift station from service. The pumps have hydraulic sealing flanges on the discharge that assure positive sealing with the discharge piping when the pump is lowered into position. A removable, nonclog, ball check valve, integral to the pump piping, prevents backflow in the discharge line.

The grinder pumps are controlled automatically by liquid level sensors in the wet well or manually from the local control panel provided with the sewage treatment plant. The pump and motor specifications and performance curve are given in Appendix A, Pages A-6 and A-7.

2.3 SEWAGE TREATMENT PLANT

Specifications for the aeration tank, clarifier, and chlorine contact tank are listed in Appendix A, Pages A-8, A-9, and A-13.

2.4 AIR BLOWERS BA, BB, AND BC

Each air blower provides 66 cfm of air at 6 psig for aeration of the sewage in the sewage lift station and aeration tanks of the sewage treatment plant and for operation of the clarifier air lift and scum pumps. The blower motor is an induction type designed for across-the-line starting and continuous duty. The air blower and motor specifications and performance curve are given in Appendix A, Pages A-10 and A-11.

Each blower is provided with an inlet filter silencer and an outlet check valve. A diaphragm-actuated, air-pressure relief valve is provided on the common air header. The pressure relief valve is set at 10 psig.

Pressure Indicator B-ST-PI-11 provides local indication of the discharge pressure of the blowers. Flow Element B-ST-FE-11 provides local indication of the airflow rate. Pressure Switches B-ST-PSL-11A, B-ST-PSL-11B, and B-ST-PSL-11C provide signals to the Data Acquisition System (Point Numbers PMB51, PMB52, and PMB53) when the discharge pressure of Air Blowers BA, BB, and BC, respectively, drops below 4.5 psig while operating.

2.5 CHLORINATOR

The chlorinator consists of a housing, an inlet baffle, an outlet weir, and four tablet feed tubes. The chlorinator is mounted above the chlorine contact tank and receives the overflow from the clarifier.

Slow-dissolving chlorine tablets at the bottom of the feed tubes are immersed in the effluent. The rate at which the tablets dissolve is regulated automatically by controlling the liquid height in the chlorinator and by varying the amount of tablets in contact with the liquid.

The outlet weir controls the liquid level inside the chlorinator housing. When the flow of the effluent increases, the liquid level in the chlorinator rises, covering more tablets and releasing more chlorine. When the flow decreases, the liquid level drops and, as a result, fewer chlorine tablets are immersed and less chlorine is released. Therefore, the rate at which the chlorine tablets dissolve is continuously adjusted to the effluent flow.

Specifications for the chlorinator are given in Appendix A, Page A-12.

2.6 SEWAGE EFFLUENT WATER SUMP PUMPS BA AND BB

The sewage effluent water sump pumps are vertical turbine pumps with a self-lubricated discharge column and a bowl assembly. The bowl assembly is furnished with semi-open impellers and is self-priming upon submergence of the first stage. The pump motors are induction type designed for across-the-line starting and continuous duty. A check valve is provided in the discharge piping of each pump to prevent backflow.

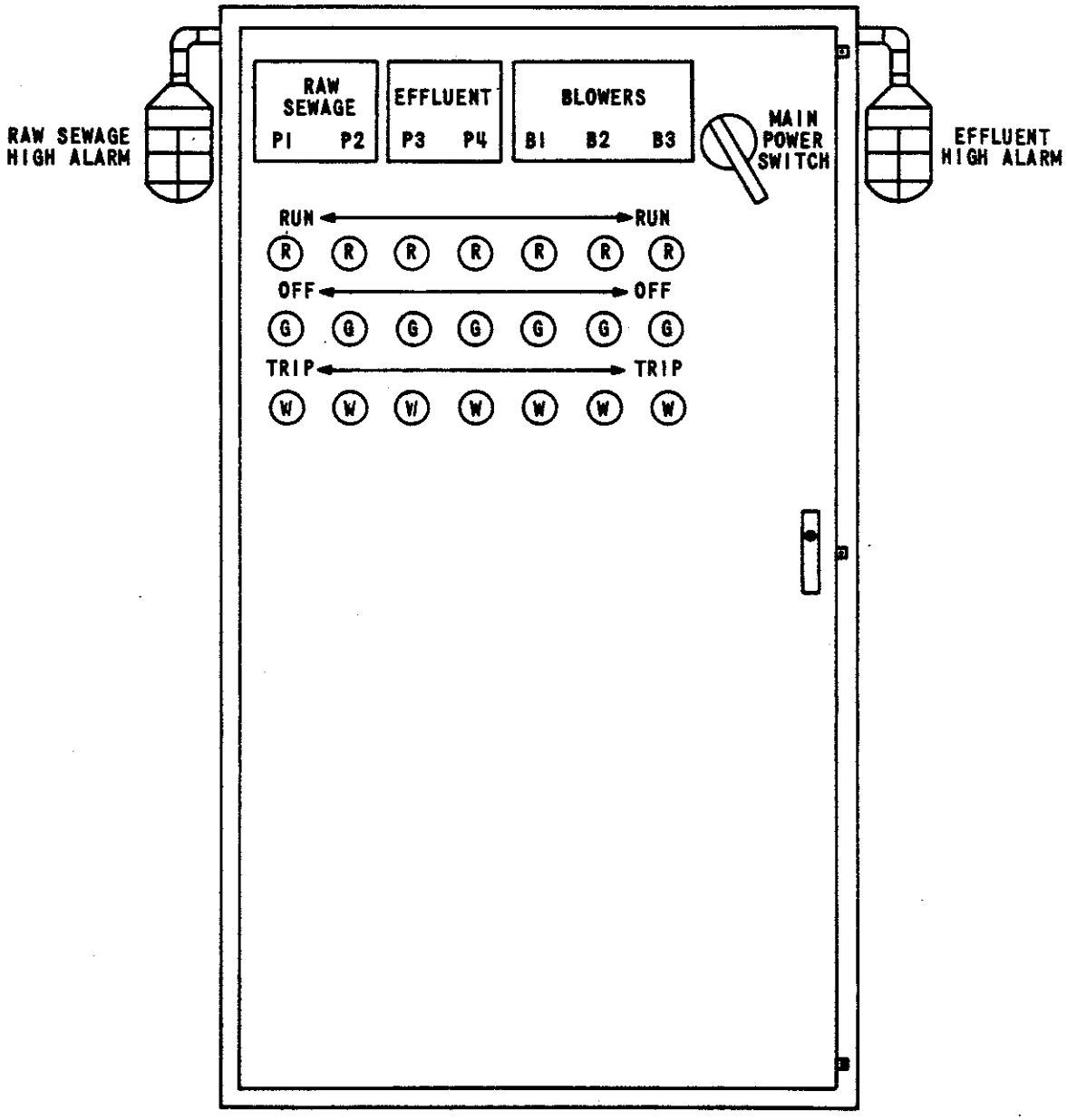
The pumps are controlled automatically by liquid level sensors in the sump or manually from the local control panel provided with the sewage treatment plant. The pump and motor specifications and performance curve are given in Appendix A, Pages A-14 and A-15.

Pressure Indicator B-ST-PI-01 provides local indication of the discharge pressure of the sump pumps.

2.7 SEWAGE TREATMENT SYSTEM CONTROL PANEL

The control panel has a single door on the panel front for access to the panel interior. A layout of the front of the control panel is shown on Figure 2-1.

In addition to the main power switch, status indicating lights for each sewage lift station grinder pump, sewage effluent water sump pump, and air blower are furnished on the panel front. A red light indicates that the corresponding pump or blower is running, a green light indicates that the corresponding pump or blower is off, and a white light indicates that the corresponding motor has tripped. The control panel also has two



NOTE: CONTROL SWITCHES FOR PUMPS AND BLOWERS ARE INTERNALLY LOCATED

SEWAGE TREATMENT
CONTROL PANEL LAYOUT
FIGURE 2-1

flashing red alarm lights: one indicates a high raw sewage level in the inlet sewage lift station, and the other indicates a high effluent level in the sewage effluent water sump. Selector switches for operation of the grinder pumps, blowers, and sump pumps are located inside the control panel.

2.8 SYSTEM CONTROL

In the automatic mode, the operation of the sewage, grinder, and sewage-effluent water sump pumps is controlled by displacement switches in the respective wet well. These switches do not float; they tip as the water level rises about them. The tipping of the case closes a mercury switch inside the case.

The low level ON displacement switch (B-ST-LSL-03), actuated when the water level in the yard sewage lift station wet well is 3 feet 6 inches from the bottom of the wet well (Elevation 352 feet), will start one of the sewage pumps. The pump will pump the wet well level down to the low level OFF displacement switch (B-ST-LSLL-03). The low level OFF switch will open, shutting off the sewage pump when the water level is 1 foot 6 inches from the bottom of the wet well. Should one pump fail to handle the flow to the wet well, the water level will rise to the high level ON displacement switch (B-ST-LSH-03). The high level ON switch will energize the second sewage pump when the water level is 4 feet from the bottom of the wet well. Both pumps will operate until the level in the wet well drops to the low level OFF switch which will stop both pumps. A high level alarm switch (B-ST-LSHH-03) is provided to alarm high level at the control panel and the Data Acquisition System (Point Number LMB-03) when the water level is about 4 feet 6 inches from the bottom of the wet well.

The displacement switches provided in the inlet sewage lift station and sewage effluent water sump control the operation of the grinder pumps and the sewage effluent water sump pumps, respectively, on the same principle as the one previously described for controlling the operation of the

sewage pumps. The corresponding level switches and set elevations are listed below.

	Displacement Switch	Switch Number	Set Elevation
Sewage Lift Station Grinder Pumps	LOW LEVEL ON	B-ST-LSH-02	5'-1"*
	LOW LEVEL OFF	B-ST-LSL-02	6"*
	HIGH LEVEL ON	B-ST-LSHH-02	6'-1"*
	HIGH LEVEL ALARM	B-ST-LSHH-05 (DAS LMB01)	10'-7"*
Sewage Effluent Water Sump	LOW LEVEL ON	B-ST-LSH-01	10'-0"*
	LOW LEVEL OFF	B-ST-LSL-01	6"*
	HIGH LEVEL ON	B-ST-LSHH-01	15'-0"*
	HIGH LEVEL ALARM	B-ST-LSHH-04 (DAS LMB02)	19'-6"*

*Set elevations are distances from the bottom of the wet well. Automatic alternators are provided to change the sequence of operation of the sewage lift station grinder pumps and sewage effluent water sump pumps.

The sewage treatment plant is controlled from the sewage treatment plant control panel. The operation of each air blower is controlled from its respective control panel switch. Each control switch has HAND-OFF-AUTO positions. During normal operation, the three switches will be in the AUTO position. A step sequence programmer will control the on and off operation of each blower according to a preset time schedule and duration. In the event that an operating blower motor overloads and trips, another blower will automatically start.

Individual HAND-OFF-AUTO control switches are provided in the control panel to control the operation of the sewage lift station grinder pumps and sewage effluent water sump pumps. During normal operation, all switches will be in the AUTO position. An alternating relay is provided for each set of pumps to alternate which pump will start first each time the pumps are stopped.

3.0 SYSTEM OPERATION

3.1 PREREQUISITES

- All power supply systems in service.
- All Sewage Treatment System instrumentation and control loops in service and isolation valves open.

3.2 PRECAUTIONS

- Familiarity with the Sewage Treatment System components and controls is essential for safe operation.
- The chlorine tablets are strong oxidizing agents and care should be taken in handling and storing the product. Proper care should be taken to avoid mixing or contamination of the tablets with combustible chemicals which will result in fire or explosion. Do not allow the chlorine tablets to come into contact with eyes, skin, mucous membranes, or clothing. Large quantities of cool water should be used to douse any fires or to wash contacted areas. The chlorine tablets should be handled with rubber gloves or metal utensils.

3.3 PROCEDURES

3.3.1 Startup

3.3.1.1 Sewage Lift Stations. To prevent damage to the pumps, the wet well should be thoroughly cleaned to remove debris before starting the lift station. Check to make sure that the displacement type switches are hanging freely.

To start the lift station, check to be sure that all of the circuit breakers are in the ON position.

Place the HAND-OFF-AUTO pump control switches in the AUTO position. Also, place the pump alternator switch in the ON position. Depending on the level in the wet well, either one or both of the pumps will start. If the sewage level in the wet well is above the low level ON displacement

switch, one of the pumps will begin to run immediately. When the sewage reaches the low level OFF displacement switch, the pump will shut off.

The lift station should be observed for several pumping cycles to ensure that the displacement switches are operating the pumps correctly. (It may be necessary to fill the wet well with a fire hose to observe the operation of the switches and pumps.)

3.3.1.2 Sewage Treatment Plant. Before allowing any liquid to discharge into the plant, be sure that all tanks, channels, launders, piping, and pieces of equipment are clean and are free of any debris such as pieces of wood, concrete, or leaves. Before starting the sewage treatment plant, read the operating and starting instructions carefully, and be sure that all manufacturer's recommendations have been satisfied.

The tanks should be filled with sewage or raw waste. When the system has achieved an effluent flow, all of the mechanical units, valves, piping, and adjustable units should be tested to see if they are performing properly. The blower should be operated at full capacity during establishment of plant effluent quality. (This may be several weeks.) The throttling valves on the air supply lines to the air lift pumps should be fully open during this period. Sludge return should be continuous during establishment of plant effluent quality. At this time, weirs should be adjusted while the plant is in operation. The surface of the liquid can be used as an accurate level. The launder weir should be adjusted so that the base of the notches is 1 inch below the surface of the liquid. The skimmer weir should be adjusted so that the base of the notches is 1-1/4 inch below the liquid level.

Most sewage treatment plants will operate efficiently within a few weeks without seeding. Seeding is the procedure of adding sludge containing activated solids and large numbers of bacteria to the aeration tank. When starting the sewage treatment plant in cold weather, or when the plant is at first not receiving a high percentage of the design load, seeding may be necessary. If the plant is to be seeded, sludge from the Unit 1 and 2 sewage treatment plant may be used. As the seed is being

added to the tank, and for a week thereafter, the aeration system should be operated at maximum capacity with the air lift throttling valves open fully. The aeration tank will foam voluminously during the first four to six weeks of operation. As the solids in the aeration tank build up, this foaming will decrease. Use of a chemical defoamant is recommended with about 0.5 to 1.0 ppm normally required. As the solids build up in the system, the color will change to a dark brown. The accompanying odor will be earthy. These conditions indicate that the sewage treatment plant is in good operating condition.

3.3.2 Normal Operation

3.3.2.1 Sewage Treatment Plant. Once the plant is in good operating condition, the operator need only check the plant on a routine basis, take note of any changes, and run the simple tests recommended herein. If any change in the color of the mixed liquor or other operating characteristic is noted, it should be recognized and steps taken as soon as possible to prevent a more serious condition from becoming established.

A small quantity of suspended solids will discharge continuously with the effluent during normal operation. To maintain the desired effluent quality, it may be necessary from time to time to remove excess solids. Excess solids should be pumped directly from the plant into a tank truck. Solids should be removed when the tests show a high level of sludge in the aeration tank and the presence of settled sludge in the clarifier effluent. The solids in the aeration tank should be reduced as much as possible, but not reduced to the level where foaming or a poor quality effluent will result.

A regular log should be kept of the plant operations indicating maintenance and test results in addition to noting unusual conditions.

The splitter box and bar screen operate without any daily adjustment, provided they are maintained according to manufacturer's recommendations. Check for the following in the routine inspection of the splitter box and bar screen.

- One source of odor may be an accumulation of rags and other debris on the splitter box or bar screen. Frequent removal (daily) and disposal will help to control the odor.

One of the keys to proper activated sludge operation is maintaining the correct dissolved oxygen (DO) concentration throughout the aeration tank. Two items are beneficial in assuring that the aerators supply the correct amount of oxygen. These are alternate sheaves for the blowers to adjust blower capacity and the dissolved oxygen test. As previously discussed, the aeration system should be operated at maximum capacity upon plant startup. This requires use of the belt sheaves which will provide 100 percent blower capacity. The alternate belt sheaves may be required after the sewage treatment plant's operation is established. This decision must be made based on the dissolved oxygen level in the aeration tank and sewage treatment plant performance.

Check for the following points in the routine inspection of the aeration tank.

- Observe the aeration tank surface for turbulence. The extent of surface activity will show if the contents are thoroughly mixed throughout the entire aeration tank. Areas showing no turbulence will indicate that mixing is not uniform throughout the aeration tank.
- The type of foam or scum on the aeration tank surface gives a clue to how well the process is working.
  - -- Only a modest accumulation of white, or at least light colored, crisp appearing foam is usually present on aeration tank surfaces when the plant is operating properly.
  - -- If the aeration tanks are covered by thick billows of white, sudsy foam, the sludge is probably too young. Unless the problem is severe, normal plant operating conditions should be maintained and the problem should resolve itself, although a chemical defoamant may be required to control the foam. Sludge may be added from another plant to offset this condition.

-- A dense and somewhat greasy scummy layer of deep tan to brown foam covering the entire aeration tank surface almost always indicates that the sludge is too old and possibly over oxidized. In this case, the aeration rate should be reduced. If the condition is severe, some of the sludge should be removed.

- At times, a poor quality, extremely dark brown colored sludge releasing hydrogen sulfide odors may be present in the aeration tank. The solution is to increase the aeration rate immediately to provide a 2 to 3 milligrams per liter (mg/l) dissolved oxygen level in the aeration tank.
- If DO level does not increase above 1.0 mg/l when the aeration equipment is operating at maximum capacity, it may be due to plugged air lines or high strength waste. Clean the air lines and diffusers. If this does not increase the DO, there may be some mechanical problems in the aeration system which should be investigated.
- Determine that sludge is being recycled to the aeration tank.

When the system is operating properly, the aeration tank liquor will generally have a dark brown color and will be accompanied by an earthy odor. During normal operation, the dissolved oxygen concentration should be 1 to 2 mg/l.

The final effluent and the clarifier water surface provide a good indicator of overall plant operation. The effluent should appear clear. The following are some of the more common characteristics of the sludge in the clarifier.

- Sludge bulking will appear as a uniform sludge blanket that lies a few inches below the surface of the entire clarifier and may even cause solids to be carried over the final effluent weirs. Sludge bulking is usually associated with young sludge. Sludge bulking may also be the result of deleterious contaminants in the wastewater being treated. Sludge may be added from another source if deemed necessary.

- Excessive sludge washout over the final effluent weirs, when the upper surface of the sludge blanket is more than 3 feet below the clarifier water surface and when sludge settles properly in the laboratory tests, should not be confused with sludge bulking. Solids washout is generally caused by hydraulic overloading. Sludge should be added from another source if the washout is excessive.
- At times, large masses of sludge, possibly 4 inches in diameter, may be seen rising, then bursting, and finally spreading over the clarifier surface. This indicates that the rising sludge is septic and may be the result of inadequate or infrequent scraping of the clarifier walls. The sides of the clarifier should be manually scraped so that the sludge will be picked up by the sludge return pump.
- Smaller sludge particles, usually deep brown to gray in color, may rise and then spread over the tank surface. This occurs when sludge is too old. Unless the condition is severe, normal operating conditions should be maintained and the problem should resolve itself. If the condition is severe, some of the sludge should be wasted. Reducing air discharge rate may also be helpful.
- At times, small, almost transparent, very light fluffy, buoyant sludge particles (1/8 to 1/4 inch in diameter) may rise to the clarifier surface near the outlet weir. This type of straggler floc is an indication that the sludge is too young. Unless the condition is severe, normal operating conditions should be maintained and the problem should resolve itself. If the condition is severe, sludge may be added from another source.
- Very small, compact pin floc, usually less than 1/32 of an inch in diameter, may be observed suspended throughout moderately turbid clarifier tank contents. This is a strong indication

that sludge is too old and that the sludge has become overoxidized. The settlometer test will confirm this if rapidly settling, discrete sludge particles appear as individual "grains" or granular rather than clumping together. The aeration rate should be reduced. If the condition is severe, some of the sludge should be wasted.

The condition of the return activated sludge (RAS) should be observed as it discharges into the aeration tank. A good RAS has a brown color, no offensive odor, and good settling in the clarifier prior to pumping to the aeration tank. A black and odorous sludge indicates that it has turned septic. Two possible causes are an excessively low rate of sludge return and not enough air supplied to the aeration tank. The first results in the sludge remaining in the clarifier too long and, since it does not receive aeration, the sludge turns septic. The throttling valve on the air supply line to the sludge return air lift pump should be adjusted accordingly. The aeration tank should be checked for dissolved oxygen (DO) to see if low DO (less than 1.0 mg/l) is the cause.

There are two air lift pumps, one for sludge return and the other for scum return from the skimming device in the clarifier.

Two possible problems associated with the air lift pumps are as follows.

- The point at which the air pipe joins the suction pipe may become clogged so that there is not sufficient air to operate the air lift.
- The entrance to the suction pipe may become blocked from a large concentration of solids or objects too large to be pumped.

These problems can be corrected by rodding. The lines may also be cleared by blowing back with air or water if rodding is unsuccessful; however, this will agitate the settled sludge in the clarifier which will result in a temporarily poor quality effluent.

The air lift pumps will not operate if the air line control valves vibrate shut. The valves should be checked periodically.

The weirs should be checked and cleaned daily.

The key to good clarifier performance is maintaining calm conditions so that the solids will settle to the bottom. Two things that might upset these calm conditions are as follows.

- Too high a sludge return rate reduces the residence time of the sludge in the clarifier and does not allow adequate settling. The solids will flow out over the effluent weir, resulting in a poor quality effluent.
- If a plant is operating at or above its hydraulic capacity, the wastewater is not detained long enough in the clarifier and the efficiency of the settling is affected.

The return activated sludge should be pumped either continuously at a steady rate or at regular intervals depending on the condition of the sludge. Normal operation will utilize continuous return. Manual control of the sludge return should be a correctional measure. Care must be taken not to pump the sludge so fast that it becomes too thin or disturbs the clarifier. Neither should it be so slow that the sludge blanket builds up and allows the sludge in the clarifier to go septic. The rate of return is adjusted by the throttling valve on the air supply line to the sludge return air lift pump.

All activated sludge plants build up excess sludge and require periodic wasting although extended aeration plants do not produce as much waste as other processes. Control tests, such as the settlometer and mixed liquor suspended solids (MLSS), should be used to determine when and how much to waste. The mixed liquor suspended solids concentration in the aeration tank should be maintained between 2,000 to 5,000 mg/l. It normally will be necessary to vary the amount of sludge as seasons change. Because the sludge is not as active in winter at low temperatures, the MLSS will need to be higher in the winter than in the summer.

Sludge age, which is controlled by the frequency of sludge wasting, indicates the approximate number of days that an average activated sludge particle remains in the system before being wasted. Too much sludge wasting reduces sludge age by increasing the relative amount of newly developed floc in the system. Too little wasting will increase the number

of days the sludge is kept in the system and will increase the relative amount of older sludge.

The following is a method for wasting sludge. Shut the return sludge pump off but still allow the mixed liquor to flow to the clarifier. This action concentrates the solids in the bottom of the clarifier. A portable pump may be used to transfer the sludge to a tank truck (if the tank truck is not equipped with a pump) for hauling to an approved site designated by the regulatory agency. Waste only while the operator is onsite to watch the operation.

If a hydraulic washout or excessive sludge removal causes a low sludge condition, it will be necessary to start over and build new activated sludge. Two options are available.

- See if some sludge can be taken from the neighboring activated sludge plant.
- Start from nothing by setting the return rate at maximum for 2 to 3 days. There will probably be foaming in the aeration tank and the chemical defoamant may be needed to keep it under control. It may take 8 to 12 days to get back to normal.

Sludge bulking may result from "toxic" or poison materials coming to the plant. The source must be found immediately and stopped. Plant startup may be done as described previously after the problem is found and corrected.

Disinfection of the wastewater by chlorine is a continuous process. The chlorinator operates without operator attention other than regular replacement of chlorine tablets and determination of chlorine residual in the effluent. The effluent chlorine residual is controlled by the detention time which is in turn controlled by the adjustment of the effluent weir. The optimum weir height must be determined on a trial and error basis and will be based on the chlorine residual. The chlorine residual should be maintained at approximately 1 mg/l. A low chlorine residual would indicate the need for a slightly longer detention time in the chlorinator, thus the effluent weir should be slightly raised. Conversely, a

high chlorine residual would require a shorter detention thus the weir should be lowered.

3.3.2.2 Tests and Interpretation of Results. The following tests will provide the necessary information required to maintain proper operation of the sewage treatment plant. With some experience, the operator should come to recognize early warning signs of poor operating conditions and prevent discharge of poor quality effluent.

3.3.2.2.1 Settleability test. This test should be conducted daily to assist the operator in routine process control and identification of specific problems. Use one of the following.

- Quart or liter jars (clear glass) marked with a vertical scale from 1 to 10.
- Graduated glass cylinders (1,000 milliliter capacity).

The test procedure is as follows.

(1) Fill one of two containers with mixed liquor (liquid from aeration chamber) and the other with liquid from the clarifier. It should be filled to the upper mark on the scale.

(2) Let container sit for 60 minutes.

(3) At 5, 30, and 60 minutes, record the following for each of the samples.

(a) Scale reading at top of settled sludge.

(b) Density of sludge (thick or light).

(c) Clarity of supernatant (clear or cloudy).

Example Calculations.

- Glass jar.

  (scale reading) x (10) = percent sludge volume.

- 1,000 ml graduated cylinder.

  $$\frac{\text{(scale reading)}}{10} = \text{percent sludge volume.}$$

The test results may be interpreted based on the following guidelines.

Poorly Operating Plant

- Mixed liquor.
  - -- Turbid aeration tank supernatant, black sludge, and odor (plant not getting enough air).

-- Reddish color (overaeration).

-- Solids in jar rise within an hour after settling (overaeration).

-- Settleability after 5 minutes either above 80 percent or below 40 percent.

- Clarifier effluent.

-- Turbid clarifier supernatant. The sludge has gone septic due to remaining in clarifier too long. Sludge return line may be plugged.

Properly Operating Plant

- Mixed liquor.

-- Sludge will be dense and will stay settled for at least one hour.

-- The volume of settled sludge should be about 50 to 70 percent at 5 minutes, 35 to 50 percent at 30 minutes, and 30 to 40 percent at 60 minutes.

NOTE: These figures are typical values and will vary from plant to plant.

-- Supernatant should be clear.

- Clarifier effluent.

-- Slight "dusting" of sludge on bottom of jar.

-- Light solids suspended in a clear supernatant.

As time for sludge wasting approaches, the quantity of effluent solids settling will become significant in volume and should correlate with a high mixed liquor suspended solids volume.

3.3.2.2.2 Settlometer test. This weekly test is to observe sludge quality and to give the operator advance warning of the need to change process control.

One glass container equivalent to the 5-inch (13 cm) diameter, 6-inch (15 cm) depth, 2-liter Mallory "Settlometer" that is graduated in hundreds is needed.

The test procedure is as follows.

(1) Fill the container to the upper mark on the scale with a sample from the aeration tank with the least possible amount of additional aeration or disturbance.

(2) Stir contents gently and then dampen immediately with a wide paddle before starting timer.

(3) Read and record the volume occupied by the settled sludge every 5 minutes for the first 30 minutes and at 10-minute intervals for the second 30 minutes of the one-hour test.

NOTE: During the first five minutes, the operator should observe how the sludge particles come together while forming a blanket on the bottom.

Does the sludge compact slowly and uniformly while squeezing clear liquid from the sludge mass? This is an indication of good sludge.

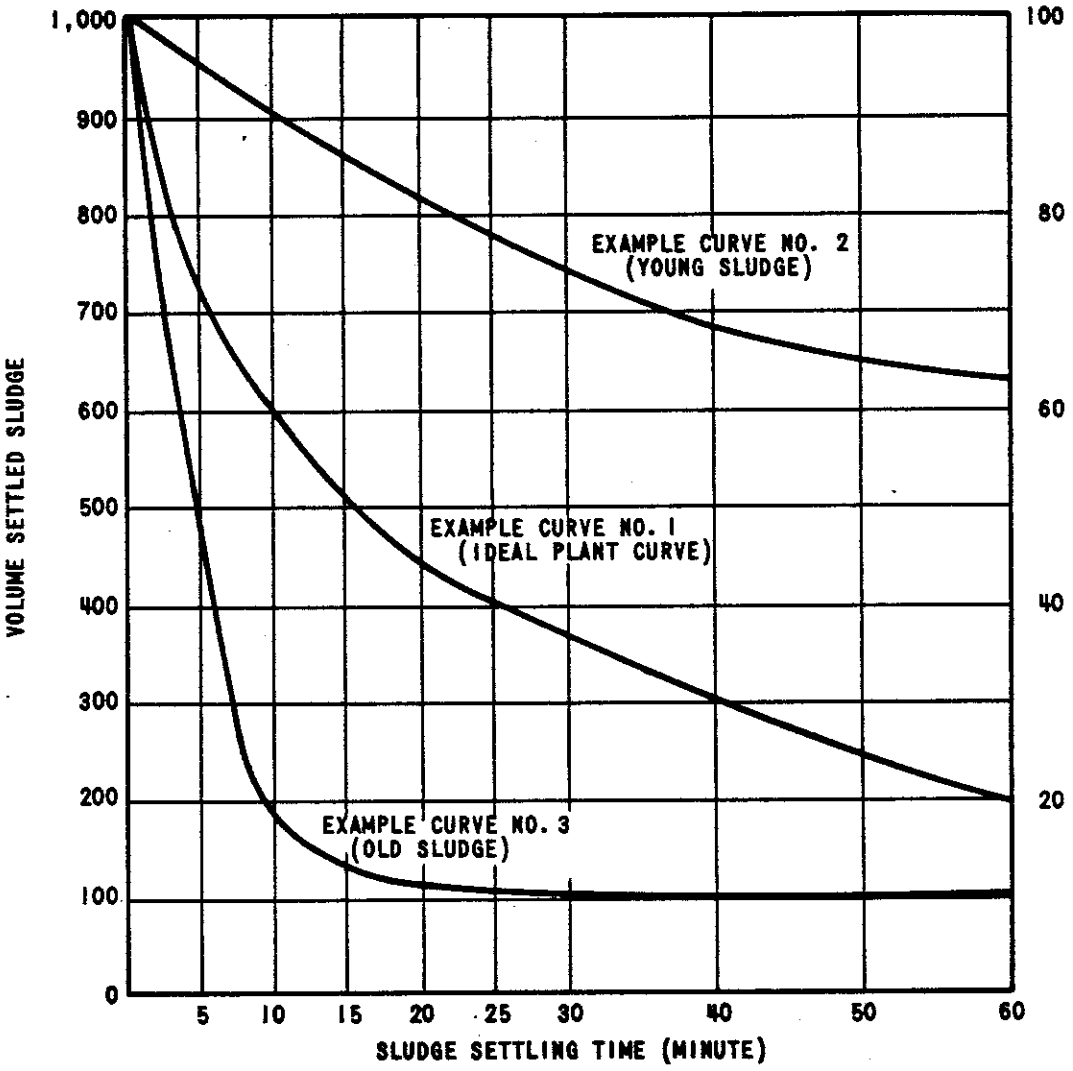
Do tightly knotted sludge particles fall down through a turbid supernatant? This indicates an old sludge in poor condition.

How much and what type of floc (sludge particles) if any, remains in the supernatant above the main sludge mass? Note types on daily log.

(4) At 60 minutes, the sludge characteristics should again be noted as this will show what the sludge will do in the clarifier. A sludge that starts rising again by the 60-minute time may be overaerated.

NOTE: A properly aerated sludge will not start rising to the surface until two to four hours after the test was started.

(5) Plot the sludge settling data as shown in Figure 3-1. A typical plant that is operating properly should develop a curve similar to Example Curve No. 1. In each plant, a particular curve will occur when all phases of the plant are operating well; i.e., clear effluent, good settling in the clarifier, proper color. This curve, reflecting good operation of the plant, becomes the curve that the operator strives to maintain.



NOTE: THIS CURVE WILL BE PARTICULAR FOR A GIVEN PLANT WITH GIVEN SEWAGE CHARACTERISTICS, AND SHOULD BE CONSTRUCTED FROM ACTUAL DATA WHEN ALL FACETS OF THE PLANT ARE OPERATING PROPERLY.

SETTLOMETER TEST RESULT EXAMPLE CURVES
FIGURE 3-1

The test results may be interpreted based on the following.

- Young Sludge--When the curve tends to rise from the ideal plant curve, as depicted in Example Curve No. 2, Figure 3-1 (usually accompanied by excessive white sudsy foam in the aeration tank), the sludge is probably young. If the condition is severe, the plant should be seeded with sludge from another source. No sludge should be removed during this period.

  Possible causes of this condition are too much sludge removed from the system or high organic load.

- Old Sludge--When the resulting curve drops down from the ideal plant curve, as depicted in Example Curve No. 3, Figure 3-1 (usually accompanied by thick, scummy, dark tan foam), the sludge is considered to be too old and the operator should have some of the sludge removed. Possible causes are reduced organic loading, long periods of overaeration, and retaining old sludge for long periods of time.

3.3.2.2.3 pH test. This test is used to determine if the wastewater is acidic or alkaline. The recommended procedures to follow for determination of pH are discussed in ASTM Standards, Part 31, Water; pH of Water, ASTM D1293, Method A.

A neutral pH is 7. Below that, an acidic condition exists and above 7, alkaline conditions exist. The most favorable pH for a biological system is between 6.5 and 7.5, but the aeration tank may have a range of 5 to 8. If the pH changes abnormally, it can be corrected by adding certain chemicals.

Low pH in the mixed liquor in plants with high sludge age may be caused by nitrification depleting alkalinity, particularly if the alkalinity of the raw waste is low (less than 100). Sodium bicarbonate may be added without causing problems. Check with regulatory personnel.

The pH of the mixed liquor should be determined and recorded on a weekly basis.

A low pH following clarification may indicate that the sludge is remaining too long in the clarifier. A low pH after chlorination may

indicate overchlorination. A chlorine residual test should be made to confirm any suspicion of overchlorination.

The pH of the sewage treatment plant effluent shall be tested as required by state and federal regulations and permits.

3.3.2.2.4 Residual chlorine test. This test is used to determine if the chlorinator is operating at a level to kill the bacteria before discharge of the wastewater. The recommended procedures to follow for determination of residual chlorine are discussed in ASTM Standards, Part 31, Water; Residual Chlorine in Wastewater, ASTM D1427.

The chlorine residual will typically be between 0.5 and 1.0 mg/l. If a coliform level is specified by the discharge permits, bacteriological tests should be made to determine the residual needed to achieve that coliform level.

The chlorine residual of plant effluent should be determined weekly, or more frequently if required by the state and federal discharge permits.

3.3.2.2.5 BOD_5 (5-day biochemical oxygen demand). This test is a measurement of the amount of oxygen required in a 5-day period by the microorganisms in digesting the soluble organic material in the wastewater. BOD_5 is used to present historic information on the efficiency of the treatment system in reducing the oxygen demand of the wastewater. The test is run on the effluent. Long-term trends can be observed by studying BOD_5 results. The recommended procedures to follow for determining the biochemical oxygen demand are discussed in Standard Methods for the Examination of Water and Wastewater, Method 507.

The BOD_5 of the sewage treatment plant effluent shall be tested as required by state and federal regulations and permits.

3.3.2.2.6 Suspended solids (SS). This test measures the amount of solids suspended in the wastewater. The SS test is run on the effluent. The recommended procedures to follow for determining the suspended solids concentration are discussed in Standard Methods for the Examination of Water and Wastewater, Method 208D.

The suspended solids of the sewage treatment plant effluent must be tested as required by state and federal regulations and permits.

3.3.2.2.7 Temperature. The temperature of the aeration tank contents should be taken weekly by reading the thermometer while it is submersed in the water. Temperature affects the efficiency of the biological process. Proper recording of the temperature aids the operator in detecting long-term trends.

3.3.2.2.8 Mixed liquor suspended solids (MLSS). The test for MLSS measures the amount of solids in the aeration tank which, in turn, gives an indication of the amount of sludge present. The laboratory procedure for this determination is the same as that for suspended solids. The activated sludge process is controlled by maintaining certain levels of MLSS. In extended aeration plants, the mixed liquor suspended solids concentration should be about 2,000 to 5,000 mg/l. The mixed liquor suspended solids should be determined and recorded on a weekly basis.

3.3.2.2.9 Dissolved oxygen (DO). Dissolved oxygen in the aeration tank should be determined and recorded on a weekly basis. It is important to maintain proper DO levels in the aeration basin for an activated sludge process to work. The recommended procedures to follow for determining the dissolved oxygen concentration are discussed in ASTM Standards, Part 31, Water; Dissolved Oxygen in Wastewater, ASTM D1589 Method C. A dissolved oxygen level between 1 to 2 mg/l should usually be maintained in the aeration tank.

4.0 REFERENCE MATERIAL

- Logic Diagram, B-J-1ST-060.
- Piping and Instrument Diagram, B-M-1ST-060.
- LCRA Drawing 348-I-1.
- Arrangement Drawings, LCRA Drawings 348-A-1 through 348-A-4.
- Equipment Vendor's Instruction Manual, Smith Pump Company, Inc., Instruction Manual for Sewage Treatment System.

APPENDIX A
SPECIFICATIONS AND DRAWINGS

DATA ACQUISITION SYSTEM AND ALARM POINT LIST

DAS Point	Description	Initiating Device	Window Number	Alarm Description
PMB51	SEWAGE TREATMENT BLOWER A TRIP	B-ST-PSL-11A	-	-
PMB52	SEWAGE TREATMENT BLOWER B TRIP	B-ST-PSL-11B	-	-
PMB53	SEWAGE TREATMENT BLOWER C TRIP	B-ST-PSL-11C	-	-
LMB03	SEWAGE LIFT STATION HIGH LEVEL	B-ST-LSHH-03	-	-
LMB02	SEWAGE EFFLUENT SUMP LEVEL HIGH	B-ST-LSHH-04	-	-
LMB01	SEWAGE LIFT STATION GRINDER PUMP SUMP LEVEL HIGH	B-ST-LSHH-05	-	-

BREAKER LOCATIONS

Device	Associated Breaker
Sewage Treatment Panel	480V MCC B1A1

SEWAGE PUMPS SPECIFICATIONS

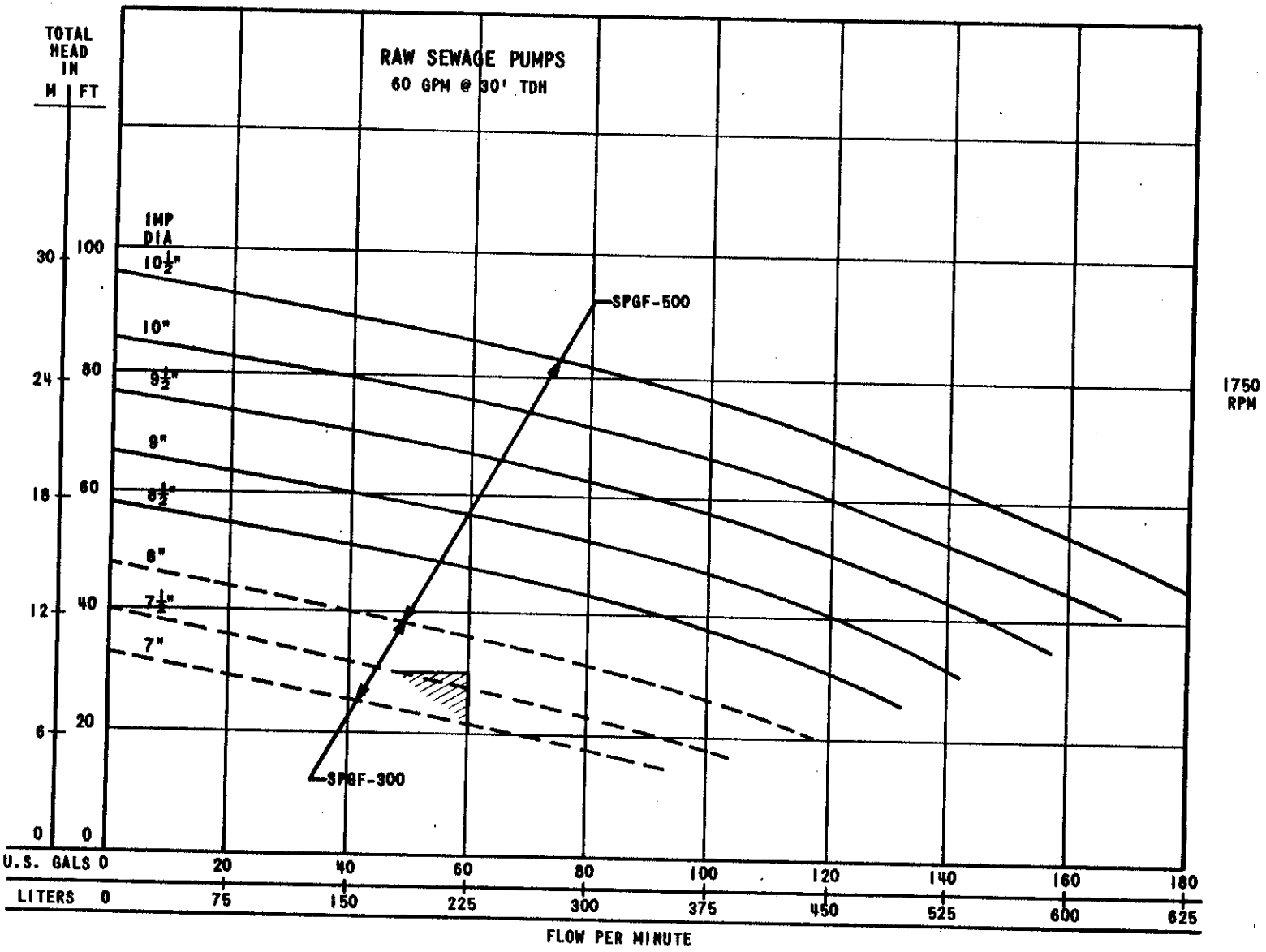
Equipment Numbers	BP3-A-48 and BP3-B-48
Manufacturer	_____
Model Number	_____
Design Capacity	_____
Materials of Construction	
Shaft	_____
Impeller	_____
Seal Type	_____
Lubrication	_____
Motor	
Equipment Numbers	MBP3-A-48 and MBP3-B-48
Manufacturer	_____
Horsepower	2
Speed	1,800 rpm
Electrical requirements	460 volts, 3-phase, 60 hertz

SEWAGE PUMP PERFORMANCE CURVES

(LATER)

SEWAGE LIFT STATION GRINDER PUMP SPECIFICATIONS

Equipment Numbers	BP2-A-48 and BP2-B-48
Manufacturer	Hydromatic
Model Number	SPGF-300
Design Capacity	60 gpm at 30 feet
Materials of Construction	
Shaft	416 SS
Impeller	Bronze
Grinder assembly	Stainless steel
Seal Type	Mechanical
Lubrication	Oil
Motor	
Equipment Numbers	MBP2-A-48 and MBP2-B-48
Manufacturer	Hydromatic
Horsepower	3
Speed	1,800 rpm
Electrical requirements	460 volts, 3-phase, 60 hertz



SEWAGE LIFT STATION GRINDER
PUMP PERFORMANCE CURVE

	SYSTEM DESCRIPTION AND OPERATION	
	SEWAGE TREATMENT SYSTEM	FILE NO. 10439.93.1920
	LCRA 010686-1	

AERATION TANK SPECIFICATIONS

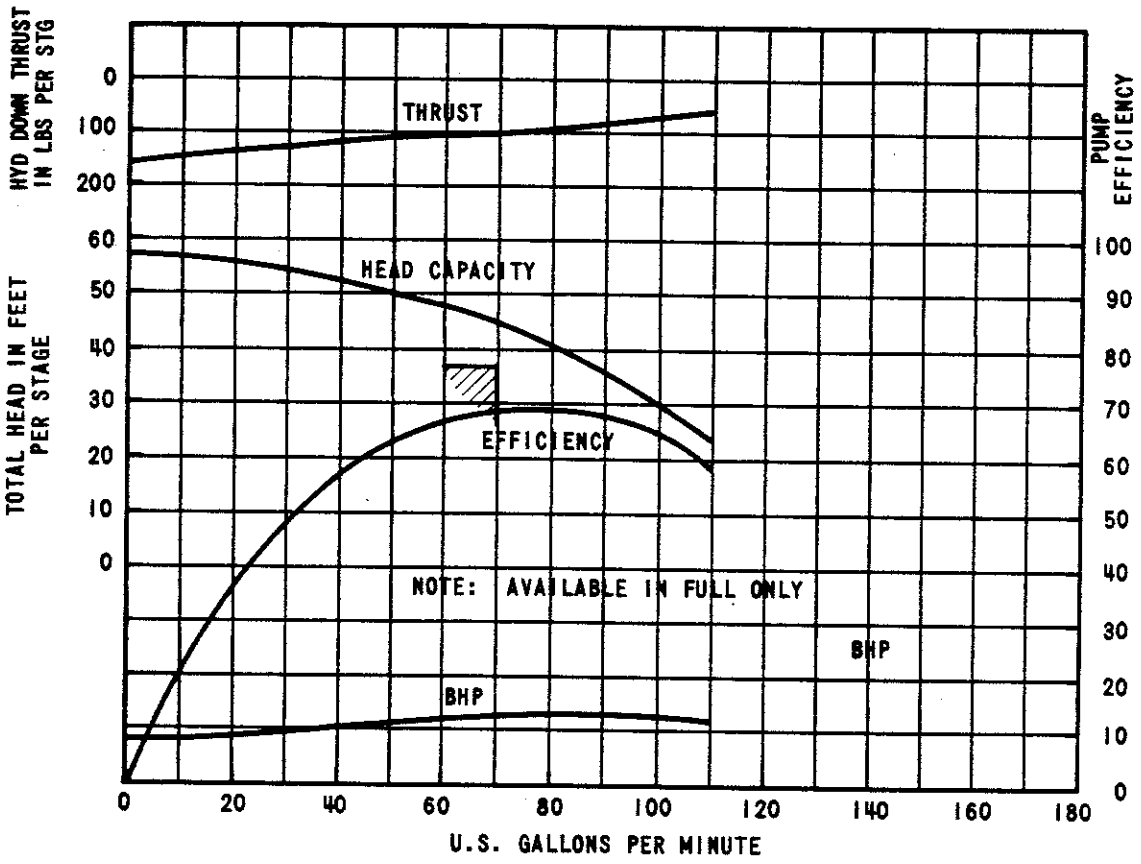
Equipment Numbers	BV2-48 and BV3-48
Tank Size	16'-1" L x 10'-0" W x 11'-6" D
Volumetric Loading	12,000 gallons
Retention Time at Maximum Daily Loading (MDL)	24 hours
Five-Day BOD Concentration at MDL per 1,000 Cubic Feet--Volumetric Load	15
Aeration at MDL, Cubic Feet of Air per Pound of Five-Day BOD	1.4
Features	Inlet bar screen with removable drip tray, air diffusers

CLARIFIER SPECIFICATIONS

Equipment Numbers	BJ2-48 and BJ3-48
Tank Size	10'-1" L x 10'-1" W x 11'-6" D
Capacity	4,075 gallons, each
Surface Area	100.8 square feet, each
Surface Settling Rate at MDL	1,000 gpd per square foot
Effluent Weir Loading at MDL	
Design	2,400 gpd per square foot
Peak	10,080 gpd per square foot
Retention Time at MDL	8.15 hours
Features	
Surface skimmer	
Capacity	60 gph
Discharge pipe diameter	2 inches
Design air requirement	5 cfm
Air lift sludge pump	
Capacity	Adjustable
Discharge pipe diameter	3 inches
Design air requirement	5 cfm
Scum baffle, effluent trough with adjustable weir, adjustable scum cone, stilling baffle	

AIR BLOWER SPECIFICATIONS

Equipment Numbers	BQ1-A-48, BQ1-B-48, and BQ1-C-48
Manufacturer	Roots
Model Number	AF-33
Type	Rotary positive blowers
Design Capacity	66 cfm at 6 psi at 1,720 rpm
Motor	
Equipment Numbers	MBQ1-A-48, MBQ1-B-48, and MBQ1-C-48
Manufacturer	———
Horsepower	5
Speed	1,800 rpm
Enclosure	TEFC
Electrical requirements	460 volt, 3-phase, 60 hertz
Features	Inlet air filter silencer, weighted PRV, Technocheck check valve, hinged and louvered fabricated reinforced fiberglass housing



EFFLUENT PUMPS
70 GPM @ 110' (3 - STG)

AIR BLOWER PERFORMANCE CURVE

CHLORINATOR SPECIFICATIONS

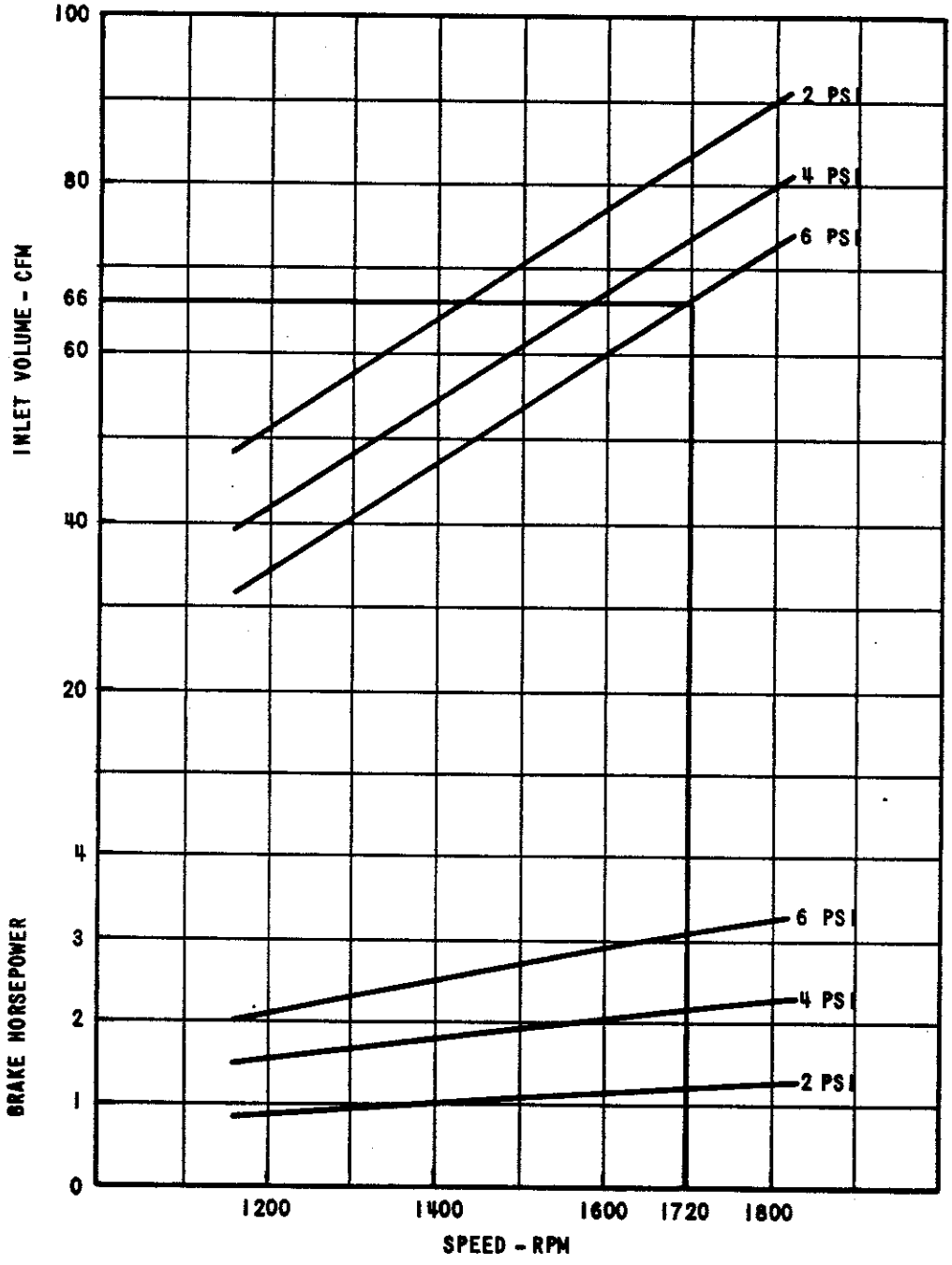
Equipment Number	BW2-48
Manufacturer	Sanuril
Model Number	1000
Capacity	50,000 gpd
Materials of Construction	Fiberglass
Features	Inlet baffle, outlet weir, four tablet feed tubes

CHLORINE CONTACT TANK SPECIFICATIONS

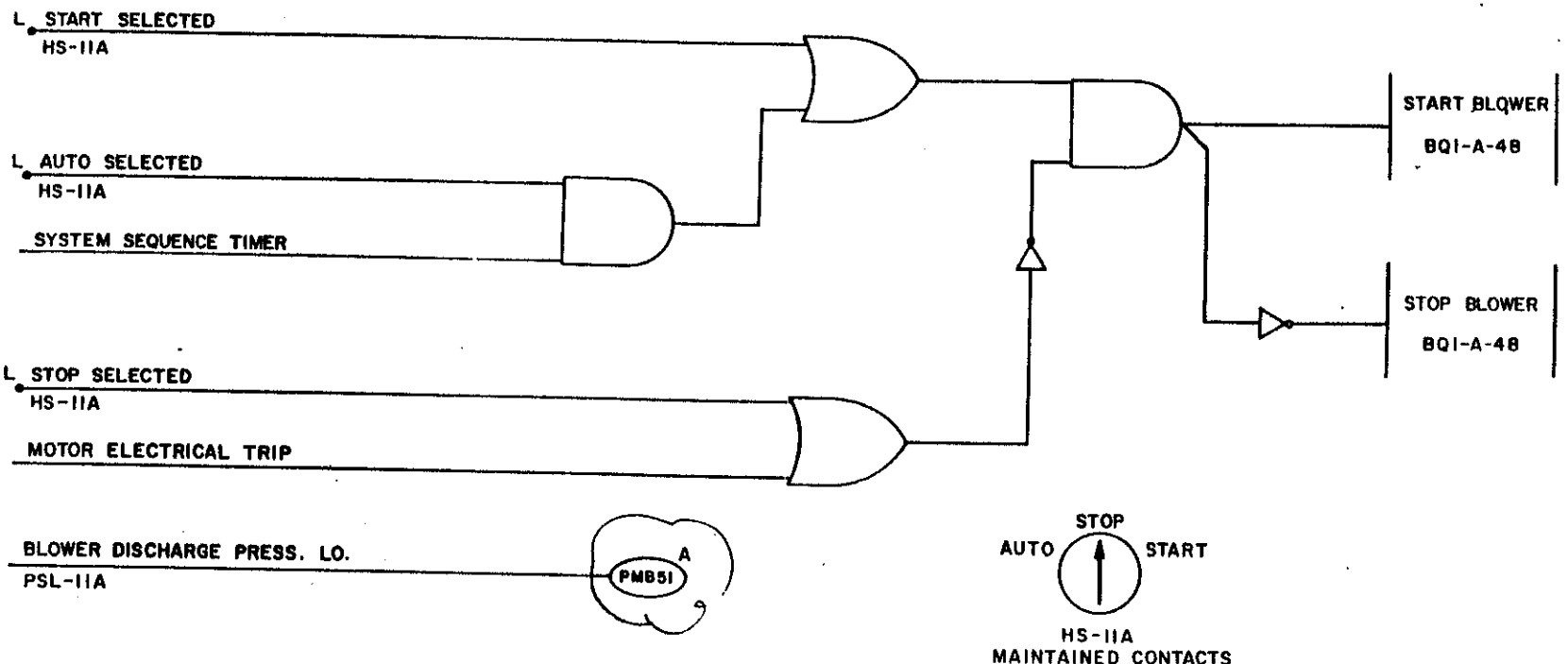
Equipment Number	BV1-48
Tank Size	10'-0" L x 5'-0" W x 3'-9" H
Capacity	1,400 gallons
Diameter Inlet	6 inches
Diameter Outlet	6 inches
Features	Mixing baffles, 22-1/2 degree V-notch weir

SEWAGE EFFLUENT WATER SUMP PUMP SPECIFICATIONS

Equipment Number	BP1-A-48 and BP1-B-48
Manufacturer	Byron Jackson Pump Division
Model Number	5.5 GL
Capacity	70 gpm at 110 feet
Number of Stages	3
Type	Vertical turbine pumps
Materials of Construction	
Impeller	Bronze
Shaft	Carbon steel
Motor	
Equipment Numbers	MBP1-A-48 and MBP1-B-48
Manufacturer	_____
Horsepower	5
Speed	3,600 rpm
Electrical requirements	460 volt, 3-phase, 60 hertz
Features	Self-lube column, bowl assembly



SEWAGE EFFLUENT WATER
SUMP PUMP CURVES



AIR BLOWER	HAND SWITCHES	PRESSURE SWITCHES (DAS)
BQI-A-48	B-ST-HS-11A	B-ST-PSL-11A (PM-851)
BQI-B-48	B-ST-HS-11B	B-ST-PSL-11B (PM-852)
BQI-C-48	B-ST-HS-11C	B-ST-PSL-11C (PM-853)

STATE OF TEXAS
RON KINNEY
49275
REGISTERED PROFESSIONAL ENGINEER

(1)

Rev	Date	Description	By	Chkd	Appd	Appd
1	11/6/84	REVISED AS NOTED	J.C.W.			
0	9/26/84	ISSUE FOR CONSTRUCTION	J.C.W.			

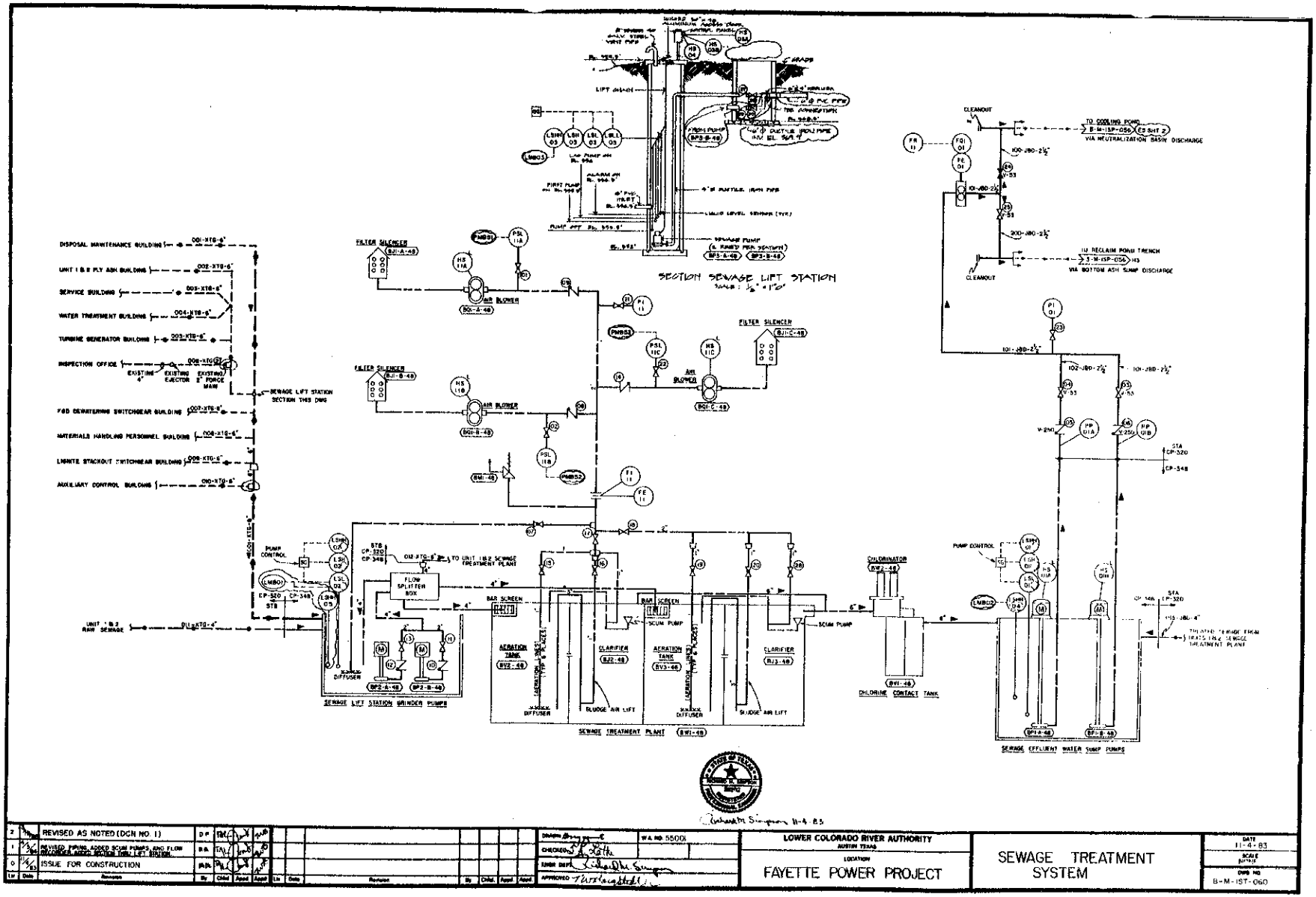
DRAWN L. C. WOOD W.A. NO.
CHECKED
ENGR DEPT.
APPROVED

LOWER COLORADO RIVER AUTHORITY
AUSTIN, TEXAS

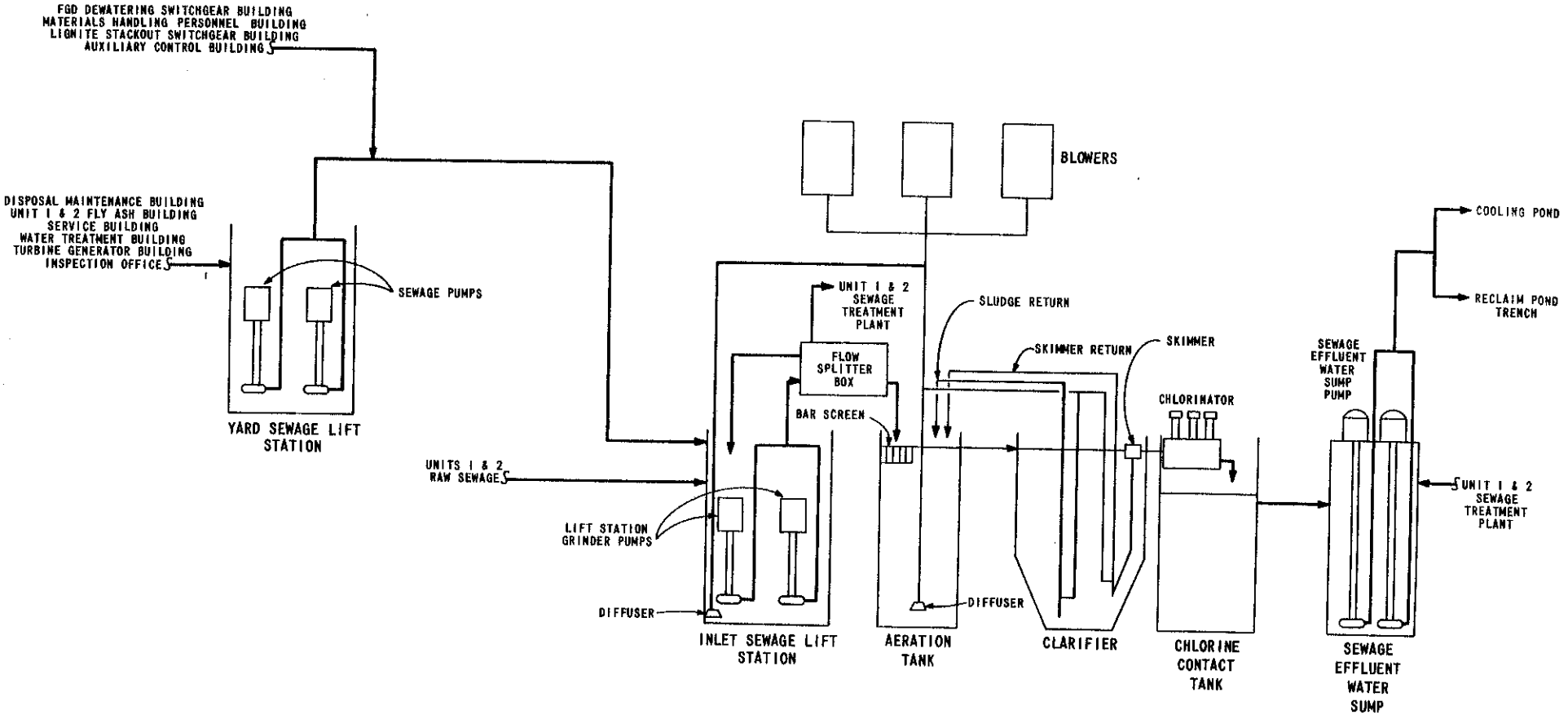
FAYETTE POWER PROJECT

SEWAGE TREATMENT AIR BLOWER

DATE 5-23-83
SCALE N.A.
DWG. NO. B-J-1ST-060


SECTION SEWAGE LIFT STATION
SEWAGE LIFT STATION GRINDER PUMPS
SEWAGE TREATMENT PLANT
CHLORINE CONTACT TANK
SEWAGE EFFLUENT WATER SUMP PUMPS
DISPOSAL MAINTENANCE BUILDING
UNIT 1 & 2 FLY ASH BUILDING
SERVICE BUILDING
WATER TREATMENT BUILDING
TURBINE GENERATOR BUILDING
INSPECTION OFFICE
FGD DEWATERING SWITCHGEAR BUILDING
MATERIALS HANDLING PERSONNEL BUILDING
LIGNITE STACKOUT SWITCHGEAR BUILDING
AUXILIARY CONTROL BUILDING
SEWAGE LIFT STATION SECTION THIS DWG
UNIT 1 & 2 RAW SEWAGE
FLOW SPLITTER BOX
BAR SCREEN
SCUM PUMP
AERATION TANK
CLARIFIER
SLUDGE AIR LIFT
CHLORINATOR
PUMP CONTROL
TO COOLING POND
VIA NEUTRALIZATION BASIN DISCHARGE
TO RECLAIM POND TRENCH
VIA BOTTOM ASH SUMP DISCHARGE
CLEANOUT
TO UNIT 1&2 SEWAGE TREATMENT PLANT

| | | |



SEWAGE TREATMENT SYSTEM FLOW DIAGRAM
FIGURE 1-1

ATTACHMENT: FPP-TECH-15 Cooling Water

Worksheet 11.0: Cooling Water Intake Information

ITEM 1: COOLING WATER SYSTEM DATA

Item 1(b)(1): Narrative Description

The Sam Seymour Fayette Power Project (FPP) is a coal-fired power plant with three generating units operated by the Lower Colorado River Authority (LCRA). Units 1 and 2 are co-owned by LCRA and the City of Austin, and Unit 3 is owned solely by the LCRA. FPP is located at 6549 Power Plant Road, adjacent to the south shore of Lake Fayette (formerly named Cedar Creek Reservoir), approximately two miles north of State Highway 71, and seven miles east of the City of La Grange, Fayette County, Texas 78945.

In 1975, Lake Fayette and the associated dam were authorized by the Texas Commission on Environmental Quality (TCEQ) water rights Permit No. 3175 to impound water for industrial purposes (power plant operation and cooling). The impoundment was formed in Cedar Creek and is approximately 2,400 acres formed by earth dams and includes a main embankment (dam), baffle dike, intake and discharge canals, and high-water level discharge structure. The normal operating elevation is 390 feet above mean sea level (msl) and when filled to this level, the lake contains approximately 70,000 acre-feet of water. The FPP plant withdraws raw water from the lake, which is primarily used for once-through cooling of the main condensers and equipment. The water is discharged back into the lake via a discharge canal to be atmospherically cooled. A baffle dike separates the discharge area from the intake area of the lake.

LCRA's authorization for the impoundment requires a minimum discharge from the lake into Cedar Creek of 0.5 cubic feet per second (cfs). The impoundment has a high-level discharge structure located near the dam. When the water reaches a high level, the water discharges into Cedar Creek. The high-level discharge structure also contains a conduit that allows continuous flow from Lake Fayette to Cedar Creek to maintain the minimum flow requirement.

A river pumping station is installed on the Colorado River approximately 4.3 air miles from the FPP, which supplies make-up water to the impoundment via a river pump station and a 42-inch pipeline. The river pump station releases the water into the FPP discharge canal (FPP Data Book, Volume 1).

See **Figures 1 and 2** for the cooling water system, including Lake Fayette and the pump station on the Colorado River.

FPP units 1, 2 and 3 are currently operational. The units supply energy continuously throughout the year to meet the minimum levels of demand of the Texas electrical grid. However, the amount of electricity supplied swings between low seasonal load and high seasonal load depending on demand. Power demand is typically highest in summer and therefore cooling water demand is typically highest in the summer.

Item 1(b)(2): Maps

Maps are included as **Figure 1**, **2, and 3**. The elevation of the intake canal for Units 1, 2, and 3 located on Lake Fayette is approximately 366 feet above msl. The bottom edge of the intake pipes (suction bell) of circulating water pumps are located at approximately 380 feet above msl for Units 1 and 2 and 377 feet above msl for Unit 3. The normal operating elevation of the lake surface is 390 feet above msl and the design of the system

is at a minimum water level of 388 feet above msl and a maximum water level of 396 feet above msl feet. Also see **Figure 4** for the elevations of the intake pipes for Units 1, 2, and 3.

The river pump station is located on the Colorado River. The river pump station is designed to be operated at a minimum water level of the Colorado River at 202 feet above msl, an average water level at 206.0 feet above msl, and a 100-year flood event of 239.5 feet above msl. The bottom of the sump that houses the river pump is at 192 feet above msl, which is below the river bottom elevation located at approximately 198 feet above msl. See **Figure 6** for the elevations of the intake pipe at the river pump station.

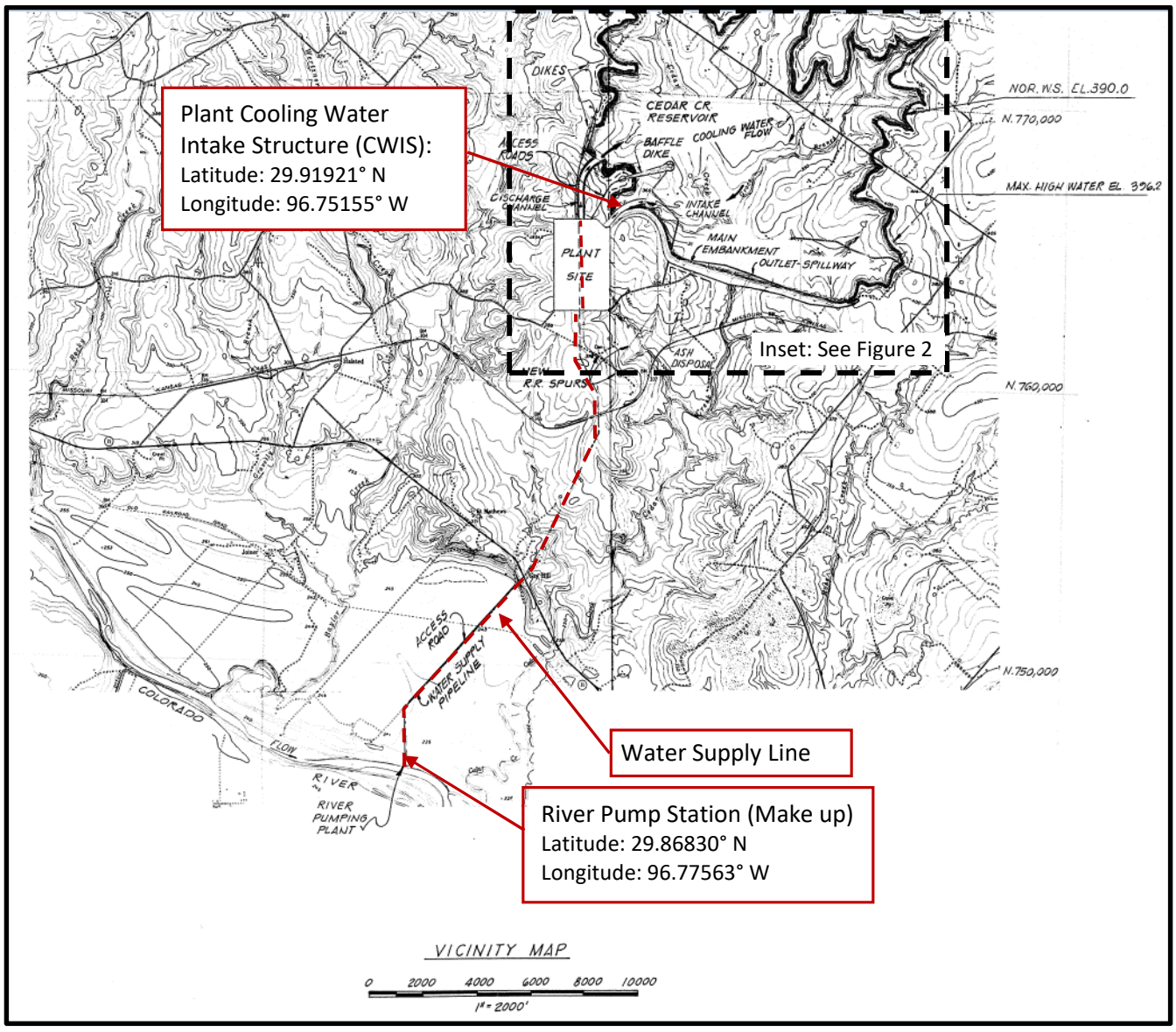


Figure 1: General Location Map of Power Plant CWIS, River Pump Station, and Water Supply Line

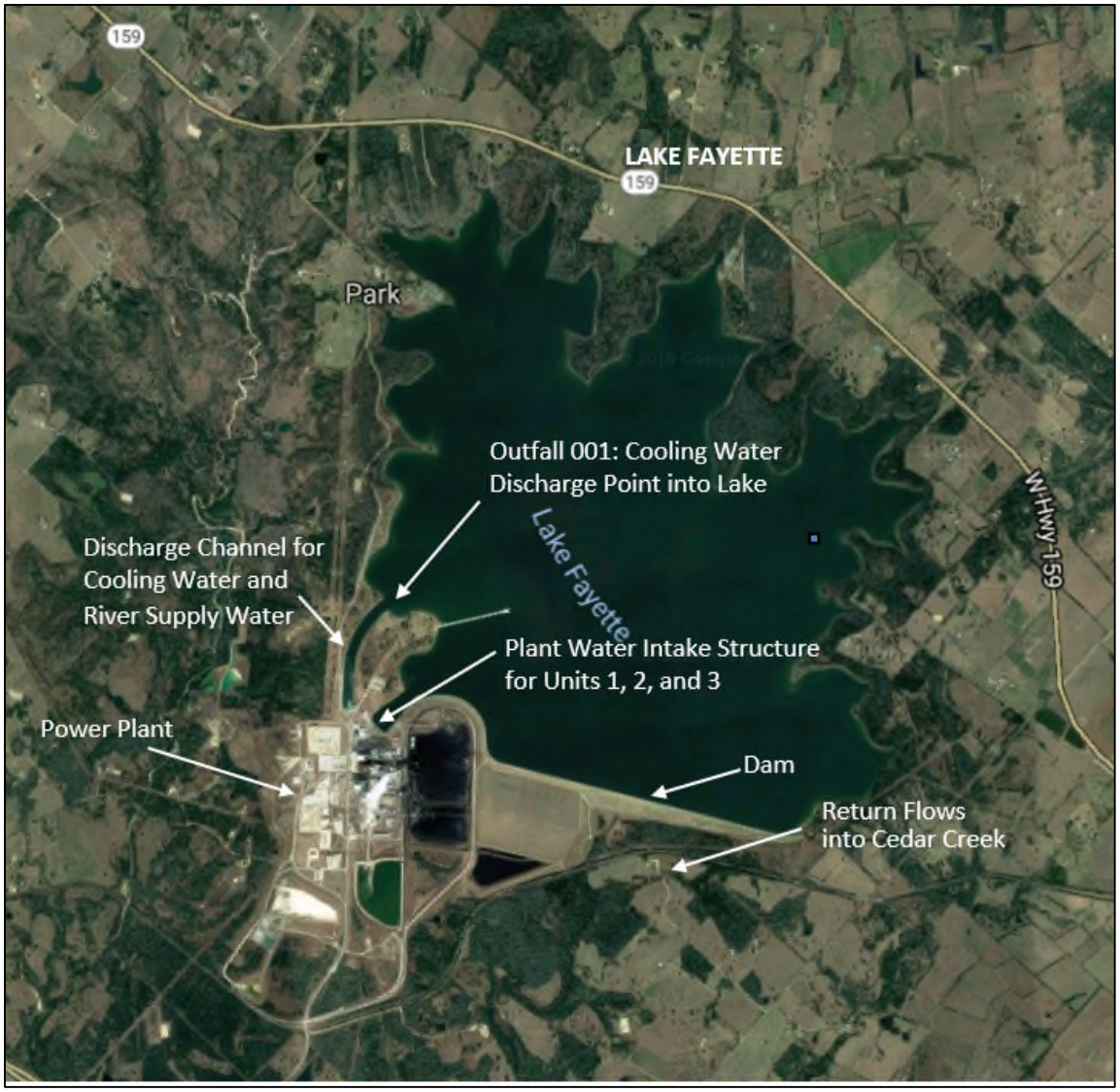


Figure 2: Map of Lake Fayette Impoundment and Power Plant

Item 1(b)(3): Water Reuse

Lake Fayette is designed as a recirculating system, and water is continually recirculated and reused as cooling water for the plant. Lake water is also used for scrubber make-up water. The scrubber also uses water from the Reclaim Pond which recirculates through the scrubbers and back to the Reclaim Pond. The Reclaim Pond also may receive water from the Coal Pile Runoff pond and other plant processes.

Item 1(b)(4): Calculations and Data to Support AIF and DIF

Engineering and operating staff at FPP have provided data for this report. The design data is based on pump manufacturer data, pump curves, and engineering calculations. The actual flow is calculated from manufacturer data and operating hours. Pump curves and engineering calculations are provided in Attachment FPP-TECH-18.

Item 1(b)(5): Daily Actual Intake Flow (AIF) for 12 Months at FPP's Plant Intake Structure

Table 1: Actual Intake Flow Per Day (in Million Gallons) of Cooling Water in 2024

	2024											
Day/Mon	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
1	821	824	824	1138	1138	1046	1157	1157	1157	1047	740	729
2	821	825	824	1136	1051	1046	1157	1157	1157	1033	740	716
3	815	832	824	1130	1027	1103	1157	1157	1157	946	740	729
4	820	832	824	1130	799	1038	1157	1157	1157	753	740	729
5	824	826	825	1130	746	1121	1157	1157	1157	748	740	729
6	825	824	826	1136	746	1157	1157	1157	1157	748	740	729
7	824	825	831	1130	887	1157	1157	1157	1157	748	740	729
8	824	825	866	1130	1020	1157	1052	1157	1157	748	740	729
9	824	825	916	1111	1136	1157	1038	1157	1157	748	740	729
10	824	824	916	1071	1138	1157	1038	1157	1157	748	740	729
11	824	824	896	1082	1087	1157	1024	1157	1157	748	740	729
12	824	824	910	1130	943	1157	797	1157	1157	748	740	729
13	824	824	908	1130	829	1157	1038	1157	1157	748	740	729
14	829	824	908	1130	820	1157	1038	1157	1157	740	740	734
15	837	824	911	1130	820	1157	1084	1101	1157	740	740	535
16	843	824	909	1130	820	1157	1157	1101	1157	740	740	535
17	829	824	908	1130	926	1157	1157	1157	1157	740	740	535
18	824	824	908	1105	1054	1157	1157	1157	1157	740	740	535
19	824	824	908	1019	1097	1157	1157	1157	1157	740	732	535
20	824	824	908	948	1138	1157	1157	1157	1157	740	729	535
21	824	824	977	817	1141	1157	1157	1157	1157	740	729	535
22	816	824	1019	740	1146	1157	1157	1105	1157	740	729	535
23	816	824	1019	738	1146	1157	1157	1104	1157	740	729	535
24	816	824	1019	738	1146	1157	1157	1103	1157	740	729	535
25	816	824	1019	738	1146	1157	1157	1109	1157	740	729	535
26	816	824	1019	745	1146	1157	1157	1157	1157	740	729	535
27	816	824	1019	781	1146	1157	1157	1157	1157	740	729	624
28	821	824	1052	935	1154	1157	1157	1157	1157	740	729	824
29	824	824	1130	950	1157	1157	1157	1157	1157	740	729	824
30	824		1136	1089	1157	1157	1157	1157	1157	740	729	824
31	824		1133		1054		1157	1157		740		824

Item 1(b)(6): Impingement and Entrainment Technologies and Operation Measures

According to the EPA, a Closed Cycle Recirculating System (CCRS) is an option to achieve BTA for impingement mortality reduction, as long as make up withdrawals are minimized (40 CFR 125.92(c)(2)). FPP utilizes a CCRS cooling water impoundment as defined by EPA and minimizes make up water by reusing scrubber water via the Reclaim Pond system. See **Figure 5** for a copy of the letter received from TCEQ approving Lake Fayette as a CCRS. The CCRS also serves as an entrainment technology because water in the lake is recirculated for continual reuse as plant cooling water.

ITEM 2: COOLING WATER INTAKE STRUCTURE(S)

Item 2(b)(1): Narrative Description

Plant CWIS: FPP consists of three generating units, Unit 1, Unit 2 and Unit 3. Units 1 and 2 share a common cooling water intake structure (CWIS) and Unit 3 CWIS is adjacent to Units 1 and 2 CWIS. The Unit 3 intake structure was designed to accommodate an additional generating unit, which has not been built. The intake structures operate year-round when the FPP power generating units are running, which are dispatched in response to demand and the Texas electricity market. The location of the intake structures in the water body and water column are depicted in **Figure 3** and **Figure 4**. The existing CWIS consists of the following:

- An intake embayment, which is an intake canal that is approximately 300 yards in length and maintains a depth of about 25 feet into the reservoir (see **Figure 3**);
- Trash rack (bar screens);
- Nine cement-lined water-withdrawal bays (three for each unit);
- 3/8-inch square mesh traveling water screens;
- Sluiceways (wash-water return trough), sumps and debris collection baskets;
- Circulating, cooling, and wash water (firewater) pumps.

Each of the generating units is equipped with three circulating pumps and three cooling water pumps. The circulating water pumps are used for once-through cooling for the main condensers, and the cooling water pumps provide water to cool equipment. One circulating pump and one cooling-water pump are paired together in a single water-withdrawal bay, and three bays accompany each unit, for a total of nine bays.

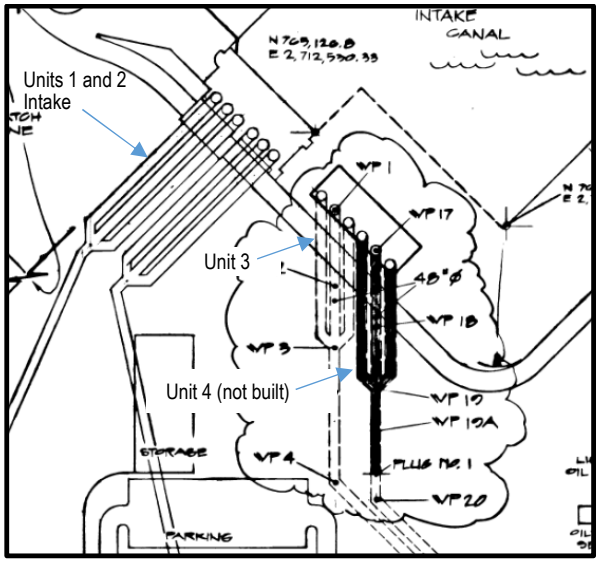
Each of the Units 1 and 2 circulating pumps have an operating flow rating of 89,500 gallons per minute (gpm). The Units 1 and 2 cooling water pumps each have an operating flow rating of 6,000 gpm. The Unit 3 circulating water pumps have an operating flow rating of 76,000 gpm, and the Unit 3 cooling water pump has an operating flow rating of 7,600 gpm. Unit 3 also has a service water pump, which has an operating flow rating of 1,200 gpm.

Each of the nine water withdrawal bays is fitted with a traveling screen. The screens are chain driven by a motor. A splash housing encloses the traveling screen on top. Inside the splash housing are spray nozzles that spray water on the screen as it turns to clean off any debris on the screen. The traveling screen extends down into the water between the intake canal and the bay from which various pumps draw water. The screens help to prevent debris from entering into the bay, which could potentially damage the pumps and/or plug condenser and heat exchanger tubes and other heat transfer equipment.

Each unit has three 110 HP screen-wash pumps that withdraw water from two bays of Unit 1 and one bay of Unit 2. In addition, Unit 3 is equipped with a firewater/service-water pump in each bay.



Figure 3: Intake Canal



Inset A to Figure 3

A large stationary grid trash rack is positioned in front of each traveling screen to keep out any large debris that might damage the screen. On the lake side of the grid is a mechanical trash rake. See **Figure 4** for the general arrangement of the intake, including trash rakes, traveling water screens, and pumps.

Units 1 and 2 share a common wash-water sluiceway, collection baskets and sump. The collection baskets collect any debris or small fish that may have been caught on the traveling screens. Upon entering the sump, the wash water is designed to flow to two separate collection baskets located in a single sump and debris is captured in the collection baskets. Wash water for the screens that service Unit 3 is carried through a different sluiceway to a separate collection basket and sump. Both sumps are recessed in the foundation approximately five feet with the top of the collection baskets at approximately three feet below the foundation.

The current configuration is designed to protect the intake structure from debris in order to prevent damage. By default the design keeps out large fish that contribute to a healthy fishery.

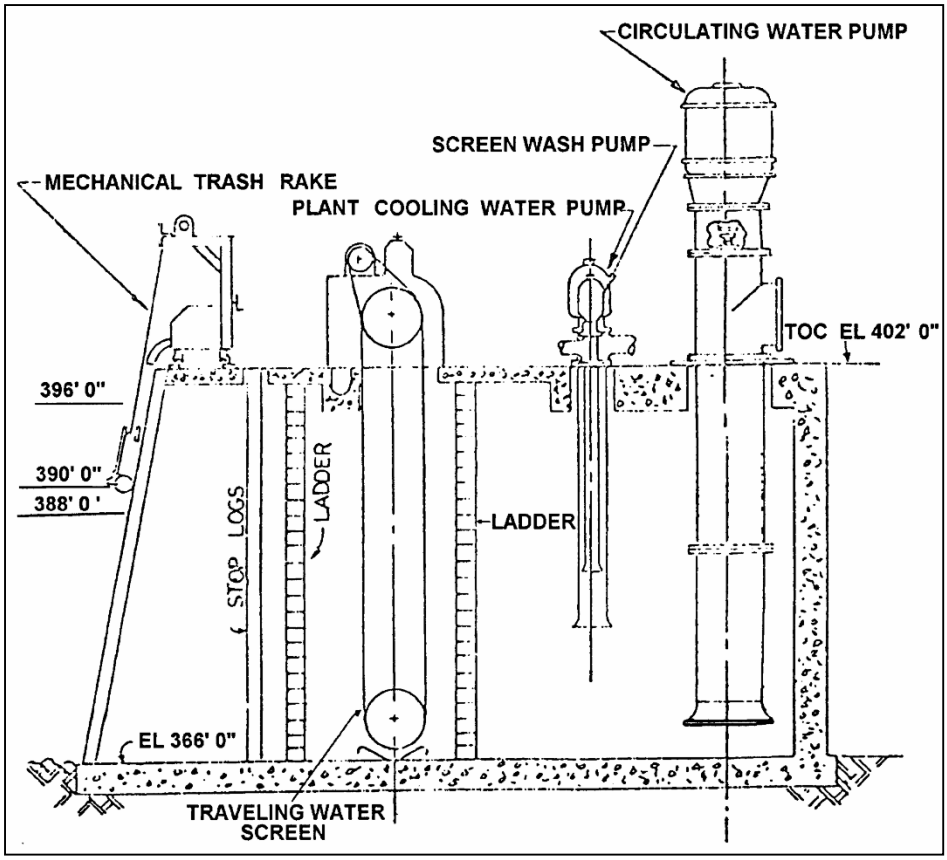


Figure 4: Diagram of Plant's Circulating Water and Cooling Water Pumps, Mechanical Trash Rake, and Traveling Screens

Bryan W. Shaw, Ph.D., P.E., *Chairman*
Toby Baker, *Commissioner*
Jon Niermann, *Commissioner*
Richard A. Hyde, P.E., *Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

January 5, 2016

Mr. Bill Steinhauser, P.E., Manager
Environmental Affairs
Lower Colorado River Authority
P.O. Box 220
Austin, Texas 78767-0220

Re: Request for approval of determination of closed-cycle recirculating system relevant to the Clean Water Act 316(b) requirements for Lower Colorado River Authority (LCRA) Lake Fayette Reservoir

Dear Mr. Steinhauser:

This letter is in response to your letter dated December 16, 2015, requesting approval of a designation of a closed-cycle recirculating system (CCRS) as stipulated in 40 Code of Federal Regulations (CFR) §125.92(c) for Lake Fayette Reservoir.

The documentation submitted with the request includes the following:

(1) cover letter including information on Lake Fayette Reservoir;
(2) the Certificate of Adjudication for water rights issued by the TCEQ with the most recent Amendment granted on April 29, 2011 indicating that the reservoir was built for industrial cooling water purposes; and,
(3) a statement in the cover letter indicating that the reservoir cooling system is designed to minimize make-up flows and, because it is a reservoir system, essentially eliminates blowdown and drift as required in 40 CFR §125.92(c).

Based upon the information provided and in accordance with 40 CFR §125.92(c), Lake Fayette Reservoir is approved for designation as a CCRS relevant to compliance with the Federal Clean Water Act 316(b) regulation.

Please be advised that, at this time, the approval of a designation for a CCRS for Lake Fayette Reservoir only indicates that this CCRS system meets Best Technology Available (BTA) for impingement as identified in 40 CFR §125.92. BTA for entrainment will be addressed at a later time.

Additionally, approval of Lake Fayette Reservoir as a CCRS does not address information requirements to be submitted with a wastewater discharge permit application outlined in 40 CFR §122.21(r). Based upon Lake Fayette Reservoir being approved as a CCRS, you may request, under separate letter or with the next permit application, some, or all, of the application information requirements in 40 CFR §122.21(r) be waived.

Figure 5: TCEQ Letter to LCRA Regarding CCRS

The cover letter requests confirmation that the cooling water intake structures which pump water from Lake Fayette into the Sam Seymour Fayette Power Park (FPP) is the single point of compliance under 40 CFR Part 125, Subpart J for the FPP. Water Quality Division staff have reviewed this request and concur that the intake structure on Lake Fayette supplying cooling water for the FPP should be the single point of compliance under 40 CFR Part 125, Subpart J.

If you have any questions or comments regarding the contents of this letter please contact me at 512-239-4591 or via email at Lynda.Clayton@tceq.texas.gov.

Sincerely,

Lynda Clayton, Team Leader
Water Quality Assessment Team
Water Quality Division
Texas Commission on Environmental Quality

LC/tc

Figure 5 (continued): TCEQ Letter to LCRA Regarding CCRS

River Pump Station:

The river pump station, which provides make up water from the Colorado River to Lake Fayette, is located on the north shore of the Colorado River approximately 4.3 miles to the south of the plant. The river pump house consists of a concrete intake structure containing three individual pump bays. Each bay contains a vertical, two-stage, wet pit pump. Each pump has an operating flow rating of 137,000 gpm. Each pump is protected from the 100-year flood event by parapet walls. Trash racks are provided to prevent large debris from entering the pump bays. These racks have less than a 2-inch clear opening.

When three pumps are in service at the same time, the estimated maximum flow rate using flow meters is 40 million gallons per day. The river pump station is designed to be operated at a minimum water level of the Colorado River at 202 feet above msl, an average water level at 206.0 feet above msl, and a 100-year flood event of 239.5 feet above msl. The bottom of the sump that houses the river pump is at 192 elevation, which is below the river bottom elevation located at approximately 198 feet above msl. See **Figure 6** for the arrangement of the pumps and trash racks river pump station.

Item 2(b)(2): Engineering Calculations

Engineering and operating staff at FPP have provided data for this report. The design data for the plant's CWIS is based on pump manufacturer data, pump curves, and engineering calculations. The actual flow is calculated from manufacturer data and operating hours. Pump curves and engineering calculations are provided in Attachment FPP-TECH-18. The river pump data is estimated based on flow meters.

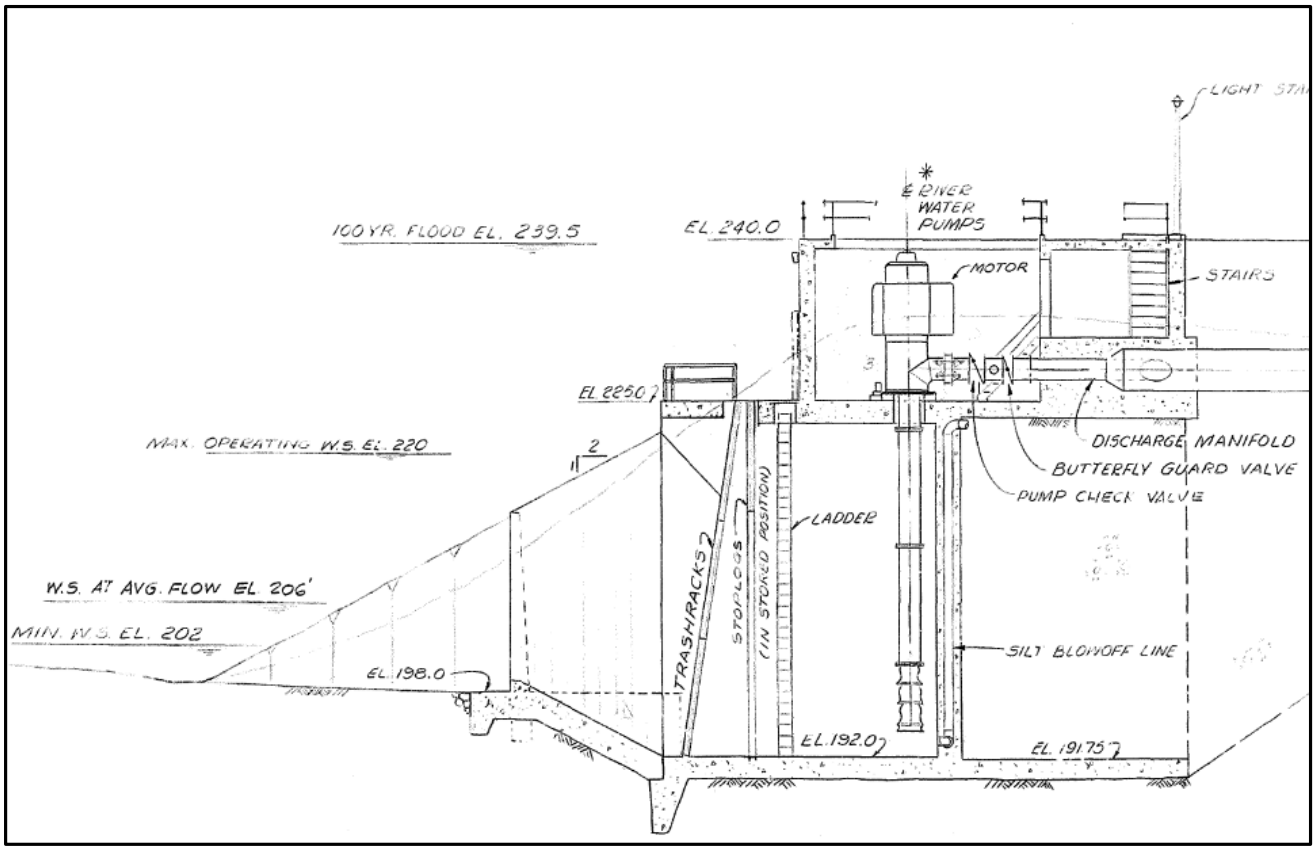


Figure 6: Diagram of River Pumps for Water Supply, Trash Rack, and Pumps

ITEM 3: SOURCE WATER PHYSICAL DATA

Item 3(b)(1) and (2): Narrative Description of the Source Water for CWIS

Plant CWIS: Lake Fayette, also known historically as Cedar Creek Reservoir and Fayette County Reservoir, was constructed in 1978 to provide cooling water for Fayette Power Project (FPP), a coal fired power plant. The lake is a 2,400-acre impoundment of Cedar Creek, which is a tributary of the Colorado River in Fayette County. The design elevations for the reservoir include a normal operating level of 390 feet above msl with a plus or minus fluctuation of 0.5 feet, a minimum water level of 388 feet above msl, and a maximum water level of 396 feet above msl (FPP, Plant Data Book, Volume 1). The maximum depth of the lake is approximately 70 feet. **Figure 7** shows the contours of the topography below the lake surface. The area around the lake remains largely undeveloped. Shoreline length is approximately 20 miles. The lake lies within the Post Oak Savannah ecological area. Lake Fayette was opened to fishing in 1979 (TPWD, 2020).

LCRA has a water quality program that tracks data for Lake Fayette. This data is provided on-line at: http://waterquality.lcra.org/. The Lake Fayette data show that since 2000, average temperature for Lake Fayette is 80.9 degrees Fahrenheit, minimum temperature in this time period is 58.6 degrees Fahrenheit and maximum temperature in this time period is 101.7 degrees Fahrenheit. Although the water quality program does not monitor for salinity, the parameters for sulfates and specific conductivity are measured and are an indicator for salinity. Sulfates measurements in the same time frame show an average of 96.2 mg/L (as SO4). Specific conductance measurements in the same time frame show an average of 1316 umhos/cm (LCRA, 2025).

Lake Fayette supports a healthy and diverse fishery, as well as provides public recreational opportunities for the local community and state. The Texas Parks and Wildlife Department (TPWD) regularly surveys the reservoir's fishery and manages the lake through a fisheries management plan. TPWD notes that the use of the lake as a power plant reservoir keeps bass active during winter and early spring, and the elevated temperatures and currents of the cooling water discharge canal attract baitfish. Other predominant fish species include catfish and prey species Gizzard Shad, Threadfin Shad, Bluegill, and Redear Sunfish. Impingement mortality (IM) has not been listed as a concern for the sports fishery (TPWD, 2025).

Colorado River for Make-up Water: The Colorado River begins in Dawson County in West Texas and travels approximately 600 miles southeast to the Matagorda Bay on the Gulf of Mexico. The TPWD describes the river as a "major waterway" and a "slow moving, scenic coastal river" in the section where the FPP River Pump Station is located, which is a section that includes 186 miles extending from La Grange down to Matagorda Bay. The river is wide, deep, and plenty of water for recreational use is available at all times. There are no hazards but occasional strong headwinds from the south often hinder recreational use of this stretch. Numerous hardwood trees line steep banks and large sand bars, which often lend themselves to camping and day use, are found (TWPD, 1974). **Figure 8** shows the contours of the topography at the location of the river pump station.

LCRA's water quality program tracks data for sections of the Colorado River, including a location at the Colorado River near La Grange, Texas. This location is approximately eight river miles upstream of the FPP river pump station. The site data show that since 2000, average temperature for the river at this location is 72.2 degrees Fahrenheit, minimum temperature in this time period is 48.2 degrees Fahrenheit and maximum

temperature in this time period is 91.8 degrees Fahrenheit. Although the water quality program does not monitor for salinity, the parameters for sulfates and specific conductivity are measured and are an indicator for salinity. Sulfates measurements in the same time frame show an average of 50.9 mg/L (as SO4). Specific conductance measurements in the same time frame show an average of 580.5 umhos/cm (LCRA, 2025).

Item 3(b)(3): Scaled Drawings of Physical Configuration

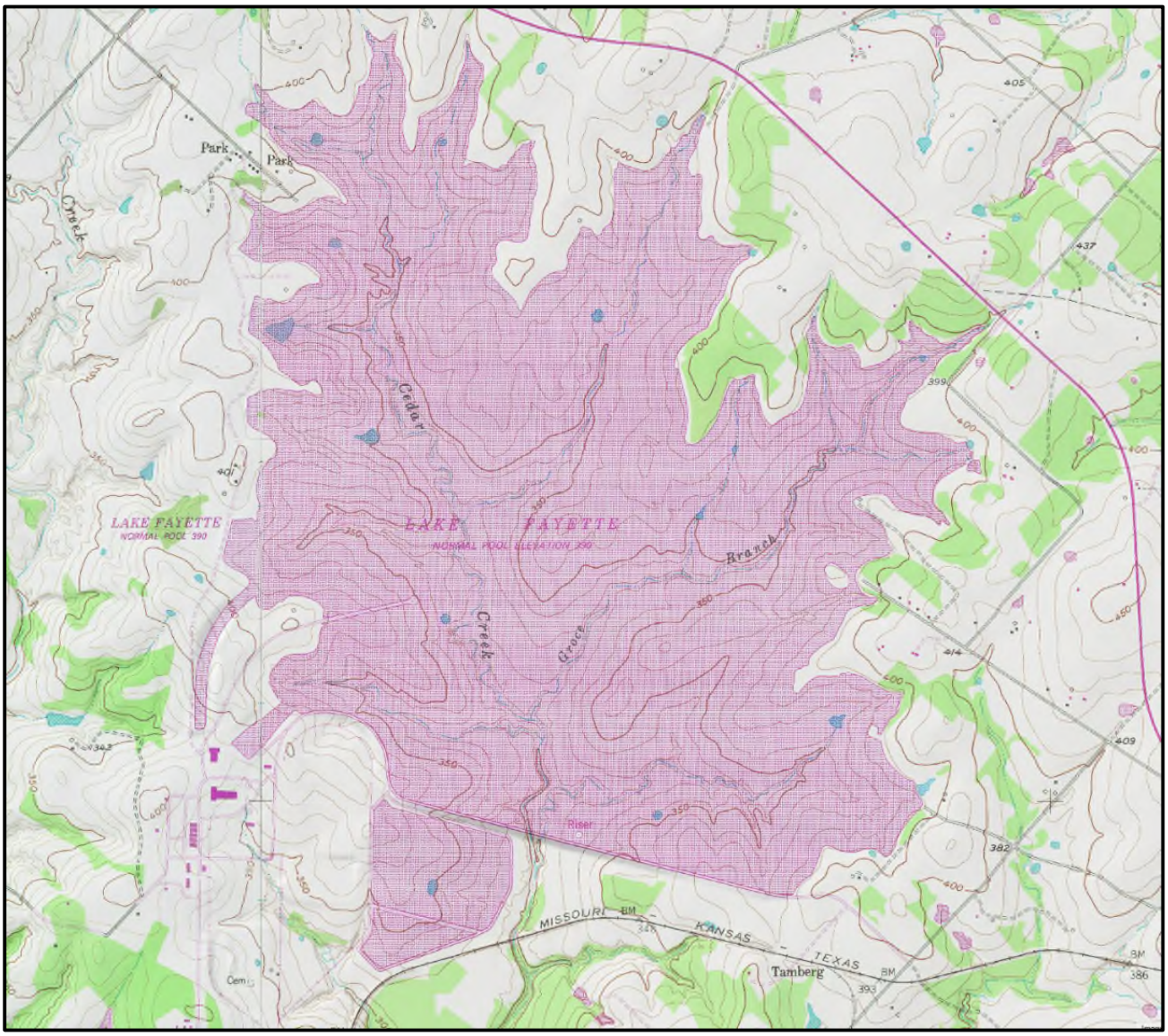


Figure 7: Lake Fayette Contour Map

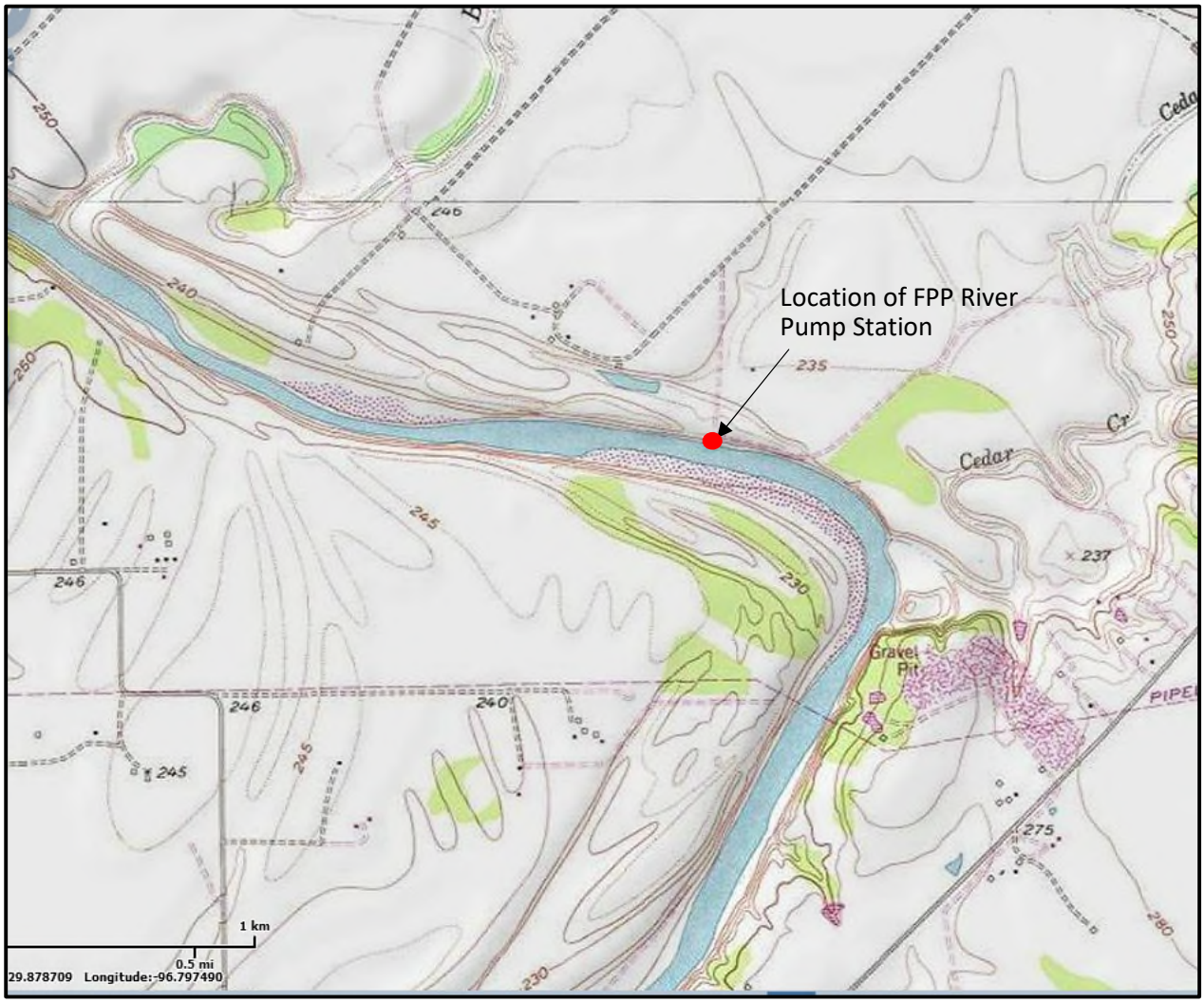


Figure 8: Colorado River Contour Map (at River Pump Station)

Item 3(b)(4): Studies related to Intake Area of Influence

The LCRA submitted a report to TCEQ in June 2009 called "Impingement Monitoring Data Report," which provided the results of an impingement monitoring study at FPP. Fish impinged on FPP's intake screens were sampled on 28 dates between May 23, 2005 and April 12, 2006. The majority of the fish collected were threadfin shad (59%), largemouth bass (24%), and inland silverside (6%). The study concluded that impingement at FPP was considered to be very low for a large base-loaded facility with high cooling-water flow and does not result in adverse environmental impacts.

LCRA is not aware of any other physical studies related to the area of influence of the FPP CWIS or the river pump station.

ITEM 4: OPERATIONAL STATUS

Item 4(a)(1): Description of Operating Status

Plant operating capacity, or Gross Capacity Factor, is calculated from start/stop times and Unit load from the National Electrical Reliability Council (NERC) Generating Availability Data System (GADS).

FPP has three units and all are currently operational. The units supply energy continuously throughout the year to meet the minimum levels of demand of the Texas electrical grid. However, the amount of electricity supplied will swing between low load and high load depending on demand. Power demand is typically highest in summer.

The following represents the gross capacity factor, which is the percent of gross electricity generated relative to the energy that can be generated at continuous full power operation.

	FPP1	FPP2	FPP3
Commercial Operation Date	1979	1980	1988
Gross Capacity Factor (%) - 2020	57.5	64.3	61.3
Gross Capacity Factor (%) - 2021	73.5	61.4	84.8
Gross Capacity Factor (%) - 2022	51.8	73.5	83.9
Gross Capacity Factor (%) - 2023	51.7	53.0	56.0
Gross Capacity Factor (%) - 2024	48.7	34.1	71.9

Item 4(a)(2): Description of Outages

Typically FPP has a planned outage every three years for each unit for around five to 6 weeks for maintenance. During the outage, the circulating water will be shut down. Outages are more likely in fall or spring.

Item 4(a)(3): Capacity Utilization Rate
As demonstrated in the chart above, the FPP units have not been used less than 8% over a 2-year period within the past five years.

Item 4(a)(4): Major Upgrades
In the last 15 years there have been no major upgrades such as boiler replacement, condenser replacement, turbine replacement, or changes to fuel type for FPP Units 1, 2 or 3.

LITERATURE CITED:

FPP Data Book, Vol 1. Fayette Power Project Unit 1 and Unit 2, Plant Data Book, Volume I, System Descriptions.

FPP Data Book, Vol 2. Fayette Power Project Unit 1 and Unit 2, Plant Data Book, Volume II, Drawings.

Lower Colorado River Authority, 2025. Water quality data available on-line at http://waterquality.lcra.org/. Accessed March 2025.

Texas Commission on Environmental Quality, 1983. Certificate of Adjudication: 14-5480 for Lake Lyndon B. Johnson to the Lower Colorado River Authority.

Texas Parks and Wildlife Department, 1974. An Analysis of Texas Waterways: A Report on the Physical Characteristics of Rivers, Streams, and Bayous in Texas"

Texas Parks and Wildlife Department. 2020. 2019 Fisheries Management Survey Report, Inland Fisheries Division, report dated July 31, 2020.

Texas Parks and Wildlife Department, 2025. Fayette County Reservoir, On-line Access, https://tpwd.texas.gov/fishboat/fish/recreational/lakes/fayette/, Accessed March 2025.

Worksheet 11.1: Impingement Mortality

ITEM 2: Impingement Compliance Technology Information

Item 1(a)(1): CCRS

i. CWIS ID: River Pump Station (Make up)

ii. 12 Months of Inflow (Daily) Data:

The following chart provides 12 months of total intake flow data from the river pump station:

	2024 Diversion - Gallons per Day											
Day	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
1	0	0	0	2022	0	2938	2043	0	3757	0	0	3049
2	0	0	0	0	0	2964	2986	0	3756	0	0	3093
3	0	0	0	0	0	2949	2979	0	3757	0	1744	1076
4	0	0	0	0	0	2895	2971	0	3756	0	3069	0
5	0	0	0	0	0	2880	2894	0	3742	0	3085	0
6	0	0	0	0	0	2880	2886	0	3756	0	3086	0
7	0	0	0	0	0	103	2374	0	3756	0	3086	0
8	0	0	0	0	0	395	2374	0	3757	0	2916	0
9	0	0	2249	0	0	2970	211	0	3756	0	2916	0
10	0	0	3687	0	0	3021	2694	0	3646	0	2885	0
11	0	0	3787	0	0	106	2927	0	3606	0	3089	0
12	0	0	3772	0	0	0	2889	0	3600	0	3036	0
13	3757	0	3708	0	0	0	2880	0	3600	0	2890	0
14	3397	0	3758	0	0	0	2880	0	3600	0	3187	0
15	392	0	3475	0	0	0	2879	0	3600	0	3099	0
16	0	0	3085	0	0	0	2879	0	3592	0	3178	0
17	0	0	3086	0	0	0	2883	1466	3565	0	3198	0
18	0	0	3011	0	0	0	2978	3047	3416	0	3127	0
19	2917	0	3011	0	0	0	2979	3086	3600	0	3199	0
20	3757	0	3088	0	0	0	2979	3078	3600	0	3190	0
21	3756	0	3087	0	0	0	2979	3086	3199	0	3172	0
22	3757	0	3090	0	0	0	2980	3085	2981	0	3154	0
23	3309	0	3086	0	842	0	2979	3085	2991	0	3148	0
24	0	0	3085	0	3024	0	2980	3084	2991	0	2924	0
25	0	0	3086	0	3094	0	2979	3080	2991	0	3008	0
26	0	0	3085	0	3086	0	971	3512	3037	0	2933	0
27	0	0	3085	0	3086	0	0	3757	3031	0	3099	0
28	0	0	3080	0	3086	0	0	3756	3012	0	3091	0
29	0	0	2969	0	3043	0	0	3756	1628	0	3088	0
30	0		3086	0	2980	0	0	3699	0	0	2968	0
31	0		3086	0	2974		0	3756		0		0

The river pump station provides make up water to replenish the lake losses caused by evaporation, plant uses, minor losses caused by dam seepage, and water that is released per the Certificate of Adjudication, which requires a minimum flow of 0.5 cubic feet per second from the lake to Cedar Creek. This required flow is estimated at 486 acre-feet per year (based on 2024 data). Estimated forced evaporation for all three units due to condenser and equipment cooling calculates to an average of 8,420 acre-feet per year (based on 2024 data).

iii. Physical or operational measures taken to minimize make-up withdrawals:
LCRA maintains a Water Conservation Plan, which includes the FPP plant. Conservation measures reduce the use of lake water, which in turn reduces the need for make-up withdrawal. Measures include direct reuse of wastewaters from the Reclaim Pond for plant operations, such as the stack gas scrubber make up, plant wash down locations, and boiler sealing systems. Indirect reuse features include recycling the Coal Pile Runoff pond water and reverse osmosis reject water back to the reservoir.

Fayette County Reservoir

2019 Fisheries Management Survey Report

PERFORMANCE REPORT

As Required by

FEDERAL AID IN SPORT FISH RESTORATION ACT

TEXAS

FEDERAL AID PROJECT F-221-M-4

INLAND FISHERIES DIVISION MONITORING AND MANAGEMENT PROGRAM

Prepared by:

Mukhtar Farooqi, Assistant District Management Supervisor
and
Patrick Ireland, District Management Supervisor

Inland Fisheries Division
San Marcos/Austin District, San Marcos, Texas

Carter Smith
Executive Director

Craig Bonds
Director, Inland Fisheries

July 31, 2020

Contents

Contents i
Survey and Management Summary 1
Introduction 2
Reservoir Description 2
Angler Access 2
Management History 2
Methods 4
Results and Discussion 4
Fisheries Management Plan for Fayette County Reservoir, Texas 7
Objective-Based Sampling Plan and Schedule (2020–2024) 8
Literature Cited 10
Tables and Figures 11
Reservoir Characteristics 11
Boat ramp Characteristics 11
Harvest Regulations 11
Stocking History 12
Objective-Based Sampling Plan for 2019 – 2020. 13
Structural Habitat Survey 13
Aquatic Vegetation Survey. 14
Gizzard Shad 15
Bluegill 16
Redear Sunfish 17
Channel Catfish 18
Largemouth Bass 19
Proposed Sampling Schedule 21
APPENDIX A – Map of Sampling Locations 22
APPENDIX B – Map of Structural Habitat 23
APPENDIX C – Map of Vegetation Survey 24
APPENDIX D – Catch Rates for all Targeted Species from all Gears 25
APPENDIX E – Aquatic Vegetation Surveys 2007 - 2019 26
APPENDIX F – Largemouth Bass Data 2005 - 2019 27
APPENDIX G – Juvenile Bass Data 2005 - 2019 30

Survey and Management Summary

Fish populations in Fayette County Reservoir were surveyed in 2017 and 2019 using electrofishing and in 2019 using hoop nets. Aquatic vegetation was monitored by annual surveys. Historical data are presented with the 2019 data for comparison. This report summarizes results of the surveys and contains a fisheries management plan for the reservoir based on those findings.

- **Reservoir Description:** Fayette County Reservoir is a 2,400-acre impoundment of Cedar Creek; an intermittent stream in the Colorado River watershed. It was constructed in 1978 by the Lower Colorado River Authority (LCRA) for the purpose of supplying cooling water for steam-electric power generation. The reservoir is located in Fayette County, approximately seven miles east of La Grange, Texas, and lies within the Post Oak Savannah ecological area.

  Water in the reservoir is maintained at a near-constant level (1-2 ft. annual fluctuation) through pumping from the Colorado River. Surrounding shoreline is mostly undeveloped. Shoreline length is approximately 20 miles. Structural habitat consisted primarily of natural shoreline and rocky shoreline.

- **Management History:** Important sportfish include Largemouth Bass and Channel Catfish species. Florida Largemouth Bass were stocked into nursery ponds during 1977 prior to reservoir filling. Largemouth Bass have been managed since 1979 with several differing length limit regulations; but currently managed under a 16- to 24-inch slot length limit with a 5-fish daily bag, only one over 24 inches may be retained.

  Trap netting for White Crappie was not performed due to historically low catch rates and the high cost/benefit ratio associated with collecting these data. Crappie have not been collected with any gear type since the early 1990s. There was no directed angling effort for crappie.

  A volunteer angler survey was conducted from October 2004 to May 2006 to determine catch trends and length distribution of trophy Largemouth Bass and other species.

  Aquatic vegetation habitat surveys have been conducted annually to monitor invasive species and evaluate angler access conditions.

- **Fish Community**
  - **Prey species:** Bluegill, Gizzard Shad, and Threadfin Shad were the predominant prey species. Catch rates for Bluegill, Gizzard Shad, and Threadfin Shad had increased since the last two surveys.

  - **Channel Catfish:** Channel Catfish abundance was very low.

  - **Largemouth Bass:** Largemouth Bass abundance declined compared to the previous two surveys, but the population was in excellent condition and the population size structure was good.

Management Strategies: Based on current information, the reservoir should continue to be managed with existing regulations. Conduct an additional electrofishing and hoop net survey in 2021-2022, a spring and summer creel survey in 2021, and general monitoring surveys with hoop nets and electrofishing surveys in 2023-2024. Aquatic vegetation surveys should be conducted biennially to monitor invasive species.

Introduction

This document is a summary of fisheries data collected from Fayette County Reservoir in 2016-2019. The purpose of the document is to provide fisheries information and make management recommendations to protect and improve the sport fishery. While information on other fish was collected, this report deals primarily with major sportfish and important prey species. Historical data are presented with the 2016-2019 data for comparison.

Reservoir Description

Fayette County Reservoir when full, is a 2,400-acre impoundment of Cedar Creek; an intermittent stream in the Colorado River watershed. It was constructed in 1978 by the Lower Colorado River Authority for the purpose of supplying cooling water for steam-electric power generation. This is a stable-level reservoir (conservation level is 390 feet above mean sea level). The reservoir is eutrophic with a mean TSI chl-*a* of 66.6, and a 10-year change of +4.5 (Texas Commission on Environmental Quality 2020). The reservoir is located in Fayette County, approximately seven miles east of La Grange, Texas. The reservoir lies within the Post Oak Savannah ecological area.

Water in the reservoir is maintained at a near-constant level (1-2 ft. annual fluctuation). During periods of low rainfall, water is pumped into the reservoir from the Colorado River. The shoreline surrounding the reservoir was undeveloped and shoreline length was approximately 20 miles. Fayette County Reservoir was opened to fishing in 1979. Other descriptive characteristics for Fayette County Reservoir are in Table 1.

Angler Access

Shoreline access was limited within LCRA park boundaries, with main access by fishing pier in two parks. Multi-lane concrete boat ramps were located within both parks, offering adequate boat access to the reservoir. Additional boat ramp characteristics are in Table 2.

Management History

Previous management strategies and actions: Management strategies and actions from the previous survey report (Farooqi and De Jesus 2016) included:

1. Monitor the Channel Catfish population with hoop nets in 2017 and 2019 to determine abundance and population size structure for trend analysis.
   Action: The Channel Catfish population was sampled with hoop nets in 2017 and 2019.

2. If the hoop net data is insufficient to manage the population, consider conducting a spring and summer creel survey in 2019.
   Action: A creel survey was not conducted at Fayette County Reservoir as priority was given to conduct a 2019 year-long creel survey of Buchanan Reservoir.

3. Continue annual aquatic vegetation surveys to monitor aquatic vegetation coverage with particular attention to hydrilla and Eurasian watermilfoil
   Action: Annual aquatic vegetation surveys were conducted from 2016 to 2019.

4. Continue biennial fall electrofishing surveys to monitor the Largemouth Bass population.
   Action: Fall electrofishing surveys were conducted in 2017 and 2019.

5. Educate the public about invasive species through the use of media and the internet.
   Action: Outreach efforts regarding invasive species included the district's Facebook page, press releases, and multiple television interviews.

6. Make a speaking point about invasive species when presenting to constituent and user groups.
   Action: Issues related to invasive species were raised at public presentations, and through informal staff interactions with constituents.

7. Keep track of (i.e., map) future inter-basin water transfers to facilitate potential invasive species responses.
   Action: There are no plans for inter-basin water transfers at Fayette County Reservoir.

Harvest regulation history: Sportfish in Fayette County Reservoir were managed with statewide regulations with the exception of Largemouth Bass. From 1979 to 1985, Largemouth Bass were managed with a 16-inch minimum length limit. Slot length limits have been implemented since September 1, 1985 to increase abundance of bass greater than 14 inches in length; increase angler catches of bass greater than 14 inches in length; and re-direct harvest at individuals less than 14 inches in length. A 14- to 24-inch slot length limit with a 5-fish daily bag, only 1 over 24-inches was implemented on September 1, 1995 to limit the harvest of very large fish. In 2018, as a result of a statewide review of existing harvest regulations for Largemouth Bass, a 16- to 24-inch slot length limit with a 5-fish daily bag, and only 1 over 24-inches was implemented on September 1, 2018 for Fayette County Reservoir. Current regulations are found in Table 3.

Stocking history: Florida Largemouth Bass and catfish were important species stocked. Florida Largemouth Bass were last stocked in 1994 and Channel Catfish were last stocked in 2018. A complete stocking history is shown in Table 4.

Vegetation/habitat management history: Fayette County Reservoir supported a mix of aquatic vegetation species. With the exception of 2011, aquatic vegetation surveys were conducted every summer from 2007 to 2019. Historically, aquatic vegetation coverage has been variable and has remained at ≤10%; marine naiad (*Najas marina*) has been the dominant species (Farooqi and De Jesus 2016). The exotic plant hydrilla (*Hydrilla verticillata*) was present in this reservoir.

Water Transfer: There were no inter-basin water diversion structures at Fayette County Reservoir.

Methods

Surveys were conducted to achieve survey and sampling objectives in accordance with the objective-based sampling (OBS) plan for Fayette County Reservoir (TPWD unpublished). Primary components of the OBS plan are listed in Table 5. All survey sites were randomly selected, and all surveys were conducted according to the Fishery Assessment Procedures (TPWD, Inland Fisheries Division, unpublished manual revised 2017).

Electrofishing – Largemouth Bass, sunfishes, Gizzard Shad, and Threadfin Shad were collected by electrofishing (1 hour at 12, 5-min stations; Appendix A). Sampling in 2017 was bass-only. Catch per unit effort (CPUE) for electrofishing was recorded as the number of fish caught per hour (fish/h) of actual electrofishing. Ages for Largemouth Bass were to be determined by a category-2 evaluation requiring otoliths from 13 randomly selected fish ranging in size from 13.0 to 14.9 inches. (TPWD, Inland Fisheries Division, unpublished manual revised 2017). However, only seven fish were available in that size range.

Tandem hoop nets – Channel Catfish were collected using a total of 9 tandem hoop net series at 9 stations. Nets were baited with © Zote soap and deployed for 2-night soak duration. CPUE for tandem hoop netting was recorded as the number of fish caught per tandem hoop net series (fish/series).

Genetics – Genetic analysis of Largemouth Bass was conducted according to the Fishery Assessment Procedures (TPWD, Inland Fisheries Division, unpublished manual revised 2017). Micro-satellite DNA analysis was used to determine genetic composition of individual fish from 2005 through 2019 and by electrophoresis for previous years.

Statistics – Sampling statistics (CPUE for various length categories), structural indices [Proportional Size Distribution (PSD), terminology modified by Guy et al. 2007], and condition indices [relative weight (W_r)] were calculated for target fishes according to Anderson and Neumann (1996). Index of vulnerability (IOV) was calculated for Gizzard Shad (DiCenzo et al. 1996). Standard error (SE) was calculated for structural indices and IOV. Relative standard error (RSE = 100 X SE of the estimate/estimate) was calculated for all CPUE and creel statistics.

Habitat – A structural habitat and vegetation survey was conducted in 2019. Habitat was assessed with the digital shapefile method (TPWD, Inland Fisheries Division, unpublished manual revised 2017).

Results and Discussion

Habitat: In 2019, littoral zone structural habitat consisted primarily of natural shoreline and rocky shoreline at 71.9% and 25.7% respectively (Table 6, Appendix B). Total native vegetation coverage (103 acres; predominantly water stargrass) constituted 3.4% of the reservoir's surface area compared to less than 0.8% coverage by non-native vegetation (Table 7; Appendix C). Total aquatic vegetation coverage in this reservoir from 2016 to 2020 was considerably less than that considered optimum for productive fisheries (Durocher et al. 1984, Dibble et al. 1996) and this has been the case historically. Since 2013, coverage of hydrilla has remained less than 3.0% of the reservoir's surface area. Eurasian watermilfoil was documented in 2012 (0.5 acres), but it has not been observed in subsequent annual surveys.

Prey species: Bluegill, Gizzard Shad, and Threadfin Shad were the predominant prey species in 2019 (Appendix D). Redear Sunfish, Tilapia and Rio Grande Cichlid were also available as forage. In the latter case, a new waterbody record (rod and reel) was established in 2019 (0.85 pounds, 9.6 inches).

Total CPUE of Gizzard Shad in 2019 (92.0/h) was higher than in the 2015 (55.3/h) and 2011 (14.7/h) surveys (Figure 1). In 2019, the IOV for Gizzard Shad was 23, indicating that 23% of the Gizzard Shad population was of vulnerable size (≤ 8 inches) and available to existing predators. By comparison, the IOV was 16 in 2015, 64 in 2011 and zero in 2007 (Farooqi and De Jesus 2016). Low Gizzard Shad catch

rates have been characteristic of this reservoir. Threadfin Shad were collected at the rate of 63/h in 2019 which is higher than in the 2015 survey (24.0/h; Farooqi and De Jesus 2016).

Total CPUE of Bluegill had been on a downward trend over the previous two survey periods, but improved during 2019. Total CPUE in 2019 was 93.0/h compared to 22.0/h in 2015 and 64.0/h in 2011. In 2019 and 2015, population size structure improved, and some larger fish were present (PSD-P was 4.0 and 6.0 respectively; Figure 2). A new waterbody record (rod and reel) for Bluegill was established in 2019 (1.7 pounds, 10.75 inches).

Total CPUE of Redear Sunfish has been in a declining trend since the 2011 survey. In 2019 CPUE was 18.0/h compared to 24.7/h in 2015 and 52.0/h in 2011. In 2019, in addition to there being fewer Redear Sunfish than the previous 2 surveys, the fish tended to be smaller (PSD had significantly declined, and PSD-P and PSD-M were zero; Figure 3). Increased competition for spawning habitat could be a factor. Nevertheless, a new waterbody record (rod and reel) for Redear Sunfish was established in 2019 (1.2 pounds, 10.25 inches).

Channel Catfish: Since 2015, Channel Catfish have been the focus of objective-based sampling procedures using hoop nets. In 2019, total catch rate for Channel Catfish was 0.3/tandem set compared to 0.1/tandem set in 2017, and 1.2/tandem set in 2015 (Figure 4). In all three surveys the sample of stock-size fish has been low and was less than required for precise CPUE estimates (RSE ≤ 25). Additionally, low sample size precluded representative population size structure metrics.

Previous catch rates based on gill netting had shown a declining trend. Total gill net catch rate for Channel Catfish in 2004, 2008, and 2012 was 14.8/nn, 10.0/nn, and 3.8/nn, respectively (Cummings and De Jesus 2012). The indications are this is a low-density fishery with poor recruitment. Also, anecdotal information suggests that Channel Catfish catch rates and angler satisfaction have declined.

Largemouth Bass: Historically, this reservoir has been characterized by a high-density Largemouth Bass population relative to other bass populations in central Texas reservoirs (Farooqi and De Jesus 2016). In 2019, the total catch rate of Largemouth Bass was 106.0/h, which was lower than that recorded in 2017 (227.3/h) and 2015 (208.7/h; Figure 5). In 2019, the catch rate of Largemouth Bass greater than 16 inches (14.0/h) was lower than that obtained in 2017 (45.9/h) and 2015 (38.0/h). However, during the last six surveys, no fish above the upper slot length limit (24 inches) have been caught.

Although the minimum sample size requirement for a Category 2 evaluation (n=13) was not met in 2019 (n=7), the data that was collected indicates that some Largemouth Bass in Fayette County Reservoir reached 14 inches in length at age-1 (Figure 6). In 2019, Largemouth Bass were in excellent condition; mean relative weight for almost all size classes of fish was >100. Population size structure was good; PSD was 62, which was within the range expected for a balanced population (Gabelhouse 1984). Larger fish were also present (PSD-P = 40, PSD-M = 4) and their size distribution was within the preferred range (Gabelhouse 1984). Florida Largemouth Bass influence in this reservoir has remained high during the last four assessments even though the reservoir was last stocked with Florida Largemouth Bass in 1994. In 2019, 94% of the sample contained Florida Largemouth Bass alleles and 40% were pure Florida Largemouth Bass (Table 8).

The long-term status of the Largemouth Bass population in this reservoir was identified as a concern by local Largemouth Bass anglers due to the prevalence and mode of operation of cast netters targeting tilapia. The cast netters work in teams, wading the shoreline to concentrate the fish and then use their cast nets. The bass anglers contend the trampling of vegetation and Largemouth Bass spawning beds is having a significant effect on the Largemouth Bass population. As can be seen from Appendix E, vegetative cover has been quite variable since 2007. The highest coverage was in 2007 (241 acres), but after 2009, total coverage declined to a low of 25 acres in 2016 and then rebounded somewhat from 2017 to 2019. The percentage coverage was a maximum of 10% in 2007 and a minimum of 1% in 2016. After 2009, percentage coverage has been consistent, averaging about 3%.

The preferred level of aquatic vegetation for productive fisheries is considered to be 20-30 % of the reservoir acreage (Durocher et al. 1984, Dibble et al. 1996). In 2007, when vegetative coverage was at its highest in Fayette County Reservoir, it was at least 10% lower than preferred. There are a lot of natural factors that affect vegetation coverage making it difficult to know what impact was made by cast netters wading in the water. It is also difficult to ascertain whether these variations in vegetative coverage could account for a discernable change in bass population dynamics and whether wading could directly impact the production of young-of-the-year Largemouth Bass. If there was a problem with juvenile bass production (fish < 8 inches) we would expect to see low and/or declining numbers of juvenile bass, which does not appear to be the case from an examination of electrofishing length-frequency data collected from 2005 to 2019 (Appendix F). In addition, Appendix G shows the CPUE of juvenile bass from 2005 to 2019. Juvenile bass CPUE was highest in 2006 (109/h) and lowest in 2009 (17/h). The last three surveys have shown the highest production of juvenile bass since 2006. Based on this data, there does not seem to be an issue with juvenile bass production at Fayette County Reservoir. Also, based on W_r, most stock-size fish have been in good to excellent condition from 2005 to 2019 (Appendix F). Thus, the available data shows no deterioration in juvenile bass production and no decline in the condition (W_r) of the population (≥ 8 inches) during the study period, beyond what could be explained due to natural variation. While the total CPUE in 2019 (106.0/h) was lower than in 2017 (227.3/h) and 2015 (208.7/h), it is comparable to the data from 2013 (108.7/h) and 2009 (88.7/h), showing that such wide fluctuations in abundance do occur at this reservoir and that the population can rebound, as occurred post 2013 and 2009.

Fisheries Management Plan for Fayette County Reservoir, Texas

Prepared – July 2020

ISSUE 1: The relatively low total catch rates from hoop netting during the last three surveys suggests a low-density Channel Catfish population with poor recruitment. Hoop netting was seen as a potentially better alternative to gill netting, since previous gill net catch rates for Channel Catfish were in decline from 2004 to 2012. However, hoop netting has also resulted in poor catch rates raising questions about gear efficiency. Historically, the reservoir had been a top destination for catfish anglers in the district.

MANAGEMENT STRATEGIES

1. Monitor the Channel Catfish population with hoop nets in 2021 and 2023 to determine abundance and population size structure, and help assess the efficacy of hoop netting using a three-night sampling period instead of the standard two-night period.
2. Request 9” Channel Catfish be stocked annually at a rate of 25/acre from 2021 to 2023. Request surplus 9” and 12” Channel Catfish if available.
3. Conduct a spring and summer creel survey in 2021 to determine Channel Catfish utilization and whether a more restrictive harvest regulation is required, and also to determine the prevalence of wading cast netters.

ISSUE 2: An examination of annual aquatic vegetation abundance and species composition in Fayette County Reservoir from 2007 to 2019 shows variability, but this was not found to be detrimental to the Largemouth Bass population or angler access. Invasive plant species coverage has been very low. Based on these findings, the frequency of aquatic vegetation sampling surveys can be reduced without compromising the integrity of monitoring efforts.

MANAGEMENT STRATEGIES

1. Conduct biennial aquatic vegetation surveys.
2. Continue biennial fall electrofishing surveys to monitor the Largemouth Bass population.

ISSUE 3: Many invasive species threaten aquatic habitats and organisms in Texas and can adversely affect the state ecologically, environmentally, and economically. For example, zebra mussels (*Dreissena polymorpha*) can multiply rapidly and attach themselves to any available hard structure, restricting water flow in pipes, fouling swimming beaches and plugging engine cooling systems. Giant salvinia (*Salvinia molesta*) and other invasive vegetation species can form dense mats, interfering with recreational activities like fishing, boating, skiing and swimming. The financial costs of controlling and/or eradicating these types of invasive species are significant. Additionally, the potential for invasive species to spread to other river drainages and reservoirs via watercraft and other means is a serious threat to all public waters of the state.

MANAGEMENT STRATEGIES

1. Monitor the status of hydrilla and Eurasian watermilfoil during biennial aquatic vegetation surveys.
2. Educate the public about invasive species through the use of media and the internet.
3. Make a speaking point about invasive species when presenting to constituent and user groups.
4. Keep track of (i.e., map) future inter-basin water transfers to facilitate potential invasive species responses.

Objective-Based Sampling Plan and Schedule (2020–2024)

Sportfish, forage fish, and other important fishes

Sportfish in Fayette County Reservoir include Largemouth Bass and Channel Catfish. Known important forage species include Bluegill, Redear Sunfish, Redbreast Sunfish, Gizzard Shad, and Threadfin Shad.

Underutilized or low-density fisheries

Crappie: Hybrid Crappie occur in very low abundance in Fayette County Reservoir and are generally caught incidentally to other targeted species. We will continue collecting and reporting data for these species, and upgrade their status if appropriate.

Blue Catfish: Blue Catfish were stocked in Fayette Reservoir in 1976, 1985, and 1986; and appear to be extirpated. Conditions at this power plant reservoir were unsuitable for the development of a self-sustaining Blue Catfish fishery. Our gill netting surveys have failed to collect Blue Catfish specimens.

Flathead Catfish: Flathead Catfish are present in low abundance based on gill netting surveys conducted between 1999 and 2012. During this time, CPUE-total averaged 0.7 fish/nn, and ranged between 0 and 2.0 fish/nn. A creel survey in 2007 did not capture directed effort for this species, revealing little interest by anglers to pursue this species at Fayette Reservoir. Sampling this population is not a priority in 2020-2024.

White Bass: White Bass are not believed to be present in Fayette Reservoir; however, they are present in the Colorado River drainage, in which this reservoir lies. Gill netting surveys have not captured this species and no incidental catches have been reported in creel surveys nor anecdotally.

Survey objectives, fisheries metrics, and sampling objectives

Largemouth Bass: Largemouth Bass are the most popular sportfish in Fayette Reservoir. The popularity and reputation for quality Largemouth Bass fishing at this reservoir warrant sampling time and effort. Results from a 2007 creel survey showed directed angling effort for Largemouth Bass to be 42.7 hours/acre, and accounted for 83% of the total directed effort. Largemouth Bass are managed with a 16- to 24-inch slot regulation. This lake is known for quality fish and good catch rates (0.97/h in 2007 creel survey). Trend data on CPUE, size structure, and body condition have been collected biennially since 2006 with fall nighttime electrofishing. The population appears to be in good shape, and anglers are anecdotally satisfied with the fishing. Continuation of biennial trend data in this clear reservoir with night electrofishing in the fall will allow for determination of any large-scale changes in the Largemouth Bass population that may spur further investigation. A minimum of 12 randomly selected 5-min electrofishing sites will be sampled in 2021 and 2023, but sampling will continue at random sites until 50 stock-size fish are collected and the RSE of CPUE-S is ≤ 25 (the anticipated effort to meet both sampling objectives is 12-15 stations with 80% confidence). Exclusive of the original 12 random stations, three additional random stations will be pre-determined in the event some extra sampling is necessary. If failure to achieve either objective has occurred after one night of sampling and objectives can be attained with 6-12 additional random stations, another night of effort will be expended.

Channel Catfish: The 2007 creel survey indicated Channel Catfish angling comprised 4.0% of total angling effort (third to Largemouth Bass and anglers fishing for anything). Total directed effort for this species was 4,481 at 1.9 hours/acre. Gill netting total CPUE ranged from 3.8 to 17.2 fish/nn (11.5 fish/nn average) from 1999 to 2012, in a steady declining trend. These data only allowed us to determine presence or absence of the population. To collect information allowing us to monitor size structure and body condition we switched from standard gill nets, set overnight to tandem hoop nets set for two nights. The hoop net results from 2015, 2017, and 2019 indicate a low-density Channel Catfish population. Due to the low catch rates obtained by hoop netting and questions of gear efficacy, we anticipate that setting a minimum of nine tandem hoop nets, with a soak time of three nights, will achieve our sampling objective

(50 Channel Catfish >11 inches; RSE of CPUE-S ≤ 25). Sampling with hoop nets will continue biennially until 2023. A minimum of nine randomly selected tandem hoop netting sites will be sampled in summer 2021 and 2023 for three nights, but sampling will continue at random sites until 50 stock-size fish are collected and the RSE of CPUE-S is ≤ 25 (the anticipated effort to meet both sampling objectives is nine stations with 75% confidence). Exclusive of the original nine random stations, nine additional random stations will be pre-determined in the event some extra sampling is necessary. If failure to achieve either objective has occurred after one soak session, and objectives can be attained with up to nine additional random stations, another soak session of effort will be expended. A spring and summer creel survey will be conducted in 2021 to evaluate the Channel Catfish Fishery.

Sunfish and Threadfin Shad: Bluegill, Redear Sunfish, Redbreast Sunfish, Gizzard Shad, and Threadfin Shad are the primary forage at Fayette Reservoir. Like Largemouth Bass, trend data on CPUE and size structure of these sunfish have been collected biennially since 1996. Abundance of Threadfin Shad was also measured as a function of CPUE during those surveys, and will remain the main sampling objective to measure Threadfin Shad abundance. Continuation of sampling, as per Largemouth Bass above, will allow for monitoring of large-scale changes in sunfish relative abundance and size structure. Sampling effort based on achieving sampling objectives for Largemouth Bass will result in sufficient numbers of sunfish for size structure estimation (PSD and IOV; 50 stock-size fish minimum at 5-12 stations with 80% confidence) but not for relative abundance estimates (RSE ≤ 25 of CPUE-Total (CPUE-T); anticipated effort is 25-30 stations). At the sampling effort needed to achieve sampling objectives for Largemouth Bass, the expected RSE for CPUE-T is 30 for sunfish species combined. No additional effort will be expended to achieve an RSE25 for CPUE of sunfish. Instead, Largemouth Bass body condition can provide information on forage abundance, vulnerability, or both relative to predator density. Relative weight of Largemouth Bass ≥ 8” TL will be determined from their length/weight data (maximum of 10 fish weighed and measured per inch class).

Literature Cited

Anderson, R. O., and R. M. Neumann. 1996. Length, weight, and associated structural indices. Pages 447-482 in B. R. Murphy and D. W. Willis, editors. Fisheries techniques, 2nd edition. American Fisheries Society, Bethesda, Maryland.

Cummings, G. A., and M. J. De Jesus. 2012. Statewide freshwater fisheries monitoring and management program survey report for Fayette County Reservoir, 2011. Texas Parks and Wildlife Department, Federal Aid Report F-221-M-2, Austin.

Dibble, E. D., K. J. Killgore, and S. H. Harrel. 1996. Assessment of fish-plant interactions. American Fisheries Society Symposium 16:357-372

DiCenzo, V. J., M. J. Maceina, and M. R. Stimert. 1996. Relations between reservoir trophic state and Gizzard Shad population characteristics in Alabama reservoirs. North American Journal of Fisheries Management 16:888-895.

Durocher, P. P., W. C. Provine, and J. E. Kraai. 1984. Relationship between abundance of Largemouth Bass and submerged vegetation in Texas reservoirs. North American Journal of Fisheries Management 4:84-88.

Farooqi, M. A., and M. J. De Jesus. 2016. Statewide freshwater fisheries monitoring and management program survey report for Fayette County Reservoir, 2015. Texas Parks and Wildlife Department, Federal Aid Report F-221-M-3, Austin.

Gabelhouse, D. W. 1984. A length-categorization system to assess fish stocks. North American Journal of Fisheries Management 4:273-285.

Guy, C. S., R. M. Neumann, D. W. Willis, and R. O. Anderson. 2007. Proportional Size Distribution (PSD): A Further Refinement of Population Size Structure Index Terminology. Fisheries 32(7):348.

Texas Commission on Environmental Quality. 2020. Trophic classification of Texas reservoirs. 2020 Texas Integrated Report for Clean Water Act Sections 305(b) and 303(d), Austin. 15 pp.

Tables and Figures

Table 1. Characteristics of Fayette County Reservoir, Texas.

Characteristic	Description
Year constructed	1978
Controlling authority	Lower Colorado River Authority
County	Fayette
Reservoir type	Power cooling
Shoreline development index	Unknown
Conductivity	1159 µS/cm

Table 2. Boat ramp characteristics for Fayette County Reservoir, Texas, September 2019. This is a stable-level Reservoir (conservation level is 390 feet above mean sea level).

Boat ramp	Latitude Longitude (dd)	Public	Parking capacity (N)	Elevation at end of boat ramp (ft.)	Condition
Park Prairie Park	29.945867 -96.747619	Y	91	N/A	Good
Oak Thicket Park	29.947372 -96.727044	Y	96	N/A	Good

Table 3. Harvest regulations for Fayette County Reservoir, Texas.

Species	Bag limit	Length limit
Catfish: Channel and Blue Catfish, their hybrids and subspecies	25 (in any combination)	12-inch minimum
Catfish, Flathead	5	18-inch minimum
Bass: Largemouth	5[a]	16- to 24-inch slot
Crappie: White and Black Crappie, their hybrids and subspecies	25 (in any combination)	10-inch minimum

[a] Only one fish over 24 inches may be retained.

Table 4. Stocking history for Fayette County, Texas. Life stages are fry (FRY), fingerlings (FGL), advanced fingerlings (AFGL), adults (ADL) and unknown (UNK). Life stages for each species are defined as having a mean length that falls within the given length range. For each year and life stage the species mean total length (Mean TL; in) is given. For years where there were multiple stocking events for a particular species, the mean TL is an average for all stocking events combined.

Species	Year	Number	Life Stage	Mean TL (in)
Black Crappie x White Crappie	1994	111,979	FRY	0.9
	1996	120,895	FRY	0.9
	1997	118,977	FRY	0.9
	Total	351,851		
Blue Catfish	1976	27,860	UNK	0.0
	1985	6,784	FGL	2.0
	1986	12,150	FGL	2.0
	Total	46,794		
Channel Catfish	1976	96,000	AFGL	7.9
	1985	13,803	AFGL	5.0
	1986	12,070	AFGL	5.0
	2018	2,928	ADL	15.0
	2018	10,248	AFGL	9.6
	2020	123,345	FRY	0.8
	Total	258,394		
Flathead Catfish	1976	12,000		0.0
Florida Largemouth Bass	1977	96,375	FRY	1.0
	1994	208	ADL	12.0

Table 5. Objective-based sampling plan components for Fayette County Reservoir, Texas 2019 – 2020.

Gear/target species	Survey objective	Metrics	Sampling objective
Electrofishing			
Largemouth Bass	Abundance	CPUE – stock	RSE – stock ≤ 25
	Size structure	PSD, length frequency	N ≥ 50 stock
	Age-and-growth	Age at 14 inches	N = 13, 13.0 – 14.9 inches
	Condition	W_r	10 fish/inch group (max)
	Genetics	% FLMB	N = 30, any age
Bluegill [a]	Abundance	CPUE – total	RSE – stock ≤ 25
	Size structure	PSD, length frequency	N ≥ 50 stock
Redear Sunfish [a]	Abundance	CPUE – total	RSE – stock ≤ 25
	Size structure	PSD, length frequency	N ≥ 50 stock
Gizzard Shad [a]	Abundance	CPUE – total	RSE – stock ≤ 25
	Size structure	Length frequency	N ≥ 50 stock
	Prey availability	IOV	N ≥ 50
Tandem hoop netting			
Channel Catfish	Abundance	CPUE – stock	RSE – stock ≤ 25
	Size structure	PSD, length frequency	N ≥ 50 stock
	Condition	W_r	10 fish/inch group (max)

[a] No additional effort will be expended to achieve an RSE ≤ 25 for CPUE and N ≥ 50 stock of Bluegill, Redear Sunfish, and Gizzard Shad if not reached from designated Largemouth Bass sampling effort. Instead, Largemouth Bass body condition can provide information on forage abundance, vulnerability, or both relative to predator density.

Table 6. Survey of structural habitat types, Fayette County Reservoir, Texas, 2019. Shoreline habitat

type units are in miles and standing timber is acres.

Habitat type	Estimate	% of total
Natural Shoreline	13.7 miles	71.9
Rocky Shoreline	4.9 miles	25.7
Natural Shoreline with Piers and Docks	0.5 miles	2.4
Standing Timber	133.3 acres	5.6

Table 7. Survey of aquatic vegetation, Fayette County Reservoir, Texas, 2016 – 2019. Surface area (acres) is listed with percent of total reservoir surface area in parentheses.

Vegetation	2016	2017	2018	2019
Native submersed	16.3 (0.70)	129.3 (5.39)	57.7 (2.40)	39.3 (1.60)
Native floating-leaved	1.8 (0.07	2.8 (0.12)	0.9 (0.04)	1.3 (0.05)
Native emergent				44.4 (1.85)
Non-native				
Eurasian watermilfoil (Tier III)*				
Hydrilla (Tier III)*	6.3 (0.30)	30.3 (1.26)	16.6 (0.70)	1.5 (0.06)

* Tier III is Watch Status

Gizzard Shad

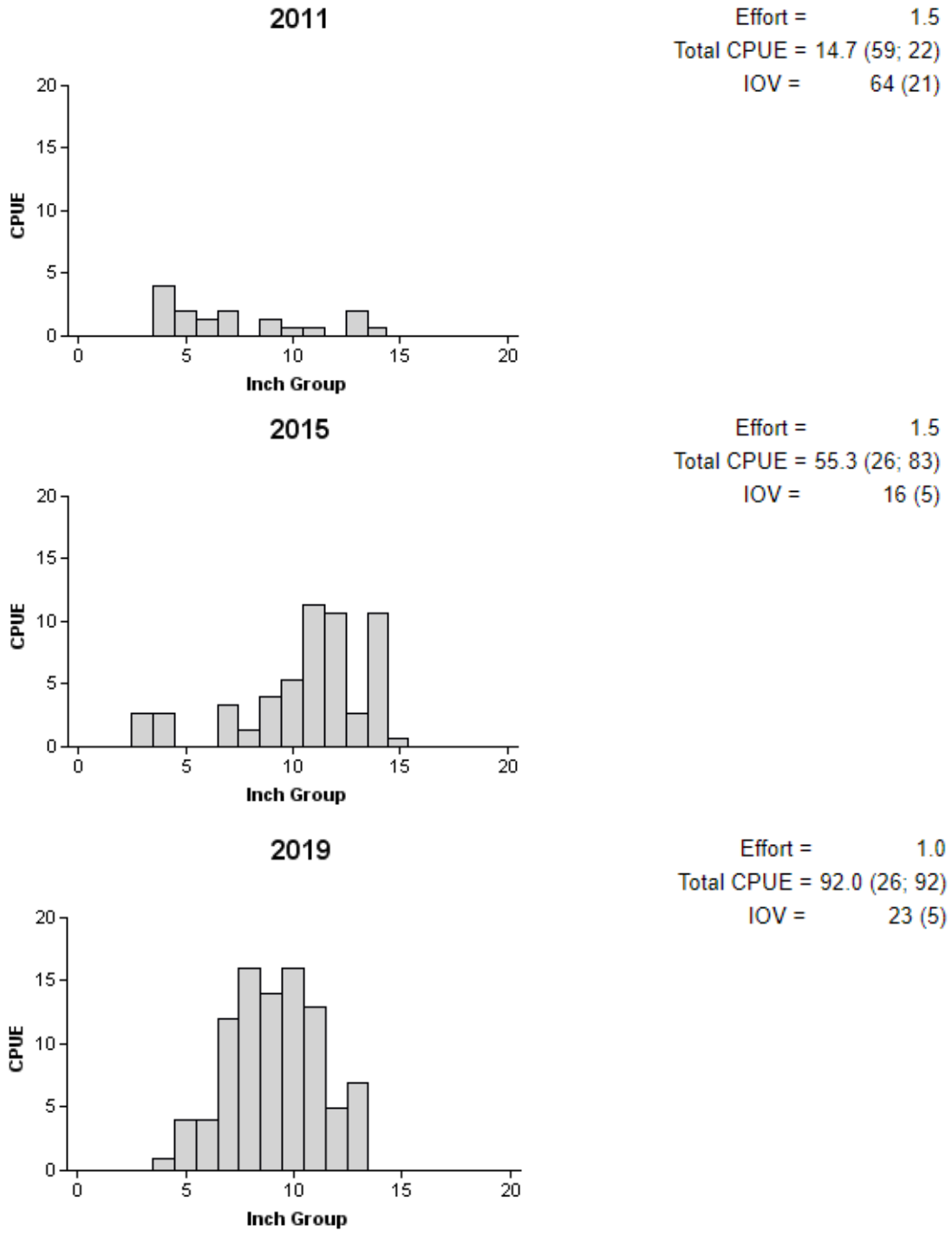


Figure 1. Number of Gizzard Shad caught per hour (CPUE) population indices (RSE and N for CPUE and SE for IOV are in parentheses) for fall electrofishing surveys, Fayette County Reservoir, Texas, 2011, 2015 and 2019.

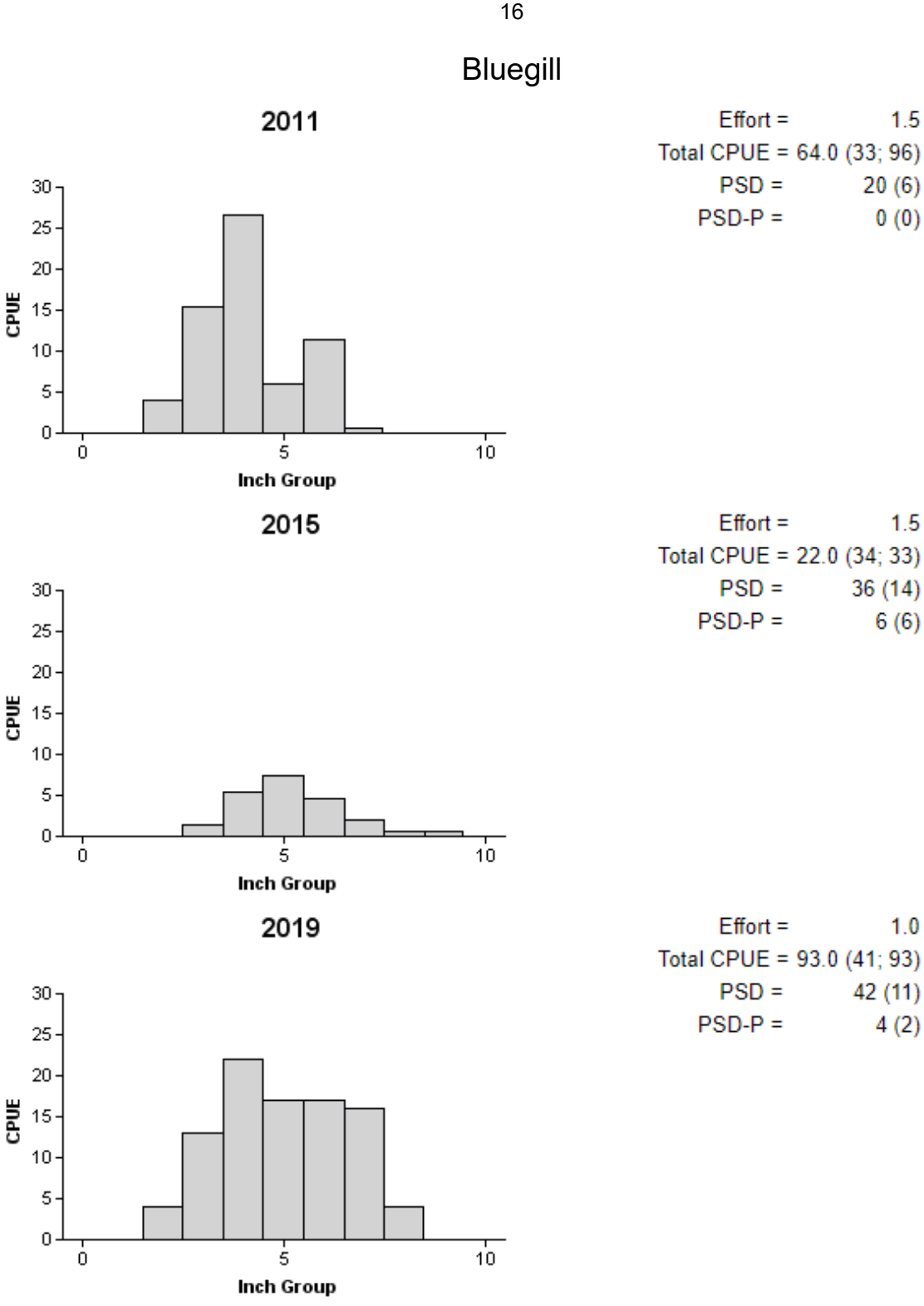


Figure 2. Number of Bluegill caught per hour (CPUE) population indices (RSE and N for CPUE and SE for size structure are in parentheses) for fall electrofishing surveys, Fayette County Reservoir, Texas, 2011, 2015 and 2019.

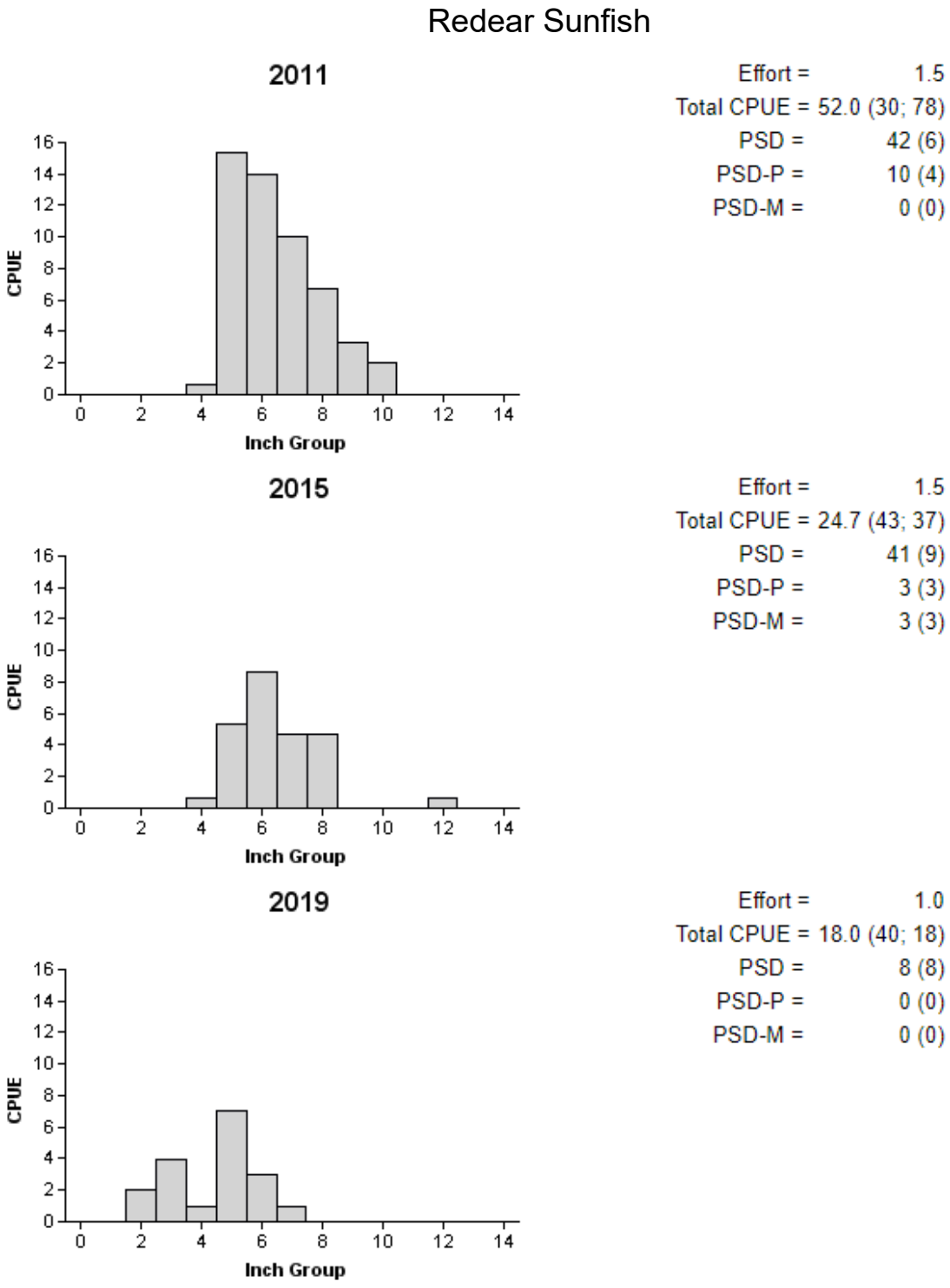


Figure 3. Number of Redear Sunfish caught per hour (CPUE) population indices (RSE and N for CPUE and SE for size structure are in parentheses) for fall electrofishing surveys, Fayette County Reservoir, Texas, 2011, 2015 and 2019.

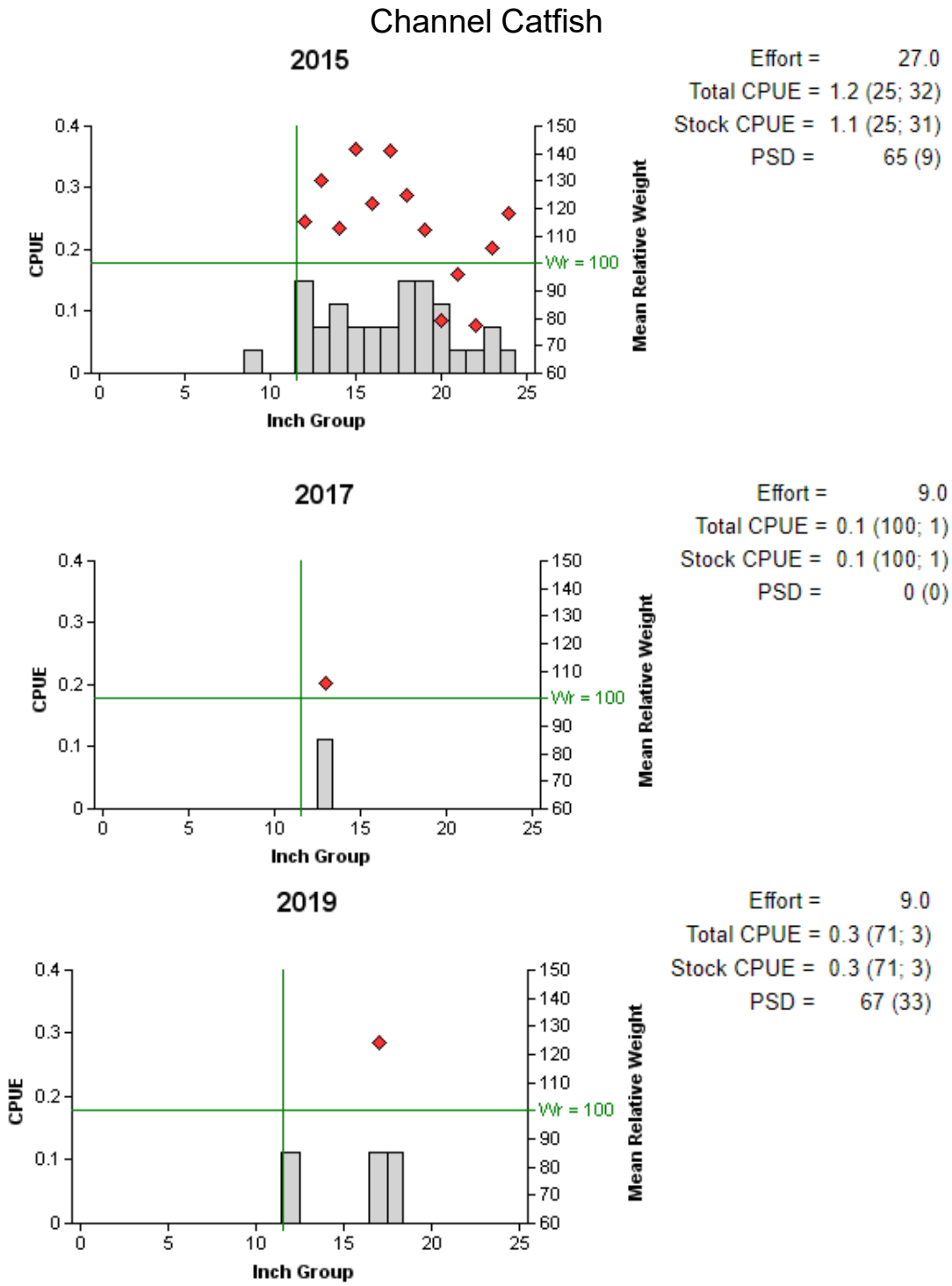


Figure 4. Number of Channel Catfish caught per tandem hoop net series (fish/series; CPUE, bars), mean relative weight (diamonds), and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for summer hoop net surveys, Fayette County Reservoir, Texas, 2015, 2017, and 2019. Vertical line represents minimum length limit at the time of sampling. The horizontal line represents optimum relative weight.

Largemouth Bass

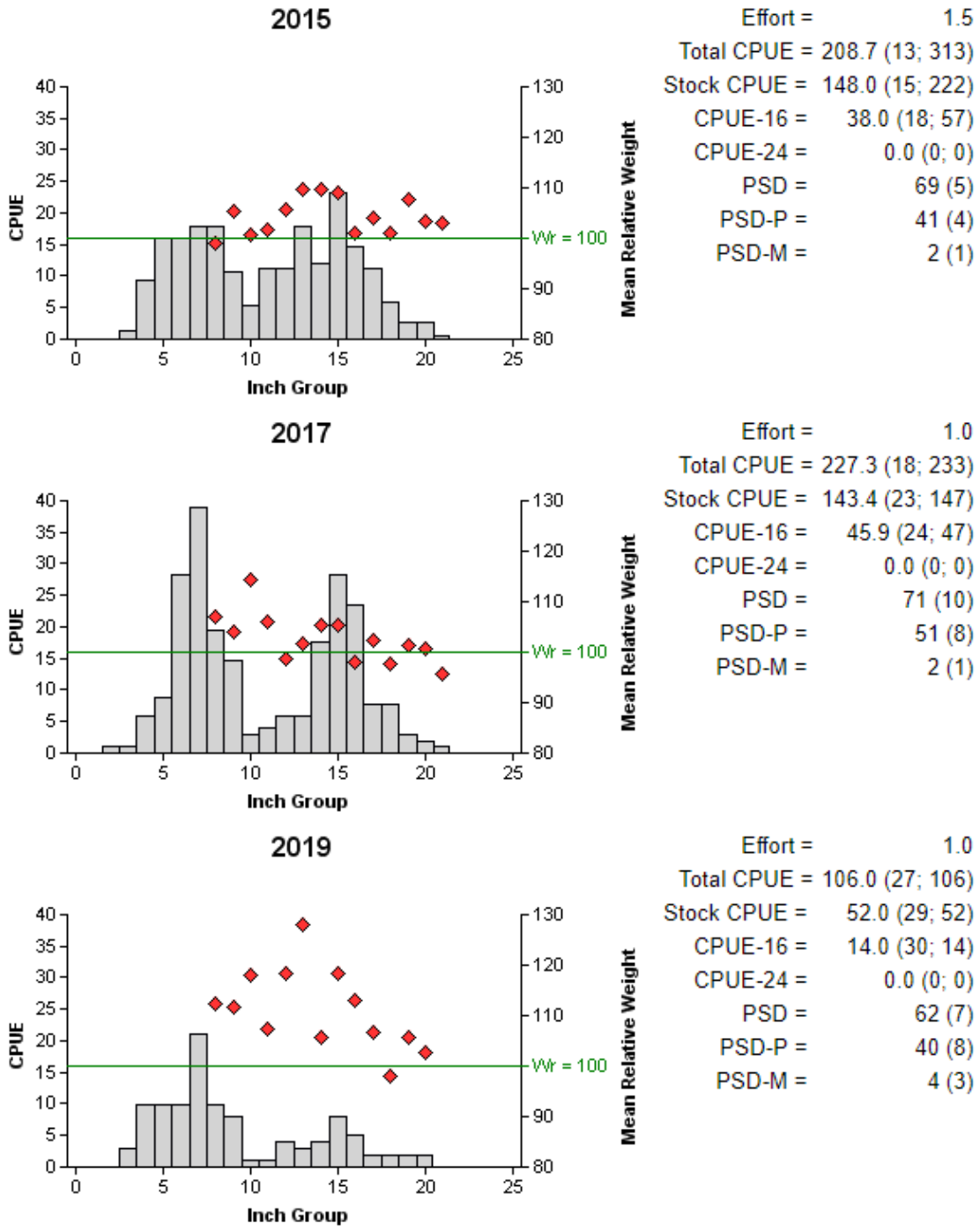


Figure 5. Number of Largemouth Bass caught per hour (CPUE, bars), mean relative weight (diamonds), and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for fall electrofishing surveys, Fayette County Reservoir, Texas, 2015, 2017 (bass-only), and 2019. The horizontal line represents optimum relative weight.

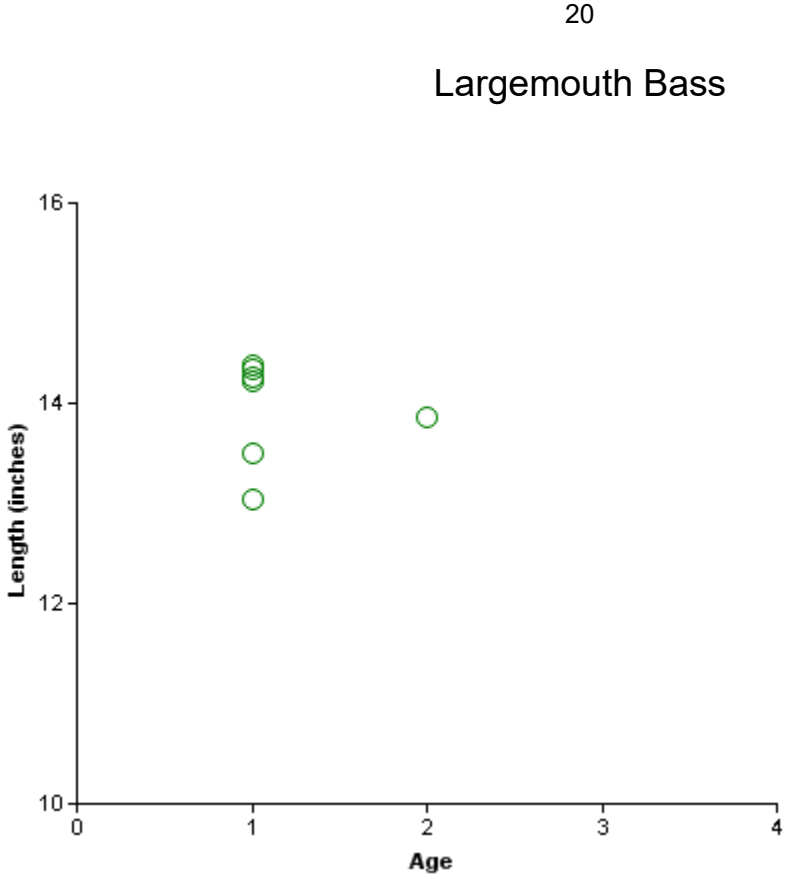


Figure 6. Length at age for Largemouth Bass (n=7) collected by electrofishing at Fayette County Reservoir, Texas, November 2019.

Table 8. Results of genetic analysis of Largemouth Bass collected by fall electrofishing, Fayette County Reservoir, Texas, 2003, 2007, 2015, and 2019. FLMB = Florida Largemouth Bass, NLMB = Northern Largemouth Bass, Intergrade = hybrid between a FLMB and a NLMB. Genetic composition was determined by electrophoresis prior to 2005 and with micro-satellite DNA analysis since 2005.

		Number of fish				
Year	Sample size	FLMB	Intergrade	NLMB	% FLMB alleles	% FLMB
2003	30	21	9	0	90.0	70.0
2007	30	12	18	0	93.7	40.0
2015	30	9	21	0	91.0	30.0
2019	30	12	18	0	94.0	40.0

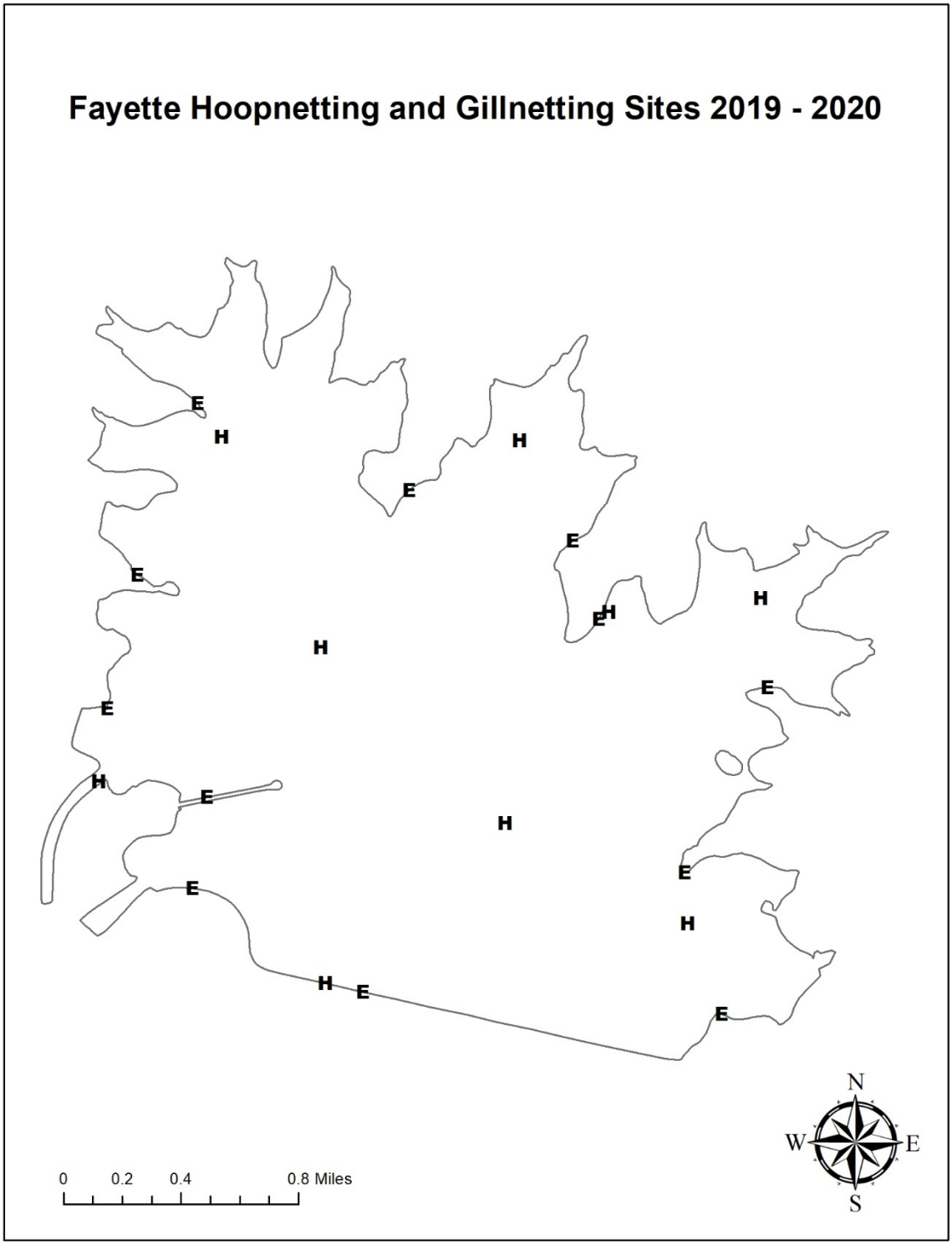
Proposed Sampling Schedule

Table 14. Proposed sampling schedule for Fayette County Reservoir, Texas. Survey period is June through May. Hoop netting surveys are conducted in the summer, and electrofishing surveys are conducted in the fall. Standard survey denoted by S and additional survey denoted by A.

	Survey year			
	2020-2021	2021-2022	2022-2023	2023-2024
Angler Access				S
Structural Habitat				S
Vegetation		A		S
Electrofishing – Fall		A		S
Electrofishing – Spring				
Electrofishing – Low frequency				
Trap netting				
Gill netting				
Baited tandem hoop netting		A		S
Creel survey		S		
Report				S

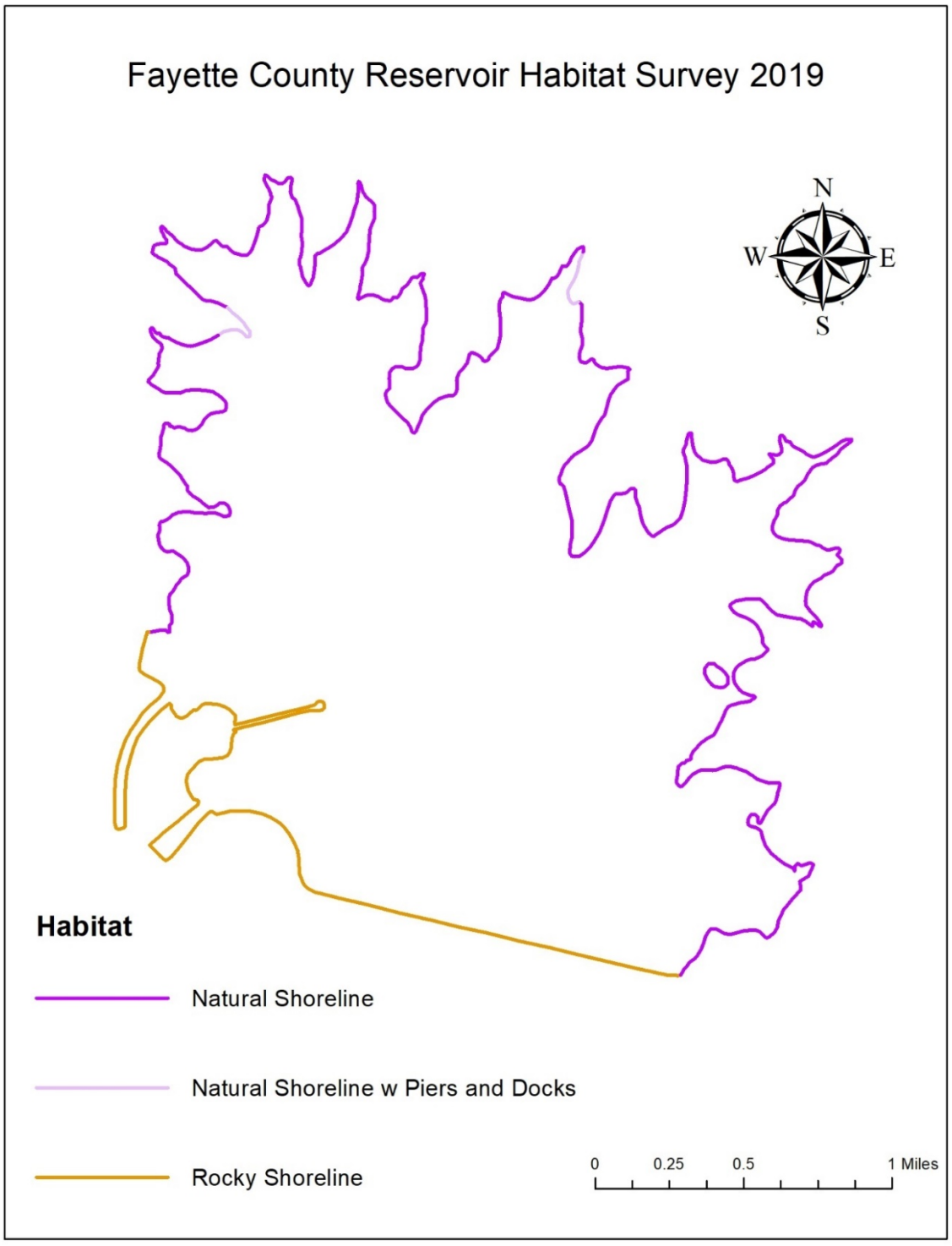
APPENDIX A

Location of sampling sites, Fayette County Reservoir, Texas, 2019. Hoop net and electrofishing stations are indicated by H and E respectively. This is a stable-level reservoir (390 ft. above mean sea level).



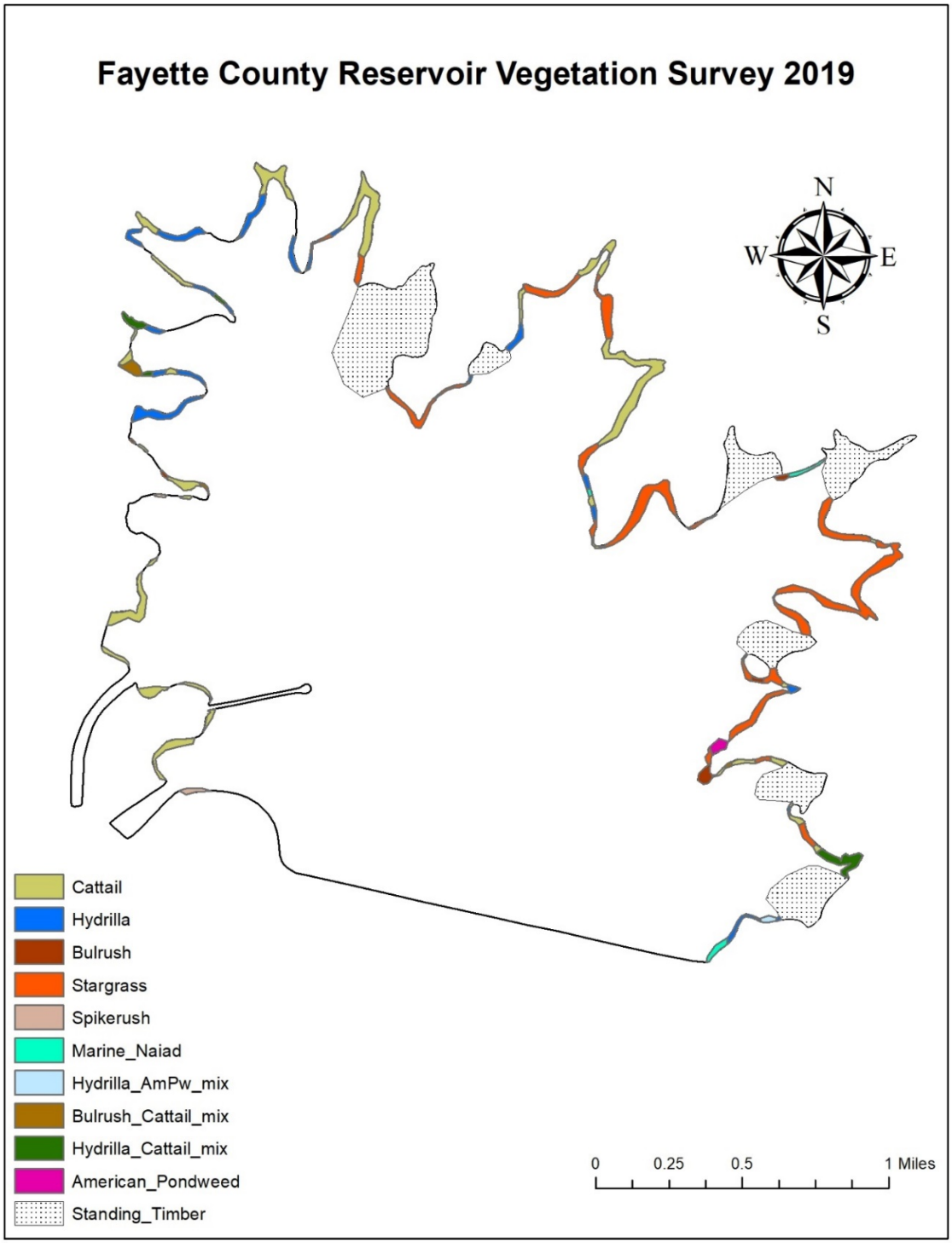
APPENDIX B

Structural habitat survey map for Fayette County Reservoir, Texas, September 2019.



APPENDIX C

Aquatic vegetation survey coverage map for Fayette County Reservoir, Texas, September 2019.



APPENDIX D

	Electrofishing		Hoop Netting	
Species	CPUE	N	CPUE	N
Gizzard Shad	92.0 (26)	92		
Threadfin Shad	63.0 (62)	63		
Channel Catfish			0.3 (71)	3
Green Sunfish	2.0 (100)	2		
Bluegill	93.0 (41)	93		
Redear Sunfish	18.0 (40)	18		
Largemouth Bass	106.0 (27)	106		
Rio Grande Cichlid	10.0 (100)	10		
Tilapia	18.0 (62)	18		

Number (N) and catch rate (CPUE, RSE in parentheses) of all target species collected from all gear types from Fayette County Reservoir, Texas, 2019. Sampling effort was nine net-nights for hoop netting and 1 hour for electrofishing.

APPENDIX E

Summary of aquatic vegetation surveys, Fayette County Reservoir 2007 – 2019

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Total Acres	241	172	185	73		129	43	47	92	25	163	75	103
Percent Coverage	10	7	7	3	-	5	2	2	4	1	6	3	4
Dominant Species	MN	MN	MN	MN/H Mix	-	MN	MN	MN	MN	MN	WS	MN	CT/WS
Acres	232	162	140	63	-	68	27	23	42	11	69	48	38/37
Coverage	10	7	6	3	-	1	1	2	0.5	3	2	2	2

MN = Marine naiad

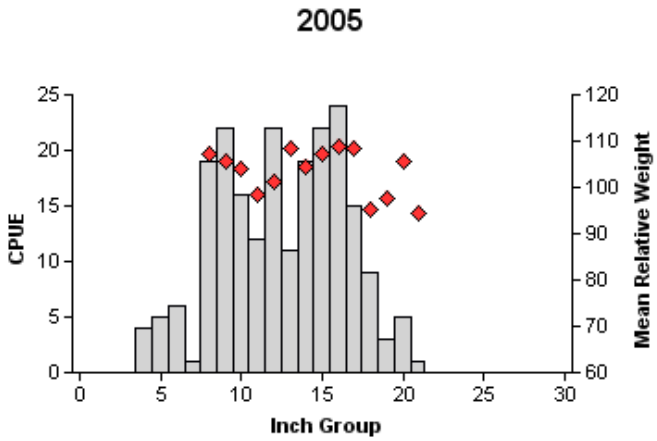
MN/H = Marine naiad and hydrilla mix

WS = Water stargrass

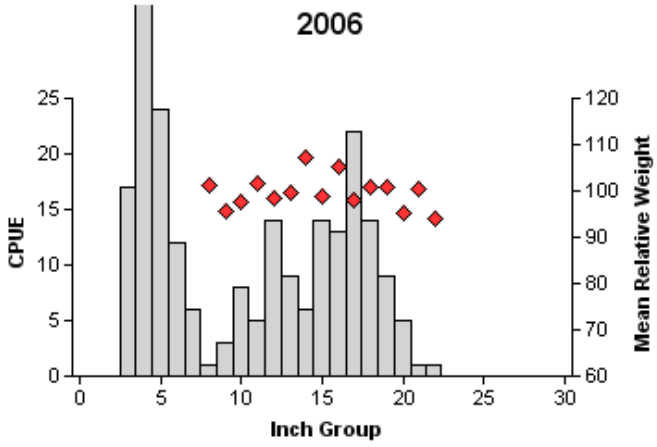
CT = Cattail

APPENDIX F

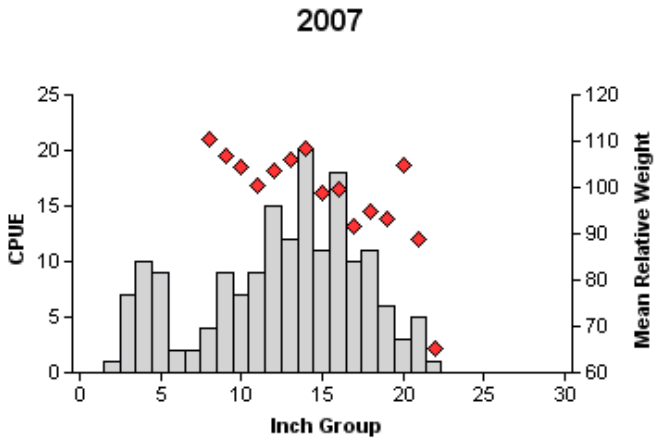
Largemouth Bass electrofishing data, Fayette County Reservoir 2005, 2006, 2007



Effort = 1.0
Total CPUE = 216.0 (15; 216)
Stock CPUE = 200.0 (17; 200)



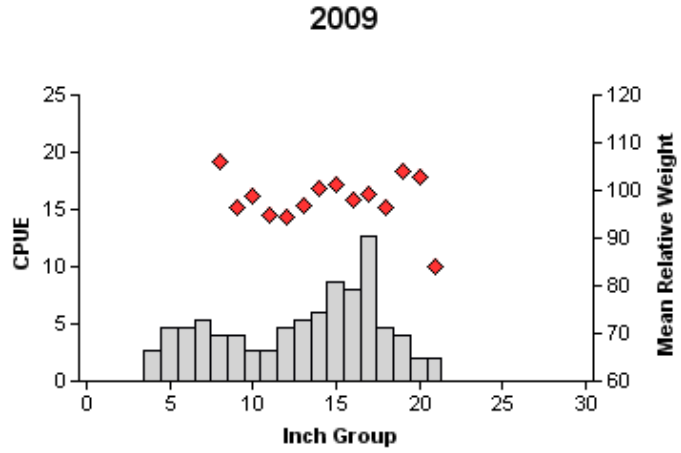
Effort = 1.0
Total CPUE = 234.0 (30; 234)
Stock CPUE = 125.0 (13; 125)



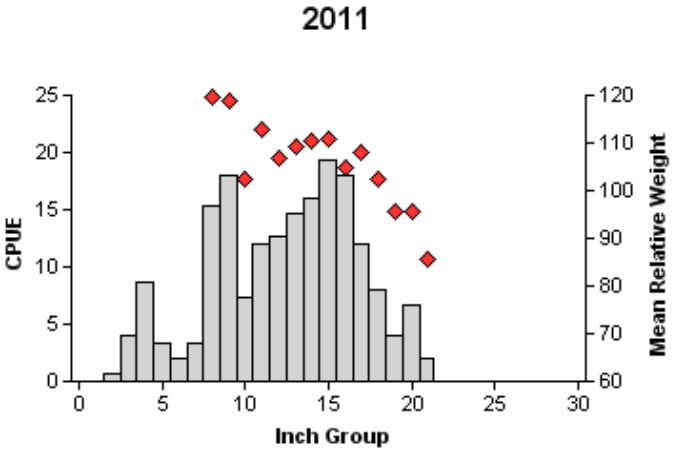
Effort = 1.0
Total CPUE = 172.0 (16; 172)
Stock CPUE = 141.0 (17; 141)

APPENDIX F (Cont.)

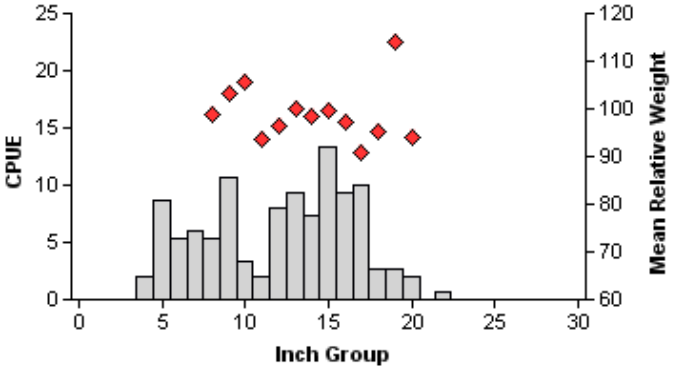
Largemouth Bass electrofishing data, Fayette County Reservoir 2009, 2011, 2013



Effort = 1.5
Total CPUE = 88.7 (17; 133)
Stock CPUE = 71.3 (20; 107)



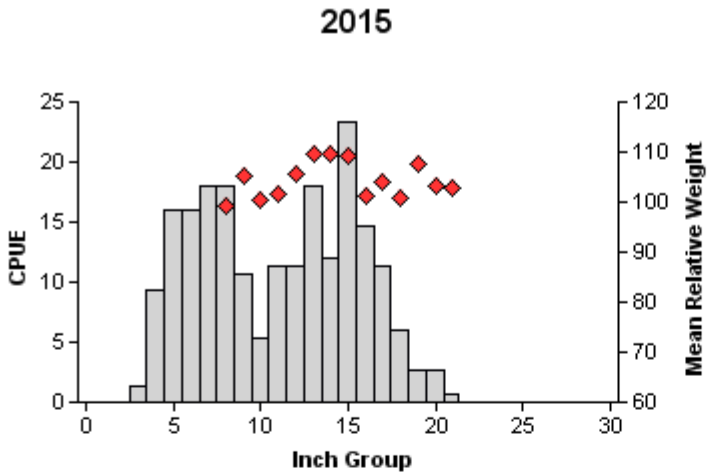
Effort = 1.5
Total CPUE = 188.0 (15; 282)
Stock CPUE = 166.0 (17; 249)



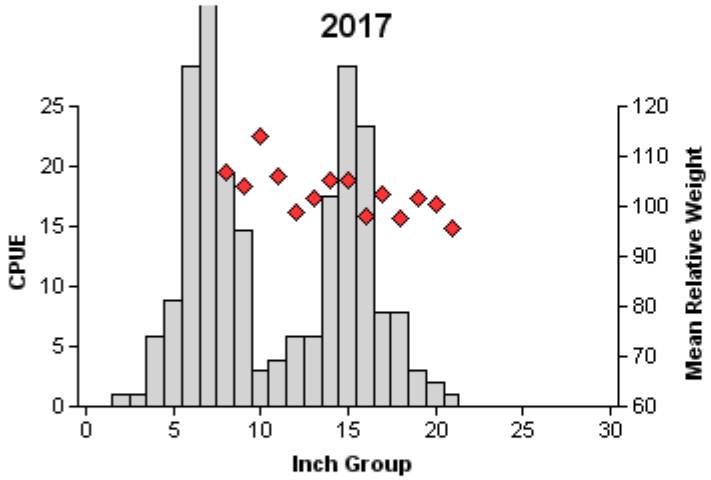
Effort = 1.5
Total CPUE = 108.7 (16; 163)
Stock CPUE = 86.7 (18; 130)

APPENDIX F (Cont.)

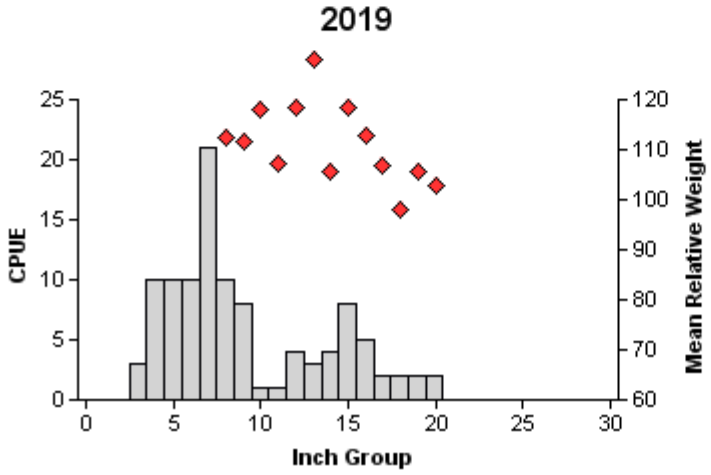
Largemouth Bass electrofishing data, Fayette County Reservoir 2015, 2017, 2019



Effort = 1.5
Total CPUE = 208.7 (13; 313)
Stock CPUE = 148.0 (15; 222)



Effort = 1.0
Total CPUE = 227.3 (18; 233)
Stock CPUE = 143.4 (23; 147)



Effort = 1.0
Total CPUE = 106.0 (27; 106)
Stock CPUE = 52.0 (29; 52)

APPENDIX G

The catch per unit effort (fish/h) of juvenile Largemouth Bass (< 8 inches) from 2005 to 2019, Fayette County Reservoir.

	2005	2006	2007	2009	2011	2013	2015	2017	2019
Juvenile CPUE	16	109	31	17	22	22	60	83	54



Life's better outside.®

In accordance with Texas State Depository Law, this publication is available at the Texas State Publications Clearinghouse and/or Texas Depository Libraries.

© Texas Parks and Wildlife, PWD RP T3200-1292 (08/20)

TPWD receives funds from the USFWS. TPWD prohibits discrimination on the basis of race, color, religion, national origin, disability, age, and gender, pursuant to state and federal law. To request an accommodation or obtain information in an alternative format, please contact TPWD on a Text Telephone (TDD) at (512) 389-8915 or by Relay Texas at 7-1-1 or (800) 735-2989. If you believe you have been discriminated against by TPWD, please contact TPWD or the U.S. Fish and Wildlife Service, Office for Diversity and Workforce Management, 5275 Leesburg Pike, Falls Church, VA 22041.

ATTACHMENT: FPP-TECH-17 Existing Entrainment Studies

The Fayette Power Project (FPP) is a coal-fired power plant located on Lake Fayette near La Grange, Texas. Lake Fayette is a 2,400-acre impoundment that was created in the late 1970s to act as a cooling lake for the FPP. FPP utilizes a closed-cycle recirculating system (CCRS) to achieve Best Technology Available (BTA) for impingement. The CCRS also serves as an entrainment technology because water in the lake is recirculated for continual use as plant cooling water.

Entrainment performance studies have not been performed at FPP. To find other entrainment studies that might be representative of FPP's operation, LCRA performed an internet search for publicly available studies. Searches included:

- Environmental Protection Agency (EPA) docket related to the 316(b) rule;
- Electric Power Research Institute (EPRI) website;
- Nuclear Regulatory Commission (NRC) website; and
- general internet search

Other studies considered included:

- Desalination Plant Intakes: Impingement and Entrainment Impacts and Solutions (WateReuse Association Desalination Committee, 2011)
- Entrainment Survival: Status of Technical Issues and Role in Best Technology Available (BTA) Selection (EPRI, 2009)
- Impingement and Entrainment Survival Studies: Technical Support Document (EPRI, 2005)
- Review of Entrainment Survival Studies: 1970-2000 (EPRI, 2000)
- Entrainment-related studies available on the Nuclear Regulatory Commission website

Although the above studies provide some relevant information, the following two studies were identified as having greater relevance to FPP operations because they examine the impacts that Texas electric generating facilities with recirculating cooling water systems with reservoirs have on fish and aquatic life.

<u>Entrainment Studies</u>

Study Title: *Evaluating Fish Impingement and Entrainment at the Comanche Peak Steam Electric Station (Bauml, George A., Thesis for the Degree of Master of Science, 1996).*

Relevance: This study was identified as having relevance to the FPP facility because it was performed at a steam electric generating facility located in Texas that utilizes a fresh-water cooling water impoundment that recirculates cooling water. The study examined fish communities that have similarities to the existing fish communities in Lake Fayette. The Texas Parks and Wildlife Department's 2019 Fisheries Management Survey Report describes the fish community in Lake Fayette as including blue gill, gizzard shad, and threadfin shad as the predominant prey species, and channel catfish and largemouth bass as predator species. The results of the study provide information regarding how fish communities may be affected by a steam electric generating facility that uses a closed cycle recirculating system.

The definition of entrainment (*40 CFR § 125.92(h)*) "means any life stages of fish and shellfish in the intake water flow entering and passing through a cooling water intake structure and into a cooling water

system, including the condenser or heat exchanger." The following study took sampling data from in front of the intake structures and assumed 100% mortality of entrained ichthyoplankton and maximum intake operation at the plant. The data should be interpreted as providing the worst-case scenario for impacts to ichthyoplankton that are entrained, i.e. pass through the intake structure and into the cooling water system.

Study Summary: The following summary is quoted directly from the document.

"This study was designed to determine if impingement and entrainment by cooling water intake at the Comanche Peak Steam Electric Station have an adverse impact upon the Squaw Creek Reservoir fish population. The yearly impingement of fish was estimated to be 262,994 of 14 species. The threadfin shad (*Dorosoma petenense*) accounted for 96% of this total. Entrainment of eggs and larvae for a five-month period was estimated to be 15,989,987 and 42,448,794 respectively. Two fish population studies were performed on Squaw Creek Reservoir to help assess impact. It was determined that the losses due to impingement and entrainment have no adverse impact upon the fish population of Squaw Creek Reservoir."

Study Description (as it pertains to entrainment):

The objective of the entrainment study was to determine potential impacts to the reservoir's fish populations by identifying what organisms were being entrained, the specifics involved, and to estimate the loss of eggs, larva, and juveniles.

As described in the study, Squaw Creek Reservoir (SCR) is a 3,272-acre impoundment located on Squaw Creek in Hood and Somervell Counties, Texas. The reservoir was created in 1977 to serve as a cooling reservoir for the Comanche Peak Steam Electric Station (CPSES), which is a two-unit power plant with a net rating of 2,300 Megawatts (MW). Secondary water uses of the reservoir include recreational fishing. The study identified major predator species of fish as largemouth bass, smallmouth bass, white bass, white crappie, and channel catfish. The major forage species included threadfin shad, bluegill sunfish, gizzard shad, and inland silversides.

The entrainment study included weekly sampling from April 1994 to August 1994. The entrainment data was collected by sampling in front of the trash rakes in front of the intake structures. The percent composition of ichthyoplankton collection by genus was determined for eggs, larvae, and juveniles. A simple population modeling approach was used to estimate the potential impact on fish populations. The model converts the number of ichthyoplankton entrained into the number of adult fish that would have been produced had the ichthyoplankton not been entrained. Approximately 29.7 million eggs, 44.4 million larva, and 1.3 million juveniles that represented six genera were estimated to be entrained during the study period. As described in the study, the model estimated that the adult loss as a result of the eggs, larva, and juveniles entrained ranged from 22 adults for largemouth bass to 300,000 adults for threadfin shad. See Table 1 for the model results for estimated adult loss.

Estimated Adult Loss
Model Results

Species	Number Entrained	Lifetime Fecundity	Survival Egg to Larv	Larv From One Female	Survival Larv to Adult	Number of Adults Lost
FWD (Eggs)	5,610,864	1,800,000	0.005	6,500	0.00031	2
FWD (Larv)	4,588,465	1,800,000	0.005	6,500	0.00031	1,412
ISS (Eggs)	922,635	95,000	0.005	475	0.00421	2
ISS (Larv)	730,549	95,000	0.005	475	0.00421	3,287
TFShad	3,586,877	9,550	0.005	48	0.04188	150,236
GZShad	3,586,877	1,560,000	0.005	7,800	0.00026	920
WBass	5,365,234	3,390,000	0.005	16,950	0.00012	633
LMBass	4,437,467	550,000	0.750	412,500	0.00000	22
WCrappie	12,782,933	462,000	0.750	346,650	0.00001	74
BGSunfish	14,834,933	97,000	0.750	72,750	0.00003	409

Table 1. The results of the equivalent adult loss model and the numbers used in the calculation of these results.

The impingement and entrainment estimates were then evaluated according to the species' ability to compensate for its losses. For example, the study notes that the gizzard shad likely accounts for the large percentage of the 7 million *Dorosoma* genus larva entrained. Although losses are large, the conclusion remains that there is not a significant impact because the fish are a forage species with low survival rates even as adults. In addition, the species is adapted to compensating for enormous losses by maintaining their populations.

Conclusion: The following conclusion is quoted directly from the document.

"The overall conclusion of this thesis is that losses due to impingement and entrainment at the CPSES intake structure are not sufficient to cause adverse impact to the fish community in SCR."

The Comanche Peak study can be viewed in its entirety at the following internet location:
https://digital.library.unt.edu/ark:/67531/metadc278497/m2/1/high_res_d/1002656817-bauml.pdf

Study Title: *Aquatic Ecology-Main Cooling Reservoir and Circulating Water Intake Structure Study Unit 3 and 4 Licensing Project (ENSR, Corporation, August 2008, Prepared for STP Nuclear Operating Company, Wadsworth, Texas).*

Relevance: This study was identified as having relevance to the FPP facility because it was performed at a steam electric generating facility located in the Colorado River basin in Texas that utilizes a cooling water impoundment that recirculates cooling water. The fish and aquatic life in the reservoir is heavily influenced by estuarine species due to the proximity of the South Texas Project (STP) to the Texas coast. The results of the study are relevant regarding how fish communities, whether fresh-water or estuarine, are affected by a steam generating facility that uses a closed cycle recirculating system. In terms of the definition of entrainment, samples were collected in front of the intake structure during the

entrainment part of the study. The data can be interpreted to assume that the organisms collected in the study would have been entrained in the cooling water system (would have passed through the cooling water intake structure into the cooling water system).

Summary: The following summary is quoted directly from the study document.

"This report summarizes the results of ENSR's aquatic assessment of the Main Cooling Reservoir (MCR) and the Circulating Water Intake Structure (CWIS) for the circulating water system for Units 1 and 2. The study was conducted in conjunction with the STP Nuclear Operating Company's Unit 3 and Unit 4 Combined Operating License (COL) application development for the proposed expansion project located proximal to Units I and 2 at the South Texas Project Electric Generating Station (STPEGS) in Matagorda County, Texas. From May 2007 to April 2008, biological samples were collected from the MCR and the CWIS at the STPEGS facility. The objective of the aquatic assessment was to collect current data over a one-year period to characterize the aquatic species within the MCR, and to evaluate impingement and entrainment impacts to establish, to the extent possible, relationships between the presence of aquatic organisms and the current STPEGS intake design and operating parameters."

Study Description (as it pertains to entrainment):

As described in the study, the STPEGS facility utilizes an approximately 7,000-acre reservoir called the Main Cooling Reservoir (MCR) to provide closed-cycle cooling water for up to four generating units, which produce approximately 2,700 MW. During the study period, two generating units were operational.

The study assessed the aquatic species of the MCR and the CWIS. For the MCR part of the study, the samples were collected over four quarterly sampling periods through one year using gill nets, trawls, beach seines, and plankton nets. The sampling occurred at fixed stations located in stratified areas of the reservoir. The objective was to characterize the aquatic species in the reservoir. For the CWIS part of the study, the study was designed to determine if daily or seasonal patterns were affected by the operation of the circulating water pump and intake screens. For the CWIS part of the study related to entrainment, samples were collected from behind the trash bars using plankton nets during the time period from May 2007 to April 2008. Samples were collected four times during a 24-hour period.

Data collected during the study show high numbers of certain aquatic organisms while the number of different species was low to marginal. Healthy populations of threadfin shad, silversides, blue catfish, common carp, ladyfish and Atlantic croaker were identified in the reservoir.

The data from the CWIS part of the study show that a low number of fish species were entrained (<1%) at the circulating water intake structure. A total of 207,696 organisms were entrained, which represented 9 different fish families and 12 different classes of invertebrates. See Table 10 below for the species collected. The mud crab comprised 67% of the organisms entrained while ichthyoplankton species comprised less than 1% of the total composition of entrained organisms. The mud crab species is common on the Texas coast and is known to occur in estuarine and freshwater rivers and reservoir systems. Entrainment rates were highest during the spring months.

Table 10. Species collected during entrainment sampling in the MCR Circulating Water Intake Structure, 2007-2008.

Common Name	Scientific Name	Total
Finfish		
Anchovy	*Engraulid* sp.	30
Clupeid	*Clupeid* sp	544
Gobies	*Gobi* spp.	61
Naked goby	*Gobiosoma bosc*	5
Silversides	*Atheriniformes spp.*	2
Silversides	*Atheriniformes spp.*	169
Silversides	*Atheriniformes spp.*	30
Fish egg	Fish egg	103
Needlefish	*Beloniformes spp.*	3
Flying fish (eggs)	*Exocoetidae* sp. (eggs)	307
Egg Complex	*Carangidae-Labridae-Sciaenidae*	8
Perch-like fish	*Perciformes*	6
Wrasse fishes	*Labridae* sp.	3
	Subtotal	1,271
Invertebrates		
Amphipod	Amphipod spp.	141
Amphipod	*Cerapus* sp.	4
Brachyuran decapod	*Brachyura sp. (zoea)*	353
Fish Lice	*Branchiura spp.*	399
Cladoceran	*Cladocera spp.*	800
Copepod	*Copepoda spp.*	6,588
Decapoda	*Rhithropanopeus harrissi*	140,192
Decapoda	*Panopeidae sp.*	10,798
Decapoda Zoea	Decapoda	31,919
Harpacticoid copepod	Copepoda	12,212
Insect sp.	Insecta	24
Tongue biters	Isopoda	16
Mollusk	*Bivalvia* sp.	1
Mysid shrimp	*Mysida sp.*	2,660
Midge (sp.1)	Diptera	32
Mites/Ticks	*Acari*	12
Midge	*Chironomidae* sp.	78
Polychaete	*Nereis* sp.	4
Seed Shrimp	Ostracoda	78
Shrimp	*Caridea*	1
Unidentified		113
	Subtotal	206,425
	Total	**207,696**

Conclusion: The following conclusion is quoted directly from the document.

"Based on data collected from this combined study it is evident that MCR supports a very diverse aquatic system both for fishes and macroinvertebrates. Although the reservoir functions as a cooling water system, the day-to-day withdrawal of water through the CWIS and resultant influx of heated discharge water does not appear to have a negative impact on the fish and macroinvertebrate communities living in the MCR."

The STP study can be viewed in its entirety at the following internet location:
https://www.nrc.gov/docs/ML0908/ML090860875.pdf
(Study begins on page 48 of the document.)

Lower Colorado River Authority
FAYETTE POWER PROJECT
Post Office Box 519 La Grange, TX 78945 (979) 249-3111

JOB _____
SHEET NO. 1 OF 5
CALCULATED BY _____ DATE _____
CHECKED BY _____ DATE _____
SCALE _____

Outfall 001 Flow Calculation Methodology. The location of the actual calculations from 2005 is unknown. This is a summary of the method used to determine the flow.

Assumptions:

① Pumps are in like-new condition and operate on their OEM pump curves.

② Discharge pressure gages used at the time were reasonably accurate.

③ Velocity Head is 2 ft. This is a reasonable value per pump OEM manuals.

Unit 1 Circulating Water Pumps Avg. Disch Press = 8 psig

Lake Level 390 ft, Pump discharge centerline = 405.67 ft

$$\text{Total Head} = (8\text{ psig})\left(2.3066\ \frac{\text{ft}}{\text{psig}}\right) + (405.67 - 390) + 2 \leftarrow \text{vel. head}$$

[Discharge Head] + [Lift] + [Velocity Head] (Lift ↑)

Total Head = 36.1 ft

Read Pump Curve (attached)

88,750 gpm per pump

STATE OF TEXAS
JIMMY J. POWELL
70503
LICENSED PROFESSIONAL ENGINEER

Jimmy J. Powell PE
3-13-10

DISK FILE #f 1507

Lower Colorado River Authority
FAYETTE POWER PROJECT
Post Office Box 519 La Grange, TX 78945 (979) 249-3111

JOB
SHEET NO. 2 OF 5
CALCULATED BY DATE
CHECKED BY DATE
SCALE

$\left(88{,}750\frac{gal}{min}\right)\left(\frac{60\,min}{hr}\right)\left(3\,pumps\right)\left(\frac{1}{10^6}\right) = 15.98\frac{MG}{hr}$

Unit 1 Circ Water Flow w/ 3 pumps = 15.98×10^6 gal/hr

Unit 2 Circulating Water Pumps

Avg. Disch. Press = 10 psig. Note: Unit 2 circ water lines are longer + therefore have a larger friction loss and pressure drop. This causes Unit 2 pumps to have a higher disch. pressure.

Total Head = $(10\,psig)\left(\frac{2.3066\,ft}{psig}\right) + (405.67 - 390) + 2$

Total Head = [Discharge Head] + [Lift] + [Velocity Head]

Total Head = 40.7 ft

Read Pump Curve (attached)

88,750 gpm per pump — Same as Unit 1. (see Unit 1 Calculation to MG/hr)

Unit 2 Circ Water Flow w/ 3 pumps = 15.98×10^6 gal/hr

STATE OF TEXAS
JIMMY J. POWELL
70503
LICENSED
PROFESSIONAL ENGINEER

Jimmy Powell PE
3-13-10

DISK FILE #f 1507

LCRA ENERGY • WATER • COMMUNITY SERVICES

Lower Colorado River Authority
FAYETTE POWER PROJECT
6549 Power Plant Road, La Grange, TX 78945 (979) 249-3111

JOB
SHEET NO. 3 OF 5
CALCULATED BY DATE
CHECKED BY DATE
SCALE

Unit 1 & 2 Cooling Water Pumps: Cooling Water pressure on both units was 60 psig.

Total Head = (60 psi)(2.3066) + [405.67 - 390] + 2

= [Discharge Head] + [Lift] + [Velocity Head]

Total Head = 158.4 ft ⇒ Pump Curve 5,850 gpm each

Unit 1 w/ 3 pumps:

$$\frac{(5850\ gpm)(3\ pumps)(60\ min)}{1{,}000{,}000} = 1.05\ MG/hr$$

Same for Unit 2 w/ 3 pumps = 1.05 MG/hr

Unit 3 Circulating Water Pumps Avg. Disch. Press = 8.5 psig

Pump Discharge Centerline elevation = 405.5 ft.

Total Head = [Discharge Head] + [Lift] + [Velocity Head]

$= (8.5\ psi)\left(2.3066\ \frac{ft}{psi}\right) + [405.5 - 390] + 2$

Total Head = 37.1 ft

Apply 37 ft to attached pump curve & read

7,000 gpm per pump

STATE OF TEXAS
JIMMY J. POWELL
70503
LICENSED PROFESSIONAL ENGINEER

Jimmy J. Powell PE
3-13-10

LCRA
ENERGY • WATER • COMMUNITY SERVICES

Lower Colorado River Authority
FAYETTE POWER PROJECT
6549 Power Plant Road, La Grange, TX 78945 (979) 249-3111

JOB
SHEET NO. 4 OF 5
CALCULATED BY DATE
CHECKED BY DATE
SCALE

$\frac{(71{,}000\ gpm)(60\ min)(3\ pumps)}{1 \times 10^6} = 12.78\ MG/hr$

Unit3 Circ Water Flow w/ 3 pumps = 12.78 MG/hr

Unit3 cooling water pumps

Unit3 cooling water pressure was approx. 63 psig.

Total Head = $(63\ psi)(2.3066\ \frac{ft}{psi}) + [405.5 - 390] + 2$

Total Head = 162.8 ft ⇒ Apply to pump curve gives 4500 gpm

Use of this method for calculating Unit3 cooling water flow yields an unreasonable value. 4500 gpm is much lower than the pump rating of 7600 gpm. Also, the rated condition shown on the curve does not match the Head vs. Flow line. Therefore, for Unit3 cooling water, we are basing the flow on the pump rating.

$\frac{(7600\ gpm)(3\ pumps)(60\ min)}{1 \times 10^6} = 1.37\ MG/hr$

Unit3 Cooling Water w/ 3 Pumps = 1.37 MG/hr

STATE OF TEXAS
JIMMY J. POWELL
70503
LICENSED
PROFESSIONAL ENGINEER

Jimmy J. Powell PE
3-13-10

LCRA
ENERGY • WATER • COMMUNITY SERVICES

Lower Colorado River Authority
FAYETTE POWER PROJECT
6549 Power Plant Road, La Grange, TX 78945 (979) 249-3111

JOB _____
SHEET NO. 5 OF 5
CALCULATED BY _____ DATE _____
CHECKED BY _____ DATE _____
SCALE _____

Total Flow to Outfall 001 w/ all Circulating & Cooling water pumps in service:

Unit 1 Circ Water	15.98	MG/hr
Unit 2 Circ Water	15.98	
Unit 3 Circ Water	12.78	
Unit 1 Cool. Water	1.05	
Unit 2 Cool Water	1.05	
Unit 3 Cool Water	1.37	
	48.21 MG/hr	

48.21 MG/hr x 24 = 1157 MG/day

STATE OF TEXAS
JIMMY J. POWELL
70503
LICENSED
PROFESSIONAL ENGINEER

Jimmy J Powell PE
3-13-10

EXHIBIT 16-1
CIRCULATING WATER PUMP PERFORMANCE

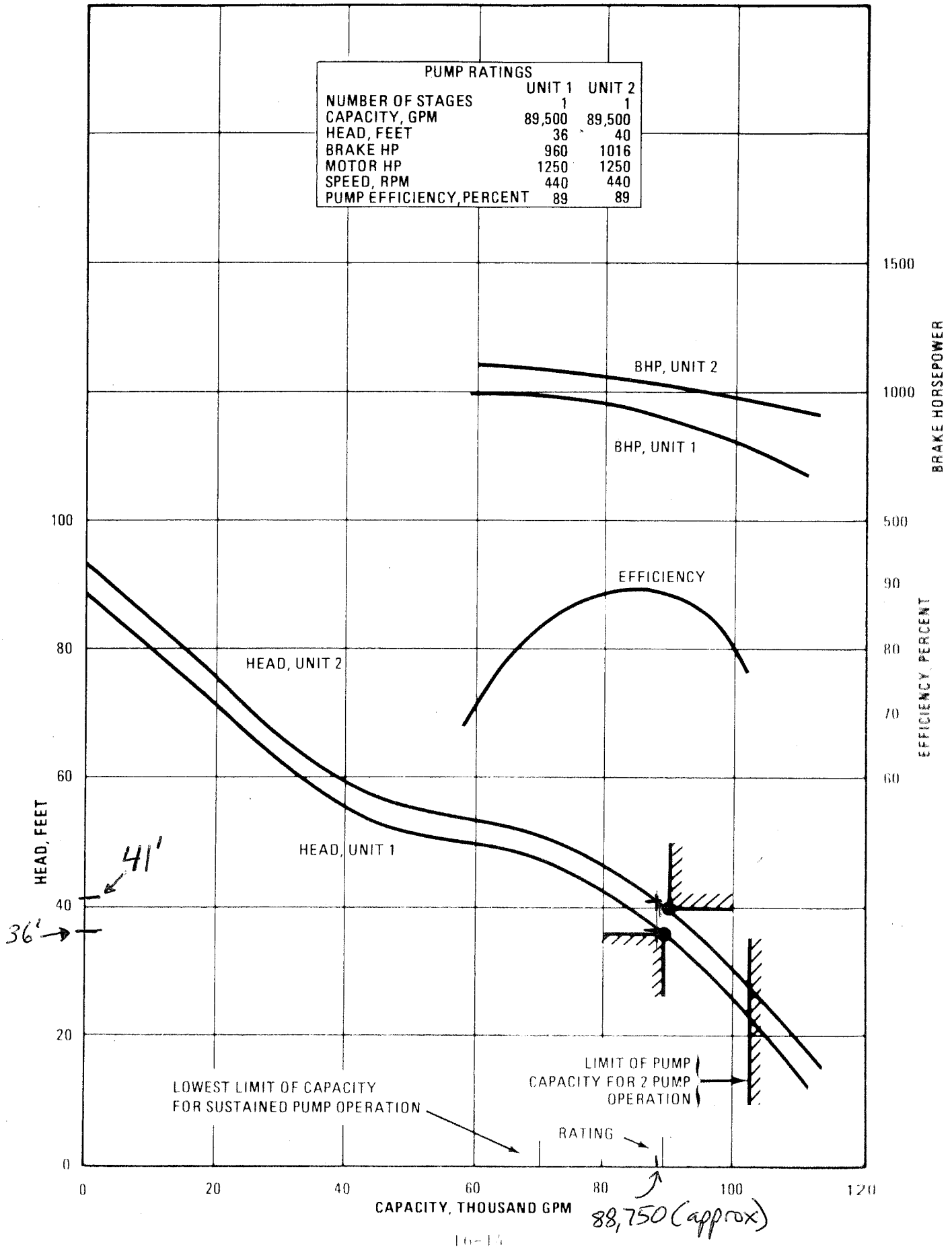
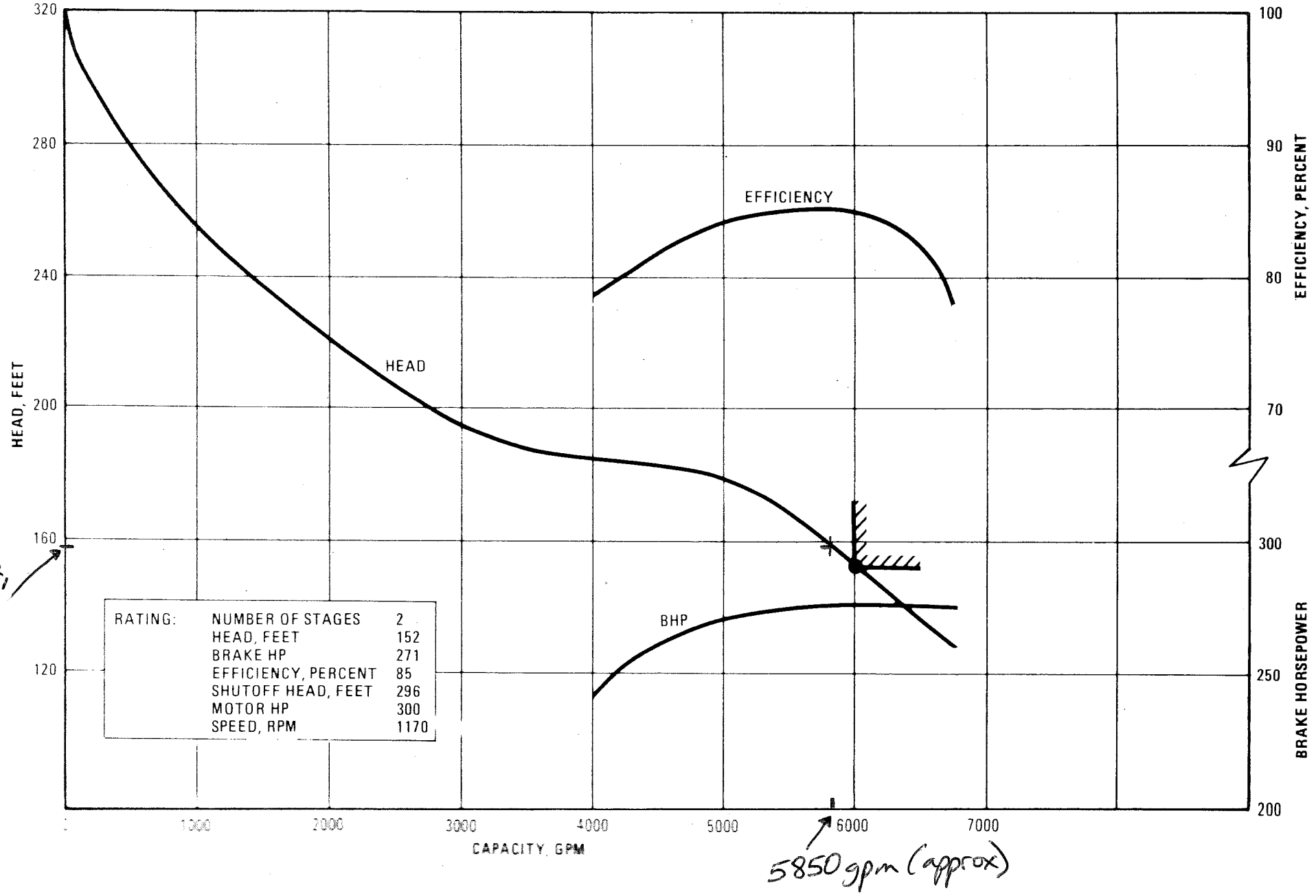
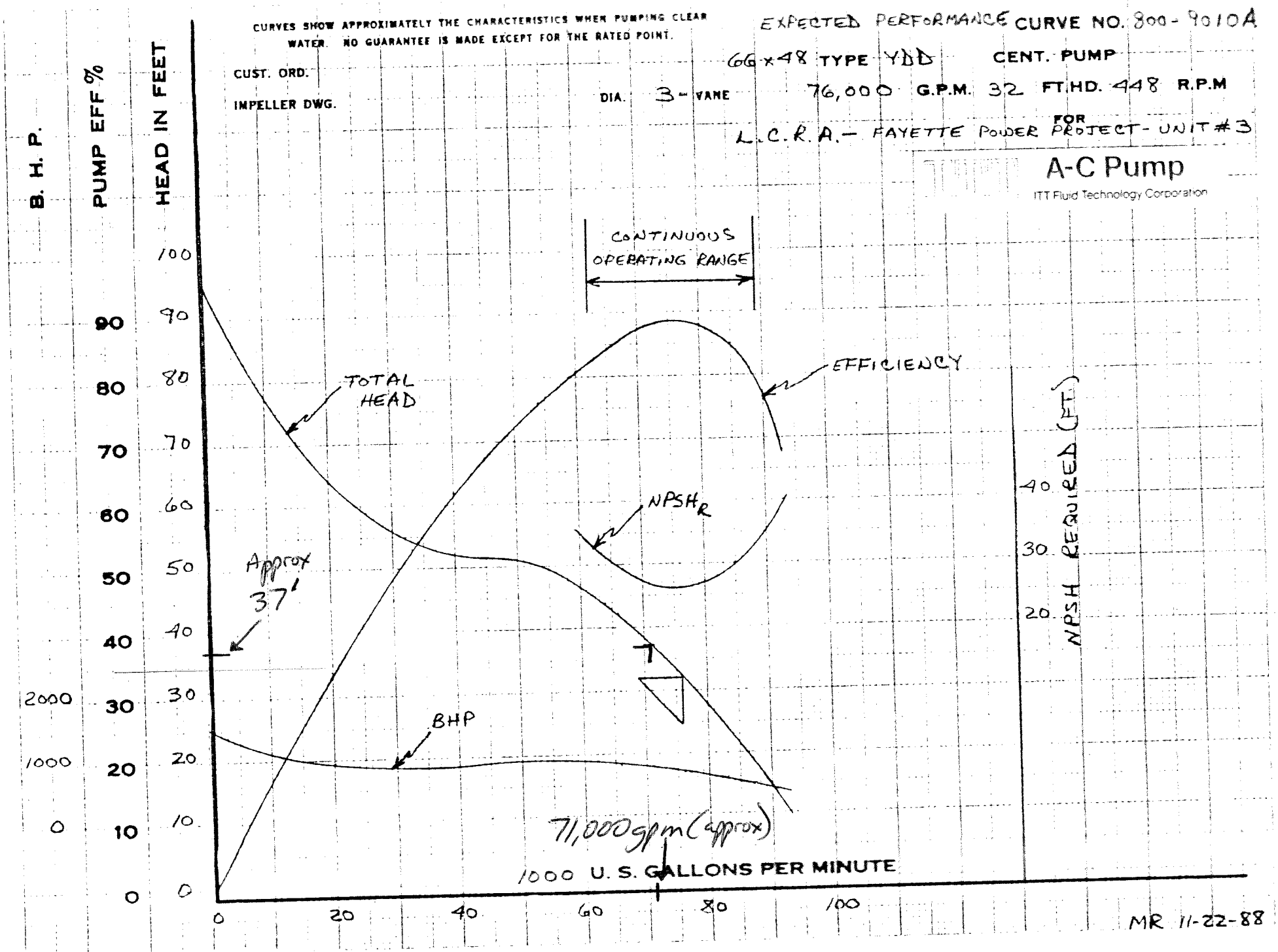


EXHIBIT 17-1

PLANT COOLING WATER PUMP PERFORMANCE



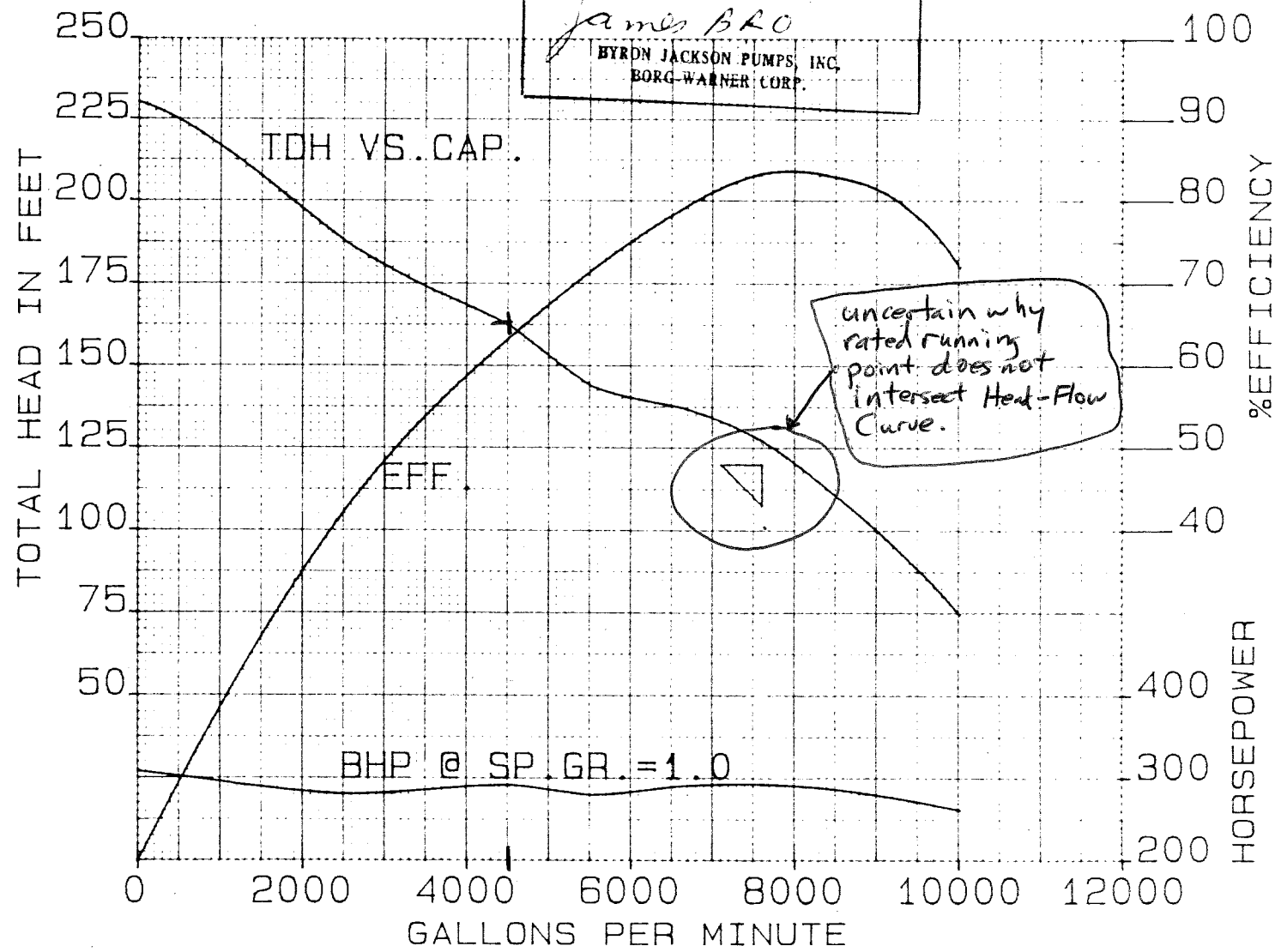

CURVES SHOW APPROXIMATELY THE CHARACTERISTICS WHEN PUMPING CLEAR WATER. NO GUARANTEE IS MADE EXCEPT FOR THE RATED POINT.
CUST. ORD.
IMPELLER DWG.
DIA. 3 - VANE
EXPECTED PERFORMANCE CURVE NO. 800-9010A
66 x 48 TYPE YDD CENT. PUMP
76,000 G.P.M. 32 FT.HD. 448 R.P.M
FOR
L.C.R.A. – FAYETTE POWER PROJECT - UNIT #3
A-C Pump
ITT Fluid Technology Corporation
B. H. P.
PUMP EFF %
HEAD IN FEET
NPSH REQUIRED (FT.)
CONTINUOUS OPERATING RANGE
TOTAL HEAD
EFFICIENCY
NPSH$_R$
BHP
Approx 37'
71,000gpm (approx)
1000 U. S. GALLONS PER MINUTE
MR 11-22-88

Byron Jackson Pump Division
BORG-WARNER CORPORATION

IMP. LIFT 1/4"

20" COL. TP

CERTIFIED CORRECT
James BRO
BYRON JACKSON PUMPS, INC.
BORG-WARNER CORP.



PUMP SIZE AND TYPE		RPM	IMP. NUMBER	VANES	EYE DIA.	EYE AREA	MAX. DIA.	TEST DIA.	UNDERFILE	STGS
23HQ	3 STG H3	880	328907	6				14-3/16"	STD #3	3H
			POLISHED							

ITEM NO.	DATA BY	DATE
	RW KD	17 MAR 86

FACTORY NO.	DRAWN BY	CUSTOMER'S ORDER NO.	POLISHED: IMP.	BOWL	MOTOR H.P. 500	PEAK EFF	T-23HQ-137
836-S-0133	SB		MATERIAL: IMP FA	BOWL JW	INT. DRIVE	PEAK EFF.	

TPDES PERMIT NO.
WQ0002105000
[For TCEQ office use only -
EPA I.D. No. TX0073121]

This major amendment replaces TPDES Permit No. WQ0002105000, issued on November 20, 2020.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
P.O. Box 13087
Austin, Texas 78711-3087

PERMIT TO DISCHARGE WASTES
under provisions of
Section 402 of the Clean Water Act
and Chapter 26 of the Texas Water Code
and 40 CFR Part 423

Lower Colorado River Authority

whose mailing address is

P.O. Box 220
Austin, Texas 78767

is authorized to treat and discharge wastes from Sam Seymour Fayette Power Project, a coal-fired steam electric power generation facility (SIC 4911)

located at 6549 Power Plant Road, near the City of La Grange, in Fayette County, Texas 78945

via Outfall 001 to Lake Fayette, thence to Cedar Creek; via Outfall 003 to a man-made ditch, thence to an unnamed tributary, thence to Cedar Creek; and via Outfalls 002 and 004 to unnamed tributaries, thence to Cedar Creek, thence to Colorado River Below La Grange in Segment No. 1402 of the Colorado River Basin

only according to effluent limitations, monitoring requirements, and other conditions set forth in this permit, as well as the rules of the Texas Commission on Environmental Quality (TCEQ), the laws of the State of Texas, and other orders of the TCEQ. The issuance of this permit does not grant to the permittee the right to use private or public property for conveyance of wastewater along the discharge route described in this permit. This includes, but is not limited to, property belonging to any individual, partnership, corporation, or other entity. Neither does this permit authorize any invasion of personal rights nor any violation of federal, state, or local laws or regulations. It is the responsibility of the permittee to acquire property rights as may be necessary to use the discharge route.

This permit shall expire at midnight, five years from the date of permit issuance.

ISSUED DATE:

For the Commission

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS – PHASE I Outfall Number 001

1. During the period beginning upon the date of permit issuance and lasting until Unit 4 start-up, the permittee is authorized to discharge once-through cooling water and previously monitored effluent (PME) subject to the following effluent limitations:

   The daily average flow of effluent shall not exceed 1,165 million gallons per day (MGD). The daily maximum flow shall not exceed 1,165 MGD.

Effluent Characteristics	Discharge Limitations				Minimum Self-Monitoring Requirements	
	Daily Average mg/L	Daily Maximum lbs/day	Daily Maximum mg/L	Single Grab mg/L	Report Daily Average and Daily Maximum Measurement Frequency	Sample Type
Flow	1,165 MGD	1,165 MGD		N/A	1/day	Calculated [1]
Temperature [2]	Report, °F	112 °F		N/A	Continuous	Record
Total Residual Chlorine [3]	N/A	486	0.2	N/A	1/week [4]	Grab
Total Dissolved Solids	N/A	N/A	Report	N/A	1/month	Grab
Chloride	N/A	N/A	Report	N/A	1/month	Grab
Sulfate	N/A	N/A	Report	N/A	1/month	Grab

2. There shall be no discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.

3. Effluent monitoring samples shall be taken at the following location: At Outfall 001, where once-through cooling water discharges into the canal which discharges into Lake Fayette.

[1] Calculated from pump curve.
[2] See Other Requirement No. 3A.
[3] See Other Requirement No. 3B
[4] Samples shall be representative of periods of chlorination.

1. During the period beginning upon the date of Unit 4 start-up and lasting through the date of permit expiration, the permittee is authorized to discharge once-through cooling water and previously monitored effluent (PME) subject to the following effluent limitations:

   The daily average flow of effluent shall not exceed 1,509 million gallons per day (MGD). The daily maximum flow shall not exceed 1,509 MGD.

Effluent Characteristics	Discharge Limitations				Minimum Self-Monitoring Requirements	
	Daily Average mg/L	Daily Maximum lbs/day	Daily Maximum mg/L	Single Grab mg/L	Report Daily Average and Daily Maximum Measurement Frequency	Sample Type
Flow	1,509 MGD	1,509 MGD		N/A	1/day	Calculated [1]
Temperature [2]	Report, °F	112 °F		N/A	Continuous	Record
Total Residual Chlorine [3]	N/A	840	0.2	N/A	1/week [4]	Grab
Total Dissolved Solids	N/A	N/A	Report	N/A	1/month	Grab
Chloride	N/A	N/A	Report	N/A	1/month	Grab
Sulfate	N/A	N/A	Report	N/A	1/month	Grab

2. There shall be no discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.

3. Effluent monitoring samples shall be taken at the following location: At Outfall 001, where once-through cooling water discharges into the canal which discharges into Lake Fayette.

[1] Calculated from pump curve.
[2] See Other Requirement No. 3A.
[3] See Other Requirement No. 3B
[4] Samples shall be representative of periods of chlorination.

1. During the period beginning upon the date of permit issuance and lasting through the date of permit expiration, the permittee is authorized to discharge low-volume waste [1] subject to the following effluent limitations:

   Volume: Intermittent and flow-variable.

Effluent Characteristics	Discharge Limitations			Minimum Self-Monitoring Requirements	
	Daily Average mg/L	Daily Maximum mg/L	Single Grab mg/L	Report Daily Average and Daily Maximum Measurement Frequency	Sample Type
Flow	Report, MGD	Report, MGD	N/A	1/day[2]	Estimate
Total Suspended Solids	30	100	100	1/month[2]	Grab
Oil and Grease	15	20	20	1/month[2]	Grab

2. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored 1/month[2] by grab sample.

3. There shall be no discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.

4. Effluent monitoring samples shall be taken at the following location: At internal Outfall 201, where low volume waste sources are discharged from the waste treatment facility prior to mixing with once-through cooling water.

[1] See Other Requirement No. 3D.
[2] When discharge occurs.

1. During the period beginning upon the date of permit issuance and lasting through the date of permit expiration, the permittee is authorized to discharge low-volume waste [1], coal pile runoff [2], truck wash water, and stormwater from the Coal Pile Runoff Pond subject to the following effluent limitations:

   Volume: Intermittent and flow-variable.

Effluent Characteristics	Discharge Limitations			Minimum Self-Monitoring Requirements	
	Daily Average mg/L	Daily Maximum mg/L	Single Grab mg/L	Report Daily Average and Daily Maximum Measurement Frequency	Sample Type
Flow	Report, MGD	Report, MGD	N/A	1/day[3]	Estimate
Total Suspended Solids	30	50	50	1/week[3]	Grab
Oil and Grease	15	20	20	1/week[3]	Grab

2. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored 1/week[3] by grab sample.

3. There shall be no discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.

4. Effluent monitoring samples shall be taken at the following location: At internal Outfall 301, where wastewater is discharged from the Coal Pile Runoff Pond prior to mixing with once-through cooling water.

[1] See Other Requirement No. 3D.
[2] See Other Requirement No. 3G.
[3] When discharge occurs.

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS — Outfall Number 002

1. During the period beginning upon the date of permit issuance and lasting through the date of permit expiration, the permittee is authorized to discharge cooling water drained from the condensers and other cooling equipment during maintenance periods subject to the following effluent limitations:

   The daily average flow shall not exceed 2.5 million gallons per day (MGD).

Effluent Characteristics	Discharge Limitations			Minimum Self-Monitoring Requirements	
	Daily Average mg/L	Daily Maximum mg/L	Single Grab mg/L	Report Daily Average and Daily Maximum Measurement Frequency	Sample Type
Flow	2.5 MGD	Report, MGD	N/A	1/day[1]	Calculated/Estimate [2]
Temperature [3]	N/A	100 °F	N/A	1/day	In situ
Total Residual Chlorine [4]	N/A	0.2	N/A	1/week[1]	Grab

2. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored 1/week[1] by grab sample.

3. There shall be no discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.

4. Effluent monitoring samples shall be taken at the following location: At Outfall 002, where cooling water drained from the condensers and other equipment discharges into the west plant drainage ditch prior to flowing into the unnamed tributary of Cedar Creek.[3]

[1] When discharge occurs. Since more than one source is associated with this waste category, flow-weighted grab samples shall be combined into one sample for analysis and reporting purposes.
[2] Calculated from pump curve when pump is used.
[3] When discharging non-contact cooling water from condensers or from circulating water pipelines, the permittee shall monitor temperature where the effluent discharges into the west plant drainage ditch prior to entering the unnamed tributary of Cedar Creek.
[4] See Other Requirement 3B.

1. During the period beginning upon the date of permit issuance and lasting through the date of permit expiration, the permittee is authorized to discharge low-volume waste [1], coal pile runoff [2], truck wash water, and stormwater from the Coal Pile Runoff Pond subject to the following effluent limitations:

   Volume: Intermittent and flow-variable.

Effluent Characteristics	Discharge Limitations			Minimum Self-Monitoring Requirements	
	Daily Average mg/L	Daily Maximum mg/L	Single Grab mg/L	Report Daily Average and Daily Maximum Measurement Frequency	Sample Type
Flow	Report, MGD	Report, MGD	N/A	1/day[3]	Estimate
Total Suspended Solids	30	50	50	1/week[3]	Grab
Oil and Grease	15	20	20	1/week[3]	Grab

2. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored 1/week[3] by grab sample.

3. There shall be no discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.

4. Effluent monitoring samples shall be taken at the following location: At Outfall 003, at the coal run-off spillway.

[1] See Other Requirement No. 3.D.
[2] See Other Requirement No. 3.G
[3] When discharge occurs.

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS — Outfall Number 004

1. During the period beginning upon the date of permit issuance and lasting through the date of permit expiration, the permittee is authorized to discharge low-volume waste [1], truck wash water, and stormwater from the Combustion Byproducts Landfill Pond subject to the following effluent limitations:

   Volume: Intermittent and flow-variable.

Effluent Characteristics	Discharge Limitations			Minimum Self-Monitoring Requirements	
	Daily Average mg/L	Daily Maximum mg/L	Single Grab mg/L	Report Daily Average and Daily Maximum Measurement Frequency	Sample Type
Flow	Report, MGD	Report, MGD	N/A	1/day [2]	Estimate
Total Suspended Solids	30	100	100	1/week [2]	Grab
Oil and Grease	15	20	20	1/week [2]	Grab

2. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored 1/week [2] by grab sample.

3. There shall be no discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.

4. Effluent monitoring samples shall be taken at the following location: At Outfall 004, where wastes from the Combustion Byproducts Landfill are discharged from the solid waste landfill settling pond prior to mixing with any other waters.

[1] See Other Requirement No. 3.D.
[2] When discharge occurs.

DEFINITIONS AND STANDARD PERMIT CONDITIONS

As required by Title 30 Texas Administrative Code (TAC) Chapter 305, certain regulations appear as standard conditions in waste discharge permits. 30 TAC §§305.121 - 305.129 (relating to Permit Characteristics and Conditions) as promulgated under the Texas Water Code (TWC) §§5.103 and 5.105, and the Texas Health and Safety Code (THSC) §§361.017 and 361.024(a), establish the characteristics and standards for waste discharge permits, including sewage sludge, and those sections of 40 Code of Federal Regulations (CFR) Part 122 adopted by reference by the Commission. The following text includes these conditions and incorporates them into this permit. All definitions in Texas Water Code §26.001 and 30 TAC Chapter 305 shall apply to this permit and are incorporated by reference. Some specific definitions of words or phrases used in this permit are as follows:

1. Flow Measurements

   a. Annual average flow - the arithmetic average of all daily flow determinations taken within the preceding 12 consecutive calendar months. The annual average flow determination shall consist of daily flow volume determinations made by a totalizing meter, charted on a chart recorder, and limited to major domestic wastewater discharge facilities with a one million gallons per day or greater permitted flow.

   b. Daily average flow - the arithmetic average of all determinations of the daily flow within a period of one calendar month. The daily average flow determination shall consist of determinations made on at least four separate days. If instantaneous measurements are used to determine the daily flow, the determination shall be the arithmetic average of all instantaneous measurements taken during that month. Daily average flow determination for intermittent discharges shall consist of a minimum of three flow determinations on days of discharge.

   c. Daily maximum flow - the highest total flow for any 24-hour period in a calendar month.

   d. Instantaneous flow - the measured flow during the minimum time required to interpret the flow measuring device.

   e. 2-hour peak flow (domestic wastewater treatment plants) - the maximum flow sustained for a two-hour period during the period of daily discharge. The average of multiple measurements of instantaneous maximum flow within a two-hour period may be used to calculate the 2-hour peak flow.

   f. Maximum 2-hour peak flow (domestic wastewater treatment plants) - the highest 2-hour peak flow for any 24-hour period in a calendar month.

2. Concentration Measurements

   a. Daily average concentration - the arithmetic average of all effluent samples, composite or grab as required by this permit, within a period of one calendar month, consisting of at least four separate representative measurements.

      i. For domestic wastewater treatment plants - When four samples are not available in a calendar month, the arithmetic average (weighted by flow) of all values in the previous four consecutive month period consisting of at least four measurements shall be utilized as the daily average concentration.

      ii. For all other wastewater treatment plants - When four samples are not available in a calendar month, the arithmetic average (weighted by flow) of all values taken during the month shall be utilized as the daily average concentration.

   b. 7-day average concentration - the arithmetic average of all effluent samples, composite or grab as required by this permit, within a period of one calendar week, Sunday through Saturday.

   c. Daily maximum concentration - the maximum concentration measured on a single day, by the sample type specified in the permit, within a period of one calendar month.

   d. Daily discharge - the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in terms of mass, the “daily discharge” is calculated as the total

mass of the pollutant discharged over the sampling day. For pollutants with limitations expressed in other units of measurement, the "daily discharge" is calculated as the average measurement of the pollutant over the sampling day.

The "daily discharge" determination of concentration made using a composite sample shall be the concentration of the composite sample. When grab samples are used, the "daily discharge" determination of concentration shall be the arithmetic average (weighted by flow value) of all samples collected during that day.

e. Bacteria concentration (Fecal coliform, *E. coli*, or Enterococci) – the number of colonies of bacteria per 100 milliliters effluent. The daily average bacteria concentration is a geometric mean of the values for the effluent samples collected in a calendar month. The geometric mean shall be determined by calculating the nth root of the product of all measurements made in a calendar month, where n equals the number of measurements made; or computed as the antilogarithm of the arithmetic mean of the logarithms of all measurements made in a calendar month. For any measurement of bacteria equaling zero, a substitute value of one shall be made for input into either computation method. If specified, the 7-day average for bacteria is the geometric mean of the values for all effluent samples collected during a calendar week.

f. Daily average loading (lbs/day) - the arithmetic average of all daily discharge loading calculations during a period of one calendar month. These calculations must be made for each day of the month that a parameter is analyzed. The daily discharge, in terms of mass (lbs/day), is calculated as (Flow, MGD × Concentration, mg/L × 8.34).

g. Daily maximum loading (lbs/day) - the highest daily discharge, in terms of mass (lbs/day), within a period of one calendar month.

3. Sample Type

   a. Composite sample - For domestic wastewater, a composite sample is a sample made up of a minimum of three effluent portions collected in a continuous 24-hour period or during the period of daily discharge if less than 24 hours, and combined in volumes proportional to flow, and collected at the intervals required by 30 TAC §319.9(a). For industrial wastewater, a composite sample is a sample made up of a minimum of three effluent portions collected in a continuous 24-hour period or during the period of daily discharge if less than 24 hours, and combined in volumes proportional to flow, and collected at the intervals required by 30 TAC §319.9(c).

   b. Grab sample - an individual sample collected in less than 15 minutes.

4. Treatment Facility (facility) - wastewater facilities used in the conveyance, storage, treatment, recycling, reclamation or disposal of domestic sewage, industrial wastes, agricultural wastes, recreational wastes, or other wastes including sludge handling or disposal facilities under the jurisdiction of the Commission.

5. The term "sewage sludge" is defined as solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in 30 TAC Chapter 312. This includes the solids that have not been classified as hazardous waste separated from wastewater by unit processes.

6. Bypass - the intentional diversion of a waste stream from any portion of a treatment facility.

MONITORING AND REPORTING REQUIREMENTS

1. Self-Reporting

   Monitoring results shall be provided at the intervals specified in the permit. Unless otherwise specified in this permit or otherwise ordered by the Commission, the permittee shall conduct effluent sampling and reporting in accordance with 30 TAC §§319.4 - 319.12. Unless otherwise specified, effluent monitoring data shall be submitted each month, to the Enforcement Division (MC 224), by the 20th day of the following month for each discharge that is described by this permit whether or not a discharge is made for that month. Monitoring results must be submitted online using the NetDMR reporting system available through the TCEQ website unless the permittee requests and obtains an electronic reporting waiver. Monitoring results must be signed and certified as required by Monitoring and Reporting Requirements No. 10.

As provided by state law, the permittee is subject to administrative, civil and criminal penalties, as applicable, for negligently or knowingly violating the Clean Water Act; TWC Chapters 26, 27, and 28; and THSC Chapter 361, including but not limited to knowingly making any false statement, representation, or certification on any report, record, or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance, or falsifying, tampering with or knowingly rendering inaccurate any monitoring device or method required by this permit or violating any other requirement imposed by state or federal regulations.

2. Test Procedures

   a. Unless otherwise specified in this permit, test procedures for the analysis of pollutants shall comply with procedures specified in 30 TAC §§319.11 - 319.12. Measurements, tests, and calculations shall be accurately accomplished in a representative manner.

   b. All laboratory tests submitted to demonstrate compliance with this permit must meet the requirements of 30 TAC Chapter 25, Environmental Testing Laboratory Accreditation and Certification.

3. Records of Results

   a. Monitoring samples and measurements shall be taken at times and in a manner so as to be representative of the monitored activity.

   b. Except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR Part 503), monitoring and reporting records, including strip charts and records of calibration and maintenance, copies of all records required by this permit, records of all data used to complete the application for this permit, and the certification required by 40 CFR §264.73(b)(9) shall be retained at the facility site, or shall be readily available for review by a TCEQ representative for a period of three years from the date of the record or sample, measurement, report, application or certification. This period shall be extended at the request of the Executive Director.

   c. Records of monitoring activities shall include the following:

      i. date, time, and place of sample or measurement;
      ii. identity of individual who collected the sample or made the measurement;
      iii. date and time of analysis;
      iv. identity of the individual and laboratory who performed the analysis;
      v. the technique or method of analysis; and
      vi. the results of the analysis or measurement and quality assurance/quality control records.

      The period during which records are required to be kept shall be automatically extended to the date of the final disposition of any administrative or judicial enforcement action that may be instituted against the permittee.

4. Additional Monitoring by Permittee

   If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit using approved analytical methods as specified above, all results of such monitoring shall be included in the calculation and reporting of the values submitted on the approved self-report form. Increased frequency of sampling shall be indicated on the self-report form.

5. Calibration of Instruments

   All automatic flow measuring or recording devices and all totalizing meters for measuring flows shall be accurately calibrated by a trained person at plant start-up and as often thereafter as necessary to ensure accuracy, but not less often than annually unless authorized by the Executive Director for a longer period. Such person shall verify in writing that the device is operating properly and giving accurate results. Copies of the verification shall be retained at the facility site or shall be readily available for review by a TCEQ representative for a period of three years.

6. Compliance Schedule Reports

   Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of the permit shall be submitted no later than 14 days following each schedule date to the regional office and the Enforcement Division (MC 224).

7. Noncompliance Notification

   a. In accordance with 30 TAC §305.125(9) any noncompliance that may endanger human health or safety, or the environment shall be reported by the permittee to the TCEQ. Report of such information shall be provided orally or by facsimile transmission (FAX) to the regional office within 24 hours of becoming aware of the noncompliance. A written submission of such information shall also be provided by the permittee to the regional office and the Enforcement Division (MC 224) within five working days of becoming aware of the noncompliance. For Publicly Owned Treatment Works (POTWs), effective September 1, 2020, the permittee must submit the written report for unauthorized discharges and unanticipated bypasses that exceed any effluent limit in the permit using the online electronic reporting system available through the TCEQ website unless the permittee requests and obtains an electronic reporting waiver. The written submission shall contain a description of the noncompliance and its cause; the potential danger to human health or safety, or the environment; the period of noncompliance, including exact dates and times; if the noncompliance has not been corrected, the time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance, and to mitigate its adverse effects.

   b. The following violations shall be reported under Monitoring and Reporting Requirement 7.a.:

      i. unauthorized discharges as defined in Permit Condition 2(g).
      ii. any unanticipated bypass that exceeds any effluent limitation in the permit.
      iii. violation of a permitted maximum daily discharge limitation for pollutants listed specifically in the Other Requirements section of an Industrial TPDES permit.

   c. In addition to the above, any effluent violation that deviates from the permitted effluent limitation by more than 40% shall be reported by the permittee in writing to the regional office and the Enforcement Division (MC 224) within 5 working days of becoming aware of the noncompliance.

   d. Any noncompliance other than that specified in this section, or any required information not submitted or submitted incorrectly, shall be reported to the Enforcement Division (MC 224) as promptly as possible. For effluent limitation violations, noncompliances shall be reported on the approved self-report form.

8. In accordance with the procedures described in 30 TAC §§35.301 - 35.303 (relating to Water Quality Emergency and Temporary Orders) if the permittee knows in advance of the need for a bypass, it shall submit prior notice by applying for such authorization.

9. Changes in Discharges of Toxic Substances

   All existing manufacturing, commercial, mining, and silvicultural permittees shall notify the regional office, orally or by facsimile transmission within 24 hours, and both the regional office and the Enforcement Division (MC 224) in writing within five (5) working days, after becoming aware of or having reason to believe:

   a. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant listed at 40 CFR Part 122, Appendix D, Tables II and III (excluding Total Phenols) that is not limited in the permit, if that discharge will exceed the highest of the following “notification levels”:

      i. one hundred micrograms per liter (100 µg/L);
      ii. two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
      iii. five (5) times the maximum concentration value reported for that pollutant in the permit application; or
      iv. the level established by the TCEQ.

b. That any activity has occurred or will occur that would result in any discharge, on a nonroutine or infrequent basis, of a toxic pollutant that is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

i. five hundred micrograms per liter (500 µg/L);
ii. one milligram per liter (1 mg/L) for antimony;
iii. ten (10) times the maximum concentration value reported for that pollutant in the permit application; or
iv. the level established by the TCEQ.

10. Signatories to Reports

All reports and other information requested by the Executive Director shall be signed by the person and in the manner required by 30 TAC §305.128 (relating to Signatories to Reports).

11. All POTWs must provide adequate notice to the Executive Director of the following:

a. any new introduction of pollutants into the POTW from an indirect discharger that would be subject to CWA §301 or §306 if it were directly discharging those pollutants;

b. any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit; and

c. for the purpose of this paragraph, adequate notice shall include information on:

i. the quality and quantity of effluent introduced into the POTW; and
ii. any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

PERMIT CONDITIONS

1. General

a. When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in an application or in any report to the Executive Director, it shall promptly submit such facts or information.

b. This permit is granted on the basis of the information supplied and representations made by the permittee during action on an application, and relying upon the accuracy and completeness of that information and those representations. After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked, in whole or in part, in accordance with 30 TAC Chapter 305, Subchapter D, during its term for good cause including, but not limited to, the following:

i. violation of any terms or conditions of this permit;
ii. obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or
iii. a change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

c. The permittee shall furnish to the Executive Director, upon request and within a reasonable time, any information to determine whether cause exists for amending, revoking, suspending, or terminating the permit. The permittee shall also furnish to the Executive Director, upon request, copies of records required to be kept by the permit.

2. Compliance

a. Acceptance of the permit by the person to whom it is issued constitutes acknowledgment and agreement that such person will comply with all the terms and conditions embodied in the permit, and the rules and other orders of the Commission.

b. The permittee has a duty to comply with all conditions of the permit. Failure to comply with any permit condition constitutes a violation of the permit and the Texas Water Code or the Texas Health and Safety Code, and is grounds for enforcement action, for permit amendment,

revocation, or suspension, or for denial of a permit renewal application or an application for a permit for another facility.

c. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit.

d. The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal or other permit violation that has a reasonable likelihood of adversely affecting human health or the environment.

e. Authorization from the Commission is required before beginning any change in the permitted facility or activity that may result in noncompliance with any permit requirements.

f. A permit may be amended, suspended and reissued, or revoked for cause in accordance with 30 TAC §§305.62 and 305.66 and TWC §7.302. The filing of a request by the permittee for a permit amendment, suspension and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

g. There shall be no unauthorized discharge of wastewater or any other waste. For the purpose of this permit, an unauthorized discharge is considered to be any discharge of wastewater into or adjacent to water in the state at any location not permitted as an outfall or otherwise defined in the Other Requirements section of this permit.

h. In accordance with 30 TAC §305.535(a), the permittee may allow any bypass to occur from a TPDES permitted facility that does not cause permitted effluent limitations to be exceeded or an unauthorized discharge to occur, but only if the bypass is also for essential maintenance to assure efficient operation.

i. The permittee is subject to administrative, civil, and criminal penalties, as applicable, under Texas Water Code §§7.051 - 7.075 (relating to Administrative Penalties), 7.101 - 7.111 (relating to Civil Penalties), and 7.141 - 7.202 (relating to Criminal Offenses and Penalties) for violations including, but not limited to, negligently or knowingly violating the federal CWA §§301, 302, 306, 307, 308, 318, or 405, or any condition or limitation implementing any sections in a permit issued under the CWA §402, or any requirement imposed in a pretreatment program approved under the CWA §§402(a)(3) or 402(b)(8).

3. Inspections and Entry

a. Inspection and entry shall be allowed as prescribed in the TWC Chapters 26, 27, and 28, and THSC Chapter 361.

b. The members of the Commission and employees and agents of the Commission are entitled to enter any public or private property at any reasonable time for the purpose of inspecting and investigating conditions relating to the quality of water in the state or the compliance with any rule, regulation, permit, or other order of the Commission. Members, employees, or agents of the Commission and Commission contractors are entitled to enter public or private property at any reasonable time to investigate or monitor or, if the responsible party is not responsive or there is an immediate danger to public health or the environment, to remove or remediate a condition related to the quality of water in the state. Members, employees, Commission contractors, or agents acting under this authority who enter private property shall observe the establishment's rules and regulations concerning safety, internal security, and fire protection, and if the property has management in residence, shall notify management or the person then in charge of his presence and shall exhibit proper credentials. If any member, employee, Commission contractor, or agent is refused the right to enter in or on public or private property under this authority, the Executive Director may invoke the remedies authorized in TWC §7.002. The statement above, that Commission entry shall occur in accordance with an establishment's rules and regulations concerning safety, internal security, and fire protection, is not grounds for denial or restriction of entry to any part of the facility, but merely describes the Commission's duty to observe appropriate rules and regulations during an inspection.

4. Permit Amendment or Renewal

   a. The permittee shall give notice to the Executive Director as soon as possible of any planned physical alterations or additions to the permitted facility if such alterations or additions would require a permit amendment or result in a violation of permit requirements. Notice shall also be required under this paragraph when:

      i. the alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in accordance with 30 TAC §305.534 (relating to New Sources and New Dischargers); or

      ii. the alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are subject neither to effluent limitations in the permit, nor to notification requirements in Monitoring and Reporting Requirements No. 9; or

      iii. the alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.

   b. Prior to any facility modifications, additions, or expansions that will increase the plant capacity beyond the permitted flow, the permittee must apply for and obtain proper authorization from the Commission before commencing construction.

   c. The permittee must apply for an amendment or renewal at least 180 days prior to expiration of the existing permit in order to continue a permitted activity after the expiration date of the permit. If an application is submitted prior to the expiration date of the permit, the existing permit shall remain in effect until the application is approved, denied, or returned. If the application is returned or denied, authorization to continue such activity shall terminate upon the effective date of the action. If an application is not submitted prior to the expiration date of the permit, the permit shall expire and authorization to continue such activity shall terminate.

   d. Prior to accepting or generating wastes that are not described in the permit application or that would result in a significant change in the quantity or quality of the existing discharge, the permittee must report the proposed changes to the Commission. The permittee must apply for a permit amendment reflecting any necessary changes in permit conditions, including effluent limitations for pollutants not identified and limited by this permit.

   e. In accordance with the TWC §26.029(b), after a public hearing, notice of which shall be given to the permittee, the Commission may require the permittee, from time to time, for good cause, in accordance with applicable laws, to conform to new or additional conditions.

   f. If any toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under CWA §307(a) for a toxic pollutant that is present in the discharge and that standard or prohibition is more stringent than any limitation on the pollutant in this permit, this permit shall be modified or revoked and reissued to conform to the toxic effluent standard or prohibition. The permittee shall comply with effluent standards or prohibitions established under CWA §307(a) for toxic pollutants within the time provided in the regulations that established those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

5. Permit Transfer

   a. Prior to any transfer of this permit, Commission approval must be obtained. The Commission shall be notified in writing of any change in control or ownership of facilities authorized by this permit. Such notification should be sent to the Applications Review and Processing Team (MC 148) of the Water Quality Division.

   b. A permit may be transferred only according to the provisions of 30 TAC §305.64 (relating to Transfer of Permits) and 30 TAC §50.133 (relating to Executive Director Action on Application or WQMP update).

6. Relationship to Hazardous Waste Activities

   This permit does not authorize any activity of hazardous waste storage, processing, or disposal that requires a permit or other authorization pursuant to the Texas Health and Safety Code.

7. Relationship to Water Rights

   Disposal of treated effluent by any means other than discharge directly to water in the state must be specifically authorized in this permit and may require a permit pursuant to Texas Water Code Chapter 11.

8. Property Rights

   A permit does not convey any property rights of any sort, or any exclusive privilege.

9. Permit Enforceability

   The conditions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstances, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

10. Relationship to Permit Application

    The application pursuant to which the permit has been issued is incorporated herein; provided, however, that in the event of a conflict between the provisions of this permit and the application, the provisions of the permit shall control.

11. Notice of Bankruptcy.

    a. Each permittee shall notify the Executive Director, in writing, immediately following the filing of a voluntary or involuntary petition for bankruptcy under any chapter of Title 11 (Bankruptcy) of the United States Code (11 USC) by or against:

       i. the permittee;
       ii. an entity (as that term is defined in 11 USC, §101(15)) controlling the permittee or listing the permit or permittee as property of the estate; or
       iii. an affiliate (as that term is defined in 11 USC, §101(2)) of the permittee.

    b. This notification must indicate:

       i. the name of the permittee;
       ii. the permit number(s);
       iii. the bankruptcy court in which the petition for bankruptcy was filed; and
       iv. the date of filing of the petition.

OPERATIONAL REQUIREMENTS

1. The permittee shall at all times ensure that the facility and all of its systems of collection, treatment, and disposal are properly operated and maintained. This includes, but is not limited to, the regular, periodic examination of wastewater solids within the treatment plant by the operator in order to maintain an appropriate quantity and quality of solids inventory as described in the various operator training manuals and according to accepted industry standards for process control. Process control, maintenance, and operations records shall be retained at the facility site, or shall be readily available for review by a TCEQ representative, for a period of three years.

2. Upon request by the Executive Director, the permittee shall take appropriate samples and provide proper analysis in order to demonstrate compliance with Commission rules. Unless otherwise specified in this permit or otherwise ordered by the Commission, the permittee shall comply with all applicable provisions of 30 TAC Chapter 312 concerning sewage sludge use and disposal and 30 TAC §§319.21 - 319.29 concerning the discharge of certain hazardous metals.

3. Domestic wastewater treatment facilities shall comply with the following provisions:

   a. The permittee shall notify the Municipal Permits Team, Wastewater Permitting Section (MC 148) of the Water Quality Division, in writing, of any facility expansion at least 90 days prior to conducting such activity.

   b. The permittee shall submit a closure plan for review and approval to the Municipal Permits Team, Wastewater Permitting Section (MC 148) of the Water Quality Division, for any closure activity at least 90 days prior to conducting such activity. Closure is the act of permanently taking a waste management unit or treatment facility out of service and includes the permanent removal from service of any pit, tank, pond, lagoon, surface impoundment or other treatment unit regulated by this permit.

4. The permittee is responsible for installing prior to plant start-up, and subsequently maintaining, adequate safeguards to prevent the discharge of untreated or inadequately treated wastes during electrical power failures by means of alternate power sources, standby generators, or retention of inadequately treated wastewater.

5. Unless otherwise specified, the permittee shall provide a readily accessible sampling point and, where applicable, an effluent flow measuring device or other acceptable means by which effluent flow may be determined.

6. The permittee shall remit an annual water quality fee to the Commission as required by 30 TAC Chapter 21. Failure to pay the fee may result in revocation of this permit under TWC §7.302(b)(6).

7. Documentation

   For all written notifications to the Commission required of the permittee by this permit, the permittee shall keep and make available a copy of each such notification under the same conditions as self-monitoring data are required to be kept and made available. Except for information required for TPDES permit applications, effluent data, including effluent data in permits, draft permits and permit applications, and other information specified as not confidential in 30 TAC §1.5(d), any information submitted pursuant to this permit may be claimed as confidential by the submitter. Any such claim must be asserted in the manner prescribed in the application form or by stamping the words “confidential business information” on each page containing such information. If no claim is made at the time of submission, information may be made available to the public without further notice. If the Commission or Executive Director agrees with the designation of confidentiality, the TCEQ will not provide the information for public inspection unless required by the Texas Attorney General or a court pursuant to an open records request. If the Executive Director does not agree with the designation of confidentiality, the person submitting the information will be notified.

8. Facilities that generate domestic wastewater shall comply with the following provisions; domestic wastewater treatment facilities at permitted industrial sites are excluded.

   a. Whenever flow measurements for any domestic sewage treatment facility reach 75% of the permitted daily average or annual average flow for three consecutive months, the permittee must initiate engineering and financial planning for expansion or upgrading of the domestic wastewater treatment or collection facilities. Whenever the flow reaches 90% of the permitted daily average or annual average flow for three consecutive months, the permittee shall obtain necessary authorization from the Commission to commence construction of the necessary additional treatment or collection facilities. In the case of a domestic wastewater treatment facility that reaches 75% of the permitted daily average or annual average flow for three consecutive months, and the planned population to be served or the quantity of waste produced is not expected to exceed the design limitations of the treatment facility, the permittee shall submit an engineering report supporting this claim to the Executive Director of the Commission.

      If in the judgment of the Executive Director the population to be served will not cause permit noncompliance, then the requirement of this section may be waived. To be effective, any waiver must be in writing and signed by the Director of the Enforcement Division (MC 219) of the Commission, and such waiver of these requirements will be reviewed upon expiration of the existing permit; however, any such waiver shall not be interpreted as condoning or excusing any violation of any permit parameter.

b. The plans and specifications for domestic sewage collection and treatment works associated with any domestic permit must be approved by the Commission, and failure to secure approval before commencing construction of such works or making a discharge is a violation of this permit and each day is an additional violation until approval has been secured.

c. Permits for domestic wastewater treatment plants are granted subject to the policy of the Commission to encourage the development of area-wide waste collection, treatment, and disposal systems. The Commission reserves the right to amend any domestic wastewater permit in accordance with applicable procedural requirements to require the system covered by this permit to be integrated into an area-wide system, should such be developed; to require the delivery of the wastes authorized to be collected in, treated by or discharged from said system, to such area-wide system; or to amend this permit in any other particular to effectuate the Commission's policy. Such amendments may be made when the changes required are advisable for water quality control purposes and are feasible on the basis of waste treatment technology, engineering, financial, and related considerations existing at the time the changes are required, exclusive of the loss of investment in or revenues from any then existing or proposed waste collection, treatment or disposal system.

9. Domestic wastewater treatment plants shall be operated and maintained by sewage plant operators holding a valid certificate of competency at the required level as defined in 30 TAC Chapter 30.

10. For Publicly Owned Treatment Works (POTWs), the 30-day average (or monthly average) percent removal for BOD and TSS shall not be less than 85%, unless otherwise authorized by this permit.

11. Facilities that generate industrial solid waste as defined in 30 TAC §335.1 shall comply with these provisions:

a. Any solid waste, as defined in 30 TAC §335.1 (including but not limited to such wastes as garbage, refuse, sludge from a waste treatment, water supply treatment plant or air pollution control facility, discarded materials, discarded materials to be recycled, whether the waste is solid, liquid, or semisolid), generated by the permittee during the management and treatment of wastewater, must be managed in accordance with all applicable provisions of 30 TAC Chapter 335, relating to Industrial Solid Waste Management.

b. Industrial wastewater that is being collected, accumulated, stored, or processed before discharge through any final discharge outfall, specified by this permit, is considered to be industrial solid waste until the wastewater passes through the actual point source discharge and must be managed in accordance with all applicable provisions of 30 TAC Chapter 335.

c. The permittee shall provide written notification, pursuant to the requirements of 30 TAC §335.8(b)(1), to the Corrective Action Section (MC 127) of the Remediation Division informing the Commission of any closure activity involving an Industrial Solid Waste Management Unit, at least 90 days prior to conducting such an activity.

d. Construction of any industrial solid waste management unit requires the prior written notification of the proposed activity to the Registration and Reporting Section (MC 129) of the Permitting and Remediation Support Division. No person shall dispose of industrial solid waste, including sludge or other solids from wastewater treatment processes, prior to fulfilling the deed recordation requirements of 30 TAC §335.5.

e. The term “industrial solid waste management unit” means a landfill, surface impoundment, waste-pile, industrial furnace, incinerator, cement kiln, injection well, container, drum, salt dome waste containment cavern, or any other structure vessel, appurtenance, or other improvement on land used to manage industrial solid waste.

f. The permittee shall keep management records for all sludge (or other waste) removed from any wastewater treatment process. These records shall fulfill all applicable requirements of 30 TAC Chapter 335 and must include the following, as it pertains to wastewater treatment and discharge:

i. volume of waste and date(s) generated from treatment process;
ii. volume of waste disposed of on-site or shipped off-site;
iii. date(s) of disposal;

iv. identity of hauler or transporter;
v. location of disposal site; and
vi. method of final disposal.

The above records shall be maintained on a monthly basis. The records shall be retained at the facility site, or shall be readily available for review by authorized representatives of the TCEQ for at least five years.

12. For industrial facilities to which the requirements of 30 TAC Chapter 335 do not apply, sludge and solid wastes, including tank cleaning and contaminated solids for disposal, shall be disposed of in accordance with THSC Code Chapter 361.

TCEQ Revision 05/2021

OTHER REQUIREMENTS

1. Violations of daily maximum limitations for the following pollutants shall be reported orally or by facsimile to TCEQ Region 11 within 24 hours from the time the permittee becomes aware of the violation, followed by a written report within five working days to TCEQ Region 11 and Compliance Monitoring Team (MC 224): None.

2. There shall be no discharge of polychlorinated biphenyl compounds such as those commonly used for transformer fluid.

3. DEFINITIONS

   A. The flow weighted average temperature (FWAT) must be computed and recorded on a daily basis. FWAT must be computed at equal time intervals not greater than two hours. The method of calculating FWAT is as follows:

$$\text{FWAT} = \frac{\sum (\text{INSTANTANEOUS FLOW} \times \text{INSTANTANEOUS TEMPERATURE})}{\sum (\text{INSTANTANEOUS FLOW})}$$

   The *daily average temperature* must be calculated as the arithmetic average of all FWATs calculated during the calendar month.

   The *daily maximum temperature* must be established as the highest FWAT calculated during the calendar month.

   B. TOTAL RESIDUAL CHLORINE

   (1) The term *total residual chlorine* (or total residual oxidants for intake water with bromides) means the value obtained using any of the "chlorine—total residual" methods in Table IB in 40 CFR §136.3(a), or other methods approved by the permitting authority.

   (2) Total residual chlorine (TRC) may not be discharged from any single generating unit for more than two hours per day unless the discharger demonstrates to the permitting authority that discharge for more than two hours is required for macroinvertebrate control.

   (3) Simultaneous multi-unit chlorination is permitted.

   (4) The daily maximum mass loading of TRC must be calculated using the following equation:

$$\text{TRC (lbs/day)} = \text{TRC (mg/L)} \times \text{flow (MGD)} \times 8.345 \times (\text{total hours of chlorination}/24 \text{ hours})$$

   where: TRC (mg/L) = maximum concentration of TRC measured in the effluent during a representative period of chlorination;

   flow (MGD) = total actual flow of discharge via outfall during sampling day;

   total hours of chlorination/24 hours= the sum total of hours of chlorination from all generating units on that day/24 hours, not to exceed 6 hours/24 hours in Phase I and 8 hours/24 hours in Phase 2.

   C. The term *chemical metal cleaning waste* means any wastewater resulting from the cleaning of any metal process equipment with chemical compounds, including, but not limited to, boiler tube cleaning.

   The term *metal cleaning waste* means any wastewater resulting from cleaning [with or without chemical cleaning compounds] any metal process equipment including, but not limited to, boiler tube cleaning, boiler fireside cleaning, and air preheater cleaning.

   There shall be no discharge of metal cleaning wastes to the Coal Pile Runoff Pond, Combustion

Byproduct Landfill Pond, Fly Ash Silo Runoff Pond, nor to any other site where wastewater is discharged directly or indirectly to water in the state.

D. The term *low volume waste sources* means, taken collectively as if from one source, wastewater from all sources except those for which specific limitations or standards are otherwise established in this part. Low volume waste sources include, but are not limited to, the following: Wastewaters from ion exchange water treatment systems, water treatment evaporator blowdown, laboratory and sampling streams, boiler blowdown, floor drains, cooling tower basin cleaning wastes, recirculating house service water systems, and wet scrubber air pollution control systems whose primary purpose is particulate removal. Sanitary wastes, air conditioning wastes, and wastewater from carbon capture or sequestration systems are not included in this definition.

E. The term *once through cooling water* means water passed through the main cooling condensers in one or two passes for the purpose of removing waste heat.

F. The term *transport water* means any wastewater that is used to convey fly ash, bottom ash, or economizer ash from the ash collection or storage equipment, or boiler, and has direct contact with the ash. Transport water does not include low volume, short duration discharges of wastewater from minor leaks (*e.g.,* leaks from valve packing, pipe flanges, or piping) or minor maintenance events (*e.g.,* replacement of valves or pipe sections).

There shall be no discharge of *transport water* to water in the state.

G. The term *coal pile runoff* means the rainfall runoff from or through any coal, ash, or other material storage pile.

Any untreated overflow from facilities designed, constructed, and operated to treat the volume of *coal pile runoff* which is associated with a 10-year rainfall event of 24-hours or longer duration (up to a 10-year, 10-day event) shall not be subject to the total suspended solids limitations specified in page 2c and 2e of this permit.

4. This requirement is applicable to the treatment and disposal of domestic wastewater at treatment units only.

On-site disposal of sewage sludge is not authorized. The permittee shall ensure that all sewage sludge which is not a hazardous waste (as defined in 30 TAC Chapter 335) is handled, transported, and disposed of in compliance with the applicable provisions of 30 TAC Chapter 312. The permittee shall ensure that all sewage sludge which is a hazardous waste (as defined in 30 TAC Chapter 335) is handled, transported, and disposed of in compliance with the applicable provisions of 30 TAC Chapter 335. The permittee shall keep records of all sludges removed from the wastewater treatment plant site. Such records will include the following information:

A. volume (dry weight basis) of sludge disposed;

B. date of disposal;

C. identity and registration number of hauler;

D. location and registration or permit number of disposal site; and

E. method of final disposal.

The above records shall be maintained on a monthly basis and be available at the plant site for inspection by authorized representatives of the TCEQ for at least five years.

5. POND REQUIREMENTS

A wastewater pond must comply with the following requirements. A wastewater pond (or lagoon) is an earthen structure used to evaporate, hold, store, or treat water that contains a *waste* or *pollutant* or that would cause *pollution* upon *discharge* as those terms are defined in Texas Water Code §26.001, but does not include a pond that contains only stormwater.

A. A wastewater pond **subject to 40 CFR Part 257, Subpart D** (related to coal combustion residuals) must comply with those requirements in lieu of the requirements in B through G of POND REQUIREMENTS.

B. An **existing** wastewater pond must be maintained to meet or exceed the original approved design and liner requirements; or, in the absence of original approved requirements, must be maintained to prevent unauthorized discharges of wastewater into or adjacent to water in the state. The permittee shall maintain copies of all liner construction and testing documents at the facility or in a reasonably accessible location and make the information available to the executive director upon request.

C. A **new** wastewater pond constructed after the issuance date of this permit must be lined in compliance with one of the following requirements if it will contain process wastewater as defined in 40 CFR §122.2. The executive director will review ponds that will contain only non-process wastewater on a case-by-case basis to determine whether the pond must be lined. If a pond will contain only non-process wastewater, the owner shall notify the Industrial Permits Team (MC-148) to obtain a written determination at least 90 days before the pond is placed into service and copy the TCEQ Compliance Monitoring Team (MC-224). The permittee must submit all information about the proposed pond contents that is reasonably necessary for the executive director to make a determination. If the executive director determines that a pond does not need to be lined, then the pond is exempt from C(1) through C(3) and D through G of POND REQUIREMENTS.

A wastewater pond that only contains domestic wastewater must comply with the design requirements in 30 TAC Chapter 217 and 30 TAC §309.13(d) in lieu of items C(1) through C(3) of this subparagraph.

(1) Soil liner: The soil liner must contain clay-rich soil material (at least 30% of the liner material passing through a #200 mesh sieve, liquid limit greater than or equal to 30, and plasticity index greater than or equal to 15) that completely covers the sides and bottom of the pond. The liner must be at least 3.0 feet thick. The liner material must be compacted in lifts of no more than 8 inches to 95% standard proctor density at the optimum moisture content in accordance with ASTM D698 to achieve a permeability less than or equal to 1×10^{-7} (≤ 0.0000001) cm/sec. For in-situ soil material that meets the permeability requirement, the material must be scarified at least 8 inches deep and then re-compacted to finished grade.

(2) Synthetic membrane: The liner must be a synthetic membrane liner at least 40 mils in thickness that completely covers the sides and the bottom of the pond. The liner material used must be compatible with the wastewater and be resistant to degradation (e.g., from ultraviolet light, chemical reactions, wave action, erosion, etc.). The liner material must be installed and maintained in accordance with the manufacturer's guidelines. A wastewater pond with a synthetic membrane liner must include an underdrain with a leak detection and collection system.

(3) Alternate liner: The permittee shall submit plans signed and sealed by a Texas-licensed professional engineer for any other equivalently protective pond lining method to the

Industrial Permits Team (MC-148) and copy the Compliance Monitoring Team (MC-224).

D. For a pond that must be lined according to subparagraph C (including ponds with in-situ soil liners), the permittee shall provide certification, signed and sealed by a Texas-licensed professional engineer, stating that the completed pond lining and any required underdrain with leak detection and collection system for the pond meet the requirements in subparagraph C(1) – C(3) before using the pond. The certification shall include the following minimum details about the pond lining system: (1) pond liner type (in-situ soil, amended in-situ soil, imported soil, synthetic membrane, or alternative), (2) materials used, (3) thickness of materials, and (4) either permeability test results or a leak detection and collection system description, as applicable.

The certification must be provided to the TCEQ Water Quality Assessment Team (MC-150), Industrial Permits Team (MC-148), Compliance Monitoring Team (MC-224) and regional office. A copy of the liner certification and construction details (i.e., as-built drawings, construction QA/QC documentation, and post construction testing) must be kept on-site or in a reasonably accessible location (in either hardcopy or digital format) until the pond is closed.

E. Protection and maintenance requirements for a pond subject to subparagraph B or C (including ponds with in-situ soil liners).

(1) The permittee shall maintain a liner to prevent the unauthorized discharge of wastewater into or adjacent to water in the state.

(2) A liner must be protected from damage caused by animals. Fences or other protective devices or measures may be used to satisfy this requirement.

(3) The permittee shall maintain the structural integrity of the liner and shall keep the liner and embankment free of woody vegetation, animal burrows, and excessive erosion.

(4) The permittee shall inspect each pond liner and each leak detection system at least once per month. Evidence of damage or unauthorized discharge must be evaluated by a Texas-licensed professional engineer or Texas-licensed professional geoscientist within 30 days. The permittee is not required to drain an operating pond or to inspect below the waterline during these routine inspections.

a. A Texas-licensed professional engineer or Texas-licensed professional geoscientist must evaluate damage to a pond liner, including evidence of an unauthorized discharge without visible damage.

b. Pond liner damage must be repaired at the recommendation of a Texas-licensed professional engineer or Texas-licensed professional geoscientist. If the damage is significant or could result in an unauthorized discharge, then the repair must be documented and certified by a Texas-licensed professional engineer. Within 60 days after a repair is completed, the liner certification must be provided to the TCEQ Water Quality Assessment Team (MC-150), Compliance Monitoring Section (MC-224), and regional office. A copy of the liner certification must be maintained at the facility or in a reasonably accessible location and made available to the executive director upon request.

c. A release determination and subsequent corrective action will be based on 40 CFR Part 257 or the Texas Risk Reduction Program (30 TAC Chapter 350), as applicable. If evidence indicates that an unauthorized discharge occurred, including evidence that the actual permeability exceeds the design permeability, the matter may also be referred to

the TCEQ Enforcement Division to ensure the protection of the public and the environment.

F. For a pond subject to subparagraph B or C (including ponds with in-situ soil liners), the permittee shall have a Texas-licensed professional engineer perform an evaluation of each pond that requires a liner at least once every five years. The evaluation must include: (1) a physical inspection of the pond liner to check for structural integrity, damage, and evidence of leaking; (2) a review of the liner documentation for the pond; and (3) a review of all documentation related to liner repair and maintenance performed since the last evaluation. For the purposes of this evaluation, evidence of leaking also includes evidence that the actual permeability exceeds the design permeability. The permittee is not required to drain an operating pond or to inspect below the waterline during the evaluation. A copy of the engineer's evaluation report must be maintained at the facility or in a reasonably accessible location and made available to the executive director upon request.

G. For a pond subject to subparagraph B or C (including ponds with in-situ soil liners), the permittee shall maintain at least 2.0 feet of freeboard in the pond except when:

(1) the freeboard requirement temporarily cannot be maintained due to a large storm event that requires the additional retention capacity to be used for a limited period of time;

(2) the freeboard requirement temporarily cannot be maintained due to upset plant conditions that require the additional retention capacity to be used for treatment for a limited period of time; or

(3) the pond was not required to have at least 2.0 feet of freeboard according to the requirements at the time of construction.

H. The following table lists all on-site ponds, their associated outfalls, and a description of all wastes discharged to the ponds.

Pond	**Wastes Discharged to Pond**	**Associated Outfall**
Coal Pile Runoff Pond	Coal pile runoff; low volume wastes (wash down water, reverse osmosis reject, demineralizer regenerant, boiler blowdown, plant/floor drains); stormwater (diked fuel storage, lube oil, transformer, and plant areas); truck wash water; dust suppression water from the coal pile and plant areas; coal handling equipment washdown; and cooling water routed during maintenance or power outages	003; 301 Reclaim Pond, dust suppression
Combustion Byproducts Landfill Pond	Combustion Byproducts Landfill runoff; low volume wastes; truck wash water; and stormwater	004 Dust suppression, Reclaim Pond
Ash Silo/Fly Ash Loading Area Pond	Truck wash water and stormwater	None Irrigation of landfill cover, dust suppression, Reclaim Pond
Ash Pond (closed and capped)	Historically, bottom ash and fly ash transport water and wastewater from the Coal Pile Runoff Pond entered this pond. The pond is closed and capped; therefore, no future wastewater will be added to this pond.	None Reclaim Pond

Pond	Wastes Discharged to Pond	Associated Outfall
Reclaim Pond	Once-through cooling water; plant/floor drains; wash down water; treated domestic wastewater; reverse osmosis reject; demineralizer regenerant; boiler blowdown; wet scrubber air pollution control systems; stormwater; wastewater from the Ash Silo/Fly Ash Loading Area Pond; wastewater from the closed and capped Ash Pond; metal cleaning waste; coal pile runoff; and wastewater from the Combustion Byproducts Landfill Pond.	None

I. There must be no direct discharge of wastewater from the Ash Silo/Fly Ash Loading Area Pond, closed and capped Ash Pond, or Reclaim Pond to waters of the State. The Ash Pond is closed and capped; however, minimal transfers may continue to occur from the closed and capped Ash Pond to the Reclaim Pond via the lateral drain sump.

J. The permittee shall maintain a facility map showing the following:

(1) The location of each wastewater pond and its contributing drainage area clearly delineated.

(2) Production areas, maintenance areas, materials handling areas, material storage areas and waste disposal areas.

The facility map shall be updated periodically and maintained onsite for review by Commission personnel.

K. The contact water retention pond for Subcell 2D of the existing Combustion Byproduct Landfill must be constructed in compliance with pond requirements detailed in Other Requirement No. 5C of this document, or as approved by the TCEQ Water Quality Division in an interoffice memorandum dated March 10, 2014. Specific alternate pond liner information is detailed in a TCEQ Water Quality Division interoffice memorandum dated February 5, 2014.

6. GROUNDWATER MONITORING

The permittee shall keep a copy of the current groundwater monitoring plan onsite for review by Commission personnel and on file with the TCEQ Water Quality Assessment Team (MC-150). The groundwater monitoring plan shall be reviewed and updated semi-annually, with a report submitted to the Water Quality Assessment Team within 60 days of each review. Reports shall address all parameters included in the current monitoring program and proposed changes to the plan.

7. DUST SUPPRESSION AND IRRIGATION

The permittee is authorized to utilize effluent from Coal Pile Runoff, Combustion Byproducts Landfill, and Ash Silo/Fly Ash Loading Area, for dust suppression at the Fayette Power Project. The permittee is authorized to utilize effluent from the Ash Silo/Fly Ash Loading Area Pond for irrigation of the landfill cover. With respect to utilization of effluent for dust suppression and irrigation, the permittee shall comply with the following requirements.

A. Dust suppression and irrigation practices shall be designed and managed so as to prevent runoff, ponding of effluent, or contamination of ground and surface waters and to prevent the occurrence of nuisance conditions in the area.

B. Application of effluent for dust suppression and irrigation shall be accomplished only when the area specified is not in use. Dust suppression with effluent shall not occur during times when

the ground has standing water, the ground is saturated, or within 24 hours of a rainfall event of 0.5 inches or greater during a 24-hour duration.

C. Spray fixtures for the dust suppression and irrigation systems shall be of such design that they cannot be operated by unauthorized personnel.

D. The permittee shall keep records of volumes, times, and areas where effluent is used for dust suppression and irrigation. These records shall be updated daily and maintained onsite for review by Commission personnel for a minimum of three years.

E. Adequate signs shall be erected stating that the dust suppression and irrigation water are from a non-potable water supply. Said signs shall consist of a red slash superimposed over the international symbol for drinking water accompanied by the message "Do not drink the water" in both English and Spanish.

8. MIXING ZONE DEFINITIONS:

Outfall 001: The chronic aquatic life mixing zone for Outfall 001 is defined as a volume of water within a radius of 100 feet extending into the receiving water from the point of discharge into Lake Fayette. Chronic toxic criteria apply at the edge of the chronic aquatic life mixing zone.

Outfalls 002, 003, & 004: There is no mixing zone established for these discharges to intermittent streams. Acute toxic criteria apply at the points of discharge.

9. COOLING WATER INTAKE STRUCTURE (CWIS) REQUIREMENTS

A. Specialized Definitions

(1) Actual Intake Flow (AIF), as defined at 40 CFR § 125.92(a), means the average volume of water withdrawn on an annual basis by the cooling water intake structures over the past three years. After October 14, 2019, AIF means the average volume of water withdrawn on an annual basis by the cooling water intake structures over the previous five years. Actual intake flow is measured at a location within the *cooling water intake structure* that the Director deems appropriate. The calculation of actual intake flow includes days of zero flow. AIF does not include flows associated with emergency and fire suppression capacity.

(2) Closed Cycle Recirculating System (CCRS), as defined as 40 CFR § 125.92(c), means a system designed and properly operated using minimized make-up and blowdown flows withdrawn from a water of the United States to support contact or non-contact cooling uses within a facility, or a system designed to include certain impoundments. A CCRS passes cooling water through the condenser and other components of the cooling system and reuses the water for cooling multiple times.

CCRS also includes a system with impoundments of waters of the United States (WOTUS) where the impoundment was constructed prior to October 14, 2014 and created for the purpose of serving as part of the cooling water system as documented in the project purpose statement for any required Clean Water Act (CWA) section 404 permit obtained to construct the impoundment. In the case of an impoundment whose construction pre-dated the CWA requirement to obtain a section 404 permit, documentation of the project's purpose must be demonstrated to the satisfaction of the Director. This documentation could be some other license or permit obtained to lawfully construct the impoundment for the purposes of a cooling water system, or other such evidence as the Director finds necessary. For impoundments constructed in uplands or not in WOTUS, no

documentation of a section 404 or other permit is required. If WOTUS are withdrawn for purposes of replenishing losses to a CCRS other than those due to blowdown, drift, and evaporation from the cooling system, the Director may determine a cooling system is a CCRS if the facility demonstrates to the satisfaction of the Director that make-up water withdrawals attributed specifically to the cooling portion of the cooling system have been minimized.

B. Monitoring Requirements

The permittee shall adhere to the requirements of 40 CFR § 125.96 when the CWIS is in operation. Specifically, the facility shall:

(1) monitor actual intake flow, as defined at 40 CFR § 125.92(a), withdrawn by CWIS for cooling purposes, including cooling water withdrawals on a daily basis; and

(2) conduct visual or remote inspections on a weekly basis, as required by 40 CFR § 125.96(e).

Alternatives to the procedures described at 40 CFR § 125.96(e) have not been approved by the TCEQ. Requests for alternative procedures must be submitted in writing to the TCEQ's Industrial Permits Team (MC-148) for review and approval and a copy sent to the TCEQ Region 11 Office.

Results of monitoring activities conducted during the term of this permit must be submitted to the TCEQ with the subsequent renewal permit application, as required by 40 CFR § 122.21(r).

C. Record-Keeping Requirements

Records (e.g. electronic logs, data acquisition system records, operating procedures, operator logs, etc.) documenting the operation and maintenance described above shall be kept on site until the subsequent permit is issued, per the requirements of 40 CFR § 125.97(d), and made available to TCEQ personnel upon request.

D. Changes to the Cooling Water Intake Structure

The facility must notify the TCEQ Industrial Permits Team (MC 148) and TCEQ Region 11 Office in writing at least 30 days prior to any changes or modifications of the design or in the operation of the CWIS.

If it is determined that the proposed CWIS configuration does not meet best technology available standards for impingement mortality and entrainment, the permit may be reopened to incorporate additional requirements.

10. Wastewater discharged via Outfall 004 must be sampled and analyzed as directed below for those parameters listed in Tables 1, 2, 3, 4, 5 and 6 of Attachment A of this permit. Analytical testing for Outfall 004 must be completed within 60 days of initial discharge. Results of the analytical testing must be submitted within 90 days of initial discharge to the TCEQ Compliance Monitoring Team (MC-224) and Industrial Wastewater Permits Team (MC-148). Based on a technical review of the submitted analytical results, an amendment may be initiated by TCEQ staff to include additional effluent limitations, monitoring requirements, or both.

Tables 1-2: Analysis is required for all pollutants in Tables 1 and 2. Wastewater must be sampled and analyzed for those parameters listed in Tables 1 and 2 for a minimum of one sampling event.

Table 3: Analysis is required for those pollutants in Table 3 that are used at the facility that could in any way contribute to contamination in the Outfall 004 discharge. Sampling and analysis must be conducted for a minimum of one sampling event.

Table 4: For all pollutants listed in Table 4, the permittee shall indicate whether each pollutant is believed to be present or absent in the discharge. Sampling and analysis must be conducted for each pollutant believed present for a minimum of one sampling event.

Tables 5-6: Analysis is required for at least one sampling event for Outfall 004.

The permittee shall report the flow at Outfall 004 in million gallons per day (MGD) in the attachment. The permittee shall indicate on each table whether the samples are composite (C) or grab (G) by checking the appropriate box.

11. ONCE-THROUGH COOLING WATER EXEMPTION

In accordance with 30 TAC §307.8(d) and based upon statistical analysis and source investigation, a once-through cooling water exemption for TDS, chloride, and sulfate has been approved by the Water Quality Standards Implementation Team at Outfall 001. As a result of this analysis, the permit will be issued without effluent limitations based on water quality criteria for TDS, chloride, and sulfate at Outfall 001; however, long-term monitoring and reporting requirements for these exempted pollutants are included in the permit at Outfall 001.

Based on a technical review of the submitted monitoring results, an amendment may be initiated by TCEQ staff to include additional effluent limitations, monitoring requirements, or both.

12. Reporting requirements according to 30 TAC Sections 319.1-319.12 at Outfall 001- Phase II (page 2a) and any additional effluent reporting requirements pertaining to Outfall 001-Phase II contained in the permit are suspended from the effective date of the permit until plant startup or discharge, whichever occurs first, from the facility described by this permit. The permittee shall provide written notice to the TCEQ Region 11 Office, Applications Review and Processing Team (MC-148) of the Water Quality Division, and Compliance Monitoring Team (MC-224) at least forty-five days prior to Phase II plant startup or anticipated discharge, whichever occurs first, on Notification of Completion Form 20007.

Attachment A

Table 1 – Conventionals and Non-conventionals

Outfall No.: ☐C ☐G	**Effluent Concentration (mg/L)**					
Pollutant	**Samp.**	**Samp.**	**Samp.**	**Samp.**	**Average**	
Flow (MGD)						
BOD (5-day)						
CBOD (5-day)						
Chemical Oxygen Demand						
Total Organic Carbon						
Dissolved Oxygen						
Ammonia Nitrogen						
Total Suspended Solids						
Nitrate Nitrogen						
Total Organic Nitrogen						
Total Phosphorus						
Oil and Grease						
Total Residual Chlorine						
Total Dissolved Solids						
Sulfate						
Chloride						
Fluoride						
Total Alkalinity (mg/L as $CaCO_3$)						
Temperature (°F)						
pH (Standard Units; min/max)						

Table 2 – Metals

Pollutant	**Effluent Concentration (µg/L)[1]**					**MAL[2] (µg/L)**
	Samp.	**Samp.**	**Samp.**	**Samp.**	**Average**	
Aluminum, Total						2.5
Antimony, Total						5
Arsenic, Total						0.5
Barium, Total						3
Beryllium, Total						0.5
Cadmium, Total						1
Chromium, Total						3
Chromium, Hexavalent						3
Chromium, Trivalent						N/A
Copper, Total						2
Cyanide, Free						10
Lead, Total						0.5
Mercury, Total						0.005

[1] Indicate units if different than µg/L.
[2] Minimum Analytical Level

Pollutant	Effluent Concentration (µg/L)[1]					MAL[2] (µg/L)
	Samp.	Samp.	Samp.	Samp.	Average	
Nickel, Total						2
Selenium, Total						5
Silver, Total						0.5
Thallium, Total						0.5
Zinc, Total						5.0

Table 3 – Toxic Pollutants with Water Quality Criteria

Outfall No.: ☐C ☐G Pollutant	Samp. 1 (µg/L)	Samp. 2 (µg/L)	Samp. 3 (µg/L)	Samp. 4 (µg/L)	Avg. (µg/L)	MAL (µg/L)
Acrolein						0.7
Acrylonitrile						50
Anthracene						10
Benzene						10
Benzidine						50
Benzo(*a*)anthracene						5
Benzo(*a*)pyrene						5
Bis(2-chloroethyl)ether						10
Bis(2-ethylhexyl) phthalate						10
Bromodichloromethane						10
Bromoform						10
Carbon Tetrachloride						2
Chlorobenzene						10
Chlorodibromomethane						10
Chloroform						10
Chrysene						5
Cresols						10
1,2-Dibromoethane						10
m-Dichlorobenzene						10
o-Dichlorobenzene						10
p-Dichlorobenzene						10
3,3'-Dichlorobenzidine						5
1,2-Dichloroethane						10
1,1-Dichloroethylene						10
Dichloromethane						20
1,2-Dichloropropane						10
1,3-Dichloropropylene						10
2,4-Dimethylphenol						10
Di-*n*-Butyl Phthalate						10
Epichlorohydrin						1,000
Ethylbenzene						10
Ethylene Glycol						—
Fluoride						500
Hexachlorobenzene						5

Outfall No.: ☐C ☐G Pollutant	Samp. 1 (µg/L)	Samp. 2 (µg/L)	Samp. 3 (µg/L)	Samp. 4 (µg/L)	Avg. (µg/L)	MAL (µg/L)
Hexachlorobutadiene						10
Hexachlorocyclopentadiene						10
Hexachloroethane						20
4,4′-Isopropylidenediphenol [bisphenol A]						—
Methyl Ethyl Ketone						50
Methyl *tert*-butyl ether [MTBE]						—
Nitrobenzene						10
N-Nitrosodiethylamine						20
N-Nitroso-di-*n*-Butylamine						20
Nonylphenol						333
Pentachlorobenzene						20
Pentachlorophenol						5
Phenanthrene						10
Polychlorinated Biphenyls (PCBs) [1]						0.2
Pyridine						20
1,2,4,5-Tetrachlorobenzene						20
1,1,2,2-Tetrachloroethane						10
Tetrachloroethylene						10
Toluene						10
1,1,1-Trichloroethane						10
1,1,2-Trichloroethane						10
Trichloroethylene						10
2,4,5-Trichlorophenol						50
TTHM (Total Trihalomethanes)						10
Vinyl Chloride						10

[1] Total of detects for PCB-1242, PCB-1254, PCB-1221, PCB-1232, PCB-1248, PCB-1260, PCB-1016. If all values are non-detects, enter the highest non-detect preceded by a "<" symbol.

Table 4

Outfall No. ☐C ☐G Pollutant	Believed Present	Believed Absent	Average Concentration (mg/L)	Maximum Concentration (mg/L)	No. of Samples	MAL (mg/L)
Bromide						0.400
Color (PCU)						—
Nitrate-Nitrite (as N)						—
Sulfide (as S)						—
Sulfite (as SO_3)						—
Surfactants						—
Boron, total						0.020
Cobalt, total						0.0003
Iron, total						0.007
Magnesium, total						0.020
Manganese, total						0.0005
Molybdenum, total						0.001
Tin, total						0.005
Titanium, total						0.030

Table 5 – Volatile Compounds

Outfall No. ☐C ☐G Pollutant	Average (µg/L)[1]	Maximum (µg/L)	No. of Samples	MAL (µg/L)
Acrolein				50
Acrylonitrile				50
Benzene				10
Bromoform				10
Carbon tetrachloride				2
Chlorobenzene				10
Chlorodibromomethane				10
Chloroethane				50
2-Chloroethylvinyl ether				10
Chloroform				10
Dichlorobromomethane [Bromodichloromethane]				10
1,1-Dichloroethane				10
1,2-Dichloroethane				10
1,1-Dichloroethylene [1,1-Dichloroethene]				10
1,2-Dichloropropane				10
1,3-Dichloropropylene [1,3-Dichloropropene]				10
Ethylbenzene				10
Methyl bromide [Bromomethane]				50
Methyl chloride [Chloromethane]				50
Methylene chloride [Dichloromethane]				20

[1] Indicate units if different than µg/L.

Outfall No. ☐C ☐G Pollutant	Average (µg/L)[1]	Maximum (µg/L)	No. of Samples	MAL (µg/L)
1,1,2,2-Tetrachloroethane				10
Tetrachloroethylene [Tetrachloroethene]				10
Toluene				10
1,2-*trans*-dichloroethylene [1,2-*trans*-dichloroethene]				10
1,1,1-Trichloroethane				10
1,1,2-Trichloroethane				10
Trichloroethylene [Trichloroethene]				10
Vinyl chloride				10

Table 6 – Acid Compounds

Outfall No. ☐C ☐G Pollutant	Average (µg/L)[2]	Maximum (µg/L)	No. of Samples	MAL (µg/L)
2-Chlorophenol				10
2,4-Dichlorophenol				10
2,4-Dimethylphenol				10
4,6-Dinitro-*o*-cresol				50
2,4-Dinitrophenol				50
2-Nitrophenol				20
4-Nitrophenol				50
p-Chloro-*m*-cresol				10
Pentachlorophenol				5
Phenol				10
2,4,6-Trichlorophenol				10

[2] Indicate units if different than µg/L.

CHRONIC BIOMONITORING REQUIREMENTS: FRESHWATER

The provisions of this section apply to Outfall 001 for whole effluent toxicity (WET) testing.

1. Scope, Frequency, and Methodology

a. The permittee shall test the effluent for toxicity in accordance with the provisions below. Such testing will determine if an appropriately dilute effluent sample adversely affects the survival, reproduction, or growth of the test organisms.

b. The permittee shall conduct the following toxicity tests using the test organisms, procedures and quality assurance requirements specified in this part of this permit and in accordance with "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms," fourth edition (EPA-821-R-02-013) or its most recent update:

1) Chronic static renewal survival and reproduction test using the water flea (*Ceriodaphnia dubia*) (Method 1002.0). This test should be terminated when 60% of the surviving adults in the control produce three broods or at the end of eight days, whichever occurs first. This test shall be conducted once per quarter.

2) Chronic static renewal 7-day larval survival and growth test using the fathead minnow (*Pimephales promelas*) (Method 1000.0). A minimum of five replicates with eight organisms per replicate shall be used in the control and in each dilution. This test shall be conducted once per quarter.

The permittee should perform and report a valid test for each test species during the prescribed reporting period. An invalid test must be repeated during the same reporting period, unless the test was invalid due to the intake water (i.e., the control) being toxic (i.e., failing to meet acceptability criteria). In such case, the requirement to perform a valid test is waived for that reporting period only. An invalid test is defined as any test failing to satisfy the test acceptability criteria, procedures, and quality assurance requirements specified in the test methods and permit.

c. The permittee shall use five effluent dilution concentrations and a control in each toxicity test. These effluent dilution concentrations are 32%, 42%, 56%, 75%, and 100% effluent. The critical dilution, defined as 100% effluent, is the effluent concentration representative of the proportion of effluent in the receiving water during critical low flow or critical mixing conditions.

d. This permit may be amended to require a WET limit, a chemical-specific effluent limit, a best management practice, or other appropriate actions to address toxicity. The permittee may be required to conduct a toxicity reduction evaluation (TRE) after multiple toxic events.

e. Testing Frequency Reduction

1) If none of the first four consecutive quarterly tests demonstrates significant toxicity, the permittee may submit this information in writing and, upon approval, reduce the testing frequency to once per six months for the invertebrate test species and once per year for the vertebrate test species.

2) If one or more of the first four consecutive quarterly tests demonstrates

significant toxicity, the permittee shall continue quarterly testing for that species until this permit is reissued. If a testing frequency reduction had been previously granted and a subsequent test demonstrates significant toxicity, the permittee shall resume a quarterly testing frequency for that species until this permit is reissued.

2. Required Toxicity Testing Conditions

a. Test Acceptance - The permittee shall repeat any toxicity test, including the control and all effluent dilutions, which fail to meet the following criteria:

1) a control mean survival of 80% or greater;

2) a control mean number of water flea neonates per surviving adult of 15 or greater;

3) a control mean dry weight of surviving fathead minnow larvae of 0.25 mg or greater;

4) a control coefficient of variation percent (CV%) of 40 or less in between replicates for the young of surviving females in the water flea test; and the growth and survival endpoints in the fathead minnow test;

5) a critical dilution CV% of 40 or less for young of surviving females in the water flea test; and the growth and survival endpoints for the fathead minnow test, unless statistically significant toxicity is demonstrated at the critical dilution, in which case the test shall be considered valid;

6) a percent minimum significant difference of 47 or less for water flea reproduction; and

7) a PMSD of 30 or less for fathead minnow growth.

b. Statistical Interpretation

1) For the water flea survival and reproduction test, the statistical analyses used to determine the inhibition concentration of effluent that would cause a 25% reduction (IC25) in survival or mean young per female shall be as described in the methods manual referenced in Part 1.b.

2) For the fathead minnow larval survival and growth tests, the statistical analyses used to determine the IC25 in survival or growth shall be as described in the methods manual referenced in Part 1.b.

3) The permittee is responsible for reviewing test concentration-response relationships to ensure that calculated test-results are interpreted and reported correctly. The document entitled “Method Guidance and Recommendation for Whole Effluent Toxicity (WET) Testing (40 CFR Part 136)” (EPA 821-B-00-004) provides guidance on determining the validity of test results.

4) Most point estimates are derived from a mathematical model that assumes a continuous dose-response relationship. For any test result that demonstrates a non-continuous (threshold) response, or a non-monotonic dose-response relationship, the IC25 should be determined based on the method guidance

manual referenced in Item 3.

5) Pursuant to the responsibility assigned to the permittee in Part 2.b.3), test results that demonstrate a non-monotonic dose-response relationship may be submitted, prior to the due date, for technical review of test validity and acceptability. The method guidance manual referenced in Item 3 will be used as the basis, along with best professional judgement, for making a determination of test validity and acceptability.

c. Dilution Water

1) Dilution water used in the toxicity tests must be the lake water collected as close to the point of intake as possible and concurrently with the effluent sample.

d. Samples and Composites

1) The permittee shall collect a minimum of three composite samples from Outfall 001. The second and third composite samples will be used for the renewal of the dilution concentrations for each toxicity test.

2) The permittee shall collect the composite samples such that the samples are representative of any periodic episode of chlorination, biocide usage, or other potentially toxic substance being discharged on an intermittent basis.

3) The permittee shall initiate the toxicity tests within 36 hours after collection of the last portion of the first composite sample. The holding time for any subsequent composite sample shall not exceed 72 hours. Samples shall be maintained at a temperature of 0-6 degrees Centigrade during collection, shipping, and storage.

4) If Outfall 001 ceases discharging during the collection of effluent samples, the requirements for the minimum number of effluent samples, the minimum number of effluent portions, and the sample holding time are waived during that sampling period. However, the permittee must have collected an effluent composite sample volume sufficient to complete the required toxicity tests with renewal of the effluent. When possible, the effluent samples used for the toxicity tests shall be collected on separate days if the discharge occurs over multiple days. The sample collection duration and the static renewal protocol associated with the abbreviated sample collection must be documented in the full report.

3. Reporting

All reports, tables, plans, summaries, and related correspondence required in this section shall be submitted to the attention of the Standards Implementation Team (MC 150) of the Water Quality Division.

a. The permittee shall prepare a full report of the results of all tests conducted in accordance with the manual referenced in Part 1.b. for every valid and invalid toxicity test initiated whether carried to completion or not.

b. The permittee shall routinely report the results of each biomonitoring test on the Table 1 forms provided with this permit.

1) Annual biomonitoring test results are due on or before January 20th for biomonitoring conducted during the previous 12-month period.

2) Semiannual biomonitoring test results are due on or before July 20th and January 20th for biomonitoring conducted during the previous 6-month period.

3) Quarterly biomonitoring test results are due on or before April 20th, July 20th, October 20th, and January 20th for biomonitoring conducted during the previous calendar quarter.

4) Monthly biomonitoring test results are due on or before the 20th day of the month following sampling.

c. Enter the following codes for the appropriate parameters for valid tests only:

1) For the water flea, Parameter T4P3B, enter a "1" if the IC25 for survival is less than the critical dilution; otherwise, enter a "0."

2) For the water flea, Parameter T6P3B, report the IC25 for survival.

3) For the water flea, Parameter T5P3B, enter a "1" if the IC25 for reproduction is less than the critical dilution; otherwise, enter a "0."

4) For the water flea, Parameter T7P3B, report the IC25 for reproduction.

5) For the fathead minnow, Parameter T4P6C, enter a "1" if the IC25 for survival is less than the critical dilution; otherwise, enter a "0."

6) For the fathead minnow, Parameter T6P6C, report the IC25 for survival.

7) For the fathead minnow, Parameter T5P6C, enter a "1" if the IC25 for growth is less than the critical dilution; otherwise, enter a "0."

8) For the fathead minnow, Parameter T7P6C, report the IC25 for growth.

d. Enter the following codes for retests only:

1) For retest number 1, Parameter 22415, enter a "1" if the IC25 for survival is less than the critical dilution; otherwise, enter a "0."

2) For retest number 2, Parameter 22416, enter a "1" if the IC25 for survival is less than the critical dilution; otherwise, enter a "0."

4. Persistent Toxicity

The requirements of this Part apply only when a test demonstrates a significant effect at the critical dilution. A significant effect is defined as an IC25 of a specified endpoint (survival, growth, or reproduction) less than the critical dilution. Significant lethality is defined as a survival IC25 less than the critical dilution. Similarly, significant sublethality is defined as a growth or reproduction IC25 less than the critical dilution.

a. The permittee shall conduct a total of 2 additional tests (retests) for any species that demonstrates a significant effect (lethal or sublethal) at the critical dilution. The two

retests shall be conducted monthly during the next two consecutive months. The permittee shall not substitute either of the two retests in lieu of routine toxicity testing. All reports shall be submitted within 20 days of test completion. Test completion is defined as the last day of the test.

b. If the retests are performed due to a demonstration of significant lethality, and one or both of the two retests specified in Part 4.a. demonstrates significant lethality, the permittee shall initiate the TRE requirements as specified in Part 5. The provisions of Part 4.a. are suspended upon completion of the two retests and submittal of the TRE action plan and schedule defined in Part 5.

If neither test demonstrates significant lethality and the permittee is testing under the reduced testing frequency provision of Part 1.e., the permittee shall return to a quarterly testing frequency for that species.

c. If the two retests are performed due to a demonstration of significant sublethality, and one or both of the two retests specified in Part 4.a. demonstrates significant lethality, the permittee shall again perform two retests as stipulated in Part 4.a.

d. If the two retests are performed due to a demonstration of significant sublethality, and neither test demonstrates significant lethality, the permittee shall continue testing at the quarterly frequency.

e. Regardless of whether retesting for lethal or sublethal effects, or a combination of the two, no more than one retest per month is required for a species.

5. Toxicity Reduction Evaluation

a. Within 45 days of the retest that demonstrates significant lethality, or within 45 days of being so instructed due to multiple toxic events, the permittee shall submit a general outline for initiating a TRE. The outline shall include, but not be limited to, a description of project personnel, a schedule for obtaining consultants (if needed), a discussion of influent and effluent data available for review, a sampling and analytical schedule, and a proposed TRE initiation date.

b. Within 90 days of the retest that demonstrates significant lethality, or within 90 days of being so instructed due to multiple toxic events, the permittee shall submit a TRE action plan and schedule for conducting a TRE. The plan shall specify the approach and methodology to be used in performing the TRE. A TRE is a step-wise investigation combining toxicity testing with physical and chemical analyses to determine actions necessary to eliminate or reduce effluent toxicity to a level not effecting significant lethality at the critical dilution. The TRE action plan shall describe an approach for the reduction or elimination of lethality for both test species defined in Part 1.b. At a minimum, the TRE action plan shall include the following:

1) Specific Activities - The TRE action plan shall specify the approach the permittee intends to utilize in conducting the TRE, including toxicity characterizations, identifications, confirmations, source evaluations, treatability studies, and alternative approaches. When conducting characterization analyses, the permittee shall perform multiple characterizations and follow the procedures specified in the document entitled “Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I” (EPA/600/6-91/005F) or alternate procedures. The permittee shall perform multiple

identifications and follow the methods specified in the documents entitled "Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity" (EPA/600/R-92/080) and "Methods for Aquatic Toxicity Identification Evaluations: Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity" (EPA/600/R-92/081). All characterization, identification, and confirmation tests shall be conducted in an orderly and logical progression;

2) Sampling Plan - The TRE action plan should describe sampling locations, methods, holding times, chain of custody, and preservation techniques. The effluent sample volume collected for all tests shall be adequate to perform the toxicity characterization/identification/confirmation procedures and chemical-specific analyses when the toxicity tests show significant lethality. Where the permittee has identified or suspects a specific pollutant and source of effluent toxicity, the permittee shall conduct, concurrent with toxicity testing, chemical-specific analyses for the identified and suspected pollutant and source of effluent toxicity;

3) Quality Assurance Plan - The TRE action plan should address record keeping and data evaluation, calibration and standardization, baseline tests, system blanks, controls, duplicates, spikes, toxicity persistence in the samples, randomization, reference toxicant control charts, and mechanisms to detect artifactual toxicity; and

4) Project Organization - The TRE action plan should describe the project staff, project manager, consulting engineering services (where applicable), consulting analytical and toxicological services, etc.

c. Within 30 days of submittal of the TRE action plan and schedule, the permittee shall implement the TRE.

d. The permittee shall submit quarterly TRE activities reports concerning the progress of the TRE. The quarterly reports are due on or before April 20th, July 20th, October 20th, and January 20th. The report shall detail information regarding the TRE activities including:

1) results and interpretation of any chemical-specific analyses for the identified and suspected pollutant performed during the quarter;

2) results and interpretation of any characterization, identification, and confirmation tests performed during the quarter;

3) any data and substantiating documentation which identifies the pollutant(s) and source of effluent toxicity;

4) results of any studies/evaluations concerning the treatability of the facility's effluent toxicity;

5) any data that identifies effluent toxicity control mechanisms that will reduce effluent toxicity to the level necessary to meet no significant lethality at the critical dilution; and

6) any changes to the initial TRE plan and schedule that are believed necessary as a result of the TRE findings.

e. During the TRE, the permittee shall perform, at a minimum, quarterly testing using the more sensitive species. Testing for the less sensitive species shall continue at the frequency specified in Part 1.b.

f. If the effluent ceases to effect significant lethality, i.e., there is a cessation of lethality, the permittee may end the TRE. A cessation of lethality is defined as no significant lethality for a period of 12 consecutive months with at least monthly testing. At the end of the 12 months, the permittee shall submit a statement of intent to cease the TRE and may then resume the testing frequency specified in Part 1.b.

This provision accommodates situations where operational errors and upsets, spills, or sampling errors triggered the TRE, in contrast to a situation where a single toxicant or group of toxicants cause lethality. This provision does not apply as a result of corrective actions taken by the permittee. Corrective actions are defined as proactive efforts that eliminate or reduce effluent toxicity. These include, but are not limited to, source reduction or elimination, improved housekeeping, changes in chemical usage, and modifications of influent streams and effluent treatment.

The permittee may only apply this cessation of lethality provision once. If the effluent again demonstrates significant lethality to the same species, the permit will be amended to add a WET limit with a compliance period, if appropriate. However, prior to the effective date of the WET limit, the permittee may apply for a permit amendment removing and replacing the WET limit with an alternate toxicity control measure by identifying and confirming the toxicant and an appropriate control measure.

g. The permittee shall complete the TRE and submit a final report on the TRE activities no later than 28 months from the last test day of the retest that confirmed significant lethal effects at the critical dilution. The permittee may petition the Executive Director (in writing) for an extension of the 28-month limit. However, to warrant an extension the permittee must have demonstrated due diligence in its pursuit of the toxicity identification evaluation/TRE and must prove that circumstances beyond its control stalled the toxicity identification evaluation/TRE. The report shall provide information pertaining to the specific control mechanism selected that will, when implemented, result in the reduction of effluent toxicity to no significant lethality at the critical dilution. The report shall also provide a specific corrective action schedule for implementing the selected control mechanism.

h. Based on the results of the TRE and proposed corrective actions, this permit may be amended to modify the biomonitoring requirements, where necessary, require a compliance schedule for implementation of corrective actions, specify a WET limit, specify a best management practice, and specify a chemical-specific limit.

i. Copies of any and all required TRE plans and reports shall also be submitted to the U.S. EPA Region 6 office, 6WQ-PO.

TABLE 1 (SHEET 1 OF 4)

BIOMONITORING REPORTING

CERIODAPHNIA DUBIA SURVIVAL AND REPRODUCTION

		Date Time		Date Time
Dates and Times Composites Collected	No. 1	FROM: _____	TO:	_____
	No. 2	FROM: _____	TO:	_____
	No. 3	FROM:_____	TO:	_____

Test initiated: _____am/pm _____date

Dilution water used: _____ Receiving water _____ Synthetic Dilution water

NUMBER OF YOUNG PRODUCED PER ADULT AT END OF TEST

REP	Percent effluent					
	0%	32%	42%	56%	75%	100%
A						
B						
C						
D						
E						
F						
G						
H						
I						
J						
Survival Mean						
Total Mean						
CV%*						

*Coefficient of Variation = standard deviation x 100/mean (calculation based on young of the surviving adults)
Designate males (M), and dead females (D), along with number of neonates (x) released prior to death.

TABLE 1 (SHEET 2 OF 4)

CERIODAPHNIA DUBIA SURVIVAL AND REPRODUCTION TEST

PERCENT SURVIVAL

	Percent effluent					
Time of Reading	0%	32%	42%	56%	75%	100%
24h						
48h						
End of Test						

1. Is the IC25 for reproduction less than the critical dilution (100%)? _____ YES _____ NO

2. Is the IC25 for survival less than the critical dilution (100%)? _____ YES _____ NO

3. Enter percent effluent corresponding to each IC25 below:

   IC25 survival = _____%

   IC25 reproduction = _____%

TABLE 1 (SHEET 3 OF 4)

BIOMONITORING REPORTING

FATHEAD MINNOW LARVAE GROWTH AND SURVIVAL

		Date Time		Date Time
Dates and Times Composites Collected	No. 1 FROM:	_____	TO:	_____
	No. 2 FROM:	_____	TO:	_____
	No. 3 FROM:	_____	TO:	_____

Test initiated: _____am/pm _____date

Dilution water used: _____ Receiving water _____ Synthetic dilution water

FATHEAD MINNOW GROWTH DATA

Effluent Concentration	Average Dry Weight in replicate chambers					Mean Dry Weight	CV%*
	A	B	C	D	E		
0%							
32%							
42%							
56%							
75%							
100%							

* Coefficient of Variation = standard deviation x 100/mean

TABLE 1 (SHEET 4 OF 4)

BIOMONITORING REPORTING

FATHEAD MINNOW GROWTH AND SURVIVAL TEST

FATHEAD MINNOW SURVIVAL DATA

Effluent Concentration	Percent Survival in replicate chambers					Mean percent survival			CV%*
	A	B	C	D	E	24h	48h	7 day	
0%									
32%									
42%									
56%									
75%									
100%									

* Coefficient of Variation = standard deviation x 100/mean

1. Is the IC25 for growth less than the critical dilution (100%)? _____ YES _____ NO

2. Is the IC25 for survival less than the critical dilution (100%)? _____ YES _____ NO

3. Enter percent effluent corresponding to each IC25 below:

   IC25 survival = _____%

   IC25 growth = _____%

24-HOUR ACUTE BIOMONITORING REQUIREMENTS: FRESHWATER

The provisions of this section apply to Outfall 001 for whole effluent toxicity (WET) testing.

1. Scope, Frequency, and Methodology

a. The permittee shall test the effluent for lethality in accordance with the provisions in this section. Such testing will determine compliance with Texas Surface Water Quality Standard 30 TAC § 307.6(e)(2)(B), which requires greater than 50% survival of the appropriate test organisms in 100% effluent for a 24-hour period.

b. The toxicity tests specified shall be conducted once per six months. The permittee shall conduct the following toxicity tests using the test organisms, procedures, and quality assurance requirements specified in this section of the permit and in accordance with "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms," fifth edition (EPA-821-R-02-012) or its most recent update:

1) Acute 24-hour static toxicity test using the water flea (*Daphnia pulex* or *Ceriodaphnia dubia*). A minimum of five replicates with eight organisms per replicate shall be used in the control and each dilution.

2) Acute 24-hour static toxicity test using the fathead minnow (*Pimephales promelas*). A minimum of five replicates with eight organisms per replicate shall be used in the control and each dilution.

The permittee must perform and report a valid test for each test species during the prescribed reporting period. An invalid test must be repeated during the same reporting period. An invalid test is defined as any test failing to satisfy the test acceptability criteria, procedures, and quality assurance requirements specified in the test methods and permit.

c. In addition to an appropriate control, a 100% effluent concentration shall be used in the toxicity tests. Except as discussed in item 2.b., the control and dilution water shall consist of standard, synthetic, moderately hard, reconstituted water.

d. This permit may be amended to require a WET limit, a Best Management Practice (BMP), Chemical-Specific (CS) limits, or other appropriate actions to address toxicity. The permittee may be required to conduct a Toxicity Reduction Evaluation after multiple toxic events.

e. As the dilution series specified in the Chronic Biomonitoring Requirements includes a 100% effluent concentration, the results from those tests may fulfill the requirements of this Section; any tests performed in the proper time interval may be substituted. Compliance will be evaluated as specified in item a. The 50% survival in 100% effluent for a 24-hour period standard applies to all tests utilizing a 100% effluent dilution, regardless of whether the results are submitted to comply with the minimum testing frequency defined in item b.

2. Required Toxicity Testing Conditions

a. Test Acceptance - The permittee shall repeat any toxicity test, including the control, if the control fails to meet a mean survival equal to or greater than 90%.

b. Dilution Water - In accordance with item 1.c., the control and dilution water shall normally consist of standard, synthetic, moderately hard, reconstituted water. If the permittee utilizes the results of a chronic test to satisfy the requirements in item 1.e., the permittee may use the receiving water or dilution water that meets the requirements of item 2.a as the control and dilution water.

c. Samples and Composites

1) The permittee shall collect one composite sample from Outfall 001.

2) The permittee shall collect the composite samples such that the sample is representative of any periodic episode of chlorination, biocide usage, or other potentially toxic substance being discharged.

3) The permittee shall initiate the toxicity tests within 36 hours after collection of the last portion of the composite sample. The samples shall be maintained at a temperature of 0-6 degrees Centigrade during collection, shipping, and storage.

4) If Outfall 001 ceases discharging during the collection of the effluent composite sample, the requirements for the minimum number of effluent portions are waived. However, the permittee must have collected a composite sample volume sufficient for completion of the required test. The abbreviated sample collection, duration, and methodology must be documented in the full report.

3. Reporting

All reports, tables, plans, summaries, and related correspondence required in this section shall be submitted to the attention of the Standards Implementation Team (MC 150) of the Water Quality Division.

a. The permittee shall prepare a full report of the results of all tests conducted pursuant to this permit in accordance with the manual referenced in Part 1.b. for every valid and invalid toxicity test initiated.

b. The permittee shall routinely report the results of each biomonitoring test on the Table 2 forms provided with this permit.

1) Semiannual biomonitoring test results are due on or before July 20th and January 20th for biomonitoring conducted during the previous 6-month period.

2) Quarterly biomonitoring test results are due on or before April 20th, July 20th, October 20th, and January 20th for biomonitoring conducted during the previous calendar quarter.

c. Enter the following codes for the appropriate parameters for valid tests only:

1) For the water flea, Parameter TIE3D, enter a “0” if the mean survival at 24 hours is greater than 50% in the 100% effluent dilution; if the mean survival is less than or equal to 50%, enter “1.”

2) For the fathead minnow, Parameter TIE6C, enter a “0” if the mean survival at 24 hours is greater than 50% in the 100% effluent dilution; if the mean survival

is less than or equal to 50%, enter "1."

d. Enter the following codes for retests only:

1) For retest number 1, Parameter 22415, enter a "0" if the mean survival at 24 hours is greater than 50% in the 100% effluent dilution; if the mean survival is less than or equal to 50%, enter "1."

2) For retest number 2, Parameter 22416, enter a "0" if the mean survival at 24 hours is greater than 50% in the 100% effluent dilution; if the mean survival is less than or equal to 50%, enter "1."

4. Persistent Mortality

The requirements of this part apply when a toxicity test demonstrates significant lethality, which is defined as a mean mortality of 50% or greater of organisms exposed to the 100% effluent concentration for 24 hours.

a. The permittee shall conduct 2 additional tests (retests) for each species that demonstrates significant lethality. The two retests shall be conducted once per week for 2 weeks. Five effluent dilution concentrations in addition to an appropriate control shall be used in the retests. These effluent concentrations are 6%, 13%, 25%, 50% and 100% effluent. The first retest shall be conducted within 15 days of the laboratory determination of significant lethality. All test results shall be submitted within 20 days of test completion of the second retest. Test completion is defined as the 24th hour.

b. If one or both of the two retests specified in Part 4.a. demonstrates significant lethality, the permittee shall initiate the TRE requirements as specified in Part 5.

5. Toxicity Reduction Evaluation

a. Within 45 days of the retest that demonstrates significant lethality, the permittee shall submit a general outline for initiating a TRE. The outline shall include, but not be limited to, a description of project personnel, a schedule for obtaining consultants (if needed), a discussion of influent and effluent data available for review, a sampling and analytical schedule, and a proposed TRE initiation date.

b. Within 90 days of the retest that demonstrates significant lethality, the permittee shall submit a TRE action plan and schedule for conducting a TRE. The plan shall specify the approach and methodology to be used in performing the TRE. A TRE is a step-wise investigation combining toxicity testing with physical and chemical analysis to determine actions necessary to eliminate or reduce effluent toxicity to a level not effecting significant lethality at the critical dilution. The TRE action plan shall lead to the successful elimination of significant lethality for both test species defined in Part 1.b. At a minimum, the TRE action plan shall include the following:

1) Specific Activities - The TRE action plan shall specify the approach the permittee intends to utilize in conducting the TRE, including toxicity characterizations, identifications, confirmations, source evaluations, treatability studies, and alternative approaches. When conducting characterization analyses, the permittee shall perform multiple characterizations and follow the procedures specified in the document entitled "Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures"

(EPA/600/6-91/003) or alternate procedures. The permittee shall perform multiple identifications and follow the methods specified in the documents entitled "Methods for Aquatic Toxicity Identification Evaluations: Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity" (EPA/600/R-92/080) and "Methods for Aquatic Toxicity Identification Evaluations: Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity" (EPA/600/R-92/081). All characterization, identification, and confirmation tests shall be conducted in an orderly and logical progression;

2) Sampling Plan - The TRE action plan should describe sampling locations, methods, holding times, chain of custody, and preservation techniques. The effluent sample volume collected for all tests shall be adequate to perform the toxicity characterization/identification/confirmation procedures, and chemical-specific analyses when the toxicity tests show significant lethality. Where the permittee has identified or suspects a specific pollutant and source of effluent toxicity, the permittee shall conduct, concurrent with toxicity testing, chemical-specific analyses for the identified and suspected pollutant and source of effluent toxicity;

3) Quality Assurance Plan - The TRE action plan should address record keeping and data evaluation, calibration and standardization, baseline tests, system blanks, controls, duplicates, spikes, toxicity persistence in the samples, randomization, reference toxicant control charts, and mechanisms to detect artifactual toxicity; and

4) Project Organization - The TRE action plan should describe the project staff, manager, consulting engineering services (where applicable), consulting analytical and toxicological services, etc.

c. Within 30 days of submittal of the TRE action plan and schedule, the permittee shall implement the TRE.

d. The permittee shall submit quarterly TRE activities reports concerning the progress of the TRE. The quarterly TRE activities reports are due on or before April 20th, July 20th, October 20th, and January 20th. The report shall detail information regarding the TRE activities including:

1) results and interpretation of any chemical-specific analyses for the identified and suspected pollutant performed during the quarter;

2) results and interpretation of any characterization, identification, and confirmation tests performed during the quarter;

3) any data and substantiating documentation that identifies the pollutant and source of effluent toxicity;

4) results of any studies/evaluations concerning the treatability of the facility's effluent toxicity;

5) any data that identifies effluent toxicity control mechanisms that will reduce effluent toxicity to the level necessary to eliminate significant lethality; and

6) any changes to the initial TRE plan and schedule that are believed necessary as a result of the TRE findings.

e. During the TRE, the permittee shall perform, at a minimum, quarterly testing using the more sensitive species. Testing for the less sensitive species shall continue at the frequency specified in Part 1.b.

f. If the effluent ceases to effect significant lethality, i.e., there is a cessation of lethality, the permittee may end the TRE. A cessation of lethality is defined as no significant lethality for a period of 12 consecutive weeks with at least weekly testing. At the end of the 12 weeks, the permittee shall submit a statement of intent to cease the TRE and may then resume the testing frequency specified in Part 1.b.

This provision accommodates situations where operational errors and upsets, spills, or sampling errors triggered the TRE, in contrast to a situation where a single toxicant or group of toxicants cause lethality. This provision does not apply as a result of corrective actions taken by the permittee. Corrective actions are defined as proactive efforts that eliminate or reduce effluent toxicity. These include, but are not limited to, source reduction or elimination, improved housekeeping, changes in chemical usage, and modifications of influent streams and effluent treatment.

The permittee may only apply this cessation of lethality provision once. If the effluent again demonstrates significant lethality to the same species, the permit will be amended to add a WET limit with a compliance period, if appropriate. However, prior to the effective date of the WET limit, the permittee may apply for a permit amendment removing and replacing the WET limit with an alternate toxicity control measure by identifying and confirming the toxicant and an appropriate control measure.

g. The permittee shall complete the TRE and submit a final report on the TRE activities no later than 18 months from the last test day of the retest that demonstrates significant lethality. The permittee may petition the Executive Director (in writing) for an extension of the 18-month limit. However, to warrant an extension the permittee must have demonstrated due diligence in its pursuit of the toxicity identification evaluation/TRE and must prove that circumstances beyond its control stalled the toxicity identification evaluation/TRE. The report shall specify the control mechanism that will, when implemented, reduce effluent toxicity as specified in item 5.h. The report will also specify a corrective action schedule for implementing the selected control mechanism. A copy of the TRE final report shall also be submitted to the U.S. EPA Region 6 office.

h. Within 3 years of the last day of the test confirming toxicity, the permittee shall comply with 30 TAC § 307.6(e)(2)(B), which requires greater than 50% survival of the test organism in 100% effluent at the end of 24-hours. The permittee may petition the Executive Director (in writing) for an extension of the 3-year limit. However, to warrant an extension the permittee must have demonstrated due diligence in its pursuit of the toxicity identification evaluation/TRE and must prove that circumstances beyond its control stalled the toxicity identification evaluation/TRE.

The permittee may be exempted from complying with 30 TAC § 307.6(e)(2)(B) upon proving that toxicity is caused by an excess, imbalance, or deficiency of dissolved salts. This exemption excludes instances where individually toxic components (e.g., metals) form a salt compound. Following the exemption, this permit may be amended to include an ion-adjustment protocol, alternate species testing, or single species testing.

i. Based upon the results of the TRE and proposed corrective actions, this permit may be amended to modify the biomonitoring requirements where necessary, require a compliance schedule for implementation of corrective actions, specify a WET limit, specify a best management practice, and specify a chemical-specific limit

j. Copies of any and all required TRE plans and reports shall also be submitted to the U.S. EPA Region 6 office, 6WQ-PO.

TABLE 2 (SHEET 1 OF 2)

WATER FLEA SURVIVAL

GENERAL INFORMATION

	Time	Date
Composite Sample Collected		
Test Initiated		

PERCENT SURVIVAL

Time	Rep	Percent effluent					
		0%	6%	13%	25%	50%	100%
24h	A						
	B						
	C						
	D						
	E						
	MEAN						

Enter percent effluent corresponding to the LC50 below:

24 hour LC50 = _____% effluent

TABLE 2 (SHEET 2 OF 2)

FATHEAD MINNOW SURVIVAL

GENERAL INFORMATION

	Time	Date
Composite Sample Collected		
Test Initiated		

PERCENT SURVIVAL

Time	Rep	Percent effluent					
		0%	6%	13%	25%	50%	100%
24h	A						
	B						
	C						
	D						
	E						
	MEAN						

Enter percent effluent corresponding to the LC50 below:

24 hour LC50 = _____% effluent

FACT SHEET AND EXECUTIVE DIRECTOR'S PRELIMINARY DECISION

For draft Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0002105000, U.S. Environmental Protection Agency (EPA) ID No. TX0073121, to discharge to water in the state

Issuing Office:	Texas Commission on Environmental Quality (TCEQ) P.O. Box 13087 Austin, Texas 78711-3087
Applicant:	Lower Colorado River Authority P.O. Box 220 Austin, Texas 78767
Prepared By:	Thomas E. Starr Wastewater Permitting Section Water Quality Division (512) 239-4570
Date:	July 17, 2025
Permit Action:	Major amendment to remove the selenium limits from external Outfalls 003 and 004 and internal Outfall 301; amendment of Other Requirement 3(G) from "10-year, 24-hour rainfall event" to a longer duration event (up to a 10-year, 10-day rainfall event); amendment of Other Requirement 3(G) to include coal pile runoff from internal Outfall 301, which is the same effluent as Outfall 003; and reduction of sampling frequency from weekly to monthly for internal Outfall 201 for Total Suspended Solids (TSS), Oil and Grease, and pH.

I. EXECUTIVE DIRECTOR RECOMMENDATION

The Executive Director has made a preliminary decision that this permit, if issued, meets all statutory and regulatory requirements. The draft permit will expire at midnight, five years from the date of permit issuance according to the requirements of 30 Texas Administrative Code (TAC) §305.127(1)(C)(i).

II. APPLICANT ACTIVITY

The applicant currently operates Sam Seymour Fayette Power Project, a coal-fired steam electric power generation facility with a total generating capacity of 1,760 megawatts.

III. DISCHARGE LOCATION

As described in the application, the facility is located at 6549 Power Plant Road, near the City of La Grange, Fayette County, Texas 78945. Discharge is via Outfall 001 to Lake Fayette, thence to Cedar Creek; via Outfall 003 to a man-made ditch, thence to an unnamed tributary, thence to Cedar Creek; and via Outfalls 002 and 004 to unnamed tributaries, thence to Cedar Creek, thence to Colorado River Below La Grange in Segment No. 1402 of the Colorado River Basin.

IV. RECEIVING STREAM USES

The unclassified receiving water uses are high aquatic life use for Cedar Creek and Lake Fayette and minimal aquatic life use for the unnamed tributaries. The designated uses for Segment No. 1402 are primary contact recreation, public water supply, and high aquatic life use.

V. STREAM STANDARDS

The general criteria and numerical criteria that make up the stream standards are provided in 30 TAC §§ 307.1 - 307.10.

VI. DISCHARGE DESCRIPTION

The following is a quantitative description of the discharge described in the monthly effluent report data for the period May 2020 through April 2025. The "average of daily average" values presented in the following table are the average of all daily average values for the reporting period for each pollutant. The "maximum of daily maximum" values presented in the following table are the individual maximum values for the reporting period for each pollutant. Flows are expressed in million gallons per day (MGD). All pH values are expressed in standard units (SU).

A. Flow

Outfall	Frequency	Average of Daily Average, MGD	Maximum of Daily Maximum, MGD
001	Continuous	931	1,157
201	Intermittent	0.12	0.27
301	Intermittent	1.29	2.08
002	Intermittent	0.811	2.64
003	Intermittent	3.75	7.31
004	Intermittent	No Discharge	No Discharge

B. Temperature

Outfall	Average of Daily Average, °F	Maximum of Daily Maximum, °F
001	92.0	111
002	N/A	90.0

C. Effluent Characteristics

Outfall	Pollutant	Average of Daily Average, mg/L	Maximum of Daily Maximum, mg/L
001	Total Residual Chlorine (TRC)	N/A	0.2 (193 lbs/day)
	Total Dissolved Solids (TDS)	747	816
	Sulfate	127	145
	Chloride	205	233
201	Oil and Grease	2.55	7.22
	Total Suspended Solids (TSS)	2.63	13.40
	pH	7.00 SU, minimum	8.67 SU
301	Oil and Grease	2.50	2.50
	TSS	13.65	46.40
	Total Selenium	0.005	0.006
	pH	6.86 SU, minimum	9.06 SU
002	TRC	N/A	0.07
	pH	8.43 SU, minimum	8.95 SU
003	Oil and Grease	2.50	2.50
	TSS	237	406
	Total Selenium	Non-detect	Non-detect
	pH	7.20 SU, minimum	7.78 SU

C. Effluent Characteristics

Outfall	Pollutant	Average of Daily Average, mg/L	Maximum of Daily Maximum, mg/L
004	Oil and Grease	No Discharge	No Discharge
	TSS	No Discharge	No Discharge
	Total Selenium	No Discharge	No Discharge
	pH	No Discharge	No Discharge

Effluent limit violations documented in the monthly effluent reports are summarized in the following table.

D. Effluent Limitation Violations

Outfall	Pollutant (units)	Month/ Year	Daily Average		Daily Maximum	
			Limit	Reported	Limit	Reported
003	TSS (mg/L)	5/2021	30	204	50	204
		6/2021		271		406
301	TSS (mg/L)	5/2021	30	59.4	50	102
		6/2021		167		190

The draft permit was not changed to address these effluent limit violations because of the infrequent nature of the exceedances.

VII. DRAFT EFFLUENT LIMITATIONS

Effluent limitations are established in Appendix D.

OUTFALL LOCATIONS

Outfall	Latitude	Longitude
001	29.926389 N	96.751112 W
002	29.916791 N	96.753389 W
003	29.909433 N	96.744978 W
004	29.902623 N	96.760499 W

VIII. SUMMARY OF CHANGES FROM APPLICATION

No changes were made from the application.

IX. SUMMARY OF CHANGES FROM EXISTING PERMIT

The permittee requested the following amendments that the Executive Director recommends granting:

1. Remove the selenium limits from external Outfalls 003 and 004 and internal Outfall 301. EPA's update and revision to the 40 CFR Part 423 ELG consitutes new information relevant to the anti-backsliding exceptions at 40 CFR § 122.44(l)(B)(2). The revised ELG study supports the conclusion that the use of BPJ-based technology limitations in the earlier permits constituted a technical mistake because there was no basis for assuming selenium would be present in these discharges at treatable concentrations.

2. Amend Other Requirement 3(G) from "10-year, 24-hour rainfall event" to a longer duration event (up to a 10-year, 10-day rainfall event). In 2024, EPA continued the support for longer duration rainfall events in the Final Rule for revising steam electric ELGs and specifically referenced the exception of high-intensity, infrequent storm events related to regulation of coal pile runoff. EPA did not revise the coal pile runoff exclusion provision in the BPT rules at 40 CFR § 423.12(b)(10) but is supported by EPA action for other wastestreams in 40 CFR Part 423 where discharges (or prohibition of such) is directly related to design rainfall events.

3. Amend Other Requirement 3(G) to include coal pile runoff from internal Outfall 301, which is the same effluent as Outfall 003. The existing permit page 2c already had the appropriate footnote for this Other Requirement so page 2c is added for clarity.

4. Reduce sampling frequency from weekly to monthly for internal Outfall 201 for TSS, oil and grease, and pH. The effluent data used as the basis for determination of monitoring frequency was not available at the time of original permit issuance, which is consitent with anti-backsliding regulations present in 40 CFR § 122.44(l)(2)(i)(B)(1).

The following additional changes have been made to the draft permit:

1. Pages 3-13 were updated (May 2021 version).
2. The title of Cedar Creek Reservoir/Lake Fayette was revised as updated by the U.S. Board of Geographic Names to just Lake Fayette.
3. The discharge route description was changed to reflect Outfall 003 discharges to a man-made ditch first.
4. Daily average reporting requirements for TDS, Chloride, and Sulfate at Outfall 001 on page 2 and 2a have been changed to N/A since the reporting frequency is monthly the daily average is the daily maximum.
5. Page 2d footnote 3 was updated for description accuracy and footnote 1 was removed from the temperature frequency.
6. Other Requirement No. 1 was updated to reflect the removal of selenium limitations.
7. Other Requirement No. 9 was updated in the draft permit to address cooling water intake structure requirements under CWA §316(b).
8. Other Requirement No. 12 from the existing permit was not carried forward.

X. DRAFT PERMIT RATIONALE

The following section sets forth the statutory and regulatory requirements considered in preparing the draft permit. Also set forth are any calculations or other necessary explanations of the derivation of specific effluent limitations and conditions, including a citation to the applicable effluent limitation guidelines and water quality standards.

A. REASON FOR PERMIT ISSUANCE

The applicant applied to the TCEQ for a major amendment to TPDES Permit No. WQ0002105000 to authorize removal of selenium limits from external Outfalls 003 and 004 and internal Outfall 301; amendment of Other Requirement 3(G) from "10-year, 24-hour rainfall event" to a longer duration event (up to a 10-year, 10-day rainfall event); amendment of Other Requirement 3(G) to include coal pile runoff from internal Outfall

301, which is the same effluent as Outfall 003; and reduction of sampling frequency from weekly to monthly for internal Outfall 201 for TSS, oil and grease, and pH. The existing permit authorizes the discharge of once-through cooling water and previously monitored effluent (low volume waste from internal Outfall 201 and low volume waste, coal pile runoff, truck wash water, and stormwater from internal Outfall 301) at a daily average flow not to exceed 1,165 million gallons per day in Phase I and 1,509 million gallons per day in Phase II via Outfall 001; cooling water drained from the condensers and other cooling equipment during maintenance periods at a daily average flow not to exceed 2.5 million gallons per day via Outfall 002; low volume waste, coal pile runoff, truck wash water, and stormwater from the coal pile runoff pond on an intermittent and flow-variable basis via Outfall 003; and low volume waste, truck wash water, and stormwater from the Combustion Byproducts Landfill Pond on an intermittent and flow-variable basis via Outfall 004.

B. WATER QUALITY SUMMARY

Discharge Routes

The discharge route is via Outfall 001 to Lake Fayette, thence to Cedar Creek; via Outfall 003 to a man-made ditch, thence to an unnamed tributary, thence to Cedar Creek; and via Outfalls 002 and 004 to unnamed tributaries, thence to Cedar Creek, thence to Colorado River Below La Grange in Segment No. 1402 of the Colorado River Basin. The unclassified receiving water uses are high aquatic life use for Cedar Creek and Lake Fayette and minimal aquatic life use for the unnamed tributaries. The designated uses for Segment No. 1402 are primary contact recreation, public water supply, and high aquatic life use. Effluent limitations and conditions established in the draft permit comply with state water quality standards and the applicable water quality management plan. The effluent limits in the draft permit will maintain and protect the existing instream uses. Additional discussion of the water quality aspects of the draft permit can be found at Section X.D. of this fact sheet.

Antidegradation Review

In accordance with 30 TAC § 307.5 and TCEQ's *Procedures to Implement the Texas Surface Water Quality Standards* (June 2010), an antidegradation review of the receiving waters was performed. A Tier 1 antidegradation review has preliminarily determined that existing water quality uses will not be impaired by this permit action. Numerical and narrative criteria to protect existing uses will be maintained. A Tier 2 review has preliminarily determined that no significant degradation of water quality is expected in Cedar Creek and Lake Fayette, which has been identified as having high aquatic life use. Existing uses will be maintained and protected. The preliminary determination can be reexamined and may be modified if new information is received.

Endangered Species Review

The Houston Toad (*Bufo houstonensis* Sanders), an endangered aquatic-dependent species of critical concern, occurs within the Segment 1402 watershed as well as the 12090301 United States Geological Survey hydrologic unit code. This determination is based on the United States Fish and Wildlife Service's (USFWS) biological opinion on the State of Texas authorization of the Texas Pollutant Discharge Elimination System (TPDES; September 14, 1998, October 21, 1998, update). To make this determination for TPDES permits, TCEQ and EPA only consider aquatic or aquatic dependent species occurring in watersheds of critical concern or high priority as listed in Appendix A of the USFWS biological opinion. The determination is subject to reevaluation due to subsequent updates or amendments to the biological opinion. Species distribution

information for the Segment 1402 watershed is provided by the United States Fish and Wildlife Service and documents the toad's presence solely in the vicinity of Redgate Creek in Colorado County, which is farther up the watershed from the facility associated with this permit action. Based upon this information, it is determined that the facility's discharge is not expected to impact the Houston Toad. The permit does not require EPA review with respect to the presence of endangered or threatened species.

Impaired Water Bodies
Segment No. 1402 is not currently listed on the state's inventory of impaired and threatened waters, the 2014 Clean Water Act Section 303(d) list.

Completed Total Maximum Daily Loads (TMDLs)
There are no completed TMDLs for Segment No. 1402.

C. TECHNOLOGY-BASED EFFLUENT LIMITATIONS/CONDITIONS

1. GENERAL COMMENTS

Regulations in Title 40 of the Code of Federal Regulations (40 CFR) require that technology-based limitations be placed in wastewater discharge permits based on effluent limitations guidelines, where applicable, or on best professional judgment (BPJ) in the absence of guidelines.

The draft permit authorizes the discharge of once-through cooling water and PME at a daily average flow not to exceed 1,165 MGD in Phase I and 1,509 MGD in Phase II via Outfall 001; the discharge of cooling water drained from the condensers and other cooling equipment during maintenance periods at a daily average flow not to exceed 2.5 MGD via Outfall 002; the discharge of low volume waste, coal pile runoff, truck wash water, and stormwater from the Coal Pile Runoff Pond on an intermittent and flow-variable basis via Outfall 003; and the discharge of low volume waste, truck wash water, and stormwater from the Combustion Byproducts Landfill Pond on an intermittent and flow-variable basis via Outfall 004.

The discharge of once through cooling water via Outfall 001; low volume waste via internal Outfalls 201 and 301 and external Outfalls 003 and 004; coal pile runoff via internal Outfall 301 and external Outfall 003; and cooling water drained from condensers and other cooling equipment during maintenance periods via Outfall 002 from this facility are subject to federal effluent limitation guidelines at 40 CFR Part 423. A new source determination was performed, and the discharge of once-through cooling water, low volume waste, coal pile runoff, and cooling water drained from condensers and other cooling equipment during maintenance periods are not a new source as defined at 40 CFR §122.2. Therefore new source performance standards (NSPS) are not required for these discharges.

The discharge of truck wash water via external Outfall 003 and internal Outfall 301; and truck wash water and stormwater from the Combustion Byproducts Landfill Pond via Outfall 004 are not subject to federal effluent limitation guidelines and any technology-based effluent limitations were originally based on BPJ and are continued in the draft permit based on anti-backsliding requirements in 40 CFR §122.44(l).

The wastewater system at this facility consists of:

Outfall 001 – Once-through cooling water is treated to control biological growth and scale in the plant main surface condensers and auxiliary heat exchanger, the once-through cooling water receives no further treatment prior to discharge at Outfall 001. The facility has a cooling reservoir of 2,400 acres, built to provide cooling water to the plant's generating units. Make-up water is pumped from the Colorado River to maintain the reservoir level.

Internal Outfall 201 –RO reject water from the water treatment plant is authorized for discharge via internal Outfall 201 to the main cooling water channel and then to Outfall 001.

Internal Outfall 301 – Wastewater authorized for discharge via Outfall 003 may also be routed to an internal monitoring point (internal Outfall 301) prior to mixing with the once-through cooling water canal which discharges prior to Outfall 001. See the wastewater system description for Outfall 003 below.

Outfall 002 – Cooling/circulating water that is drained from the condensers and other cooling equipment during maintenance or during outages is discharged via Outfall 002. The cooling water is drained to the surface drainage system within the plant. The cooling/circulating water from all units can also be routed to the Coal Pile Runoff Pond and to the Reclaim Pond.

Outfall 003 – Coal is stored outdoors. The facility has one stormwater collection pond for coal pile runoff. The Coal Pile Runoff Pond collects water from this area as well as an additional 32 acres from within the facility. The Coal Pile Runoff Pond includes low volume waste (plant/floor drains, RO reject, boiler blowdown, cooling/circulating water, coal handling equipment wash down, and other low volume wastes), stormwater, truck wash water, and dust suppression water from the coal pile and plant area. Plant/floor drains and stormwater from the diked fuel oil storage areas, diked lube oil storage areas, and transformer areas are all routed through an oil/water separator prior to discharge to the Coal Pile Runoff Pond. The pond is designed with a settling chamber to allow solids to settle before entering the main body of the pond, and flocculent can be added to the runoff prior to entering the settling chamber.

The Coal Pile Runoff Pond can be discharged via Outfall 003, recycled to the main cooling water reservoir via internal Outfall 301, routed to the Reclaim Pond to maintain the water balance for the plant, or used for dust suppression.

Outfall 004 – The Combustion Byproducts Landfill Pond collects rainfall from the Combustion Byproducts Landfill area. Discharges to the Combustion Byproducts Landfill Pond include: low volume waste, stormwater runoff from the Combustion Byproducts Landfill, and truck wash water. Wastewater retained in the Combustion Byproducts Landfill Pond may also be reused for on-site dust suppression or routed to the Reclaim Pond.

Any additional runoff is discharged to stormwater outfalls. Discharges from these outfalls are regulated by the TPDES Multisector General Permit (Authorization No. TXR05M603) for discharges of stormwater in accordance with the

requirements of the general permit and the stormwater pollution prevention plan.

2. CALCULATIONS

See Appendix A of this fact sheet for calculations and further discussion of technology-based effluent limitations proposed in the draft permit.

3. 316(B) COOLING WATER INTAKE STRUCTURES

a. SCREENING

LCRA operates the cooling water intake structure (CWIS) located on Lake Fayette, in Fayette County, for water cooling purposes. The facility is subject to the requirements of Section 316(b) of the CWA because the CWIS withdraws more than 2 MGD of water from waters of the United States and more than 25% of the water withdrawn (actual intake flow) is used for cooling purposes within the facility.

Lake Fayette is a cooling water impoundment and the facility's CWIS is operated in a manner consistent with a closed-cycle recirculating system (CCRS), as defined at 40 CFR 125.92(c), withdrawing surface water for make-up purposes only.

The operation of a CCRS (i.e., cooling water impoundment) reduces withdrawals from surface waters effectively, thereby reducing the impingement and entrainment of aquatic organisms. The facility meets Best Technology Available standards. The executive director will review this determination upon receipt of additional information in accordance with 40 CFR § 122.21(r); 40 CFR Part 125, Subpart J; or both; as applicable.

b. PERMIT ACTION

Other Requirement No. 9 has been carried forward to the draft permit. Additionally, the draft permit requires the permittee to notify the TCEQ of any changes in the method cooling water is obtained. Upon receipt of such notification, the TCEQ may reopen the permit to include additional terms and conditions as necessary

D. WATER QUALITY-BASED EFFLUENT LIMITATIONS/CONDITIONS

1. GENERAL COMMENTS

The *Texas Surface Water Quality Standards* found at 30 TAC Chapter 307 state that surface waters will not be toxic to man from ingestion of water, consumption of aquatic organisms, or contact with the skin, or to terrestrial or aquatic life. The methodology outlined in the TCEQ guidance document *Procedures to Implement the Texas Surface Water Quality Standards* (IPs) is designed to ensure compliance with 30 TAC Chapter 307. Specifically, the methodology is designed to ensure that no source will be allowed to discharge any wastewater that (1) results in instream aquatic toxicity; (2) causes a violation of an applicable

narrative or numerical state water quality standard; (3) results in the endangerment of a drinking water supply; or (4) results in aquatic bioaccumulation that threatens human health. Calculated water quality-based effluent limits can be found in Appendix B of this fact sheet.

TPDES permits contain technology-based effluent limits reflecting the best controls available. Where these technology-based permit limits do not protect water quality or the designated uses, additional water quality-based effluent limitations or conditions are included. State narrative and numerical water quality standards are used in conjunction with EPA criteria and other toxicity databases to determine the adequacy of technology-based permit limits and the need for additional water quality-based controls. A comparison of technology-based effluent limits and calculated water quality-based effluent limits can be found in Appendix D of this fact sheet.

2. AQUATIC LIFE CRITERIA

a. SCREENING

Water quality-based effluent limitations are calculated from freshwater aquatic life criteria found in Table 1 of the *Texas Surface Water Quality Standards* (30 TAC Chapter 307).

Outfall 001 - Acute freshwater criteria are applied at the edge of the zone of initial dilution (ZID), and chronic freshwater criteria are applied at the edge of the aquatic life mixing zone. The ZID for this discharge is defined as volume within a radius of 25 feet from the point where the discharge enters Lake Fayette. The aquatic life mixing zone for this discharge is defined as volume within a radius of 100 feet from the point where the discharge enters Lake Fayette.

TCEQ uses the EPA horizontal jet plume model to estimate dilution at the edges of the ZID and aquatic life mixing zone for discharges greater than 10 MGD into lakes or reservoirs. General assumptions used in the horizontal jet plume model are a non-buoyant discharge, a submersed pipe, and no cross flow. Based on this analysis, the following critical effluent percentages are calculated based on two-year maximum monthly average flow of 1,509 MGD:

Acute Effluent %	100%	Chronic Effluent %	100%

Outfall 002 - There is no mixing zone or zone of initial dilution for this discharge directly to an unnamed tributary, an intermittent stream; acute freshwater criteria apply at the end of pipe. Chronic freshwater criteria are applied in Cedar Creek, the perennial freshwater stream.
For the intermittent stream, the percent effluent for acute protection of aquatic life is 100% because the seven-day, two-year low-flow (7Q2) of the intermittent stream is 0.0 cfs. This effluent percentage also provides acute protection of aquatic life in the perennial stream. TCEQ uses the mass balance equation to estimate dilution in the perennial stream during critical conditions. The estimated dilution for chronic protection of aquatic life is calculated using the two-year maximum monthly average

flow of 0.92 MGD and the 7Q2 of 0.5 cfs for Cedar Creek. The following critical effluent percentages are being used:

Acute Effluent % 100% Chronic Effluent % 73.6%

Outfall 003 - There is no mixing zone or zone of initial dilution for this discharge directly to an unnamed tributary, an intermittent stream; acute freshwater criteria apply at the end of pipe. Chronic freshwater criteria are applied in Cedar Creek, the perennial freshwater stream.
For the intermittent stream, the percent effluent for acute protection of aquatic life is 100% because the seven-day, two-year low-flow (7Q2) of the intermittent stream is 0.0 cfs. This effluent percentage also provides acute protection of aquatic life in the perennial stream. TCEQ uses the mass balance equation to estimate dilution in the perennial stream during critical conditions. The estimated dilution for chronic protection of aquatic life is calculated using the two-year maximum monthly average flow of 3.57 MGD and the 7Q2 of 0.5 cfs for Cedar Creek. The following critical effluent percentages are being used:

Acute Effluent % 100% Chronic Effluent % 91.7%

Outfall 003 discharges intermittently and generally occurs only as a result of major rainfall events. Due to the intermittent nature of the discharge, only acute criteria are assessed.

Outfall 004- There is no mixing zone or zone of initial dilution for this discharge directly to an unnamed tributary, an intermittent stream; acute freshwater criteria apply at the end of pipe. Chronic freshwater criteria are applied in Cedar Creek , the perennial freshwater stream.

For the intermittent stream, the percent effluent for acute protection of aquatic life is 100% because the seven-day, two-year low-flow (7Q2) of the intermittent stream is 0.0 cfs. This effluent percentage also provides acute protection of aquatic life in the perennial stream. TCEQ uses the mass balance equation to estimate dilution in the perennial stream during critical conditions. The estimated dilution for chronic protection of aquatic life is calculated using the two-year maximum monthly average flow of 1.1 MGD (based on 2016-2017 data) and the 7Q2 of 0.5 cfs for Cedar Creek. The following critical effluent percentages are being used:

Acute Effluent % 100% Chronic Effluent % 77.29%

Outfall 004 discharges intermittently and generally occurs only as a result of major rainfall events. Due to the intermittent nature of the discharge, only acute criteria are assessed.

General Screening Procedures
Wasteload allocations (WLAs) are calculated using the above estimated effluent percentages, criteria outlined in the *Texas Surface Water Quality Standards*, and partitioning coefficients for metals (when appropriate and designated in the implementation procedures). The WLA is the end-of-pipe effluent concentration that can be discharged when, after mixing in the receiving stream, the instream numerical criteria will not be exceeded.

Outfall 001- From the WLA, a LTA is calculated using a lognormal probability distribution, a given coefficient of variation (0.6), and a 99th percentile confidence level. The LTA is the long-term average effluent concentration for which the WLA will never be exceeded using a selected percentile confidence level.

Outfalls 002, 003, & 004- From the WLA, a long-term average (LTA) is calculated using a lognormal probability distribution, a given coefficient of variation (0.6), and a 90th percentile confidence level. The LTA is the long-term average effluent concentration for which the WLA will never be exceeded using a selected percentile confidence level.

The lower of the two LTAs (acute and chronic) at Outfall 002 and the acute LTA at Outfalls 003 and 004 is used to calculate a daily average and daily maximum effluent limitation for the protection of aquatic life using the same statistical considerations with the 99th percentile confidence level and a standard number of monthly effluent samples collected (12).

Assumptions used in deriving the effluent limitations include segment-specific values for TSS, pH, hardness, and chloride according to the IPs. The segment values for Segment No. 1402 are 12 mg/L for TSS, 7.8 standard units for pH, 191 mg/L for hardness (as calcium carbonate, $CaCO_3$), and 51 mg/L for chloride. For additional details on the calculation of water quality-based effluent limitations, refer to the IPs.

TCEQ practice for determining significant potential is to compare the reported analytical data against percentages of the calculated daily average water quality-based effluent limitation. Permit limitations are required when analytical data reported in the application equals or exceeds 85 percent of the calculated daily average water quality-based effluent limitation. Monitoring and reporting is required when analytical data reported in the application equals or exceeds 70 percent of the calculated daily average water quality-based effluent limitation.

b. PERMIT ACTION

Analytical data reported in the application was screened against calculated water quality-based effluent limitations for the protection of aquatic life. Reported analytical data does not exceed 70 percent of the calculated daily average water quality-based effluent limitation for aquatic life protection. No additional limits or monitoring and reporting requirements have been added to the draft permit. No analytical data was provided for Outfall 004 and Other Requirement No. 10 was carried over to the draft permit requiring testing.

3. WHOLE EFFLUENT TOXICITY (BIOMONITORING) CRITERIA (7-DAY CHRONIC)

a. SCREENING AND REASONABLE POTENTIAL ANALYSIS

The existing permit includes chronic freshwater biomonitoring requirements at Outfalls 001.

In the past three years, the permittee has performed twenty-four chronic tests, with zero demonstrations of significant toxicity (i.e., zero failures).

A reasonable potential determination was performed in accordance with 40 CFR §122.44(d)(1)(ii) to determine whether the discharge will reasonably be expected to cause or contribute to an exceedance of a state water quality standard or criterion within that standard. Each test species is evaluated separately. The RP determination is based on representative data from the previous three years of chronic WET testing. This determination was performed in accordance with the methodology outlined in the TCEQ letter to the EPA dated December 28, 2015, and approved by the EPA in a letter dated December 28, 2015.

With zero failures, a determination of no RP was made. WET limits are not required, and both test species may be eligible for the testing frequency reduction after one year of quarterly testing.

b. PERMIT ACTION

The provisions of this section apply to Outfall 001.

Based on information contained in the permit application, the TCEQ has determined that there may be pollutants present in the effluents that may have the potential to cause toxic conditions in the receiving stream.

Whole effluent toxicity testing (biomonitoring) is the most direct measure of potential toxicity, which incorporates the effects of synergism of effluent components and receiving stream water quality characteristics. Biomonitoring of the effluent is, therefore, required as a condition of this permit to assess potential toxicity. The biomonitoring procedures stipulated as a condition of this permit are as follows:

i) Chronic static renewal survival and reproduction test using the water flea (*Ceriodaphnia dubia*). The frequency of the testing shall be once per quarter

ii) Chronic static renewal 7-day larval survival and growth test using the fathead minnow (*Pimephales promelas*). The frequency of testing shall be once per quarter

Toxicity tests shall be performed in accordance with protocols described *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms,* Fourth Edition (EPA-821-R-02-013) or the latest revision. The stipulated test species are appropriate to measure the toxicity of the effluent consistent with the requirements of the state water quality standards. The biomonitoring frequency has been established to reflect the likelihood of ambient toxicity and to provide data representative of the toxic potential of the facility's discharge.

This permit may be reopened to require effluent limits, additional testing, or other appropriate actions to address toxicity if biomonitoring data

show actual or potential ambient toxicity to be the result of the permittee's discharge to the receiving stream or water body.

If none of the first four consecutive quarterly tests demonstrates significant lethal or sublethal effects, the permittee may submit this information in writing and, upon approval, reduce the testing frequency to once per six months for the invertebrate test species and once per year for the vertebrate test species. If one or more of the first four consecutive quarterly tests demonstrates significant sublethal effects, the permittee is required by the permit to continue quarterly testing for that species until four consecutive quarterly tests demonstrate no significant sublethal effects. At that time, the permittee may apply for the appropriate testing frequency reduction for that species. If one or more of the first four consecutive quarterly tests demonstrates significant lethal effects, the permittee is required by the permit to continue quarterly testing for that species until the permit is reissued.

c. DILUTION SERIES

The permit requires five (5) dilutions in addition to the control (0% effluent) to be used in the toxicity tests. These additional effluent concentrations shall be 32%, 42%, 56%, 75%, and 100%. The low-flow effluent concentration (critical dilution) is defined as 100% effluent.

The dilution series outlined above was calculated using a 0.75 factor applied to the critical dilution. The critical dilution is the estimated effluent dilution at the edge of the aquatic life mixing zone, which is discussed in Section X.D.2.a. of this fact sheet.

4. AQUATIC ORGANISM TOXICITY CRITERIA (24-HOUR ACUTE)

a. SCREENING

The existing permit includes 24-hour acute freshwater biomonitoring requirements for Outfall 001. In the past three years, the permittee has performed twelve 24-hour acute tests, with zero demonstrations of significant mortality (i.e., zero failures). Minimum 24-hour acute freshwater biomonitoring requirements are proposed in the draft permit as outlined below.

b. PERMIT ACTION

Twenty-four-hour 100% acute biomonitoring tests are required at Outfall 001 at a frequency of once per six months for the life of the permit.

The biomonitoring procedures stipulated as a condition of this permit are as follows:

i) Acute 24-hour static toxicity test using the water flea (*Ceriodaphnia dubia* or *Daphnia pulex*). A minimum of five (5) replicates with eight (8) organisms per replicate shall be used for this test.

ii) Acute 24-hour static toxicity test using the fathead minnow (*Pimephales promelas*). A minimum of five (5) replicates with eight (8) organisms per replicate shall be used for this test.

Toxicity tests shall be performed in accordance with protocols described in *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, Fifth Edition (EPA-821-R-02-012) or the latest revision.

5. AQUATIC ORGANISM BIOACCUMULATION CRITERIA

a. SCREENING

Water quality-based effluent limitations for the protection of human health are calculated using criteria for the consumption of fish tissue found in Table 2 of the *Texas Surface Water Quality Standards* (30 TAC Chapter 307).

Outfall 001-Fish tissue bioaccumulation criteria are applied at the edge of the human health mixing zone for discharges into lakes and reservoirs. The human health mixing zone for this discharge is defined as a volume within a radius of 200 feet from the point where the discharge enters Lake Fayette. TCEQ uses the EPA horizontal jet plume model to estimate dilution at the edge of the human health mixing zone for discharges greater than 10 MGD into lakes or reservoirs. General assumptions used in the horizontal jet plume model are a non-buoyant discharge, a submersed pipe, and no cross flow. Based on this analysis, the following critical effluent percentage is calculated based on the two-year average monthly average flow of 930 MGD:

Human health Effluent %: 100%

Outfall 002-Fish tissue bioaccumulation criteria are applied for human health protection in the perennial stream. TCEQ uses the mass balance equation to estimate dilution in the perennial stream during average flow conditions. The estimated dilution for human health protection is calculated using the two-year average monthly average flow of 0.92 MGD and the harmonic mean flow of 0.5 cfs for Cedar Creek. The following critical effluent percentage is being used:

Human Health Effluent %: 74%

Outfall 003-Fish tissue bioaccumulation criteria are applied for human health protection in the perennial stream. TCEQ uses the mass balance equation to estimate dilution in the perennial stream during average flow conditions. The estimated dilution for human health protection is calculated using the two-year average monthly average flow of 3.57 MGD and the harmonic mean flow of 0.5 cfs for Cedar Creek. The following critical effluent percentage is being used:

Human Health Effluent %: 74%

Water quality-based effluent limitations for human health protection against the consumption of fish tissue are calculated using the same procedure as outlined for calculation of water quality-based effluent limitations for aquatic life protection. A 99th percentile confidence level in the long-term average calculation is used, with only one long-term average value being calculated.

Significant potential is again determined by comparing reported analytical data against 70 percent and 85 percent of the calculated daily average water quality-based effluent limitation.

b. PERMIT ACTION

Analytical data reported in the application for Outfalls 001 and 002 was screened against calculated water quality-based effluent limitations for the protection of human health. Reported analytical data does not exceed 70 percent of the calculated daily average water quality-based effluent limitation for human health protection. No additional limits or monitoring and reporting requirements have been added to the draft permit.

6. DRINKING WATER SUPPLY PROTECTION

a. SCREENING

Segment No. 1402, which receives the discharge from this facility, is not designated as a public water supply. Screening reported analytical data of the effluent against water quality-based effluent limitations calculated for the protection of a drinking water supply is not applicable. The official segment is located beyond the distance assessed for drinking water supply protection.

b. PERMIT ACTION

None.

7. TOTAL DISSOLVED SOLIDS, CHLORIDE, AND SULFATE STANDARDS PROTECTION

a. SCREENING

The average concentration of TDS, chloride, and sulfate in the effluent at Outfalls 001, 002, and 003 is greater than the segment criterion. Screening procedures and effluent limitations for TDS, chloride, and sulfate are calculated using the methodology in the IPs and criteria in the *Texas Surface Water Quality Standards* (30 TAC Chapter 307). Detailed calculations are presented in Appendix C.

Since the source water for the discharge is from the same water body, Lake Fayette, the Lower Colorado River Authority has demonstrated (through the use of statistical analysis) that the TDS, chloride, and sulfate of the receiving water body will not be statistically elevated; therefore, it meets the requirements for a once-through cooling water exemption, in

accordance with 30 TAC §307.8(d). The facility was approved for a once-through cooling water exemption for TDS, chloride, and sulfate by the Water Quality Assessment Team in 2015 and therefore permit limits are not necessary at this time for Outfall 001.

b. PERMIT ACTION

The reporting requirements for TDS, chloride, and sulfate for Outfall 001 have been continued in the draft permit.

Based on the screening, no effluent limitations are needed for TDS, chloride, or sulfate at Outfalls 002 and 003. Data was not available for Outfall 004 and is required in Other Requirement No. 10 of the draft permit.

8. PROTECTION OF pH STANDARDS

a. SCREENING

The existing permit includes pH limits of 6.0 – 9.0 standard units at Outfalls 002, 003, and 004, which discharge into unclassified water bodies. Consistent with the procedures for pH screening that were submitted to EPA with a letter dated May 28, 2014, and approved by EPA in a letter dated June 2, 2014, requiring a discharge to an unclassified water body to meet pH limits of 6.0 – 9.0 standard units reasonably ensures instream compliance with *Texas Surface Water Quality Standards* pH criteria. pH limitations are not proposed at Outfall 001 based on the discharge of once through cooling water.

b. PERMIT ACTION

The existing pH limits of 6.0 – 9.0 standard units are carried forward in the draft permit at Outfalls 002, 003, and 004.

9. DISSOLVED OXYGEN PROTECTION

a. SCREENING

Due to the low concentration of oxygen-demanding constituents expected in the wastewater, no significant dissolved oxygen depletion is anticipated in the receiving waters as a result of these discharges.

b. PERMIT ACTION

None.

10. THERMAL STANDARDS PROTECTION

a. SCREENING

A temperature screen is not needed because the reservoir was constructed in 1978 by the Lower Colorado River Authority (LCRA) who

owns water rights for the reservoir which was constructed for the purpose of supplying cooling water for steam-electric power generation. Therefore, it meets the definition of an "industrial cooling impoundment" and numeric temperature criteria do not apply to it per 307.4(f).

b. PERMIT ACTION

Other Requirement No. 12 is not carried forward.

XI. PRETREATMENT REQUIREMENTS

This facility is not defined as a publicly owned treatment works. Pretreatment requirements are not proposed in the draft permit.

XII. VARIANCE REQUESTS

No variance requests have been received.

XIII. PROCEDURES FOR FINAL DECISION

When an application is declared administratively complete, the Chief Clerk sends a letter to the applicant advising the applicant to publish the Notice of Receipt of Application and Intent to Obtain Permit in the newspaper. In addition, the Chief Clerk instructs the applicant to place a copy of the application in a public place for reviewing and copying in the county where the facility is or will be located. This application will be in a public place throughout the comment period. The Chief Clerk also mails this notice to any interested persons and, if required, to landowners identified in the permit application. This notice informs the public about the application and provides that an interested person may file comments on the application or request a contested case hearing or a public meeting.

Once a draft permit is completed, it is sent, along with the Executive Director's preliminary decision, as contained in the technical summary or fact sheet, to the Chief Clerk. At that time, the Notice of Application and Preliminary Decision will be mailed to the same people and published in the same newspaper as the prior notice. This notice sets a deadline for making public comments. The applicant must place a copy of the Executive Director's preliminary decision and draft permit in the public place with the application.

Any interested person may request a public meeting on the application until the deadline for filing public comments. A public meeting is intended for the taking of public comment and is not a contested case proceeding.

After the public comment deadline, the Executive Director prepares a response to all significant public comments on the application or the draft permit raised during the public comment period. The Chief Clerk then mails the Executive Director's response to comments and final decision to people who have filed comments, requested a contested case hearing, or requested to be on the mailing list. This notice provides that if a person is not satisfied with the Executive Director's response and decision, they can request a contested case hearing or file a request to reconsider the Executive Director's decision within 30 days after the notice is mailed.

The Executive Director will issue the permit unless a written hearing request or request for reconsideration is filed within 30 days after the Executive Director's response to comments and

final decision is mailed. If a hearing request or request for reconsideration is filed, the Executive Director will not issue the permit and will forward the application and request to the TCEQ commissioners for their consideration at a scheduled commission meeting. If a contested case hearing is held, it will be a legal proceeding similar to a civil trial in state district court.

If the Executive Director calls a public meeting or the commission grants a contested case hearing as described above, the commission will give notice of the date, time, and place of the meeting or hearing. If a hearing request or request for reconsideration is made, the commission will consider all public comments in making its decision and shall either adopt the Executive Director's response to public comments or prepare its own response.

For additional information about this application, contact Thomas E. Starr at (512) 239-4570.

XIV. ADMINISTRATIVE RECORD

The following section is a list of the fact sheet citations to applicable statutory or regulatory provisions and appropriate supporting references.

A. PERMIT(S)

TPDES Permit No. WQ0002105000 issued on November 20, 2020.

B. APPLICATION

TPDES wastewater permit application received on May 23, 2025 and additional information received on June 11, 2025.

C. 40 CFR CITATION(S)

40 CFR Part 423 (BPT, BAT).

D. LETTERS/MEMORANDA/RECORDS OF COMMUNICATION

Letter dated April 29, 2014, from L'Oreal W. Stepney, P.E., Deputy Director, Office of Water, TCEQ, to Bill Honker, Director, Water Quality Protection Division, EPA (TCEQ proposed development strategy for thermal evaluation procedures).

Letter dated May 12, 2014, from William K. Honker, P.E., Director, Water Quality Protection Division, EPA, to L'Oreal W. Stepney, P.E., Deputy Director, Office of Water, TCEQ (Approval of TCEQ proposed development strategy for thermal evaluation procedures).

Letter dated May 28, 2014, from L'Oreal W. Stepney, P.E., Deputy Director, Office of Water, TCEQ, to Bill Honker, Director, Water Quality Protection Division, EPA (TCEQ proposed development strategy for pH evaluation procedures).

Letter dated June 2, 2014, from William K. Honker, P.E., Director, Water Quality Protection Division, EPA, to L'Oreal W. Stepney, P.E., Deputy Director, Office of Water, TCEQ (Approval of TCEQ proposed development strategy for pH evaluation procedures).

Letter dated December 28, 2015, from L'Oreal Stepney, P.E., Deputy Director, Office of Water, TCEQ, to Bill Honker, Director, Water Quality Protection Division, EPA (TCEQ

proposed development strategy for procedures to determine reasonable potential for whole effluent toxicity limitations).

Letter dated December 28, 2015, from William K. Honker, P.E., Director, Water Quality Protection Division, EPA, to L'Oreal W. Stepney, P.E., Deputy Director, Office of Water, TCEQ (Approval of TCEQ proposed development strategy for procedures to determine reasonable potential for whole effluent toxicity limitations).

TCEQ Interoffice Memorandum dated August 15, 2025, from Jenna R. Lueg of the Standards Implementation Team, Water Quality Assessment Section, to the Industrial Permits Team, Wastewater Permitting Section (Standards Memo).

TCEQ Interoffice Memorandum dated August 14, 2025, from Sarah Musgrove of the Water Quality Assessment Team, Water Quality Assessment Section, to the Industrial Permits Team, Wastewater Permitting Section (Critical Conditions Memo).

TCEQ Interoffice Memorandum dated July 2, 2025, from Orlando M. Vasquez, Jr., P.E. of the Water Quality Assessment Team, Water Quality Assessment Section, to the Industrial Permits Team, Wastewater Permitting Section (Modeling Memo).

TCEQ Interoffice Memorandum dated July 1, 2025, from Michael B. Pfeil of the Standards Implementation Team, Water Quality Assessment Section, to the Industrial Permits Team, Wastewater Permitting Section (Biomonitoring Memo).

E. MISCELLANEOUS

The *State of Texas 2022 Integrated Report* – Texas 303(d) List (Category 5), TCEQ, July 7, 2022.

Texas Surface Water Quality Standards, 30 TAC §§307.1 - 307.10, TCEQ, effective March 1, 2018, as approved by EPA Region 6.

Texas Surface Water Quality Standards, 30 TAC §§307.1 - 307.10, TCEQ, effective March 6, 2014, as approved by EPA Region 6, for portions of the 2018 standards not approved by EPA Region 6.

Texas Surface Water Quality Standards, 30 TAC §§307.1 - 307.10, TCEQ, effective July 22, 2010, as approved by EPA Region 6, for portions of the 2014 standards not yet approved by EPA Region 6.

Texas Surface Water Quality Standards, 30 TAC §§307.1 - 307.10, TCEQ, effective August 17, 2000, and Appendix E, effective February 27, 2002, for portions of the 2010 standards not yet approved by EPA Region 6.

Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition (EPA-821-R-02-013).

Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition (EPA-821-R-02-012).

Procedures to Implement the Texas Surface Water Quality Standards, TCEQ, June 2010, as approved by EPA Region 6.

Procedures to Implement the Texas Surface Water Quality Standards, TCEQ, January 2003, for portions of the 2010 IPs not approved by EPA Region 6.

Guidance Document for Establishing Monitoring Frequencies for Domestic and Industrial Wastewater Discharge Permits, TCEQ Document No. 98-001.000-OWR-WQ, May 1998.

Appendix A
Calculated Technology-Based Effluent Limits

NEW SOURCE DETERMINATION

The Sam Seymour Fayette Power Project is a coal-fired steam electric generating station with a total generating capacity of 1,760 megawatts. The facility has three units fired by western coal (fourth unit allowed but not constructed). Effluent limitations are based on 40 CFR Part 423-Steam Electric Power Generating Point Source Category. The facility is not subject to New Source Performance Standards (NSPS).

Phase I Effluent Limitations

Outfall 001 - once-through cooling water and previously monitored effluent (low volume waste via internal Outfall 201, low volume waste, coal pile runoff, truck wash water, and stormwater from the Coal Pile Runoff Pond via internal Outfall 301).

Best Available Technology Economically Achievable (BAT) Total Residual Chlorine (TRC) effluent limitations according to 40 CFR §423.13(b)(1):

Parameter	Daily Average (mg/L)	Daily Maximum (mg/L)
TRC	N/A	0.2

The permitted flow is used in the calculation of once-through cooling water mass (lbs/day) limitations. Mass limitations for TRC are calculated according to 40 CFR §423.13(b)(2) as follows:

Daily Maximum (lbs/day) = [(daily max limit, mg/L) × (permitted daily average flow, MGD) × (8.345) × (2 hrs/24 hrs)] × (3 units)

Daily Maximum (lbs/day) = [(0.2 mg/L) × (1,165 MGD) × (8.345)/12] × (3) = 486 lbs/day

Note that the pH of all discharges, except once-through cooling water, shall be within the range of 6.0 to 9.0 SU in accordance with 40 CFR §423.12(b)(1) (Best Practicable Control Technology Currently Available or BPT). Therefore, pH effluent limitations are not required at Outfall 001.

Technology-based effluent limitations at Outfall 001 are as follows:

Parameter	Daily Average		Daily Maximum	
	mg/L	lbs/day	mg/L	lbs/day
TRC	N/A		0.2	486

Phase II Effluent Limitations

Outfall 001 - once-through cooling water and previously monitored effluent (low volume waste via internal Outfall 201, low volume waste, coal pile runoff, truck wash water, and stormwater from the Coal Pile Runoff Pond via internal Outfall 301).

The BAT effluent limitations for TRC according to 40 CFR §423.13(b)(1) are:

Parameter	Daily Average (mg/L)	Daily Maximum (mg/L)
TRC	N/A	0.2

The permitted flow is used in the calculation of once through cooling water loading (lbs/day) effluent limitations. Mass limitations for TRC are calculated according to 40 CFR §423.13(b)(2) in the following way:

Daily Maximum (lbs/day) = [(daily max limit, mg/L) × (permitted daily average flow, MGD) × (8.345) × (2 hrs/24 hrs)] × (4 units)

Daily Maximum (lbs/day) = [(0.2 mg/L) × (1,509 MGD) × (8.345)/12] × (4) = 840 lbs/day

Note that the pH of all discharges, except once through cooling water, shall be within the range of 6.0 to 9.0 SU in accordance with 40 CFR §423.12(b)(1) (BPT). Therefore, pH effluent limitations are not required at Outfall 001.

Technology-based effluent limitations at Outfall 001 are as follows:

Parameter	Daily Average		Daily Maximum	
	mg/L	lbs/day	mg/L	lbs/day
TRC	N/A		0.2	840

Internal OUTFALL 201- low volume waste sources.

Limits for total suspended solids (TSS) and oil and grease are based on BPT, 40 CFR §423.12(b)(3) for the discharge of low volume waste sources and are included in the permit in mg/L.

Limits for pH are based on BPT, 40 CFR §423.12(b)(1).

Technology-based limitations at internal Outfall 201 are as follows:

Parameter	Daily Average (mg/L)	Daily Maximum (mg/L)
TSS	30	100
Oil and Grease	15	20
pH	6.0 SU, minimum	9.0 SU, maximum

Internal OUTFALL 301- low volume waste, coal pile runoff, truck wash water, and stormwater from the Coal Pile Runoff Pond.

Limitations for low volume waste commingled with coal pile runoff are based on 40 CFR §423.12(b)(3) and 40 CFR §423.12(b)(9). The discharge of coal pile runoff water commingled with low volume waste, truck wash water, and stormwater from the Coal Pile Runoff Pond are intermittent and low in volume; therefore, concentration limitations are proposed to be continued from the existing permits.

Parameter	Daily Average (mg/L)	Daily Maximum (mg/L)
TSS	30	50
Oil and Grease	15	20
pH	6.0 SU, minimum	9.0 SU, maximum

*The decision to apply a selenium limit to the coal pile runoff discharges via Outfalls 301, 003, and 004 were made without specific knowledge of whether the coal would be a significant source of selenium or not. Many years of monitoring data have demonstrated that the coal pile wastestream is

not a significant source of selenium. Interim and final effluent limitations for total selenium are not continued from the permit issued on June 12, 2009. EPA's update and revision to the 40 CFR Part 423 ELG consitutes new information relevant to the anti-backsliding exceptions at 40 CFR § 122.44(l)(B)(2). The revised ELG study supports the conclusion that the use of BPJ-based technology limitations in the earlier permits constituted a technical mistake because there was no basis for assuming selenium would be present in these discharges at treatable concentrations.

OUTFALL 002 (cooling water drained from condensers and other cooling equipment during maintenance periods).

BAT limits for TRC are based on 40 CFR §423.13(b)(1).

Limits for pH are included in the current permit based upon best professional judgment and are continued in the draft permit based on anti-backsliding requirements in 40 CFR §122.44(l).

Technology-based limitations at Outfall 002 are as follows:

Parameter	Daily Average (mg/L)	Daily Maximum (mg/L)
TRC	N/A	0.2
pH	6.0 SU, minimum	9.0 SU, maximum

OUTFALL 003 (low volume waste, coal pile runoff, truck wash water, and stormwater from the Coal Pile Runoff Pond).

Limits for TSS in 40 CFR §423.12(b)(9) for the discharge of coal pile runoff are 50 mg/L daily maximum. Limits for TSS and oil and grease are based on 40 CFR §423.12(b)(3) for the discharge of low volume waste sources are 30 mg/L daily average and 100 mg/L daily maximum for TSS and 15 mg/L daily average and 20 mg/L daily maximum for oil and grease.

Limits for pH are based on 40 CFR §423.12(b)(1).

Technology-based limitations at Outfall 003 are as follows:

Parameter	Daily Average (mg/L)	Daily Maximum (mg/L)
TSS	30	50
Oil and Grease	15	20
pH	6.0 SU, minimum	9.0 SU, maximum

Technology-based effluent limitations for coal pile runoff require a TSS daily maximum limit of 50 mg/L. Therefore, the daily maximum is set at 50 mg/L TSS to comply with 40 CFR Part 423.

*The decision to apply a selenium limit to the coal pile runoff discharges via Outfalls 301, 003, and 004 were made without specific knowledge of whether the coal would be a significant source of selenium or not. Many years of monitoring data have demonstrated that the coal pile wastestream is not a significant source of selenium. Interim and final effluent limitations for total selenium are not continued from the permit issued on June 12, 2009. EPA's update and revision to the 40 CFR Part 423 ELG consitutes new information relevant to the anti-backsliding exceptions at 40 CFR § 122.44(l)(B)(2). The revised ELG study supports the conclusion that the use of BPJ-based technology limitations in the earlier permits constituted a technical mistake because there was no basis for assuming selenium would be present in these discharges at treatable concentrations.

OUTFALL 004 (wastes from the Combustion Byproducts Landfill Pond).

Discharges from this outfall include combustion byproducts landfill runoff (from material storage piles including bottom ash, fly ash, and gypsum), truck wash water, and stormwater.
Limits for TSS and oil and grease were previously established based on BPJ for similar wastestreams in 40 CFR Part 423, and limits established for truck wash water and stormwater were originally based upon BPJ. These limits are continued based on anti-backsliding requirements in 40 CFR §122.44(l).

Limits for pH are based on 40 CFR §423.12(b)(1).

Technology-based limitations at Outfall 004 are as follows:

Parameter	**Daily Average (mg/L)**	**Daily Maximum (mg/L)**
TSS	30	100
Oil and Grease	15	20
pH	6.0 SU, minimum	9.0 SU, maximum

*The decision to apply a selenium limit to the coal pile runoff discharges via Outfalls 301, 003, and 004 were made without specific knowledge of whether the coal would be a significant source of selenium or not. Many years of monitoring data have demonstrated that the coal pile wastestream is not a significant source of selenium. Interim and final effluent limitations for total selenium are not continued from the permit issued on June 12, 2009. EPA's update and revision to the 40 CFR Part 423 ELG consitutes new information relevant to the anti-backsliding exceptions at 40 CFR § 122.44(l)(B)(2). The revised ELG study supports the conclusion that the use of BPJ-based technology limitations in the earlier permits constituted a technical mistake because there was no basis for assuming selenium would be present in these discharges at treatable concentrations.

Appendix B
Calculated Water Quality-Based Effluent Limits

TEXTOX MENU #4 - LAKE OR RESERVOIR

The water quality-based effluent limitations developed below are calculated using:

Table 1, 2014 Texas Surface Water Quality Standards (30 TAC 307) for Freshwater Aquatic Life
Table 2, 2018 Texas Surface Water Quality Standards for Human Health
"Procedures to Implement the Texas Surface Water Quality Standards," TCEQ, June 2010

PERMIT INFORMATION

Permittee Name:	Lower Colorado River Authority
TPDES Permit No:	WQ0002105000
Outfall No:	001
Prepared by:	Thomas Starr
Date:	July 18, 2025

DISCHARGE INFORMATION

Receiving Waterbody:	Lake Fayette
Segment No.:	1402
TSS (mg/L):	12
pH (Standard Units):	7.8
Hardness (mg/L as $CaCO_3$):	191
Chloride (mg/L):	51
Effluent Flow for Aquatic Life (MGD):	1509
% Effluent for Chronic Aquatic Life (Mixing Zone):	100
% Effluent for Acute Aquatic Life (ZID):	100
Effluent Flow for Human Health (MGD):	929.8
% Effluent for Human Health:	100
Human Health Criterion (select: PWS, FISH, or INC)	**FISH**

CALCULATE DISSOLVED FRACTION (AND ENTER WATER EFFECT RATIO IF APPLICABLE):

Lake/Reservoir Metal	*Intercept (b)*	*Slope (m)*	*Partition Coefficient (Kp)*	*Dissolved Fraction (Cd/Ct)*	*Source*	*Water Effect Ratio (WER)*	*Source*
Aluminum	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Arsenic	5.68	-0.73	78018.52	0.516		1.00	Assumed
Cadmium	6.55	-0.92	360705.91	0.188		1.00	Assumed
Chromium (total)	6.34	-0.27	1118461.56	0.069		1.00	Assumed
Chromium (trivalent)	6.34	-0.27	1118461.56	0.069		1.00	Assumed
Chromium (hexavalent)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Copper	6.45	-0.90	301118.11	0.217		1.00	Assumed
Lead	6.31	-0.53	547058.71	0.132		1.00	Assumed
Mercury	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Nickel	6.34	-0.76	330995.62	0.201		1.00	Assumed
Selenium	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Silver	6.38	-1.03	185542.46	0.310		1.00	Assumed
Zinc	6.52	-0.68	611162.58	0.120		1.00	Assumed

AQUATIC LIFE

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

Parameter	*FW Acute Criterion (µg/L)*	*FW Chronic Criterion (µg/L)*	*WLAa (µg/L)*	*WLAc (µg/L)*	*LTAa (µg/L)*	*LTAc (µg/L)*	*Daily Avg. (µg/L)*	*Daily Max. (µg/L)*
Aldrin	3.0	N/A	3.00	N/A	0.960	N/A	1.41	2.98
Aluminum	991	N/A	991	N/A	317	N/A	466	986
Arsenic	340	150	658	290	211	177	260	550
Cadmium	16.09	0.385	85.8	2.05	27.4	1.25	1.84	3.89
Carbaryl	2.0	N/A	2.00	N/A	0.640	N/A	0.940	1.99
Chlordane	2.4	0.004	2.40	0.00400	0.768	0.00244	0.00358	0.00758
Chlorpyrifos	0.083	0.041	0.0830	0.0410	0.0266	0.0250	0.0367	0.0777
Chromium (trivalent)	968	125.9	13960	1816	4467	1108	1628	3444
Chromium (hexavalent)	15.7	10.6	15.7	10.6	5.02	6.47	7.38	15.6
Copper	26.13	16.46	121	75.9	38.6	46.3	56.7	119
Cyanide (free)	45.8	10.7	45.8	10.7	14.7	6.53	9.59	20.2
4,4'-DDT	1.1	0.001	1.10	0.00100	0.352	0.000610	0.000896	0.00189
Demeton	N/A	0.1	N/A	0.100	N/A	0.0610	0.0896	0.189
Diazinon	0.17	0.17	0.170	0.170	0.0544	0.104	0.0799	0.169
Dicofol [Kelthane]	59.3	19.8	59.3	19.8	19.0	12.1	17.7	37.5
Dieldrin	0.24	0.002	0.240	0.00200	0.0768	0.00122	0.00179	0.00379
Diuron	210	70	210	70.0	67.2	42.7	62.7	132
Endosulfan I (*alpha*)	0.22	0.056	0.220	0.0560	0.0704	0.0342	0.0502	0.106
Endosulfan II (*beta*)	0.22	0.056	0.220	0.0560	0.0704	0.0342	0.0502	0.106
Endosulfan sulfate	0.22	0.056	0.220	0.0560	0.0704	0.0342	0.0502	0.106
Endrin	0.086	0.002	0.0860	0.00200	0.0275	0.00122	0.00179	0.00379
Guthion [Azinphos Methyl]	N/A	0.01	N/A	0.0100	N/A	0.00610	0.00896	0.0189
Heptachlor	0.52	0.004	0.520	0.00400	0.166	0.00244	0.00358	0.00758
Hexachlorocyclohexane (*gamma*) [Lindane]	1.126	0.08	1.13	0.0800	0.360	0.0488	0.0717	0.151
Lead	129.6	5.05	981	38.2	314	23.3	34.2	72.4
Malathion	N/A	0.01	N/A	0.0100	N/A	0.00610	0.00896	0.0189
Mercury	2.4	1.3	2.40	1.30	0.768	0.793	1.12	2.38
Methoxychlor	N/A	0.03	N/A	0.0300	N/A	0.0183	0.0269	0.0569
Mirex	N/A	0.001	N/A	0.00100	N/A	0.000610	0.000896	0.00189
Nickel	810	89.9	4025	447	1288	273	400	848
Nonylphenol	28	6.6	28.0	6.60	8.96	4.03	5.91	12.5
Parathion (ethyl)	0.065	0.013	0.0650	0.0130	0.0208	0.00793	0.0116	0.0246
Pentachlorophenol	19.5	14.95	19.5	15.0	6.24	9.12	9.16	19.3
Phenanthrene	30	30	30.0	30.0	9.60	18.3	14.1	29.8
Polychlorinated Biphenyls [PCBs]	2.0	0.014	2.00	0.0140	0.640	0.00854	0.0125	0.0265
Selenium	20	5	20.0	5.00	6.40	3.05	4.48	9.48
Silver	0.8	N/A	11.5	N/A	3.67	N/A	5.39	11.4
Toxaphene	0.78	0.0002	0.780	0.000200	0.250	0.000122	0.000179	0.000379
Tributyltin [TBT]	0.13	0.024	0.130	0.0240	0.0416	0.0146	0.0215	0.0455
2,4,5 Trichlorophenol	136	64	136	64.0	43.5	39.0	57.3	121
Zinc	202.8	204.4	1690	1704	541	1039	794	1681

HUMAN HEALTH

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

Parameter	*Water and Fish Criterion (µg/L)*	*Fish Only Criterion (µg/L)*	*Incidental Fish Criterion (µg/L)*	*WLAh (µg/L)*	*LTAh (µg/L)*	*Daily Avg. (µg/L)*	*Daily Max. (µg/L)*
Acrylonitrile	1.0	115	1150	115	107	157	332
Aldrin	1.146E-05	1.147E-05	1.147E-04	0.0000115	0.0000107	0.0000156	0.0000331
Anthracene	1109	1317	13170	1317	1225	1800	3809
Antimony	6	1071	10710	1071	996	1464	3097
Arsenic	10	N/A	N/A	N/A	N/A	N/A	N/A
Barium	2000	N/A	N/A	N/A	N/A	N/A	N/A
Benzene	5	581	5810	581	540	794	1680
Benzidine	0.0015	0.107	1.07	0.107	0.0995	0.146	0.309
Benzo(*a*)anthracene	0.024	0.025	0.25	0.0250	0.0233	0.0341	0.0723
Benzo(*a*)pyrene	0.0025	0.0025	0.025	0.00250	0.00233	0.00341	0.00723
Bis(chloromethyl)ether	0.0024	0.2745	2.745	0.275	0.255	0.375	0.793
Bis(2-chloroethyl)ether	0.60	42.83	428.3	42.8	39.8	58.5	123
Bis(2-ethylhexyl) phthalate [Di(2-ethylhexyl) phthalate	6	7.55	75.5	7.55	7.02	10.3	21.8
Bromodichloromethane [Dichlorobromomethane]	10.2	275	2750	275	256	375	795
Bromoform [Tribromomethane]	66.9	1060	10600	1060	986	1449	3065
Cadmium	5	N/A	N/A	N/A	N/A	N/A	N/A
Carbon Tetrachloride	4.5	46	460	46.0	42.8	62.8	133
Chlordane	0.0025	0.0025	0.025	0.00250	0.00233	0.00341	0.00723
Chlorobenzene	100	2737	27370	2737	2545	3741	7916
Chlorodibromomethane [Dibromochloromethane]	7.5	183	1830	183	170	250	529
Chloroform [Trichloromethane]	70	7697	76970	7697	7158	10522	22262
Chromium (hexavalent)	62	502	5020	502	467	686	1451
Chrysene	2.45	2.52	25.2	2.52	2.34	3.44	7.28
Cresols [Methylphenols]	1041	9301	93010	9301	8650	12715	26901
Cyanide (free)	200	N/A	N/A	N/A	N/A	N/A	N/A
4,4'-DDD	0.002	0.002	0.02	0.00200	0.00186	0.00273	0.00578
4,4'-DDE	0.00013	0.00013	0.0013	0.000130	0.000121	0.000177	0.000375
4,4'-DDT	0.0004	0.0004	0.004	0.000400	0.000372	0.000546	0.00115
2,4'-D	70	N/A	N/A	N/A	N/A	N/A	N/A
Danitol [Fenpropathrin]	262	473	4730	473	440	646	1368
1,2-Dibromoethane [Ethylene Dibromide]	0.17	4.24	42.4	4.24	3.94	5.79	12.2
m-Dichlorobenzene [1,3-Dichlorobenzene]	322	595	5950	595	553	813	1720
o-Dichlorobenzene [1,2-Dichlorobenzene]	600	3299	32990	3299	3068	4510	9541
p-Dichlorobenzene [1,4-Dichlorobenzene]	75	N/A	N/A	N/A	N/A	N/A	N/A
3,3'-Dichlorobenzidine	0.79	2.24	22.4	2.24	2.08	3.06	6.47
1,2-Dichloroethane	5	364	3640	364	339	497	1052
1,1-Dichloroethylene [1,1-Dichloroethene]	7	55114	551140	55114	51256	75346	159406
Dichloromethane [Methylene Chloride]	5	13333	133330	13333	12400	18227	38563
1,2-Dichloropropane	5	259	2590	259	241	354	749
1,3-Dichloropropene [1,3-Dichloropropylene]	2.8	119	1190	119	111	162	344
Dicofol [Kelthane]	0.30	0.30	3	0.300	0.279	0.410	0.867
Dieldrin	2.0E-05	2.0E-05	2.0E-04	0.0000200	0.0000186	0.0000273	0.0000578
2,4-Dimethylphenol	444	8436	84360	8436	7845	11532	24399
Di-*n*-Butyl Phthalate	88.9	92.4	924	92.4	85.9	126	267
Dioxins/Furans [TCDD Equivalents]	7.80E-08	7.97E-08	7.97E-07	7.97E-08	7.41E-08	1.08E-07	2.30E-07
Endrin	0.02	0.02	0.2	0.0200	0.0186	0.0273	0.0578
Epichlorohydrin	53.5	2013	20130	2013	1872	2751	5822
Ethylbenzene	700	1867	18670	1867	1736	2552	5399
Ethylene Glycol	46744	1.68E+07	1.68E+08	16800000	15624000	22967280	48590640
Fluoride	4000	N/A	N/A	N/A	N/A	N/A	N/A
Heptachlor	8.0E-05	0.0001	0.001	0.000100	0.0000930	0.000136	0.000289
Heptachlor Epoxide	0.00029	0.00029	0.0029	0.000290	0.000270	0.000396	0.000838
Hexachlorobenzene	0.00068	0.00068	0.0068	0.000680	0.000632	0.000929	0.00196
Hexachlorobutadiene	0.21	0.22	2.2	0.220	0.205	0.300	0.636

Parameter	*Water and Fish Criterion (µg/L)*	*Fish Only Criterion (µg/L)*	*Incidental Fish Criterion (µg/L)*	*WLAh (µg/L)*	*LTAh (µg/L)*	*Daily Avg. (µg/L)*	*Daily Max. (µg/L)*
Hexachlorocyclohexane (*alpha*)	0.0078	0.0084	0.084	0.00840	0.00781	0.0114	0.0242
Hexachlorocyclohexane (*beta*)	0.15	0.26	2.6	0.260	0.242	0.355	0.751
Hexachlorocyclohexane (*gamma*) [Lindane]	0.2	0.341	3.41	0.341	0.317	0.466	0.986
Hexachlorocyclopentadiene	10.7	11.6	116	11.6	10.8	15.8	33.5
Hexachloroethane	1.84	2.33	23.3	2.33	2.17	3.18	6.73
Hexachlorophene	2.05	2.90	29	2.90	2.70	3.96	8.38
4,4'-Isopropylidenediphenol [Bisphenol A]	1092	15982	159820	15982	14863	21848	46224
Lead	1.15	3.83	38.3	29.0	26.9	39.6	83.7
Mercury	0.0122	0.0122	0.122	0.0122	0.0113	0.0166	0.0352
Methoxychlor	2.92	3.0	30	3.00	2.79	4.10	8.67
Methyl Ethyl Ketone	13865	9.92E+05	9.92E+06	992000	922560	1356163	2869161
Methyl *tert*-butyl ether [MTBE]	15	10482	104820	10482	9748	14329	30317
Nickel	332	1140	11400	5668	5271	7748	16393
Nitrate-Nitrogen (as Total Nitrogen)	10000	N/A	N/A	N/A	N/A	N/A	N/A
Nitrobenzene	45.7	1873	18730	1873	1742	2560	5417
N-Nitrosodiethylamine	0.0037	2.1	21	2.10	1.95	2.87	6.07
N-Nitroso-di-*n*-Butylamine	0.119	4.2	42	4.20	3.91	5.74	12.1
Pentachlorobenzene	0.348	0.355	3.55	0.355	0.330	0.485	1.02
Pentachlorophenol	0.22	0.29	2.9	0.290	0.270	0.396	0.838
Polychlorinated Biphenyls [PCBs]	6.4E-04	6.4E-04	6.40E-03	0.000640	0.000595	0.000874	0.00185
Pyridine	23	947	9470	947	881	1294	2739
Selenium	50	N/A	N/A	N/A	N/A	N/A	N/A
1,2,4,5-Tetrachlorobenzene	0.23	0.24	2.4	0.240	0.223	0.328	0.694
1,1,2,2-Tetrachloroethane	1.64	26.35	263.5	26.4	24.5	36.0	76.2
Tetrachloroethylene [Tetrachloroethylene]	5	280	2800	280	260	382	809
Thallium	0.12	0.23	2.3	0.230	0.214	0.314	0.665
Toluene	1000	N/A	N/A	N/A	N/A	N/A	N/A
Toxaphene	0.011	0.011	0.11	0.0110	0.0102	0.0150	0.0318
2,4,5-TP [Silvex]	50	369	3690	369	343	504	1067
1,1,1-Trichloroethane	200	784354	7843540	784354	729449	1072290	2268587
1,1,2-Trichloroethane	5	166	1660	166	154	226	480
Trichloroethylene [Trichloroethene]	5	71.9	719	71.9	66.9	98.2	207
2,4,5-Trichlorophenol	1039	1867	18670	1867	1736	2552	5399
TTHM [Sum of Total Trihalomethanes]	80	N/A	N/A	N/A	N/A	N/A	N/A
Vinyl Chloride	0.23	16.5	165	16.5	15.3	22.5	47.7

Aquatic Life Parameter	*70% of Daily Avg. (µg/L)*	*85% of Daily Avg. (µg/L)*
Aldrin	0.987	1.19
Aluminum	326	396
Arsenic	182	221
Cadmium	1.28	1.56
Carbaryl	0.658	0.799
Chlordane	0.00251	0.00304
Chlorpyrifos	0.0257	0.0312
Chromium (trivalent)	1139	1384
Chromium (hexavalent)	5.16	6.27
Copper	39.6	48.1
Cyanide (free)	6.71	8.15
4,4'-DDT	0.000627	0.000762
Demeton	0.0627	0.0762
Diazinon	0.0559	0.0679
Dicofol [Kelthane]	12.4	15.0
Dieldrin	0.00125	0.00152
Diuron	43.9	53.3
Endosulfan I (*alpha*)	0.0351	0.0426
Endosulfan II (*beta*)	0.0351	0.0426
Endosulfan sulfate	0.0351	0.0426
Endrin	0.00125	0.00152
Guthion [Azinphos Methyl]	0.00627	0.00762
Heptachlor	0.00251	0.00304
Hexachlorocyclohexane (*gamma*) [Lindane]	0.0502	0.0609
Lead	23.9	29.1
Malathion	0.00627	0.00762
Mercury	0.790	0.959
Methoxychlor	0.0188	0.0228
Mirex	0.000627	0.000762
Nickel	280	340
Nonylphenol	4.14	5.03
Parathion (ethyl)	0.00815	0.00990
Pentachlorophenol	6.41	7.79
Phenanthrene	9.87	11.9
Polychlorinated Biphenyls [PCBs]	0.00878	0.0106
Selenium	3.13	3.81
Silver	3.77	4.58
Toxaphene	0.000125	0.000152
Tributyltin [TBT]	0.0150	0.0182
2,4,5 Trichlorophenol	40.1	48.7
Zinc	556	675

Human Health *Parameter*	*70% of Daily Avg. (µg/L)*	*85% of Daily Avg. (µg/L)*
Acrylonitrile	110	133
Aldrin	0.0000109	0.0000133
Anthracene	1260	1530
Antimony	1024	1244
Arsenic	N/A	N/A
Barium	N/A	N/A
Benzene	555	675
Benzidine	0.102	0.124
Benzo(*a*)anthracene	0.0239	0.0290
Benzo(*a*)pyrene	0.00239	0.00290
Bis(chloromethyl)ether	0.262	0.318
Bis(2-chloroethyl)ether	40.9	49.7
Bis(2-ethylhexyl) phthalate [Di(2-ethylhexyl) phthalate]	7.22	8.77
Bromodichloromethane [Dichlorobromomethane]	263	319
Bromoform [Tribromomethane]	1014	1231
Cadmium	N/A	N/A
Carbon Tetrachloride	44.0	53.4
Chlordane	0.00239	0.00290
Chlorobenzene	2619	3180
Chlorodibromomethane [Dibromochloromethane]	175	212
Chloroform [Trichloromethane]	7365	8944
Chromium (hexavalent)	480	583
Chrysene	2.41	2.92
Cresols [Methylphenols]	8900	10808
Cyanide (free)	N/A	N/A
4,4'-DDD	0.00191	0.00232
4,4'-DDE	0.000124	0.000151
4,4'-DDT	0.000382	0.000464
2,4'-D	N/A	N/A
Danitol [Fenpropathrin]	452	549
1,2-Dibromoethane [Ethylene Dibromide]	4.05	4.92
m-Dichlorobenzene [1,3-Dichlorobenzene]	569	691
o-Dichlorobenzene [1,2-Dichlorobenzene]	3157	3833
p-Dichlorobenzene [1,4-Dichlorobenzene]	N/A	N/A
3,3'-Dichlorobenzidine	2.14	2.60
1,2-Dichloroethane	348	422
1,1-Dichloroethylene [1,1-Dichloroethene]	52742	64044
Dichloromethane [Methylene Chloride]	12759	15493
1,2-Dichloropropane	247	300
1,3-Dichloropropene [1,3-Dichloropropylene]	113	138
Dicofol [Kelthane]	0.287	0.348
Dieldrin	0.0000191	0.0000232
2,4-Dimethylphenol	8072	9802
Di-*n*-Butyl Phthalate	88.4	107
Dioxins/Furans [TCDD Equivalents]	7.62E-08	9.26E-08
Endrin	0.0191	0.0232
Epichlorohydrin	1926	2339
Ethylbenzene	1786	2169
Ethylene Glycol	16077096	19522188
Fluoride	N/A	N/A
Heptachlor	0.0000956	0.000116
Heptachlor Epoxide	0.000277	0.000336
Hexachlorobenzene	0.000650	0.000790
Hexachlorobutadiene	0.210	0.255

Human Health *Parameter*	*70% of Daily Avg. (µg/L)*	*85% of Daily Avg. (µg/L)*
Hexachlorocyclohexane (*alpha*)	0.00803	0.00976
Hexachlorocyclohexane (*beta*)	0.248	0.302
Hexachlorocyclohexane (*gamma*) [Lindane]	0.326	0.396
Hexachlorocyclopentadiene	11.1	13.4
Hexachloroethane	2.22	2.70
Hexachlorophene	2.77	3.36
4,4'-Isopropylidenediphenol [Bisphenol A]	15294	18571
Lead	27.7	33.6
Mercury	0.0116	0.0141
Methoxychlor	2.87	3.48
Methyl Ethyl Ketone	949314	1152738
Methyl *tert*-butyl ether [MTBE]	10030	12180
Nickel	5424	6586
Nitrate-Nitrogen (as Total Nitrogen)	N/A	N/A
Nitrobenzene	1792	2176
N-Nitrosodiethylamine	2.00	2.44
N-Nitroso-di-*n*-Butylamine	4.01	4.88
Pentachlorobenzene	0.339	0.412
Pentachlorophenol	0.277	0.336
Polychlorinated Biphenyls [PCBs]	0.000612	0.000743
Pyridine	906	1100
Selenium	N/A	N/A
1,2,4,5-Tetrachlorobenzene	0.229	0.278
1,1,2,2-Tetrachloroethane	25.2	30.6
Tetrachloroethylene [Tetrachloroethylene]	267	325
Thallium	0.220	0.267
Toluene	N/A	N/A
Toxaphene	0.0105	0.0127
2,4,5-TP [Silvex]	353	428
1,1,1-Trichloroethane	750603	911446
1,1,2-Trichloroethane	158	192
Trichloroethylene [Trichloroethene]	68.8	83.5
2,4,5-Trichlorophenol	1786	2169
TTHM [Sum of Total Trihalomethanes]	N/A	N/A
Vinyl Chloride	15.7	19.1

FACT SHEET AND EXECUTIVE DIRECTOR'S PRELIMINARY DECISION

TEXTOX MENU #2 - INTERMITTENT STREAM WITHIN 3 MILES OF A FRESHWATER PERENNIAL

The water quality-based effluent limitations developed below are calculated using:

Table 1, 2014 Texas Surface Water Quality Standards (30 TAC 307) for Freshwater Aquatic Life
Table 2, 2018 Texas Surface Water Quality Standards for Human Health
"Procedures to Implement the Texas Surface Water Quality Standards," TCEQ, June 2010

PERMIT INFORMATION

Permittee Name:	Lower Colorado River Authority
TPDES Permit No.:	WQ0002105000
Outfall No.:	002
Prepared by:	Thomas Starr
Date:	July 18, 2025

DISCHARGE INFORMATION

Intermittent Receiving Waterbody:	unnamed tributary
Perennial Stream/River within 3 Miles:	Cedar Creek
Segment No.:	1402
TSS (mg/L):	12
pH (Standard Units):	7.8
Hardness (mg/L as $CaCO_3$):	191
Chloride (mg/L):	51
Effluent Flow for Aquatic Life (MGD):	0.92
Critical Low Flow [7Q2] (cfs) for intermittent:	0
Critical Low Flow [7Q2] (cfs) for perennial:	0.5
% Effluent for Chronic Aquatic Life (Mixing Zone):	74.00
% Effluent for Acute Aquatic Life (ZID):	100
Effluent Flow for Human Health (MGD):	0.9
Harmonic Mean Flow (cfs) for perennial:	0.5
% Effluent for Human Health:	73.580
Human Health Criterion (select: PWS, FISH, or INC)	**FISH**

CALCULATE DISSOLVED FRACTION (AND ENTER WATER EFFECT RATIO IF APPLICABLE):

Stream/River Metal	*Intercept (b)*	*Slope (m)*	*Partition Coefficient (Kp)*	*Dissolved Fraction (Cd/Ct)*	*Source*	*Water Effect Ratio (WER)*	*Source*
Aluminum	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Arsenic	5.68	-0.73	78018.52	0.516		1.00	Assumed
Cadmium	6.60	-1.13	240173.56	0.258		1.00	Assumed
Chromium (total)	6.52	-0.93	328368.46	0.202		1.00	Assumed
Chromium (trivalent)	6.52	-0.93	328368.46	0.202		1.00	Assumed
Chromium (hexavalent)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Copper	6.02	-0.74	166496.80	0.334		1.00	Assumed
Lead	6.45	-0.80	386060.17	0.178		1.00	Assumed
Mercury	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Nickel	5.69	-0.57	118813.75	0.412		1.00	Assumed
Selenium	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Silver	6.38	-1.03	185542.46	0.310		1.00	Assumed
Zinc	6.10	-0.70	221092.05	0.274		1.00	Assumed

AQUATIC LIFE

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

Parameter	*FW Acute Criterion (µg/L)*	*FW Chronic Criterion*	*WLAa (µg/L)*	*WLAc (µg/L)*	*LTAa (µg/L)*	*LTAc (µg/L)*	*Daily Avg. (µg/L)*	*Daily Max. (µg/L)*
Aldrin	3.0	N/A	3.00	N/A	1.72	N/A	2.52	5.34
Aluminum	991	N/A	991	N/A	568	N/A	834	1765
Arsenic	340	150	658	392	377	302	444	939
Cadmium	16.1	0.385	62.5	2.02	35.8	1.56	2.28	4.84
Carbaryl	2.0	N/A	2.00	N/A	1.15	N/A	1.68	3.56
Chlordane	2.4	0.004	2.40	0.00541	1.38	0.00416	0.00611	0.0129
Chlorpyrifos	0.083	0.041	0.0830	0.0554	0.0476	0.0427	0.0627	0.132
Chromium (trivalent)	968	126	4782	841	2740	647	951	2012
Chromium (hexavalent)	15.7	10.6	15.7	14.3	9.00	11.0	13.2	27.9
Copper	26.1	16.5	78.3	66.7	44.9	51.3	65.9	139
Cyanide (free)	45.8	10.7	45.8	14.5	26.2	11.1	16.3	34.6
4,4'-DDT	1.1	0.001	1.10	0.00135	0.630	0.00104	0.00152	0.00323
Demeton	N/A	0.1	N/A	0.135	N/A	0.104	0.152	0.323
Diazinon	0.17	0.17	0.170	0.230	0.0974	0.177	0.143	0.302
Dicofol [Kelthane]	59.3	19.8	59.3	26.8	34.0	20.6	30.2	64.0
Dieldrin	0.24	0.002	0.240	0.00270	0.138	0.00208	0.00305	0.00647
Diuron	210	70	210	94.6	120	72.8	107	226
Endosulfan I (*alpha*)	0.22	0.056	0.220	0.0757	0.126	0.0583	0.0856	0.181
Endosulfan II (*beta*)	0.22	0.056	0.220	0.0757	0.126	0.0583	0.0856	0.181
Endosulfan sulfate	0.22	0.056	0.220	0.0757	0.126	0.0583	0.0856	0.181
Endrin	0.086	0.002	0.0860	0.00270	0.0493	0.00208	0.00305	0.00647
Guthion [Azinphos Methyl]	N/A	0.01	N/A	0.0135	N/A	0.0104	0.0152	0.0323
Heptachlor	0.52	0.004	0.520	0.00541	0.298	0.00416	0.00611	0.0129
Hexachlorocyclohexane (*gamma*) [Lindane]	1.126	0.08	1.13	0.108	0.645	0.0832	0.122	0.258
Lead	130	5.05	730	38.5	418	29.6	43.5	92.0
Malathion	N/A	0.01	N/A	0.0135	N/A	0.0104	0.0152	0.0323
Mercury	2.4	1.3	2.40	1.76	1.38	1.35	1.98	4.20
Methoxychlor	N/A	0.03	N/A	0.0405	N/A	0.0312	0.0458	0.0970
Mirex	N/A	0.001	N/A	0.00135	N/A	0.00104	0.00152	0.00323
Nickel	810	89.9	1964	295	1125	227	333	705
Nonylphenol	28	6.6	28.0	8.92	16.0	6.87	10.0	21.3
Parathion (ethyl)	0.065	0.013	0.0650	0.0176	0.0372	0.0135	0.0198	0.0420
Pentachlorophenol	19.5	15.0	19.5	20.2	11.2	15.6	16.4	34.7
Phenanthrene	30	30	30.0	40.5	17.2	31.2	25.2	53.4
Polychlorinated Biphenyls [PCBs]	2.0	0.014	2.00	0.0189	1.15	0.0146	0.0214	0.0453
Selenium	20	5	20.0	6.76	11.5	5.20	7.64	16.1
Silver	0.8	N/A	11.5	N/A	6.57	N/A	9.65	20.4
Toxaphene	0.78	0.0002	0.780	0.000270	0.447	0.000208	0.000305	0.000647
Tributyltin [TBT]	0.13	0.024	0.130	0.0324	0.0745	0.0250	0.0367	0.0776
2,4,5 Trichlorophenol	136	64	136	86.5	77.9	66.6	97.8	207
Zinc	203	204	741	1009	424	777	623	1319

HUMAN HEALTH

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

Parameter	*Water and Fish Criterion*	*Fish Only Criterion (µg/L)*	*Incidental Fish Criterion*	*WLAh (µg/L)*	*LTAh (µg/L)*	*Daily Avg. (µg/L)*	*Daily Max. (µg/L)*
Acrylonitrile	1.0	115	1150	156	145	213	452
Aldrin	1.146E-05	1.147E-05	1.147E-04	0.0000156	0.0000145	0.0000213	0.0000450
Anthracene	1109	1317	13170	1790	1665	2446	5176
Antimony	6	1071	10710	1456	1354	1989	4209
Arsenic	10	N/A	N/A	N/A	N/A	N/A	N/A
Barium	2000	N/A	N/A	N/A	N/A	N/A	N/A
Benzene	5	581	5810	790	734	1079	2283
Benzidine	0.0015	0.107	1.07	0.145	0.135	0.198	0.420
Benzo(*a*)anthracene	0.024	0.025	0.25	0.0340	0.0316	0.0464	0.0982
Benzo(*a*)pyrene	0.0025	0.0025	0.025	0.00340	0.00316	0.00464	0.00982
Bis(chloromethyl)ether	0.0024	0.2745	2.745	0.373	0.347	0.510	1.07
Bis(2-chloroethyl)ether	0.60	42.83	428.3	58.2	54.1	79.5	168
Bis(2-ethylhexyl) phthalate [Di(2-ethylhexyl) phtha	6	7.55	75.5	10.3	9.54	14.0	29.6
Bromodichloromethane [Dichlorobromomethane]	10.2	275	2750	374	348	510	1080
Bromoform [Tribromomethane]	66.9	1060	10600	1441	1340	1969	4166
Cadmium	5	N/A	N/A	N/A	N/A	N/A	N/A
Carbon Tetrachloride	4.5	46	460	62.5	58.1	85.4	180
Chlordane	0.0025	0.0025	0.025	0.00340	0.00316	0.00464	0.00982
Chlorobenzene	100	2737	27370	3720	3459	5085	10758
Chlorodibromomethane [Dibromochloromethane]	7.5	183	1830	249	231	340	719
Chloroform [Trichloromethane]	70	7697	76970	10461	9728	14300	30255
Chromium (hexavalent)	62	502	5020	682	634	932	1973
Chrysene	2.45	2.52	25.2	3.42	3.19	4.68	9.90
Cresols [Methylphenols]	1041	9301	93010	12641	11756	17281	36560
Cyanide (free)	200	N/A	N/A	N/A	N/A	N/A	N/A
4,4'-DDD	0.002	0.002	0.02	0.00272	0.00253	0.00371	0.00786
4,4'-DDE	0.00013	0.00013	0.0013	0.000177	0.000164	0.000241	0.000511
4,4'-DDT	0.0004	0.0004	0.004	0.000544	0.000506	0.000743	0.00157
2,4'-D	70	N/A	N/A	N/A	N/A	N/A	N/A
Danitol [Fenpropathrin]	262	473	4730	643	598	878	1859
1,2-Dibromoethane [Ethylene Dibromide]	0.17	4.24	42.4	5.76	5.36	7.87	16.6
m -Dichlorobenzene [1,3-Dichlorobenzene]	322	595	5950	809	752	1105	2338
o -Dichlorobenzene [1,2-Dichlorobenzene]	600	3299	32990	4484	4170	6129	12967
p -Dichlorobenzene [1,4-Dichlorobenzene]	75	N/A	N/A	N/A	N/A	N/A	N/A
3,3'-Dichlorobenzidine	0.79	2.24	22.4	3.04	2.83	4.16	8.80
1,2-Dichloroethane	5	364	3640	495	460	676	1430
1,1-Dichloroethylene [1,1-Dichloroethene]	7	55114	551140	74904	69660	102400	216643
Dichloromethane [Methylene Chloride]	5	13333	133330	18120	16852	24772	52409
1,2-Dichloropropane	5	259	2590	352	327	481	1018
1,3-Dichloropropene [1,3-Dichloropropylene]	2.8	119	1190	162	150	221	467
Dicofol [Kelthane]	0.30	0.30	3	0.408	0.379	0.557	1.17
Dieldrin	2.0E-05	2.0E-05	2.0E-04	0.0000272	0.0000253	0.0000371	0.0000786
2,4-Dimethylphenol	444	8436	84360	11465	10663	15673	33160
Di-*n* -Butyl Phthalate	88.9	92.4	924	126	117	171	363
Dioxins/Furans [TCDD Equivalents]	7.80E-08	7.97E-08	7.97E-07	1.08E-07	1.01E-07	1.48E-07	3.13E-07
Endrin	0.02	0.02	0.2	0.0272	0.0253	0.0371	0.0786
Epichlorohydrin	53.5	2013	20130	2736	2544	3740	7912
Ethylbenzene	700	1867	18670	2537	2360	3468	7338
Ethylene Glycol	46744	1.68E+07	1.68E+08	22832320	21234058	31214064	66037919
Fluoride	4000	N/A	N/A	N/A	N/A	N/A	N/A
Heptachlor	8.0E-05	0.0001	0.001	0.000136	0.000126	0.000185	0.000393
Heptachlor Epoxide	0.00029	0.00029	0.0029	0.000394	0.000367	0.000538	0.00113
Hexachlorobenzene	0.00068	0.00068	0.0068	0.000924	0.000859	0.00126	0.00267
Hexachlorobutadiene	0.21	0.22	2.2	0.299	0.278	0.408	0.864

Parameter	*Water and Fish Criterion (µg/L)*	*Fish Only Criterion (µg/L)*	*Incidental Fish Criterion (µg/L)*	*WLAh (µg/L)*	*LTAh (µg/L)*	*Daily Avg. (µg/L)*	*Daily Max. (µg/L)*
Hexachlorocyclohexane (*alpha*)	0.0078	0.0084	0.084	0.0114	0.0106	0.0156	0.0330
Hexachlorocyclohexane (*beta*)	0.15	0.26	2.6	0.353	0.329	0.483	1.02
Hexachlorocyclohexane (*gamma*) [Lindane]	0.2	0.341	3.41	0.463	0.431	0.633	1.34
Hexachlorocyclopentadiene	10.7	11.6	116	15.8	14.7	21.5	45.5
Hexachloroethane	1.84	2.33	23.3	3.17	2.94	4.32	9.15
Hexachlorophene	2.05	2.90	29	3.94	3.67	5.38	11.3
4,4'-Isopropylidenediphenol [Bisphenol A]	1092	15982	159820	21721	20200	29694	62822
Lead	1.15	3.83	38.3	29.3	27.3	40.0	84.8
Mercury	0.0122	0.0122	0.122	0.0166	0.0154	0.0226	0.0479
Methoxychlor	2.92	3.0	30	4.08	3.79	5.57	11.7
Methyl Ethyl Ketone	13865	9.92E+05	9.92E+06	1348194	1253821	1843116	3899381
Methyl *tert* -butyl ether [MTBE]	15	10482	104820	14246	13249	19475	41202
Nickel	332	1140	11400	3758	3495	5138	10870
Nitrate-Nitrogen (as Total Nitrogen)	10000	N/A	N/A	N/A	N/A	N/A	N/A
Nitrobenzene	45.7	1873	18730	2546	2367	3479	7362
N-Nitrosodiethylamine	0.0037	2.1	21	2.85	2.65	3.90	8.25
N-Nitroso-di-*n* -Butylamine	0.119	4.2	42	5.71	5.31	7.80	16.5
Pentachlorobenzene	0.348	0.355	3.55	0.482	0.449	0.659	1.39
Pentachlorophenol	0.22	0.29	2.9	0.394	0.367	0.538	1.13
Polychlorinated Biphenyls [PCBs]	6.4E-04	6.4E-04	6.40E-03	0.000870	0.000809	0.00118	0.00251
Pyridine	23	947	9470	1287	1197	1759	3722
Selenium	50	N/A	N/A	N/A	N/A	N/A	N/A
1,2,4,5-Tetrachlorobenzene	0.23	0.24	2.4	0.326	0.303	0.445	0.943
1,1,2,2-Tetrachloroethane	1.64	26.35	263.5	35.8	33.3	48.9	103
Tetrachloroethylene [Tetrachloroethylene]	5	280	2800	381	354	520	1100
Thallium	0.12	0.23	2.3	0.313	0.291	0.427	0.904
Toluene	1000	N/A	N/A	N/A	N/A	N/A	N/A
Toxaphene	0.011	0.011	0.11	0.0149	0.0139	0.0204	0.0432
2,4,5-TP [Silvex]	50	369	3690	501	466	685	1450
1,1,1-Trichloroethane	200	784354	7843540	1065989	991370	1457314	3083161
1,1,2-Trichloroethane	5	166	1660	226	210	308	652
Trichloroethylene [Trichloroethene]	5	71.9	719	97.7	90.9	133	282
2,4,5-Trichlorophenol	1039	1867	18670	2537	2360	3468	7338
TTHM [Sum of Total Trihalomethanes]	80	N/A	N/A	N/A	N/A	N/A	N/A
Vinyl Chloride	0.23	16.5	165	22.4	20.9	30.6	64.8

Aquatic Life *Parameter*	*70% of Daily Avg. (µg/L)*	*85% of Daily Avg. (µg/L)*
Aldrin	1.76	2.14
Aluminum	584	709
Arsenic	310	377
Cadmium	1.60	1.94
Carbaryl	1.17	1.43
Chlordane	0.00428	0.00520
Chlorpyrifos	0.0438	0.0533
Chromium (trivalent)	666	808
Chromium (hexavalent)	9.25	11.2
Copper	46.1	56.0
Cyanide (free)	11.4	13.9
4,4'-DDT	0.00107	0.00130
Demeton	0.107	0.130
Diazinon	0.100	0.121
Dicofol [Kelthane]	21.1	25.7
Dieldrin	0.00214	0.00260
Diuron	74.9	91.0
Endosulfan I (*alpha*)	0.0599	0.0728
Endosulfan II (*beta*)	0.0599	0.0728
Endosulfan sulfate	0.0599	0.0728
Endrin	0.00214	0.00260
Guthion [Azinphos Methyl]	0.0107	0.0130
Heptachlor	0.00428	0.00520
Hexachlorocyclohexane (*gamma*) [Lindane]	0.0856	0.104
Lead	30.4	36.9
Malathion	0.0107	0.0130
Mercury	1.39	1.69
Methoxychlor	0.0321	0.0390
Mirex	0.00107	0.00130
Nickel	233	283
Nonylphenol	7.06	8.58
Parathion (ethyl)	0.0139	0.0169
Pentachlorophenol	11.4	13.9
Phenanthrene	17.6	21.4
Polychlorinated Biphenyls [PCBs]	0.0149	0.0182
Selenium	5.35	6.50
Silver	6.75	8.20
Toxaphene	0.000214	0.000260
Tributyltin [TBT]	0.0256	0.0312
2,4,5 Trichlorophenol	68.5	83.2
Zinc	436	530

Human Health *Parameter*	*70% of Daily Avg. (µg/L)*	*85% of Daily Avg. (µg/L)*
Acrylonitrile	149	181
Aldrin	0.0000149	0.0000181
Anthracene	1712	2079
Antimony	1392	1691
Arsenic	N/A	N/A
Barium	N/A	N/A
Benzene	755	917
Benzidine	0.139	0.168
Benzo(*a*)anthracene	0.0325	0.0394
Benzo(*a*)pyrene	0.00325	0.00394
Bis(chloromethyl)ether	0.357	0.433
Bis(2-chloroethyl)ether	55.7	67.6
Bis(2-ethylhexyl) phthalate [Di(2-ethylhexyl) phtha	9.81	11.9
Bromodichloromethane [Dichlorobromomethane]	357	434
Bromoform [Tribromomethane]	1378	1674
Cadmium	N/A	N/A
Carbon Tetrachloride	59.8	72.6
Chlordane	0.00325	0.00394
Chlorobenzene	3559	4322
Chlorodibromomethane [Dibromochloromethane]	238	289
Chloroform [Trichloromethane]	10010	12155
Chromium (hexavalent)	652	792
Chrysene	3.27	3.97
Cresols [Methylphenols]	12096	14688
Cyanide (free)	N/A	N/A
4,4'-DDD	0.00260	0.00315
4,4'-DDE	0.000169	0.000205
4,4'-DDT	0.000520	0.000631
2,4'-D	N/A	N/A
Danitol [Fenpropathrin]	615	747
1,2-Dibromoethane [Ethylene Dibromide]	5.51	6.69
m-Dichlorobenzene [1,3-Dichlorobenzene]	773	939
o-Dichlorobenzene [1,2-Dichlorobenzene]	4290	5210
p-Dichlorobenzene [1,4-Dichlorobenzene]	N/A	N/A
3,3'-Dichlorobenzidine	2.91	3.53
1,2-Dichloroethane	473	574
1,1-Dichloroethylene [1,1-Dichloroethene]	71680	87040
Dichloromethane [Methylene Chloride]	17340	21056
1,2-Dichloropropane	336	409
1,3-Dichloropropene [1,3-Dichloropropylene]	154	187
Dicofol [Kelthane]	0.390	0.473
Dieldrin	0.0000260	0.0000315
2,4-Dimethylphenol	10971	13322
Di-*n*-Butyl Phthalate	120	145
Dioxins/Furans [TCDD Equivalents]	1.03E-07	1.25E-07
Endrin	0.0260	0.0315
Epichlorohydrin	2618	3179
Ethylbenzene	2428	2948
Ethylene Glycol	21849845	26531954
Fluoride	N/A	N/A
Heptachlor	0.000130	0.000157
Heptachlor Epoxide	0.000377	0.000457
Hexachlorobenzene	0.000884	0.00107
Hexachlorobutadiene	0.286	0.347

Human Health *Parameter*	*70% of Daily Avg. (µg/L)*	*85% of Daily Avg. (µg/L)*
Hexachlorocyclohexane (*alpha*)	0.0109	0.0132
Hexachlorocyclohexane (*beta*)	0.338	0.410
Hexachlorocyclohexane (*gamma*) [Lindane]	0.443	0.538
Hexachlorocyclopentadiene	15.0	18.3
Hexachloroethane	3.03	3.67
Hexachlorophene	3.77	4.57
4,4'-Isopropylidenediphenol [Bisphenol A]	20785	25240
Lead	28.0	34.0
Mercury	0.0158	0.0192
Methoxychlor	3.90	4.73
Methyl Ethyl Ketone	1290181	1566648
Methyl *tert* -butyl ether [MTBE]	13632	16554
Nickel	3596	4367
Nitrate-Nitrogen (as Total Nitrogen)	N/A	N/A
Nitrobenzene	2435	2957
N-Nitrosodiethylamine	2.73	3.31
N-Nitroso-di-*n* -Butylamine	5.46	6.63
Pentachlorobenzene	0.461	0.560
Pentachlorophenol	0.377	0.457
Polychlorinated Biphenyls [PCBs]	0.000832	0.00101
Pyridine	1231	1495
Selenium	N/A	N/A
1,2,4,5-Tetrachlorobenzene	0.312	0.379
1,1,2,2-Tetrachloroethane	34.2	41.6
Tetrachloroethylene [Tetrachloroethylene]	364	442
Thallium	0.299	0.363
Toluene	N/A	N/A
Toxaphene	0.0143	0.0173
2,4,5-TP [Silvex]	479	582
1,1,1-Trichloroethane	1020119	1238716
1,1,2-Trichloroethane	215	262
Trichloroethylene [Trichloroethene]	93.5	113
2,4,5-Trichlorophenol	2428	2948
TTHM [Sum of Total Trihalomethanes]	N/A	N/A
Vinyl Chloride	21.4	26.0

TEXTOX MENU #2 - INTERMITTENT STREAM WITHIN 3 MILES OF A FRESHWATER PERENNIAL STREAM/RIVER

The water quality-based effluent limitations developed below are calculated using:

Table 1, 2014 Texas Surface Water Quality Standards (30 TAC 307) for Freshwater Aquatic Life
Table 2, 2018 Texas Surface Water Quality Standards for Human Health
"Procedures to Implement the Texas Surface Water Quality Standards," TCEQ, June 2010

PERMIT INFORMATION

Permittee Name:	Lower Colorado River Authority
TPDES Permit No.:	WQ0002105000
Outfall No.:	003
Prepared by:	Thomas Starr
Date:	July 18, 2025

DISCHARGE INFORMATION

Intermittent Receiving Waterbody:	man-made ditch
Perennial Stream/River within 3 Miles:	Cedar Creek
Segment No.:	1402
TSS (mg/L):	12
pH (Standard Units):	7.8
Hardness (mg/L as $CaCO_3$):	191
Chloride (mg/L):	51
Effluent Flow for Aquatic Life (MGD):	3.57
Critical Low Flow [7Q2] (cfs) for intermittent:	0
Critical Low Flow [7Q2] (cfs) for perennial:	0.5
% Effluent for Chronic Aquatic Life (Mixing Zone):	91.70
% Effluent for Acute Aquatic Life (ZID):	100
Effluent Flow for Human Health (MGD):	0.92
Harmonic Mean Flow (cfs) for perennial:	0.5
% Effluent for Human Health:	74.005
Human Health Criterion (select: PWS, FISH, or INC)	**FISH**

CALCULATE DISSOLVED FRACTION (AND ENTER WATER EFFECT RATIO IF APPLICABLE):

Stream/River Metal	*Intercept (b)*	*Slope (m)*	*Partition Coefficient (Kp)*	*Dissolved Fraction (Cd/Ct)*	*Source*	*Water Effect Ratio (WER)*	*Source*
Aluminum	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Arsenic	5.68	-0.73	78018.52	0.516		1.00	Assumed
Cadmium	6.60	-1.13	240173.56	0.258		1.00	Assumed
Chromium (total)	6.52	-0.93	328368.46	0.202		1.00	Assumed
Chromium (trivalent)	6.52	-0.93	328368.46	0.202		1.00	Assumed
Chromium (hexavalent)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Copper	6.02	-0.74	166496.80	0.334		1.00	Assumed
Lead	6.45	-0.80	386060.17	0.178		1.00	Assumed
Mercury	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Nickel	5.69	-0.57	118813.75	0.412		1.00	Assumed
Selenium	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Silver	6.38	-1.03	185542.46	0.310		1.00	Assumed
Zinc	6.10	-0.70	221092.05	0.274		1.00	Assumed

AQUATIC LIFE

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

Parameter	*FW Acute Criterion (µg/L)*	*FW Chronic Criterion*	*WLAa (µg/L)*	*WLAc (µg/L)*	*LTAa (µg/L)*	*LTAc (µg/L)*	*Daily Avg. (µg/L)*	*Daily Max. (µg/L)*
Aldrin	3.0	N/A	3.00	N/A	1.72	N/A	2.52	5.34
Aluminum	991	N/A	991	N/A	568	N/A	834	1765
Arsenic	340	150	658	N/A	377	N/A	358	758
Cadmium	16.1	0.385	62.5	N/A	35.8	N/A	1.84	3.90
Carbaryl	2.0	N/A	2.00	N/A	1.15	N/A	1.68	3.56
Chlordane	2.4	0.004	2.40	N/A	1.38	N/A	0.00493	0.0104
Chlorpyrifos	0.083	0.041	0.0830	N/A	0.0476	N/A	0.0506	0.107
Chromium (trivalent)	968	126	4782	N/A	2740	N/A	767	1624
Chromium (hexavalent)	15.7	10.6	15.7	N/A	9.00	N/A	13.0	27.6
Copper	26.1	16.5	78.3	N/A	44.9	N/A	60.9	128
Cyanide (free)	45.8	10.7	45.8	N/A	26.2	N/A	13.2	27.9
4,4'-DDT	1.1	0.001	1.10	N/A	0.630	N/A	0.00123	0.00261
Demeton	N/A	0.1	N/A	N/A	N/A	N/A	0.123	0.261
Diazinon	0.17	0.17	0.170	N/A	0.0974	N/A	0.143	0.302
Dicofol [Kelthane]	59.3	19.8	59.3	N/A	34.0	N/A	24.4	51.7
Dieldrin	0.24	0.002	0.240	N/A	0.138	N/A	0.00246	0.00522
Diuron	210	70	210	N/A	120	N/A	86.4	182
Endosulfan I (*alpha*)	0.22	0.056	0.220	N/A	0.126	N/A	0.0691	0.146
Endosulfan II (*beta*)	0.22	0.056	0.220	N/A	0.126	N/A	0.0691	0.146
Endosulfan sulfate	0.22	0.056	0.220	N/A	0.126	N/A	0.0691	0.146
Endrin	0.086	0.002	0.0860	N/A	0.0493	N/A	0.00246	0.00522
Guthion [Azinphos Methyl]	N/A	0.01	N/A	N/A	N/A	N/A	0.0123	0.0261
Heptachlor	0.52	0.004	0.520	N/A	0.298	N/A	0.00493	0.0104
Hexachlorocyclohexane (*gamma*) [Lindane]	1.126	0.08	1.13	N/A	0.645	N/A	0.0987	0.208
Lead	130	5.05	730	N/A	418	N/A	35.1	74.3
Malathion	N/A	0.01	N/A	N/A	N/A	N/A	0.0123	0.0261
Mercury	2.4	1.3	2.40	N/A	1.38	N/A	1.60	3.39
Methoxychlor	N/A	0.03	N/A	N/A	N/A	N/A	0.0370	0.0783
Mirex	N/A	0.001	N/A	N/A	N/A	N/A	0.00123	0.00261
Nickel	810	89.9	1964	N/A	1125	N/A	269	569
Nonylphenol	28	6.6	28.0	N/A	16.0	N/A	8.14	17.2
Parathion (ethyl)	0.065	0.013	0.0650	N/A	0.0372	N/A	0.0160	0.0339
Pentachlorophenol	19.5	15.0	19.5	N/A	11.2	N/A	16.4	34.7
Phenanthrene	30	30	30.0	N/A	17.2	N/A	25.2	53.4
Polychlorinated Biphenyls [PCBs]	2.0	0.014	2.00	N/A	1.15	N/A	0.0172	0.0365
Selenium	20	5	20.0	N/A	11.5	N/A	6.17	13.0
Silver	0.8	N/A	11.5	N/A	6.57	N/A	9.65	20.4
Toxaphene	0.78	0.0002	0.780	N/A	0.447	N/A	0.000246	0.000522
Tributyltin [TBT]	0.13	0.024	0.130	N/A	0.0745	N/A	0.0296	0.0626
2,4,5 Trichlorophenol	136	64	136	N/A	77.9	N/A	78.9	167
Zinc	203	204	741	N/A	424	N/A	623	1319

HUMAN HEALTH

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

Parameter	*Water and Fish Criterion (µg/L)*	*Fish Only Criterion (µg/L)*	*Incidental Fish Criterion (µg/L)*	*WLAh (µg/L)*	*LTAh (µg/L)*	*Daily Avg. (µg/L)*	*Daily Max. (µg/L)*
Acrylonitrile	1.0	115	1150	155	145	212	449
Aldrin	1.146E-05	1.147E-05	1.147E-04	0.0000155	0.0000144	0.0000211	0.0000448
Anthracene	1109	1317	13170	1780	1655	2432	5147
Antimony	6	1071	10710	1447	1346	1978	4185
Arsenic	10	N/A	N/A	N/A	N/A	N/A	N/A
Barium	2000	N/A	N/A	N/A	N/A	N/A	N/A
Benzene	5	581	5810	785	730	1073	2270
Benzidine	0.0015	0.107	1.07	0.145	0.134	0.197	0.418
Benzo(*a*)anthracene	0.024	0.025	0.25	0.0338	0.0314	0.0461	0.0977
Benzo(*a*)pyrene	0.0025	0.0025	0.025	0.00338	0.00314	0.00461	0.00977
Bis(chloromethyl)ether	0.0024	0.2745	2.745	0.371	0.345	0.507	1.07
Bis(2-chloroethyl)ether	0.60	42.83	428.3	57.9	53.8	79.1	167
Bis(2-ethylhexyl) phthalate [Di(2-ethylhexyl) phthalate]	6	7.55	75.5	10.2	9.49	13.9	29.5
Bromodichloromethane [Dichlorobromomethane]	10.2	275	2750	372	346	508	1074
Bromoform [Tribromomethane]	66.9	1060	10600	1432	1332	1958	4142
Cadmium	5	N/A	N/A	N/A	N/A	N/A	N/A
Carbon Tetrachloride	4.5	46	460	62.2	57.8	84.9	179
Chlordane	0.0025	0.0025	0.025	0.00338	0.00314	0.00461	0.00977
Chlorobenzene	100	2737	27370	3698	3440	5056	10696
Chlorodibromomethane [Dibromochloromethane]	7.5	183	1830	247	230	338	715
Chloroform [Trichloromethane]	70	7697	76970	10401	9673	14218	30081
Chromium (hexavalent)	62	502	5020	678	631	927	1961
Chrysene	2.45	2.52	25.2	3.41	3.17	4.65	9.84
Cresols [Methylphenols]	1041	9301	93010	12568	11688	17181	36350
Cyanide (free)	200	N/A	N/A	N/A	N/A	N/A	N/A
4,4'-DDD	0.002	0.002	0.02	0.00270	0.00251	0.00369	0.00781
4,4'-DDE	0.00013	0.00013	0.0013	0.000176	0.000163	0.000240	0.000508
4,4'-DDT	0.0004	0.0004	0.004	0.000541	0.000503	0.000738	0.00156
2,4'-D	70	N/A	N/A	N/A	N/A	N/A	N/A
Danitol [Fenpropathrin]	262	473	4730	639	594	873	1848
1,2-Dibromoethane [Ethylene Dibromide]	0.17	4.24	42.4	5.73	5.33	7.83	16.5
m-Dichlorobenzene [1,3-Dichlorobenzene]	322	595	5950	804	748	1099	2325
o-Dichlorobenzene [1,2-Dichlorobenzene]	600	3299	32990	4458	4146	6094	12893
p-Dichlorobenzene [1,4-Dichlorobenzene]	75	N/A	N/A	N/A	N/A	N/A	N/A
3,3'-Dichlorobenzidine	0.79	2.24	22.4	3.03	2.81	4.13	8.75
1,2-Dichloroethane	5	364	3640	492	457	672	1422
1,1-Dichloroethylene [1,1-Dichloroethene]	7	55114	551140	74473	69260	101812	215399
Dichloromethane [Methylene Chloride]	5	13333	133330	18016	16755	24630	52108
1,2-Dichloropropane	5	259	2590	350	325	478	1012
1,3-Dichloropropene [1,3-Dichloropropylene]	2.8	119	1190	161	150	219	465
Dicofol [Kelthane]	0.30	0.30	3	0.405	0.377	0.554	1.17
Dieldrin	2.0E-05	2.0E-05	2.0E-04	0.0000270	0.0000251	0.0000369	0.0000781
2,4-Dimethylphenol	444	8436	84360	11399	10601	15583	32970
Di-*n*-Butyl Phthalate	88.9	92.4	924	125	116	170	361
Dioxins/Furans [TCDD Equivalents]	7.80E-08	7.97E-08	7.97E-07	1.08E-07	1.00E-07	1.47E-07	3.11E-07
Endrin	0.02	0.02	0.2	0.0270	0.0251	0.0369	0.0781
Epichlorohydrin	53.5	2013	20130	2720	2530	3718	7867
Ethylbenzene	700	1867	18670	2523	2346	3448	7296
Ethylene Glycol	46744	1.68E+07	1.68E+08	22701183	21112100	31034786	65658630
Fluoride	4000	N/A	N/A	N/A	N/A	N/A	N/A
Heptachlor	8.0E-05	0.0001	0.001	0.000135	0.000126	0.000184	0.000390
Heptachlor Epoxide	0.00029	0.00029	0.0029	0.000392	0.000364	0.000535	0.00113
Hexachlorobenzene	0.00068	0.00068	0.0068	0.000919	0.000855	0.00125	0.00265
Hexachlorobutadiene	0.21	0.22	2.2	0.297	0.276	0.406	0.859

Parameter	*Water and Fish Criterion (µg/L)*	*Fish Only Criterion (µg/L)*	*Incidental Fish Criterion (µg/L)*	*WLAh (µg/L)*	*LTAh (µg/L)*	*Daily Avg. (µg/L)*	*Daily Max. (µg/L)*
Hexachlorocyclohexane (*alpha*)	0.0078	0.0084	0.084	0.0114	0.0106	0.0155	0.0328
Hexachlorocyclohexane (*beta*)	0.15	0.26	2.6	0.351	0.327	0.480	1.01
Hexachlorocyclohexane (*gamma*) [Lindane]	0.2	0.341	3.41	0.461	0.429	0.629	1.33
Hexachlorocyclopentadiene	10.7	11.6	116	15.7	14.6	21.4	45.3
Hexachloroethane	1.84	2.33	23.3	3.15	2.93	4.30	9.10
Hexachlorophene	2.05	2.90	29	3.92	3.64	5.35	11.3
4,4'-Isopropylidenediphenol [Bisphenol A]	1092	15982	159820	21596	20084	29523	62461
Lead	1.15	3.83	38.3	29.2	27.1	39.8	84.3
Mercury	0.0122	0.0122	0.122	0.0165	0.0153	0.0225	0.0476
Methoxychlor	2.92	3.0	30	4.05	3.77	5.54	11.7
Methyl Ethyl Ketone	13865	9.92E+05	9.92E+06	1340451	1246619	1832530	3876985
Methyl *tert*-butyl ether [MTBE]	15	10482	104820	14164	13172	19363	40966
Nickel	332	1140	11400	3737	3475	5108	10807
Nitrate-Nitrogen (as Total Nitrogen)	10000	N/A	N/A	N/A	N/A	N/A	N/A
Nitrobenzene	45.7	1873	18730	2531	2354	3460	7320
N-Nitrosodiethylamine	0.0037	2.1	21	2.84	2.64	3.87	8.20
N-Nitroso-di-*n*-Butylamine	0.119	4.2	42	5.68	5.28	7.75	16.4
Pentachlorobenzene	0.348	0.355	3.55	0.480	0.446	0.655	1.38
Pentachlorophenol	0.22	0.29	2.9	0.392	0.364	0.535	1.13
Polychlorinated Biphenyls [PCBs]	6.4E-04	6.4E-04	6.40E-03	0.000865	0.000804	0.00118	0.00250
Pyridine	23	947	9470	1280	1190	1749	3701
Selenium	50	N/A	N/A	N/A	N/A	N/A	N/A
1,2,4,5-Tetrachlorobenzene	0.23	0.24	2.4	0.324	0.302	0.443	0.937
1,1,2,2-Tetrachloroethane	1.64	26.35	263.5	35.6	33.1	48.6	102
Tetrachloroethylene [Tetrachloroethylene]	5	280	2800	378	352	517	1094
Thallium	0.12	0.23	2.3	0.311	0.289	0.424	0.898
Toluene	1000	N/A	N/A	N/A	N/A	N/A	N/A
Toxaphene	0.011	0.011	0.11	0.0149	0.0138	0.0203	0.0429
2,4,5-TP [Silvex]	50	369	3690	499	464	681	1442
1,1,1-Trichloroethane	200	784354	7843540	1059867	985676	1448943	3065452
1,1,2-Trichloroethane	5	166	1660	224	209	306	648
Trichloroethylene [Trichloroethene]	5	71.9	719	97.2	90.4	132	281
2,4,5-Trichlorophenol	1039	1867	18670	2523	2346	3448	7296
TTHM [Sum of Total Trihalomethanes]	80	N/A	N/A	N/A	N/A	N/A	N/A
Vinyl Chloride	0.23	16.5	165	22.3	20.7	30.4	64.4

Aquatic Life Parameter	*70% of Daily Avg. (µg/L)*	*85% of Daily Avg. (µg/L)*
Aldrin	1.76	2.14
Aluminum	584	709
Arsenic	250	304
Cadmium	1.29	1.57
Carbaryl	1.17	1.43
Chlordane	0.00345	0.00419
Chlorpyrifos	0.0354	0.0430
Chromium (trivalent)	537	652
Chromium (hexavalent)	9.15	11.1
Copper	42.6	51.7
Cyanide (free)	9.24	11.2
4,4'-DDT	0.000864	0.00104
Demeton	0.0864	0.104
Diazinon	0.100	0.121
Dicofol [Kelthane]	17.1	20.7
Dieldrin	0.00172	0.00209
Diuron	60.4	73.4
Endosulfan I (*alpha*)	0.0483	0.0587
Endosulfan II (*beta*)	0.0483	0.0587
Endosulfan sulfate	0.0483	0.0587
Endrin	0.00172	0.00209
Guthion [Azinphos Methyl]	0.00864	0.0104
Heptachlor	0.00345	0.00419
Hexachlorocyclohexane (*gamma*) [Lindane]	0.0691	0.0839
Lead	24.5	29.8
Malathion	0.00864	0.0104
Mercury	1.12	1.36
Methoxychlor	0.0259	0.0314
Mirex	0.000864	0.00104
Nickel	188	228
Nonylphenol	5.70	6.92
Parathion (ethyl)	0.0112	0.0136
Pentachlorophenol	11.4	13.9
Phenanthrene	17.6	21.4
Polychlorinated Biphenyls [PCBs]	0.0120	0.0146
Selenium	4.32	5.24
Silver	6.75	8.20
Toxaphene	0.000172	0.000209
Tributyltin [TBT]	0.0207	0.0251
2,4,5 Trichlorophenol	55.2	67.1
Zinc	436	530

Human Health Parameter	*70% of Daily Avg. (µg/L)*	*85% of Daily Avg. (µg/L)*
Acrylonitrile	148	180
Aldrin	0.0000148	0.0000180
Anthracene	1703	2067
Antimony	1384	1681
Arsenic	N/A	N/A
Barium	N/A	N/A
Benzene	751	912
Benzidine	0.138	0.168
Benzo(*a*)anthracene	0.0323	0.0392
Benzo(*a*)pyrene	0.00323	0.00392
Bis(chloromethyl)ether	0.354	0.431
Bis(2-chloroethyl)ether	55.3	67.2
Bis(2-ethylhexyl) phthalate [Di(2-ethylhexyl) phthalate]	9.76	11.8
Bromodichloromethane [Dichlorobromomethane]	355	431
Bromoform [Tribromomethane]	1370	1664
Cadmium	N/A	N/A
Carbon Tetrachloride	59.4	72.2
Chlordane	0.00323	0.00392
Chlorobenzene	3539	4297
Chlorodibromomethane [Dibromochloromethane]	236	287
Chloroform [Trichloromethane]	9953	12085
Chromium (hexavalent)	649	788
Chrysene	3.25	3.95
Cresols [Methylphenols]	12027	14604
Cyanide (free)	N/A	N/A
4,4'-DDD	0.00258	0.00314
4,4'-DDE	0.000168	0.000204
4,4'-DDT	0.000517	0.000628
2,4'-D	N/A	N/A
Danitol [Fenpropathrin]	611	742
1,2-Dibromoethane [Ethylene Dibromide]	5.48	6.65
m-Dichlorobenzene [1,3-Dichlorobenzene]	769	934
o-Dichlorobenzene [1,2-Dichlorobenzene]	4265	5180
p-Dichlorobenzene [1,4-Dichlorobenzene]	N/A	N/A
3,3'-Dichlorobenzidine	2.89	3.51
1,2-Dichloroethane	470	571
1,1-Dichloroethylene [1,1-Dichloroethene]	71268	86540
Dichloromethane [Methylene Chloride]	17241	20935
1,2-Dichloropropane	334	406
1,3-Dichloropropene [1,3-Dichloropropylene]	153	186
Dicofol [Kelthane]	0.387	0.471
Dieldrin	0.0000258	0.0000314
2,4-Dimethylphenol	10908	13246
Di-*n*-Butyl Phthalate	119	145
Dioxins/Furans [TCDD Equivalents]	1.03E-07	1.25E-07
Endrin	0.0258	0.0314
Epichlorohydrin	2603	3160
Ethylbenzene	2414	2931
Ethylene Glycol	21724350	26379568
Fluoride	N/A	N/A
Heptachlor	0.000129	0.000157
Heptachlor Epoxide	0.000375	0.000455
Hexachlorobenzene	0.000879	0.00106
Hexachlorobutadiene	0.284	0.345

Human Health *Parameter*	***70% of Daily Avg. (µg/L)***	***85% of Daily Avg. (µg/L)***
Hexachlorocyclohexane (*alpha*)	0.0108	0.0131
Hexachlorocyclohexane (*beta*)	0.336	0.408
Hexachlorocyclohexane (*gamma*) [Lindane]	0.440	0.535
Hexachlorocyclopentadiene	15.0	18.2
Hexachloroethane	3.01	3.65
Hexachlorophene	3.75	4.55
4,4'-Isopropylidenediphenol [Bisphenol A]	20666	25095
Lead	27.8	33.8
Mercury	0.0157	0.0191
Methoxychlor	3.87	4.71
Methyl Ethyl Ketone	1282771	1557650
Methyl *tert*-butyl ether [MTBE]	13554	16458
Nickel	3575	4342
Nitrate-Nitrogen (as Total Nitrogen)	N/A	N/A
Nitrobenzene	2422	2941
N-Nitrosodiethylamine	2.71	3.29
N-Nitroso-di-*n*-Butylamine	5.43	6.59
Pentachlorobenzene	0.459	0.557
Pentachlorophenol	0.375	0.455
Polychlorinated Biphenyls [PCBs]	0.000827	0.00100
Pyridine	1224	1486
Selenium	N/A	N/A
1,2,4,5-Tetrachlorobenzene	0.310	0.376
1,1,2,2-Tetrachloroethane	34.0	41.3
Tetrachloroethylene [Tetrachloroethylene]	362	439
Thallium	0.297	0.361
Toluene	N/A	N/A
Toxaphene	0.0142	0.0172
2,4,5-TP [Silvex]	477	579
1,1,1-Trichloroethane	1014260	1231602
1,1,2-Trichloroethane	214	260
Trichloroethylene [Trichloroethene]	92.9	112
2,4,5-Trichlorophenol	2414	2931
TTHM [Sum of Total Trihalomethanes]	N/A	N/A
Vinyl Chloride	21.3	25.9

FACT SHEET AND EXECUTIVE DIRECTOR'S PRELIMINARY DECISION

TEXTOX MENU #2 - INTERMITTENT STREAM WITHIN 3 MILES OF A FRESHWATER PERENNIAL

The water quality-based effluent limitations developed below are calculated using:

Table 1, 2014 Texas Surface Water Quality Standards (30 TAC 307) for Freshwater Aquatic Life
Table 2, 2018 Texas Surface Water Quality Standards for Human Health
"Procedures to Implement the Texas Surface Water Quality Standards," TCEQ, June 2010

PERMIT INFORMATION

Permittee Name:	Lower Colorado River Authority
TPDES Permit No.:	WQ0002105000
Outfall No.:	004
Prepared by:	Thomas Starr
Date:	July 18, 2025

DISCHARGE INFORMATION

Intermittent Receiving Waterbody:	unnamed tributary
Perennial Stream/River within 3 Miles:	Cedar Creek
Segment No.:	1402
TSS (mg/L):	12
pH (Standard Units):	7.8
Hardness (mg/L as $CaCO_3$):	191
Chloride (mg/L):	51
Effluent Flow for Aquatic Life (MGD):	1.1
Critical Low Flow [7Q2] (cfs) for intermittent:	0
Critical Low Flow [7Q2] (cfs) for perennial:	0.5
% Effluent for Chronic Aquatic Life (Mixing Zone):	77.29
% Effluent for Acute Aquatic Life (ZID):	100
Effluent Flow for Human Health (MGD):	1.1
Harmonic Mean Flow (cfs) for perennial:	0.5
% Effluent for Human Health:	77.293
Human Health Criterion (select: PWS, FISH, or INC)	**FISH**

CALCULATE DISSOLVED FRACTION (AND ENTER WATER EFFECT RATIO IF APPLICABLE):

Stream/River Metal	*Intercept (b)*	*Slope (m)*	*Partition Coefficient (Kp)*	*Dissolved Fraction (Cd/Ct)*	*Source*	*Water Effect Ratio (WER)*	*Source*
Aluminum	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Arsenic	5.68	-0.73	78018.52	0.516		1.00	Assumed
Cadmium	6.60	-1.13	240173.56	0.258		1.00	Assumed
Chromium (total)	6.52	-0.93	328368.46	0.202		1.00	Assumed
Chromium (trivalent)	6.52	-0.93	328368.46	0.202		1.00	Assumed
Chromium (hexavalent)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Copper	6.02	-0.74	166496.80	0.334		1.00	Assumed
Lead	6.45	-0.80	386060.17	0.178		1.00	Assumed
Mercury	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Nickel	5.69	-0.57	118813.75	0.412		1.00	Assumed
Selenium	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Silver	6.38	-1.03	185542.46	0.310		1.00	Assumed
Zinc	6.10	-0.70	221092.05	0.274		1.00	Assumed

AQUATIC LIFE

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

Parameter	*FW Acute Criterion (µg/L)*	*FW Chronic Criterion*	*WLAa (µg/L)*	*WLAc (µg/L)*	*LTAa (µg/L)*	*LTAc (µg/L)*	*Daily Avg. (µg/L)*	*Daily Max. (µg/L)*
Aldrin	3.0	N/A	3.00	N/A	1.72	N/A	2.52	5.34
Aluminum	991	N/A	991	N/A	568	N/A	834	1765
Arsenic	340	150	658	N/A	377	N/A	425	899
Cadmium	16.1	0.385	62.5	N/A	35.8	N/A	2.19	4.63
Carbaryl	2.0	N/A	2.00	N/A	1.15	N/A	1.68	3.56
Chlordane	2.4	0.004	2.40	N/A	1.38	N/A	0.00585	0.0123
Chlorpyrifos	0.083	0.041	0.0830	N/A	0.0476	N/A	0.0600	0.127
Chromium (trivalent)	968	126	4782	N/A	2740	N/A	910	1927
Chromium (hexavalent)	15.7	10.6	15.7	N/A	9.00	N/A	13.2	27.9
Copper	26.1	16.5	78.3	N/A	44.9	N/A	65.9	139
Cyanide (free)	45.8	10.7	45.8	N/A	26.2	N/A	15.6	33.1
4,4'-DDT	1.1	0.001	1.10	N/A	0.630	N/A	0.00146	0.00309
Demeton	N/A	0.1	N/A	N/A	N/A	N/A	0.146	0.309
Diazinon	0.17	0.17	0.170	N/A	0.0974	N/A	0.143	0.302
Dicofol [Kelthane]	59.3	19.8	59.3	N/A	34.0	N/A	28.9	61.3
Dieldrin	0.24	0.002	0.240	N/A	0.138	N/A	0.00292	0.00619
Diuron	210	70	210	N/A	120	N/A	102	216
Endosulfan I (*alpha*)	0.22	0.056	0.220	N/A	0.126	N/A	0.0820	0.173
Endosulfan II (*beta*)	0.22	0.056	0.220	N/A	0.126	N/A	0.0820	0.173
Endosulfan sulfate	0.22	0.056	0.220	N/A	0.126	N/A	0.0820	0.173
Endrin	0.086	0.002	0.0860	N/A	0.0493	N/A	0.00292	0.00619
Guthion [Azinphos Methyl]	N/A	0.01	N/A	N/A	N/A	N/A	0.0146	0.0309
Heptachlor	0.52	0.004	0.520	N/A	0.298	N/A	0.00585	0.0123
Hexachlorocyclohexane (*gamma*) [Lindane]	1.126	0.08	1.13	N/A	0.645	N/A	0.117	0.247
Lead	130	5.05	730	N/A	418	N/A	41.6	88.1
Malathion	N/A	0.01	N/A	N/A	N/A	N/A	0.0146	0.0309
Mercury	2.4	1.3	2.40	N/A	1.38	N/A	1.90	4.02
Methoxychlor	N/A	0.03	N/A	N/A	N/A	N/A	0.0439	0.0929
Mirex	N/A	0.001	N/A	N/A	N/A	N/A	0.00146	0.00309
Nickel	810	89.9	1964	N/A	1125	N/A	319	675
Nonylphenol	28	6.6	28.0	N/A	16.0	N/A	9.66	20.4
Parathion (ethyl)	0.065	0.013	0.0650	N/A	0.0372	N/A	0.0190	0.0402
Pentachlorophenol	19.5	15.0	19.5	N/A	11.2	N/A	16.4	34.7
Phenanthrene	30	30	30.0	N/A	17.2	N/A	25.2	53.4
Polychlorinated Biphenyls [PCBs]	2.0	0.014	2.00	N/A	1.15	N/A	0.0205	0.0433
Selenium	20	5	20.0	N/A	11.5	N/A	7.32	15.4
Silver	0.8	N/A	11.5	N/A	6.57	N/A	9.65	20.4
Toxaphene	0.78	0.0002	0.780	N/A	0.447	N/A	0.000292	0.000619
Tributyltin [TBT]	0.13	0.024	0.130	N/A	0.0745	N/A	0.0351	0.0743
2,4,5 Trichlorophenol	136	64	136	N/A	77.9	N/A	93.7	198
Zinc	203	204	741	N/A	424	N/A	623	1319

HUMAN HEALTH

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

Parameter	*Water and Fish Criterion*	*Fish Only Criterion (µg/L)*	*Incidental Fish Criterion*	*WLAh (µg/L)*	*LTAh (µg/L)*	*Daily Avg. (µg/L)*	*Daily Max. (µg/L)*
Acrylonitrile	1.0	115	1150	149	138	203	430
Aldrin	1.146E-05	1.147E-05	1.147E-04	0.0000148	0.0000138	0.0000202	0.0000429
Anthracene	1109	1317	13170	1704	1585	2329	4928
Antimony	6	1071	10710	1386	1289	1894	4007
Arsenic	10	N/A	N/A	N/A	N/A	N/A	N/A
Barium	2000	N/A	N/A	N/A	N/A	N/A	N/A
Benzene	5	581	5810	752	699	1027	2174
Benzidine	0.0015	0.107	1.07	0.138	0.129	0.189	0.400
Benzo(*a*)anthracene	0.024	0.025	0.25	0.0323	0.0301	0.0442	0.0935
Benzo(*a*)pyrene	0.0025	0.0025	0.025	0.00323	0.00301	0.00442	0.00935
Bis(chloromethyl)ether	0.0024	0.2745	2.745	0.355	0.330	0.485	1.02
Bis(2-chloroethyl)ether	0.60	42.83	428.3	55.4	51.5	75.7	160
Bis(2-ethylhexyl) phthalate [Di(2-ethylhexyl) phtha	6	7.55	75.5	9.77	9.08	13.3	28.2
Bromodichloromethane [Dichlorobromomethane]	10.2	275	2750	356	331	486	1029
Bromoform [Tribromomethane]	66.9	1060	10600	1371	1275	1874	3966
Cadmium	5	N/A	N/A	N/A	N/A	N/A	N/A
Carbon Tetrachloride	4.5	46	460	59.5	55.3	81.3	172
Chlordane	0.0025	0.0025	0.025	0.00323	0.00301	0.00442	0.00935
Chlorobenzene	100	2737	27370	3541	3293	4841	10241
Chlorodibromomethane [Dibromochloromethane]	7.5	183	1830	237	220	323	684
Chloroform [Trichloromethane]	70	7697	76970	9958	9261	13613	28802
Chromium (hexavalent)	62	502	5020	649	604	887	1878
Chrysene	2.45	2.52	25.2	3.26	3.03	4.45	9.42
Cresols [Methylphenols]	1041	9301	93010	12033	11191	16450	34804
Cyanide (free)	200	N/A	N/A	N/A	N/A	N/A	N/A
4,4'-DDD	0.002	0.002	0.02	0.00259	0.00241	0.00353	0.00748
4,4'-DDE	0.00013	0.00013	0.0013	0.000168	0.000156	0.000229	0.000486
4,4'-DDT	0.0004	0.0004	0.004	0.000518	0.000481	0.000707	0.00149
2,4'-D	70	N/A	N/A	N/A	N/A	N/A	N/A
Danitol [Fenpropathrin]	262	473	4730	612	569	836	1769
1,2-Dibromoethane [Ethylene Dibromide]	0.17	4.24	42.4	5.49	5.10	7.49	15.8
m -Dichlorobenzene [1,3-Dichlorobenzene]	322	595	5950	770	716	1052	2226
o -Dichlorobenzene [1,2-Dichlorobenzene]	600	3299	32990	4268	3969	5835	12344
p -Dichlorobenzene [1,4-Dichlorobenzene]	75	N/A	N/A	N/A	N/A	N/A	N/A
3,3'-Dichlorobenzidine	0.79	2.24	22.4	2.90	2.70	3.96	8.38
1,2-Dichloroethane	5	364	3640	471	438	643	1362
1,1-Dichloroethylene [1,1-Dichloroethene]	7	55114	551140	71305	66314	97481	206236
Dichloromethane [Methylene Chloride]	5	13333	133330	17250	16042	23582	49892
1,2-Dichloropropane	5	259	2590	335	312	458	969
1,3-Dichloropropene [1,3-Dichloropropylene]	2.8	119	1190	154	143	210	445
Dicofol [Kelthane]	0.30	0.30	3	0.388	0.361	0.530	1.12
Dieldrin	2.0E-05	2.0E-05	2.0E-04	0.0000259	0.0000241	0.0000353	0.0000748
2,4-Dimethylphenol	444	8436	84360	10914	10150	14920	31567
Di-*n* -Butyl Phthalate	88.9	92.4	924	120	111	163	345
Dioxins/Furans [TCDD Equivalents]	7.80E-08	7.97E-08	7.97E-07	1.03E-07	9.59E-08	1.40E-07	2.98E-07
Endrin	0.02	0.02	0.2	0.0259	0.0241	0.0353	0.0748
Epichlorohydrin	53.5	2013	20130	2604	2422	3560	7532
Ethylbenzene	700	1867	18670	2415	2246	3302	6986
Ethylene Glycol	46744	1.68E+07	1.68E+08	21735535	20214047	29714649	62865686
Fluoride	4000	N/A	N/A	N/A	N/A	N/A	N/A
Heptachlor	8.0E-05	0.0001	0.001	0.000129	0.000120	0.000176	0.000374
Heptachlor Epoxide	0.00029	0.00029	0.0029	0.000375	0.000349	0.000512	0.00108
Hexachlorobenzene	0.00068	0.00068	0.0068	0.000880	0.000818	0.00120	0.00254
Hexachlorobutadiene	0.21	0.22	2.2	0.285	0.265	0.389	0.823

Parameter	*Water and Fish Criterion (µg/L)*	*Fish Only Criterion (µg/L)*	*Incidental Fish Criterion (µg/L)*	*WLAh (µg/L)*	*LTAh (µg/L)*	*Daily Avg. (µg/L)*	*Daily Max. (µg/L)*
Hexachlorocyclohexane (*alpha*)	0.0078	0.0084	0.084	0.0109	0.0101	0.0148	0.0314
Hexachlorocyclohexane (*beta*)	0.15	0.26	2.6	0.336	0.313	0.459	0.972
Hexachlorocyclohexane (*gamma*) [Lindane]	0.2	0.341	3.41	0.441	0.410	0.603	1.27
Hexachlorocyclopentadiene	10.7	11.6	116	15.0	14.0	20.5	43.4
Hexachloroethane	1.84	2.33	23.3	3.01	2.80	4.12	8.71
Hexachlorophene	2.05	2.90	29	3.75	3.49	5.12	10.8
4,4'-Isopropylidenediphenol [Bisphenol A]	1092	15982	159820	20677	19230	28267	59804
Lead	1.15	3.83	38.3	27.9	26.0	38.1	80.7
Mercury	0.0122	0.0122	0.122	0.0158	0.0147	0.0215	0.0456
Methoxychlor	2.92	3.0	30	3.88	3.61	5.30	11.2
Methyl Ethyl Ketone	13865	9.92E+05	9.92E+06	1283432	1193591	1754579	3712069
Methyl *tert* -butyl ether [MTBE]	15	10482	104820	13561	12612	18539	39223
Nickel	332	1140	11400	3578	3327	4891	10348
Nitrate-Nitrogen (as Total Nitrogen)	10000	N/A	N/A	N/A	N/A	N/A	N/A
Nitrobenzene	45.7	1873	18730	2423	2254	3312	7008
N-Nitrosodiethylamine	0.0037	2.1	21	2.72	2.53	3.71	7.85
N-Nitroso-di-*n* -Butylamine	0.119	4.2	42	5.43	5.05	7.42	15.7
Pentachlorobenzene	0.348	0.355	3.55	0.459	0.427	0.627	1.32
Pentachlorophenol	0.22	0.29	2.9	0.375	0.349	0.512	1.08
Polychlorinated Biphenyls [PCBs]	6.4E-04	6.4E-04	6.40E-03	0.000828	0.000770	0.00113	0.00239
Pyridine	23	947	9470	1225	1139	1674	3543
Selenium	50	N/A	N/A	N/A	N/A	N/A	N/A
1,2,4,5-Tetrachlorobenzene	0.23	0.24	2.4	0.311	0.289	0.424	0.898
1,1,2,2-Tetrachloroethane	1.64	26.35	263.5	34.1	31.7	46.6	98.6
Tetrachloroethylene [Tetrachloroethylene]	5	280	2800	362	337	495	1047
Thallium	0.12	0.23	2.3	0.298	0.277	0.406	0.860
Toluene	1000	N/A	N/A	N/A	N/A	N/A	N/A
Toxaphene	0.011	0.011	0.11	0.0142	0.0132	0.0194	0.0411
2,4,5-TP [Silvex]	50	369	3690	477	444	652	1380
1,1,1-Trichloroethane	200	784354	7843540	1014783	943748	1387309	2935056
1,1,2-Trichloroethane	5	166	1660	215	200	293	621
Trichloroethylene [Trichloroethene]	5	71.9	719	93.0	86.5	127	269
2,4,5-Trichlorophenol	1039	1867	18670	2415	2246	3302	6986
TTHM [Sum of Total Trihalomethanes]	80	N/A	N/A	N/A	N/A	N/A	N/A
Vinyl Chloride	0.23	16.5	165	21.3	19.9	29.1	61.7

Aquatic Life Parameter	*70% of Daily Avg. (µg/L)*	*85% of Daily Avg. (µg/L)*
Aldrin	1.76	2.14
Aluminum	584	709
Arsenic	388	471
Cadmium	36.8	44.7
Carbaryl	1.17	1.43
Chlordane	1.02	1.24
Chlorpyrifos	0.0489	0.0594
Chromium (trivalent)	2819	3423
Chromium (hexavalent)	9.25	11.2
Copper	46.1	56.0
Cyanide (free)	27.0	32.7
4,4'-DDT	0.256	0.311
Demeton	25.6	31.1
Diazinon	0.100	0.121
Dicofol [Kelthane]	34.9	42.4
Dieldrin	0.141	0.171
Diuron	123	150
Endosulfan I (*alpha*)	0.129	0.157
Endosulfan II (*beta*)	0.129	0.157
Endosulfan sulfate	0.129	0.157
Endrin	0.0507	0.0615
Guthion [Azinphos Methyl]	2.56	3.11
Heptachlor	0.306	0.372
Hexachlorocyclohexane (*gamma*) [Lindane]	0.663	0.806
Lead	430	522
Malathion	2.56	3.11
Mercury	1.41	1.71
Methoxychlor	7.70	9.35
Mirex	0.256	0.311
Nickel	1157	1405
Nonylphenol	16.5	20.0
Parathion (ethyl)	0.0383	0.0465
Pentachlorophenol	11.4	13.9
Phenanthrene	17.6	21.4
Polychlorinated Biphenyls [PCBs]	1.17	1.43
Selenium	11.7	14.3
Silver	6.75	8.20
Toxaphene	0.0513	0.0623
Tributyltin [TBT]	0.0766	0.0930
2,4,5 Trichlorophenol	80.1	97.3
Zinc	436	530

Human Health *Parameter*	*70% of Daily Avg. (µg/L)*	*85% of Daily Avg. (µg/L)*
Acrylonitrile	142	172
Aldrin	0.0000142	0.0000172
Anthracene	1630	1980
Antimony	1326	1610
Arsenic	N/A	N/A
Barium	N/A	N/A
Benzene	719	873
Benzidine	0.132	0.160
Benzo(*a*)anthracene	0.0309	0.0375
Benzo(*a*)pyrene	0.00309	0.00375
Bis(chloromethyl)ether	0.339	0.412
Bis(2-chloroethyl)ether	53.0	64.3
Bis(2-ethylhexyl) phthalate [Di(2-ethylhexyl) phtha	9.34	11.3
Bromodichloromethane [Dichlorobromomethane]	340	413
Bromoform [Tribromomethane]	1312	1593
Cadmium	N/A	N/A
Carbon Tetrachloride	56.9	69.1
Chlordane	0.00309	0.00375
Chlorobenzene	3388	4114
Chlorodibromomethane [Dibromochloromethane]	226	275
Chloroform [Trichloromethane]	9529	11571
Chromium (hexavalent)	621	754
Chrysene	3.12	3.78
Cresols [Methylphenols]	11515	13983
Cyanide (free)	N/A	N/A
4,4'-DDD	0.00247	0.00300
4,4'-DDE	0.000160	0.000195
4,4'-DDT	0.000495	0.000601
2,4'-D	N/A	N/A
Danitol [Fenpropathrin]	585	711
1,2-Dibromoethane [Ethylene Dibromide]	5.24	6.37
m -Dichlorobenzene [1,3-Dichlorobenzene]	736	894
o -Dichlorobenzene [1,2-Dichlorobenzene]	4084	4959
p -Dichlorobenzene [1,4-Dichlorobenzene]	N/A	N/A
3,3'-Dichlorobenzidine	2.77	3.36
1,2-Dichloroethane	450	547
1,1-Dichloroethylene [1,1-Dichloroethene]	68237	82859
Dichloromethane [Methylene Chloride]	16507	20045
1,2-Dichloropropane	320	389
1,3-Dichloropropene [1,3-Dichloropropylene]	147	178
Dicofol [Kelthane]	0.371	0.451
Dieldrin	0.0000247	0.0000300
2,4-Dimethylphenol	10444	12682
Di-*n* -Butyl Phthalate	114	138
Dioxins/Furans [TCDD Equivalents]	9.86E-08	1.19E-07
Endrin	0.0247	0.0300
Epichlorohydrin	2492	3026
Ethylbenzene	2311	2806
Ethylene Glycol	20800254	25257451
Fluoride	N/A	N/A
Heptachlor	0.000123	0.000150
Heptachlor Epoxide	0.000359	0.000435
Hexachlorobenzene	0.000841	0.00102
Hexachlorobutadiene	0.272	0.330

Human Health *Parameter*	*70% of Daily Avg. (µg/L)*	*85% of Daily Avg. (µg/L)*
Hexachlorocyclohexane (*alpha*)	0.0104	0.0126
Hexachlorocyclohexane (*beta*)	0.321	0.390
Hexachlorocyclohexane (*gamma*) [Lindane]	0.422	0.512
Hexachlorocyclopentadiene	14.3	17.4
Hexachloroethane	2.88	3.50
Hexachlorophene	3.59	4.35
4,4'-Isopropylidenediphenol [Bisphenol A]	19787	24027
Lead	26.7	32.4
Mercury	0.0151	0.0183
Methoxychlor	3.71	4.51
Methyl Ethyl Ketone	1228205	1491392
Methyl *tert* -butyl ether [MTBE]	12977	15758
Nickel	3423	4157
Nitrate-Nitrogen (as Total Nitrogen)	N/A	N/A
Nitrobenzene	2318	2815
N-Nitrosodiethylamine	2.60	3.15
N-Nitroso-di-*n* -Butylamine	5.20	6.31
Pentachlorobenzene	0.439	0.533
Pentachlorophenol	0.359	0.435
Polychlorinated Biphenyls [PCBs]	0.000792	0.000962
Pyridine	1172	1423
Selenium	N/A	N/A
1,2,4,5-Tetrachlorobenzene	0.297	0.360
1,1,2,2-Tetrachloroethane	32.6	39.6
Tetrachloroethylene [Tetrachloroethylene]	346	420
Thallium	0.284	0.345
Toluene	N/A	N/A
Toxaphene	0.0136	0.0165
2,4,5-TP [Silvex]	456	554
1,1,1-Trichloroethane	971116	1179213
1,1,2-Trichloroethane	205	249
Trichloroethylene [Trichloroethene]	89.0	108
2,4,5-Trichlorophenol	2311	2806
TTHM [Sum of Total Trihalomethanes]	N/A	N/A
Vinyl Chloride	20.4	24.8

Appendix C
TDS, Chloride, and Sulfate Screening Calculations
Screening Calculations for Total Dissolved Solids, Chloride, and Sulfate
Menu 2 - Discharge to an Intermittent Stream within 3 Miles of a Perennial Stream

Screen the Intermittent Stream

Applicant Name:	**Lower Colorado River Authority**
Permit Number, Outfall:	**WQ0002105000, 002**
Segment Number:	**1402**

Enter values needed for screening:			**Data Source (edit if different)**
TDS CC - segment criterion - TDS	**500**	mg/L	2018 TSWQS, Appendix A
Cl CC - segment criterion - chloride	**100**	mg/L	2018 TSWQS, Appendix A
SO4 CC - segment criterion - sulfate	**100**	mg/L	2018 TSWQS, Appendix A
TDS CE - average effluent concentration - TDS	**773**	mg/L	Permit application
Cl CE - average effluent concentration - chloride	**207**	mg/L	Permit application
SO4 CE - average effluent concentration - sulfate	**128**	mg/L	Permit application

TDS Screening

The TDS screening value is determined by first calculating an initial TDS concentration, C_{TDS}, as follows:

C_{TDS} = (TDS CC / 500 mg/L) * 2,500 mg/L

Where:	C_{TDS} = TDS concentration used to determine Csv screening value
	TDS CC = TDS criterion at the first downstream segment
	500 mg/L = the median TDS concentration in Texas streams
	2,500 mg/L = the minimum TDS screening value

C_{TDS} = 2500 mg/L

The next step is to use the initial C_{TDS} to set the actual TDS screening value, TDS Csv, using the following table:

If C_{TDS}		**Then TDS Csv**
≤ 2,500 mg/L	=	2,500 mg/L
> 2,500 mg/L but ≤ 6,000 mg/L	=	C_{TDS}
> 6,000 mg/L	=	6,000 mg/L

Some specific types of intermittent streams have alternative screening values (Csv):

Specific Type of Intermittent Stream	**If C_{TDS} is**	**Default Csv =**
Dry except for short-term flow in immediate response to rainfall.	< 4,000 mg/L	4,000 mg/L
	≥ 4,000 mg/L	C_{TDS}
Constructed ditch conveying stormwater and wastewater, considered water in the state.	< 4,000 mg/L	4,000 mg/L
	≥ 4,000 mg/L	C_{TDS}
Within 3 miles of tidal waters.	—	6,000 mg/L

Once TDS Csv is established, the next step is to compare the effluent TDS concentration, TDS CE, to the screening value. Control measures, which may include effluent limitations, are considered for TDS if the effluent TDS is greater than the screening value.

Values needed for Screening			**Data Source**
TDS CE - average effluent TDS concentration	773	mg/L	Permit application
TDS Csv - TDS screening value	**2500**	mg/L	Determined above

No control measures needed if:	773	≤	2500
Consider control measures if:	773	>	2500

No control measures needed for TDS

Chloride Screening

If TDS limits are necessary or there are concerns about chloride, additional screening can be performed for chloride. First calculate the screening value for chloride, Cl Csv, as follows:

Cl Csv = (TDS Csv /TDS CC) * Cl CC

Where:	
	Cl Csv = chloride screening value
	TDS Csv = TDS screening value
	TDS CC = TDS criterion at the first downstream segment
	Cl CC - chloride criterion at the first downstream segment

Cl Csv = **500** mg/L

Once the Cl Csv is established, the next step is to compare the effluent chloride concentration, Cl CE, to the screening value. Control measures, which may include effluent limitations, are considered for chloride if the effluent chloride is greater than the screening value.

Values needed for Screening			Data Source
Cl CE - average effluent chloride concentration	207	mg/L	Permit application
Cl Csv - chloride screening value	500	mg/L	Determined above

No control measures needed if:	207	≤	500
Consider control measures if:	207	>	500

No control measures needed for chloride

Sulfate Screening

If TDS limits are necessary or there are concerns about sulfate, additional screening can be performed for sulfate. First calculate the screening value for sulfate, SO4 Csv, as follows:

SO4 Csv = (TDS Csv /TDS CC) * SO4 CC

Where:	
	SO4 Csv = sulfate screening value
	TDS Csv = TDS screening value
	TDS CC = TDS criterion at the first downstream segment
	SO4 CC - sulfate criterion at the first downstream segment

SO4 Csv = **500** mg/L

Once the SO4 Csv is established, the next step is to compare the effluent sulfate concentration, SO4 CE, to the screening value. Control measures, which may include effluent limitations, are considered for sulfate if the effluent sulfate is greater than the screening value.

Values needed for Screening			Data Source
SO4 CE - average effluent sulfate concentration	128	mg/L	Permit application
SO4 Csv - sulfate screening value	500	mg/L	Determined above

No control measures needed if:	128	≤	500
Consider control measures if:	128	>	500

No control measures needed for sulfate

Screening Calculations for Total Dissolved Solids, Chloride, and Sulfate
Menu 2 - Discharge to an Intermittent Stream within 3 Miles of a Perennial Stream

Screen the Intermittent Stream

Applicant Name:	**Lower Colorado River Authority**
Permit Number, Outfall:	**WQ0002105000, 003**
Segment Number:	**1402**

Enter values needed for screening:			**Data Source (edit if different)**
TDS CC - segment criterion - TDS	**500**	mg/L	2018 TSWQS, Appendix A
Cl CC - segment criterion - chloride	**100**	mg/L	2018 TSWQS, Appendix A
SO4 CC - segment criterion - sulfate	**100**	mg/L	2018 TSWQS, Appendix A
TDS CE - average effluent concentration - TDS	**605**	mg/L	Permit application
Cl CE - average effluent concentration - chloride	**111**	mg/L	Permit application
SO4 CE - average effluent concentration - sulfate	**165**	mg/L	Permit application

TDS Screening

The TDS screening value is determined by first calculating an initial TDS concentration, C_{TDS}, as follows:

C_{TDS} = (TDS CC / 500 mg/L) * 2,500 mg/L

Where:	C_{TDS} = TDS concentration used to determine Csv screening value
	TDS CC = TDS criterion at the first downstream segment
	500 mg/L = the median TDS concentration in Texas streams
	2,500 mg/L = the minimum TDS screening value

C_{TDS} = 2500 mg/L

The next step is to use the initial C_{TDS} to set the actual TDS screening value, TDS Csv, using the following table:

If C_{TDS}		**Then TDS Csv**
≤ 2,500 mg/L	=	2,500 mg/L
> 2,500 mg/L but ≤ 6,000 mg/L	=	C_{TDS}
> 6,000 mg/L	=	6,000 mg/L

Some specific types of intermittent streams have alternative screening values (Csv):

Specific Type of Intermittent Stream	**If C_{TDS} is**	**Default Csv =**
Dry except for short-term flow in immediate response to rainfall.	< 4,000 mg/L	4,000 mg/L
	≥ 4,000 mg/L	C_{TDS}
Constructed ditch conveying stormwater and wastewater, considered water in the state.	< 4,000 mg/L	4,000 mg/L
	≥ 4,000 mg/L	C_{TDS}
Within 3 miles of tidal waters.	—	6,000 mg/L

Once TDS Csv is established, the next step is to compare the effluent TDS concentration, TDS CE, to the screening value. Control measures, which may include effluent limitations, are considered for TDS if the effluent TDS is greater than the screening value.

Values needed for Screening			**Data Source**
TDS CE - average effluent TDS concentration	605	mg/L	Permit application
TDS Csv - TDS screening value	**2500**	mg/L	Determined above

No control measures needed if:	605	≤	2500
Consider control measures if:	605	>	2500

No control measures needed for TDS

Chloride Screening

If TDS limits are necessary or there are concerns about chloride, additional screening can be performed for chloride. First calculate the screening value for chloride, Cl Csv, as follows:

Cl Csv = (TDS Csv /TDS CC) * Cl CC

Where:	Cl Csv = chloride screening value
	TDS Csv = TDS screening value
	TDS CC = TDS criterion at the first downstream segment
	Cl CC - chloride criterion at the first downstream segment

Cl Csv = **500** mg/L

Once the Cl Csv is established, the next step is to compare the effluent chloride concentration, Cl CE, to the screening value. Control measures, which may include effluent limitations, are considered for chloride if the effluent chloride is greater than the screening value.

Values needed for Screening			Data Source
Cl CE - average effluent chloride concentration	111	mg/L	Permit application
Cl Csv - chloride screening value	500	mg/L	Determined above

No control measures needed if:	111	≤	500
Consider control measures if:	111	>	500

No control measures needed for chloride

Sulfate Screening

If TDS limits are necessary or there are concerns about sulfate, additional screening can be performed for sulfate. First calculate the screening value for sulfate, SO4 Csv, as follows:

SO4 Csv = (TDS Csv /TDS CC) * SO4 CC

Where:	SO4 Csv = sulfate screening value
	TDS Csv = TDS screening value
	TDS CC = TDS criterion at the first downstream segment
	SO4 CC - sulfate criterion at the first downstream segment

SO4 Csv = **500** mg/L

Once the SO4 Csv is established, the next step is to compare the effluent sulfate concentration, SO4 CE, to the screening value. Control measures, which may include effluent limitations, are considered for sulfate if the effluent sulfate is greater than the screening value.

Values needed for Screening			Data Source
SO4 CE - average effluent sulfate concentration	165	mg/L	Permit application
SO4 Csv - sulfate screening value	500	mg/L	Determined above

No control measures needed if:	165	≤	500
Consider control measures if:	165	>	500

No control measures needed for sulfate

Appendix D
Comparison of Effluent Limits

The following table is a summary of technology-based effluent limitations calculated/assessed in the draft permit (Technology-Based), calculated/ assessed water quality-based effluent limitations (Water Quality-Based), and effluent limitations in the existing permit (Existing Permit). Effluent limitations appearing in bold are the most stringent of the three and are included in the draft permit.

Outfall	*Pollutant*	*Technology-Based*				*Water Quality-Based*				*Existing Permit*			
		Daily Avg		*Daily Max*		*Daily Avg*		*Daily Max*		*Daily Avg*		*Daily Max*	
		lbs/day	*mg/L*	*lbs/day*	*mg/L*	*lbs/day*	*mg/L*	*lbs/day*	*mg/L*	*lbs/day*	*mg/L*	*lbs/day*	*mg/L*
001 (Interim I Phase)	Flow	Report, MGD		Report, MGD		Report, MGD		Report, MGD		**1,165 MGD**		**1,165 MGD**	
	Temperature	N/A	N/A	N/A	N/A	Report, °F		112 °F		**Report, °F**		**112 °F**	
	Total Residual Chlorine (TRC)	-	-	486	0.2	N/A	N/A	N/A	N/A	-	-	**486**	**0.2**
	Total Dissolved Solids (TDS)	N/A	N/A	N/A	N/A	-	-	-	-	-	**Report**	-	**Report**
	Chloride	N/A	N/A	N/A	N/A	-	-	-	-	-	**Report**	-	**Report**
	Sulfate	N/A	N/A	N/A	N/A	-	-	-	-	-	**Report**	-	**Report**
001 (Interim II Phase)	Flow	Report, MGD		Report, MGD		Report, MGD		Report, MGD		**1,509 MGD**		**1,509 MGD**	
	Temperature	N/A	N/A	N/A	N/A	Report, °F		112 °F		**Report, °F**		**112 °F**	
	TRC	-	-	840	0.2	N/A	N/A	N/A	N/A	-	-	**840**	**0.2**
	TDS	N/A	N/A	N/A	N/A	-	-	-	-	-	**Report**	-	**Report**
	Chloride	N/A	N/A	N/A	N/A	-	-	-	-	-	**Report**	-	**Report**
	Sulfate	N/A	N/A	N/A	N/A	-	-	-	Report	-	**Report**	-	**Report**
201	Flow	Report, MGD		Report, MGD		Report, MGD		Report, MGD		**Report, MGD**		**Report, MGD**	
	TSS	-	30	-	100	N/A	N/A	N/A	N/A	-	**30**	**-**	**100**
	Oil and Grease	-	15	-	20	N/A	N/A	N/A	N/A	-	**15**	**-**	**20**
	pH	6.0 SU, min		9.0 SU, max		N/A		N/A		**6.0 SU, min**		**9.0 SU, max**	
301	Flow	Report, MGD		Report, MGD		Report, MGD		Report, MGD		**Report, MGD**		**Report, MGD**	
	TSS	-	30	-	100	N/A	N/A	N/A	N/A	**-**	**30**	**-**	**50**
	Oil and Grease	-	15	-	20	N/A	N/A	N/A	N/A	**-**	**15**	**-**	**20**
	pH	6.0 SU, min		9.0 SU, max		N/A		N/A		**6.0 SU, min**		**9.0 SU, max**	
002	Flow	Report, MGD		Report, MGD		Report, MGD		Report, MGD		**2.5 MGD**		**Report, MGD**	
	Temperature	N/A	N/A	N/A	N/A	N/A		100 °F		**-**		**100 °F**	
	TRC	-	-	-	0.2	N/A	N/A	N/A	N/A	**N/A**	**N/A**	**N/A**	**0.2**
	pH	6.0 SU, min		9.0 SU, max		N/A		N/A		**6.0 SU, min**		**9.0 SU, max**	
003	Flow	Report, MGD		Report, MGD		Report, MGD		Report, MGD		**Report, MGD**		**Report, MGD**	