pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0086282**
Facility Type	**Industrial**	APS ID	**42802**
Major / Minor	**Minor**	Authorization ID	**1275457**

NPDES PERMIT FACT SHEET INDIVIDUAL INDUSTRIAL WASTE (IW) AND IW STORMWATER

Applicant and Facility Information

Applicant Name	**Texas Eastern Transmission LP**	Facility Name	**Texas Eastern Transmission Grantville Compressor Station**
Applicant Address	5400 Westheimer Ct	Facility Address	429 Station Road
	Houston, TX 77056-5310		Grantville, PA 17028-9149
Applicant Contact	Niti Tottempudi	Facility Contact	
Applicant Phone	(713) 627-5967	Facility Phone	(717) 540-8303
Client ID	82786	Site ID	442935
SIC Code	4922	Municipality	East Hanover Township
SIC Description	Trans. & Utilities - Natural Gas Transmission	County	Dauphin
Date Application Received	May 31, 2019	EPA Waived?	Yes
Date Application Accepted	June 10, 2019	If No, Reason	

Purpose of Application: NPDES Renewal for discharges from a Groundwater Remediation System (GRS)

Summary of Review

This is a renewal application of NPDES Permit No PA0086282 for the Texas Eastern Transmission, LP (Texas Eastern) Grantville Compressor Station for the discharge of treated groundwater from a groundwater treatment system (GWTS).

Historic use of PCB lubricating oils in operations of Grantville Compressor Station has caused PCBs migrated to the groundwater. Texas Eastern in the early 1990's entered into a consent order to address the potential groundwater impact of PCBs. Nearly all requirements of the Consent Order and Adjudication (COA) have been addressed. As indicated in the August 9, 1996, waiver request letter the long-term groundwater monitoring program requirements under the COA were terminated for Grantville, leaving only the NPDES permit requirements in force.

The groundwater treatment system was installed in 1990 to treat PCB contaminated water from the compressor building floor drains, area drains in the regenerator area, and a clay tile area east of the compressor building. Since then, the treatment system has been modified and upgraded several times. Most recently, the collection and treatment of liquids from the turbine building were discontinued in June 2021. Treatment will continue for the foreseeable future. The GWTS discharges to Outfall 001.

Figure 1. Site Location Map. Location of the site on a topographic map.

Figure 2. Site Plan. *(Figure 1. Wastewater Treatment Unit Location and Utility Configuration).* This figure shows the locations of the wastewater treatment building, sources of contaminated groundwater being treated, Outfall 001, and the piping connecting them.

Approve	Deny	Signatures	Date
x		*Brenda J Fruchtl* Brenda J. Fruchtl, P.G. / Licensed Professional Geologist	January 10, 2022
x		*Scott M Arwood* Scott M. Arwood, P.E. / Environmental Engineer Manager	1/10/2022

Summary of Review

Timeline of application

Currently, the facility is covered under NPDES Permit No PA0086282, which expired on November 30, 2019.

May 31, 2019 - The renewal application was received, which was considered timely; therefore, according to PA Code Title 25 §92a.7 (b), the terms and conditions of the expiring permit are automatically continued until a renewal can be issued.

June 10, 2019 – Application was accepted as complete.

June 27, 2021 - PADEP sent a Technical Deficiency (TD) email including the following questions / requests: inquiry if there had been any changes since the application was received on 5/31/2019; request for a table summarizing the quarterly influent and effluent data for the GWTS that discharges to Outfall 001 since the application was submitted in May 2019; questions about Outfall 001; questions about the source of contaminated groundwater; and questions about Module 2.

July 8, 2021 – Conference call with permittee and consultant regarding the requests / questions in the 6/27/2021 TD email.

July 29, 2021 – PADEP received a draft response to the 6/27/2021 TD email.

July 30, 2021 – PADEP responded to draft response with a clarifying question regarding the location of the clay tiles.

September 16, 2021 – Conducted a site visit with consultant.

October 14, 2021 – PADEP received a response to the 6/27/2021 TD email

December 13, 2021 – PADEP sent question regarding design capacity discrepancy.

December 14, 2021 – PADEP received a response stating the correct design flow is 0.173 MGD (and not 0.14 as reported in the original application received May 31, 2019). Included a revised Page 3 of the application.

Public Participation

DEP will publish notice of the receipt of the NPDES permit application and a tentative decision to issue the individual NPDES permit in the *Pennsylvania Bulletin* in accordance with 25 Pa. Code § 92a.82. Upon publication in the *Pennsylvania Bulletin*, DEP will accept written comments from interested persons for a 30-day period (which may be extended for one additional 15-day period at DEP's discretion), which will be considered in making a final decision on the application. Any person may request or petition for a public hearing with respect to the application. A public hearing may be held if DEP determines that there is significant public interest in holding a hearing. If a hearing is held, notice of the hearing will be published in the *Pennsylvania Bulletin* at least 30 days prior to the hearing and in at least one newspaper of general circulation within the geographical area of the discharge.

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	.173
Latitude	40º 22' 44.1"	Longitude	-76º 40' 10.2"
Wastewater Description:	Groundwater Cleanup Discharge		
Receiving Waters	Unnamed Tributary to Bow Creek (WWF, MF)	Stream Code	09655
NHD Com ID	56397897	RMI	0.6*
Drainage Area	0.21*	Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)	0.000915*	Q_{7-10} Basis	StreamStats (at point where swale enters the UNT as delineated on eMapPA)
Elevation (ft)		Slope (ft/ft)	
Watershed No.	7-D	Chapter 93 Class.	WWF, MF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	NUTRIENTS, ORGANICS		
Source(s) of Impairment	AGRICULTURE, SOURCE UNKNOWN		
TMDL Status	Final	Name	UNT Bow Creek
Nearest Downstream Public Water Supply Intake	Pennsylvania American Water Company		
PWS Waters	Swatara Creek	Flow at Intake (cfs)	South Hanover Twp, Dauphin Co
PWS RMI	16	Distance from Outfall (mi)	8

Changes Since Last Permit Issuance:

- Coordinates for Outfall 001 were revised per October 12, 2021 response email (previous coordinates incorrectly placed the outfall west of the OWG building).
- Historically the Outfall 001 location was near the treatment building and discharged to an open drainage swale which drained southwards offsite. In 2020, the open drainage swale was replaced with a closed 6-inch diameter HDPE pipe in the same path. The coordinates for Outfall 001 coordinate with the outlet of this new pipe near the fence line to the drainage swale (see Figure 2)

Other Comments:

- Outfall 001 is the location where the effluent enters the drainage swale (that flows to Trib 09655 to Bow Creek).
- Effluent samples are collected from valves SV3, as identified on the Treatment System Configuration (Figure 3).
- Distance from the discharge at Outfall 001 to Trib 09655 to Bow Creek (receiving water) is approximately 850 feet to the south. Basin Delineation and Receiving water information in above table is based on the location where the drainage swale enters Trib 09655 to Bow Creek at RMI 0.6.

**Note: According to the streams delineated on StreamStats, it's 0.16 miles from the point of discharge at Outfall 001 to Trib 09655 to Bow Creek, the closest delineated stream to the discharge location on eMapPA.*

Treatment Facility Summary

Treatment Facility Name:
Texas Eastern Transmission- Grantville Compressor Station Groundwater Treatment System (GWTS)

A WQM Permit has not been issued for the treatment facility since it is a groundwater remediation system (GRS)

Design flow for the GWTS is 0.173 MGD (*per updated application page received via email on 12/14/21*)
Average flow during production / operation is 0.004 MGD (*per updated application page received via email on 12/14/21*).
The Maximum flow during production / operation is listed as 0.050 MGD (*per updated application page received via email on 12/14/21*).

***Per review of DMR data** from 2015 through the 3rd Quarter of 2021, the **maximum flow was found to be 0.0823 MGD** (during the 3rd quarter of 2021).*

The groundwater treatment system is designed to remove contaminants from the compressor building floor drains, area drains in the regenerator area, and a clay tile area east of the compressor building. Historically liquids from the turbine building were also collected and treated, but that was discontinued in June 2021.

The water is collected in an accumulation sump (also identified as "Collection Sump" on Figure 3) and pumped to the water treatment building. The system consists of two identical filter banks. Each bank has the capacity of treating water at a flow rate of 60 gallons per minute and consists of a pump, a pre-filter to remove sediment, two flow control valves, two rotameters, four activated carbon canisters, and a post-filter to remove active carbon fines.

Details of the system components:

- The filter pump transfers the water from the accumulation sump through the treatment system components.
- The pre-filter contains one-micron filter cartridges, and removes extremely fine particles.
- The flow control valve regulates the flow through the filters.
- A flow meter indicates the rate of flow.
- Two sets of activated carbon filters remove any PCBs dissolved in the water. Both sets of carbon filters are in service at any one time.
    - The first set of activated carbon filter in the bank should remove all detectable levels of PCBs.
    - The second set of carbon filter in the bank serves as a backup.
- The post-filter has a single 1-micron filter bag removes any activated carbon fines.

Outfall 001 is located at the final discharge from the treatment system. Influent water samples are collected from sample port SVl prior to treatment, and effluent water samples are collected from sample port SV3 after treatment. Treated water from the system is discharged to a drainage swale to Tributary 09655 to Bow Creek. Outfall 001 is the only outfall.

The method for handling and disposal of solid or liquid residue resulting from the following treatment units is to landfill: pre-filters and activated carbon filtration.

Figure 3. Treatment System Configuration *(Figure 2. Treatment System Configuration from the 10/14/2021 response document)*

Figure 4. Water Line Diagram for the GWTS (*from the 10/14/2021 response document*)

Changes Since Last Permit Issuance: The treatment facility underwent upgrades in December 2016 and January 2017. The upgrades included the following (per March 2, 2017 letter from Enbridge):

- Replacing the strainers on the foot valves in the collection box:
- Replacing/cleaning the rotameters;
- Replacing the piping above the discharge flow meters; and

- Installing post-filters on each carbon bank with a 1-micron filter bags for sediments removal.

Proposed Changes:

During our July 8, 2021 conference call, Texas Eastern indicated changes to the treatment system at Grantville are planned in the near future.

- The treatment process will remain the same.
- They are planning to upgrade the current vessels to high pressure vessels.
- They indicated the changes should not affect the design flow.
- The conceptual design can be found in **Figure 5**

On December 14, 2021, Texas Eastern sent an email stating that these system modifications will be completed soon and they will submit a letter update.

Compliance History	
Summary of DMRs:	eDMR results from January 2015 to October 2021 **Flow.** Daily max ranged from 0.0121 MGD to 0.0823 MGD. Average (of quarterly average) was 0.0038 MGD **PCBs.** Reported as < 0.5 ug/L (0.0005 mg/L) for Daily Max No permit limits were exceeded in the past 5 years.
Summary of Inspections:	DEP conducted a compliance evaluation on 07/29/2015 with no violations noted; and on 9/16/2021 with no violations noted.
Summary of Violations:	• There have been no Clean Water Program violations reported for this facility (Permit No PA0086282) since the last renewal. • There are not any open Clean Water Program violations for the facility.

Influent and Effluent Data

Total PCBs are sampled quarterly in the influent (untreated, SV1) and effluent (treated, SV3) to the remedial system.

Summary of quarterly influent data for Total PCBs between March 2015 and March 2021, out of 26 total samples:

- The maximum Total PCBs was 28.10 ug/L, taken on 9/25/2019.
- The minimum Total PCBs was <0.5 ug/L, taken on 6/25/2018.
- The Average of Total PCBs was 5.67 ug/L

Summary of the quarterly sampling results for both the influent and effluent:

- **Figure 6.** Outfall 001 Grantville Compressor Station, Module 2 Attachment, Laboratory Analytical Results. Untreated Groundwater. (*submitted via email on 10/14/2021 as part of the final revised application package*)
- **Figure 7.** Outfall 001 Grantville Compressor Station, Module 2 Attachment, Laboratory Analytical Results. Treated Groundwater. (*submitted via email on 10/14/2021 as part of the final revised application package*)

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.173
Latitude 40º 22' 44.1" **Longitude** -76º 40' 10.2"
Wastewater Description: Groundwater Cleanup Discharge

Chemical Additives. None reported

Development of Effluent Limitations
The treated groundwater is discharged at Outfall 001 which enters a swale to Trib 09655 to Bow Creek (receiving water) which is approximately 850 feet to the south of Outfall 001

Toxics Management Spreadsheet Version 1.3 was used to develop the limits (see **Attachment A**).

Discharge Information Inputs:

Discharge Pollutant Max Discharge Conc: Per Module 2 of the application, Total PCBs and Dissolved Iron (discharge concentration is > 10% WQBEL, no Reasonable Potential) are the parameters of concern present in the influent. Since the purpose of the groundwater treatment system is to treat for PCBs, limits for Total PCB will remain in the permit to evaluate the effectiveness of the treatment system. Therefore, the maximum discharge concentrations entered in the Discharge Information page of the Toxics Management Spreadsheet were taken from the maximum influent concentrations provided in the Grantville Compressor Station PCBs Data 2015 – 2021, untreated groundwater (see Figure 6).

Design Flow (MGD) Inputs: The Proposed limits are based on the maximum flow of 0.0823 MGD (as the design flow input in the model). This was the maximum flow reported between the 1st quarter 2015 and 3rd quarter 2021.
Note: The maximum flow of 0.0884 MGD was used in the development of the 2014 limits. In 2009, the design flow of the system, 0.14 MGD, was used in the development of limits. It was determined that the maximum flow was a more accurate input to the model since the design flow of the system has never been reached. The change from utilizing the design flow in 2009 to the maximum flow in 2014 in the model resulted in less stringent limits.

Stream / Surface Water Information Inputs: A default LFY of 0.1 cfs/mi^2 was utilized due to the small drainage basin.

The recommended limits for the Proposed Draft NPDES Permit are taken from the Recommended WQBELs & Monitoring Requirements as follows:

	2014 NPDES Permit Limits Renewal			**Recommended NPDES Permit Limits Renewal**		
Parameter	*Ave Monthly*	*Max Daily*	*Inst. Maximum*	**Ave Quarterly***	**Max Daily**	**Inst. Maximum**
Flow (MGD)	*xxx*	*xxx*	*xxx*	**xxx**	**xxx**	**xxx**
Total PCBs (ug/L)	*0.000188*	*0.000293*	*0.00047*	**0.0002**	**0.0003**	**0.0005**

**changed limit from Average Monthly to Average Quarterly since the treatment system is only required to be sampled on a quarterly basis.*

Note: Dissolved Iron *was listed as Report under Recommended WQBELs since the QL for Dissolved Iron used in reporting on Module 2 was 0.1 mg/L, the reference QL for Dissolved Iron is 20 ug/L (or 0.02 mg/L). It was decided not to include Dissolved Iron in the effluent limits as there is no reasonable potential and this appears to be an issue with analytical method used.* **It is recommended that they use an analytical method with a lower QL when running samples for Dissolved Iron in the future.**

Since the discharge is to a dry stream, the MCL and the WQBEL (at the location where the swale enters the UNT to Bow Creek) were compared and the more stringent of the two was used for the permit limits.

Parameter	MCL	WQBEL from model
Total PCBs	0.5 ug/L	0.0002 ug/L

Since the WQBEL is the more stringent at 0.0002 ug/L, this will be the average quarterly limit used in the permit. Daily max and instantaneous max limits can be calculated by using the standard IW multipliers (i.e. 2.0 & 2.5).
The slight change in the proposed limits from the 2014 NPDES Permit limits are a result of rounding.

It must also be noted that this limit is well below the method detection limit (MDL) of 0.5 ug/l for PCBs (using method 608); consequently, language in the permit must be included for limits below detection limits.

PART C SPECIAL CONDITIONS

I. OTHER REQUIREMENTS

A. The approval herein given is specifically made contingent upon the permittee acquiring all necessary property rights by easement or otherwise, providing for the satisfactory construction, operation, maintenance or replacement of all structures associated with the herein approved discharge in, along, or across private property, with full rights of ingress, egress and regress.

B. Collected screenings, slurries, sludges, and other solids shall be handled, recycled and/or disposed of in compliance with the Solid Waste Management Act (35 P.S. §§ 6018.101 – 6018.1003), 25 Pa. Code Chapters 287, 288, 289, 291, 295, 297, and 299 (relating to requirements for landfilling, impoundments, land application, composting, processing, and storage of residual waste), Chapters 261a, 262a, 263a, and 270a (related to identification of hazardous waste, requirements for generators and transporters, and hazardous waste, requirements for generators and transporters, and hazardous waste permit programs), federal regulation 40 CFR Part 257, The Clean Streams Law, and the Federal Clean Water Act and its amendments. Screenings collected at intake structures shall be collected and managed and not be returned to the receiving waters.

The permittee is responsible to obtain or assure that contracted agents have all necessary permits and approvals for the handling, storage, transport and disposal of solid waste materials generated as a result of wastewater treatment.

C. If the applicable standard or effluent guideline limitation relating to the application for Best Available Technology (BAT) Economically Achievable or to Best Conventional Technology (BCT) is developed by DEP or EPA for this type of industry, and if such standard or limitation is more stringent than the corresponding limitations of this permit (or if it controls pollutants not covered by this permit), DEP may modify or revoke and reissue the permit to conform with that standard or limitation.

II. WQBELs BELOW QUANTITATION LIMITS

A. The parameter(s) listed below are subject to water quality-based effluent limits (WQBELs) in Part A of this permit that are necessary to comply with state water quality standards, but may be less than quantitation limits (QLs), as defined in 25 Pa. Code § 252.1, that are generally achievable by conventional analytical technology. The permittee shall analyze the parameter(s) using methods that will achieve the QL(s) as listed below. For the purpose of compliance, a statistical value reported on the DMR that is less than the QL(s) (i.e., “non-detect”) will be considered to be in compliance.

Parameter Name	Quantitation Limit
Total PCBs	0.5 ug/L

B. The permittee shall, where determined to be feasible by the permittee, achieve a QL less than the QL identified above to improve the level of confidence that state water quality standards are being met in the receiving waters.

C. The permittee shall manage non-detect values and report statistical results to DEP in accordance with published DMR guidance (3800-BK-DEP3047). Where a mixed data set exists containing non-detect results and “detected”

values (i.e., results greater than or equal to the QL), the QL shall be used for non-detect results to compute average statistical results.

III. GROUNDWATER CLEANUP

A. Sludges and other solids shall be handled and disposed of in compliance with 25 Pa. Code, Chapters 262, 263, and 264 (related to permits and requirements for landfilling and storage of hazardous sludge) and applicable federal regulations, the Federal Clean Water Act, RCRA and their amendments. The permittee is responsible to obtain or assure that contracted agents have all necessary permits and approvals for the handling, storage, transport and disposal of solid waste materials generated as a result of wastewater treatment.

B. Annual Report – The permittee shall submit a complete Annual Report to the DEP office that issued the permit on the anniversary date of this permit using DEP's Annual Report template attached to this permit. The Annual Report shall address activities under the permit for the previous calendar year. The permittee shall submit the Annual Report electronically if notified by DEP in writing. (25 Pa. Code § 92a.61(g)).

C. The cleanup operation shall continue until a minimum of one year's data of the untreated groundwater (samples taken at least quarterly) have documented a concentration that is protective of the environment. Written approval to terminate must be received from DEP's Clean Water Program prior to shut-down.

Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (362-0400-001), SOPs and/or BPJ.

Outfall 001, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (ug/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Quarterly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report Avg Qrtly	Report Daily Max	XXX	XXX	XXX	XXX	1/quarter	Weir
Total PCBs (ug/L)	XXX	XXX	XXX	0.0002	0.0003	0.0005	1/quarter	Grab

Compliance Sampling Location: Discharge from GWTS

Tools and References Used to Develop Permit	
☐	WQM for Windows Model (see Attachment)
☒	Toxics Management Spreadsheet (see Attachment **A**)
☐	TRC Model Spreadsheet (see Attachment)
☐	Temperature Model Spreadsheet (see Attachment)
☐	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
☐	Technical Guidance for the Development and Specification of Effluent Limitations, 362-0400-001, 10/97.
☐	Policy for Permitting Surface Water Diversions, 362-2000-003, 3/98.
☐	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 362-2000-008, 11/96.
☐	Technology-Based Control Requirements for Water Treatment Plant Wastes, 362-2183-003, 10/97.
☐	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 362-2183-004, 12/97.
☐	Pennsylvania CSO Policy, 385-2000-011, 9/08.
☐	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
☐	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 391-2000-002, 4/97.
☒	Determining Water Quality-Based Effluent Limits, 391-2000-003, 12/97.
☐	Implementation Guidance Design Conditions, 391-2000-006, 9/97.
☐	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 391-2000-007, 6/2004.
☐	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 391-2000-008, 10/1997.
☐	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 391-2000-010, 3/99.
☐	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 391-2000-011, 5/2004.
☐	Implementation Guidance for Section 93.7 Ammonia Criteria, 391-2000-013, 11/97.
☐	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 391-2000-014, 4/2008.
☐	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 391-2000-015, 11/1994.
☐	Implementation Guidance for Temperature Criteria, 391-2000-017, 4/09.
☐	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 391-2000-018, 10/97.
☐	Implementation Guidance for Application of Section 93.5(e) for Potable Water Supply Protection Total Dissolved Solids, Nitrite-Nitrate, Non-Priority Pollutant Phenolics and Fluorides, 391-2000-019, 10/97.
☐	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 391-2000-021, 3/99.
☐	Implementation Guidance for the Determination and Use of Background/Ambient Water Quality in the Determination of Wasteload Allocations and NPDES Effluent Limitations for Toxic Substances, 391-2000-022, 3/1999.
☐	Design Stream Flows, 391-2000-023, 9/98.
☐	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 391-2000-024, 10/98.
☐	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 391-3200-013, 6/97.
☐	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
☐	SOP:
☐	Other:

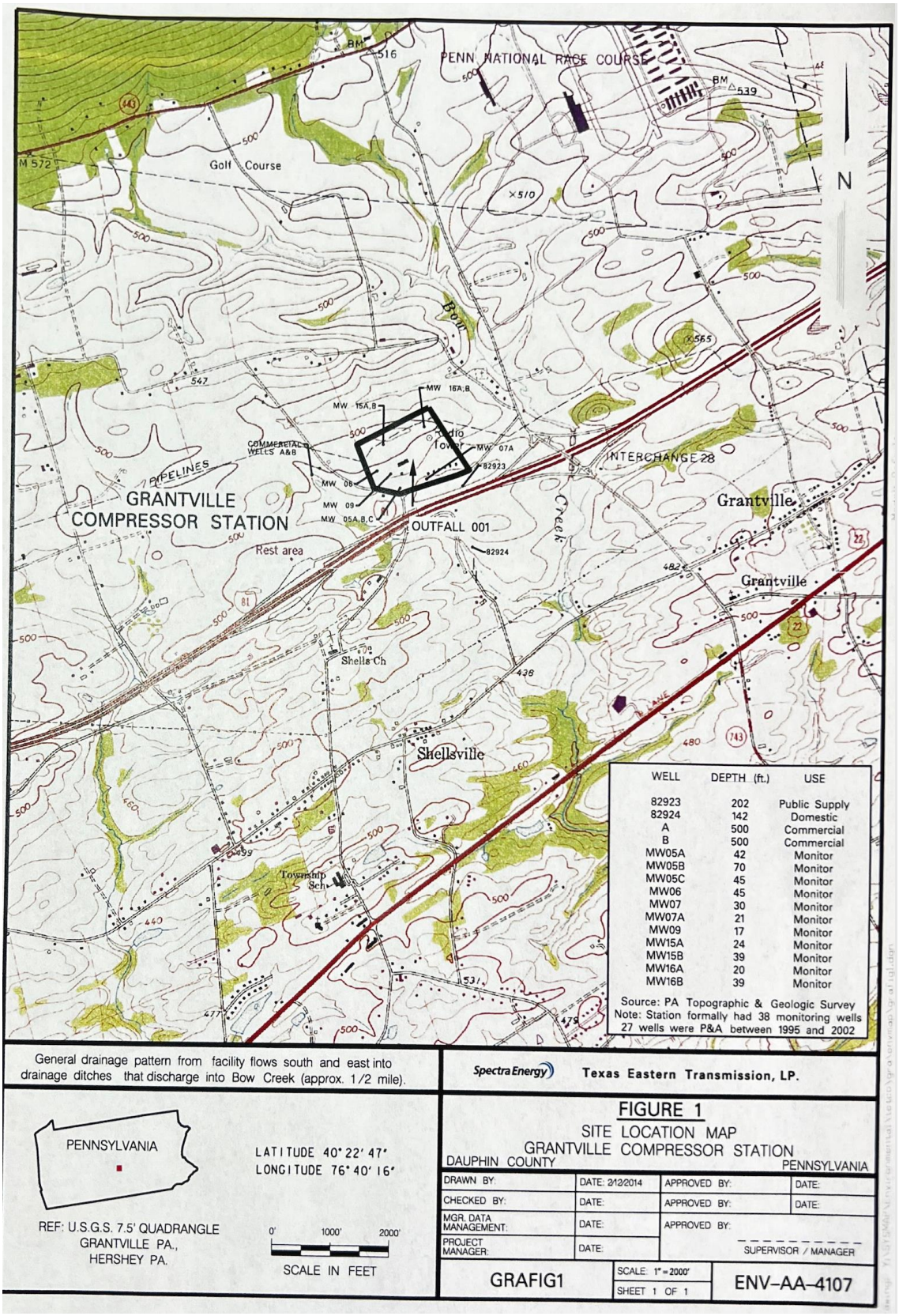

Figure 1. Site Location Map (*taken from renewal application received 5/31/2019*)

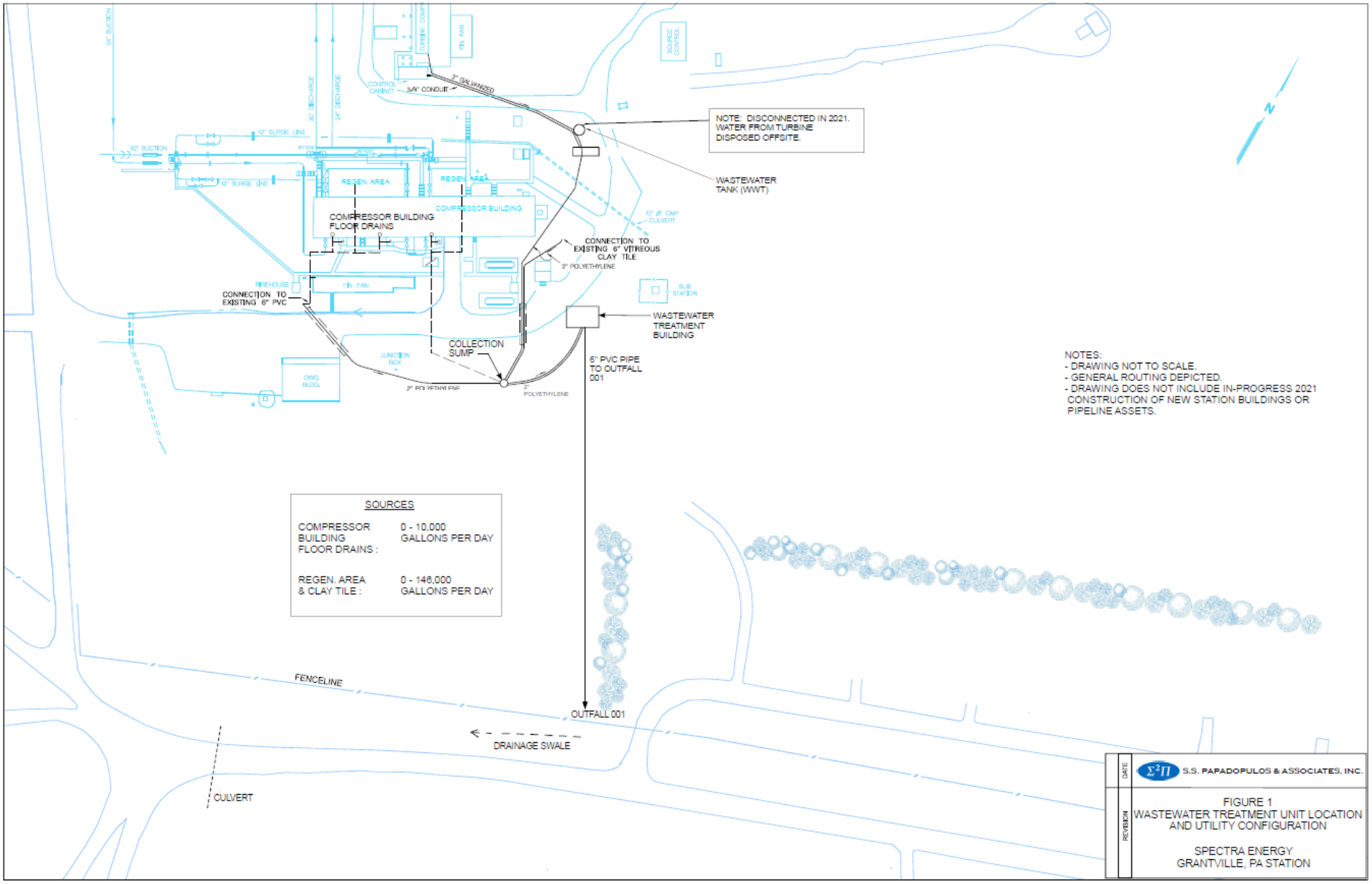

Figure 2. Site Plan (*received via email on 9/23/2021*)

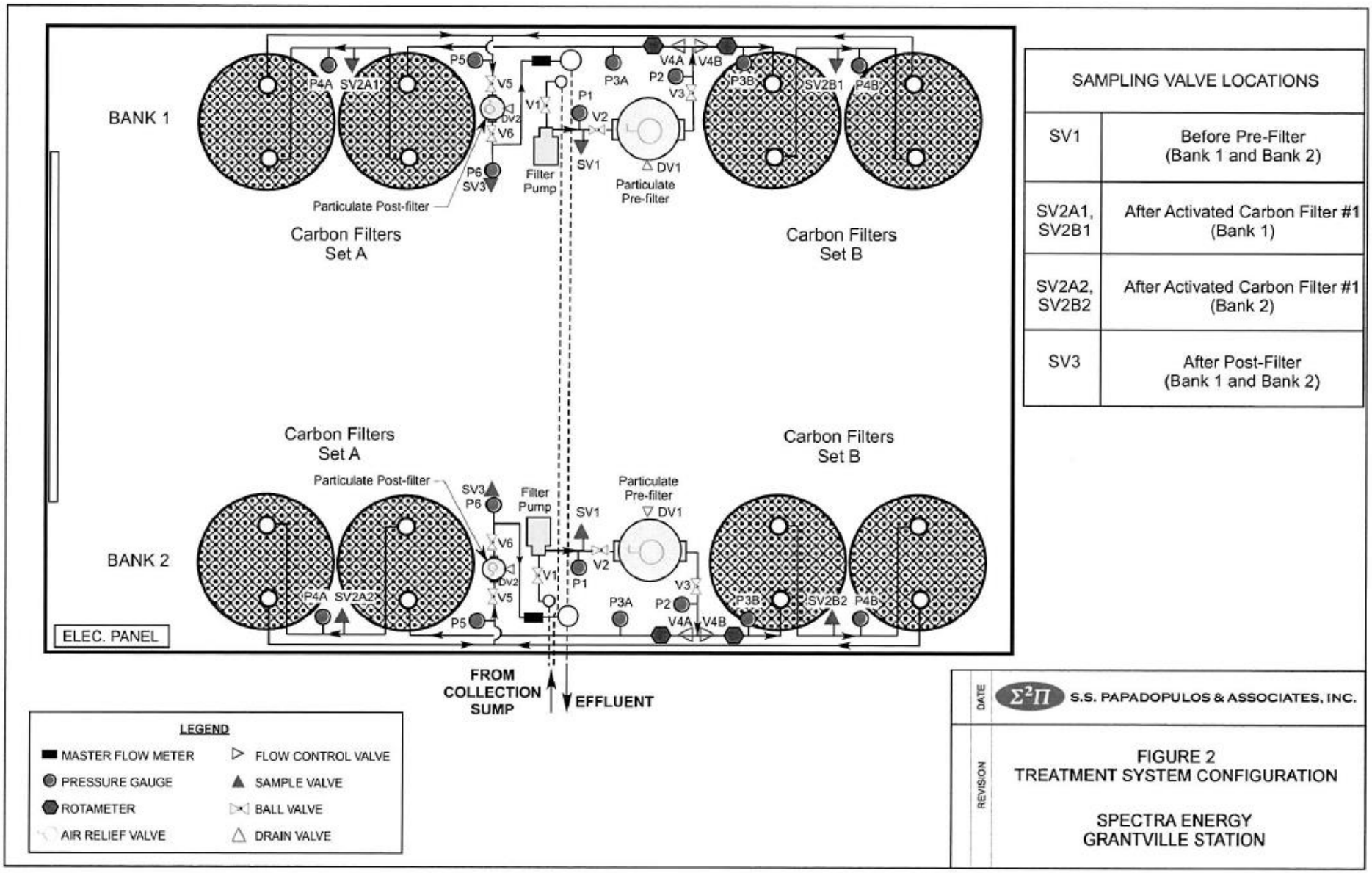

Figure 3. Treatment System Configuration *(Figure 2. Treatment System Configuration from the 10/14/2021 response document)*

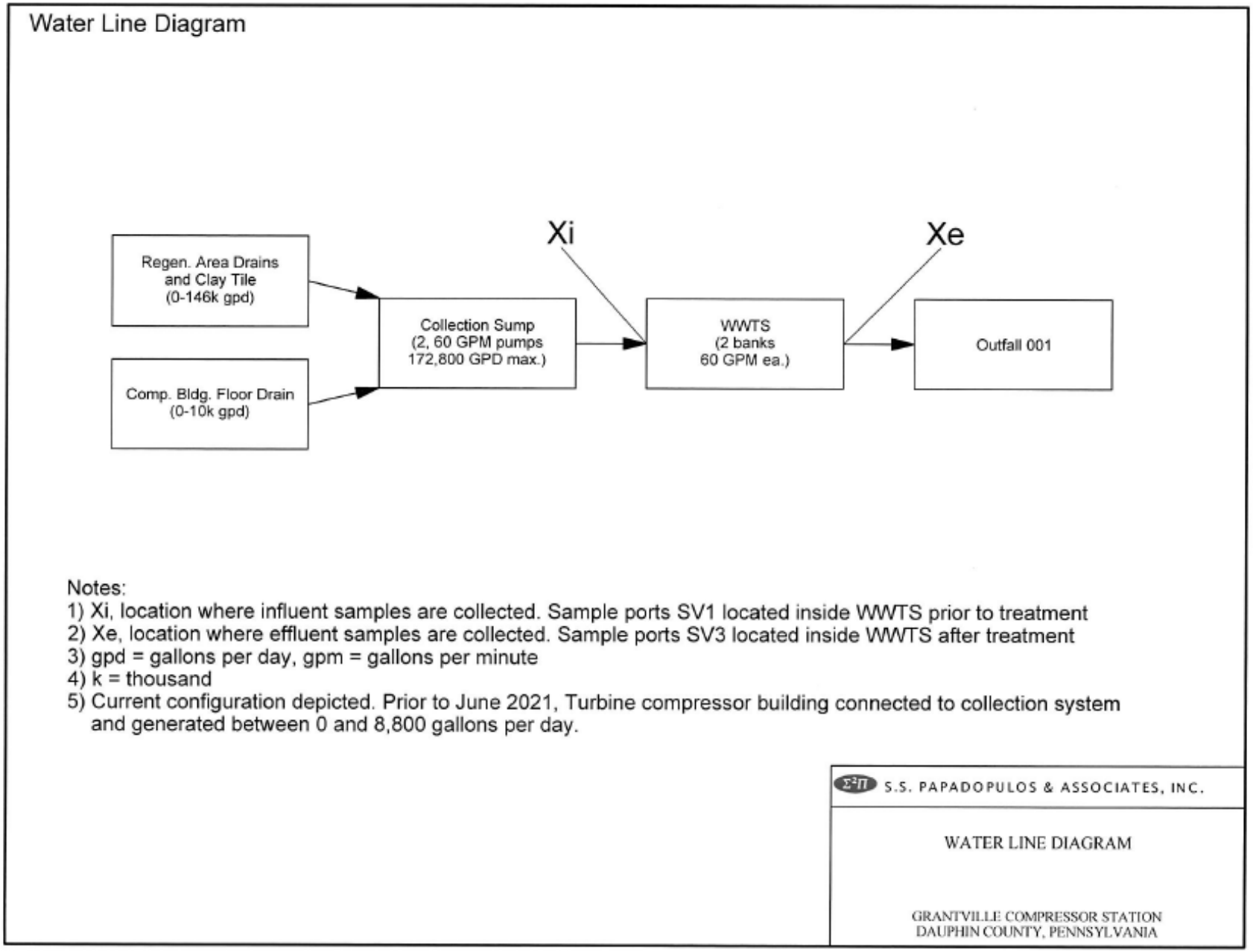

Figure 4. Water Line Diagram for the GWTS (*from the 10/14/2021 response document*)

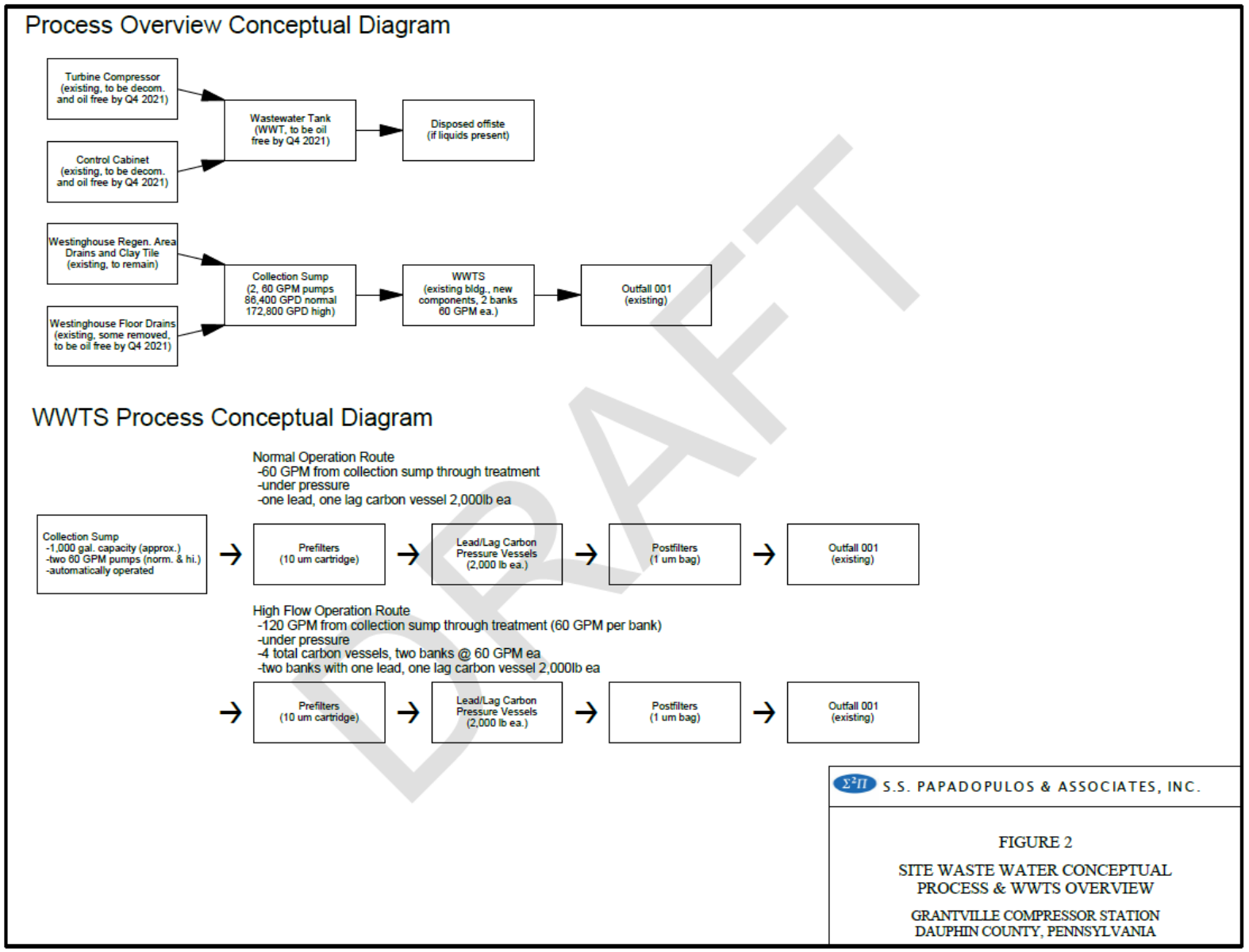

Figure 5. Conceptual Design of proposed treatment plant upgrades *(received 7/8/2021 via email)*

Outfall 001 Grantville Compressor Station
Module 2 Attachment
Laboratory Analytical Results

Applicant: Texas Eastern Transmission, LP

Sample Location	Date	pH	Total PCBs (µg/L)	TSS (mg/L)	Oil and Grease (mg/L)	Dissolved Iron (mg/L)	Dissolved Lead (mg/L)	Dissolved Mercury (mg/L)
Untreated GW	3/30/2015		7.4					
Untreated GW	6/17/2015		11.8					
Untreated GW	9/28/2015		11.5					
Untreated GW	12/17/2015		8.6					
Untreated GW	3/24/2016		11.2					
Untreated GW	6/27/2016		7.1					
Untreated GW	9/27/2016		4.4					
Untreated GW	12/22/2016		1.61					
Untreated GW	3/21/2017		1.09					
Untreated GW	6/22/2017		1.94					
Untreated GW	9/27/2017		0.859					
Untreated GW	11/21/2017		0.614					
Untreated GW	2/15/2018		3.44					
Untreated GW	6/25/2018		<0.5					
Untreated GW	9/25/2018		1.81					
Untreated GW	12/20/2018		0.798					
Untreated GW	3/20/2019		1.22					
Untreated GW	4/4/2019	7.6		12.9	4.1	<0.1	<0.01	<0.0002
Untreated GW	4/11/2019	7.5		<0.5	<4	<0.1	<0.01	<0.0002
Untreated GW	4/18/2019	7.5		<0.5	<4	<0.1	<0.01	<0.0002
Untreated GW	6/24/2019		4.86					
Untreated GW	9/25/2019		28.1					
Untreated GW	12/18/2019		1.45					
Untreated GW	3/16/2020		6.05					
Untreated GW	5/12/2020		1.52					
Untreated GW	8/6/2020		0.832					
Untreated GW	10/29/2020		14.9					
Untreated GW	1/4/2021		4.33					
Untreated GW	3/1/2021		4.33					
Average		7.5	5.67	12.90	<4.033	<0.1	<0.01	<0.0002
Max		7.6	28.10	12.90	4.10	<0.1	<0.01	<0.0002
No. Samples		3	25	3	3	3	3	3
No. Detections		3	24	1	1	0	0	0
Quantitation Limit		0.1 SU	<0.5	<0.5	<4	<0.10	<0.01	0.0002

Notes: Sample locations are summarized below:
Untreated groundwater sampled from sample port SV1, see Figure 2. Sample port located inside treatment building prior to any treatment.
Treated groundwater sampled from sample port SV3, see Figure 2. Sample port located inside treatment building after treatment.

1) "<" indicates value less than laboratory reporting limit, with the reporting limit shown
2) Quarterly values presented
3) Samples collected in April 2019 in support of Module 2 requirements only.
4) Oil and Grease reported as N-Hexane Extractable Materials (HEM)
5) Samples analyzed by Test America or Pace Analytical.

TSS -Total suspended solids

Figure 6. Summary of Total PCBs. Untreated Groundwater. Influent.

Outfall 001 Grantville Compressor Station
Module 2 Attachment
Laboratory Analytical Results

Applicant: Texas Eastern Transmission, LP

Sample Location	Date	pH	Total PCBs (µg/L)	TSS (mg/L)	Oil and Grease (mg/L)	Dissolved Iron (mg/L)	Dissolved Lead (mg/L)	Dissolved Mercury (mg/L)
Treated GW	3/30/2015		<0.5					
Treated GW	6/17/2015		<0.5					
Treated GW	9/28/2015		<0.5					
Treated GW	12/17/2015		<0.5					
Treated GW	3/24/2016		<0.5					
Treated GW	6/27/2016		<0.5					
Treated GW	9/27/2016		<0.5					
Treated GW	12/22/2016		<0.5					
Treated GW	3/21/2017		<0.5					
Treated GW	6/22/2017		<0.5					
Treated GW	9/27/2017		<0.5					
Treated GW	11/21/2017		<0.5					
Treated GW	2/15/2018		<0.5					
Treated GW	6/25/2018		<0.5					
Treated GW	9/25/2018		<0.5					
Treated GW	12/20/2018		<0.5					
Treated GW	3/20/2019		<0.5					
Treated GW	4/4/2019	8.2		<0.5	<4	<0.1	<0.01	<0.0002
Treated GW	4/11/2019	7.8		<0.5	<4	<0.1	<0.01	<0.0002
Treated GW	4/18/2019	7.7		<0.5	<4	<0.1	<0.01	<0.0002
Treated GW	6/24/2019		<0.5					
Treated GW	9/25/2019		<0.5					
Treated GW	12/18/2019		<0.5					
Treated GW	3/16/2020		<0.5					
Treated GW	5/12/2020		<0.5					
Treated GW	8/6/2020		<0.5					
Treated GW	10/29/2020		<0.5					
Treated GW	1/4/2021		<0.5					
Treated GW	3/1/2021		<0.5					
Average		7.9	<0.5	<0.5	<4	<0.1	<0.01	<0.0002
Max		8.2	0.00	0.00	0.00	<0.1	<0.01	<0.0002
No. Samples		3	25	3	4	3	3	3
No. Detections		3	0	0	0	0	0	0
Quantitation Limit		0.1 SU	0.50	0.50	4.00	0.10	0.01	0.0002

Notes: Sample locations are summarized below:
Untreated groundwater sampled from sample port SV1, see Figure 2. Sample port located inside treatment building prior to any treatment.
Treated groundwater sampled from sample port SV3, see Figure 2. Sample port located inside treatment building after treatment.

1) "<" indicates value less than laboratory reporting limit, with the reporting limit shown
2) Quarterly values presented
3) Samples collected in April 2019 in support of Module 2 requirements only.
4) Oil and Grease reported as N-Hexane Extractable Materials (HEM)
5) Samples analyzed by Test America or Pace Analytical.

TSS -Total suspended solids

Figure 7. Summary of Total PCBs. Treated Groundwater. Effluent

ATTACHMENT A

Toxics Management Spreadsheet, Version 1.3, March 21.
Inputs and Results

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Toxics Management Spreadsheet
Version 1.3, March 2021

Discharge Information

Instructions | Discharge | Stream

Facility: **Texas Eastern Grantville** NPDES Permit No.: **PA0086282** Outfall No.: **001**

Evaluation Type: **Major Sewage / Industrial Waste** Wastewater Description: **GWTS**

Discharge Characteristics									
Design Flow (MGD)*	Hardness (mg/l)*	pH (SU)*	Partial Mix Factors (PMFs)				Complete Mix Times (min)	
			AFC	CFC	THH	CRL	Q_{7-10}	Q_h
0.0823	50	7						

	Discharge Pollutant	Units	Max Discharge Conc		0 if left blank: Trib Conc	0 if left blank: Stream Conc	0.5 if left blank: Daily CV	0.5 if left blank: Hourly CV	0 if left blank: Stream CV	0 if left blank: Fate Coeff	0 if left blank: FOS	1 if left blank: Criteria Mod	1 if left blank: Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L											
	Chloride (PWS)	mg/L											
	Bromide	mg/L											
	Sulfate (PWS)	mg/L											
	Fluoride (PWS)	mg/L											
Group 2	Total Aluminum	µg/L											
	Total Antimony	µg/L											
	Total Arsenic	µg/L											
	Total Barium	µg/L											
	Total Beryllium	µg/L											
	Total Boron	µg/L											
	Total Cadmium	µg/L											
	Total Chromium (III)	µg/L											
	Hexavalent Chromium	µg/L											
	Total Cobalt	µg/L											
	Total Copper	µg/L											
	Free Cyanide	µg/L											
	Total Cyanide	µg/L											
	Dissolved Iron	mg/L	<	0.1									
	Total Iron	µg/L											
	Total Lead	µg/L											
	Total Manganese	µg/L											
	Total Mercury	µg/L											
	Total Nickel	µg/L											
	Total Phenols (Phenolics) (PWS)	µg/L											
	Total Selenium	µg/L											
	Total Silver	µg/L											
	Total Thallium	µg/L											
	Total Zinc	µg/L											
	Total Molybdenum	µg/L											
	Acrolein	µg/L	<										
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<										
	Benzene	µg/L	<										
	Bromoform	µg/L	<										
	Carbon Tetrachloride	µg/L	<										
	Chlorobenzene	µg/L											
	Chlorodibromomethane	µg/L	<										
	Chloroethane	µg/L	<										
	2-Chloroethyl Vinyl Ether	µg/L	<										

Group 3	Chloroform	µg/L	<											
	Dichlorobromomethane	µg/L	<											
	1,1-Dichloroethane	µg/L	<											
	1,2-Dichloroethane	µg/L	<											
	1,1-Dichloroethylene	µg/L	<											
	1,2-Dichloropropane	µg/L	<											
	1,3-Dichloropropylene	µg/L	<											
	1,4-Dioxane	µg/L	<											
	Ethylbenzene	µg/L	<											
	Methyl Bromide	µg/L	<											
	Methyl Chloride	µg/L	<											
	Methylene Chloride	µg/L	<											
	1,1,2,2-Tetrachloroethane	µg/L	<											
	Tetrachloroethylene	µg/L	<											
	Toluene	µg/L	<											
	1,2-trans-Dichloroethylene	µg/L	<											
	1,1,1-Trichloroethane	µg/L	<											
	1,1,2-Trichloroethane	µg/L	<											
	Trichloroethylene	µg/L	<											
	Vinyl Chloride	µg/L	<											
Group 4	2-Chlorophenol	µg/L	<											
	2,4-Dichlorophenol	µg/L	<											
	2,4-Dimethylphenol	µg/L	<											
	4,6-Dinitro-o-Cresol	µg/L	<											
	2,4-Dinitrophenol	µg/L	<											
	2-Nitrophenol	µg/L	<											
	4-Nitrophenol	µg/L	<											
	p-Chloro-m-Cresol	µg/L	<											
	Pentachlorophenol	µg/L	<											
	Phenol	µg/L	<											
	2,4,6-Trichlorophenol	µg/L	<											
Group 5	Acenaphthene	µg/L	<											
	Acenaphthylene	µg/L	<											
	Anthracene	µg/L	<											
	Benzidine	µg/L	<											
	Benzo(a)Anthracene	µg/L	<											
	Benzo(a)Pyrene	µg/L	<											
	3,4-Benzofluoranthene	µg/L	<											
	Benzo(ghi)Perylene	µg/L	<											
	Benzo(k)Fluoranthene	µg/L	<											
	Bis(2-Chloroethoxy)Methane	µg/L	<											
	Bis(2-Chloroethyl)Ether	µg/L	<											
	Bis(2-Chloroisopropyl)Ether	µg/L	<											
	Bis(2-Ethylhexyl)Phthalate	µg/L	<											
	4-Bromophenyl Phenyl Ether	µg/L	<											
	Butyl Benzyl Phthalate	µg/L	<											
	2-Chloronaphthalene	µg/L	<											
	4-Chlorophenyl Phenyl Ether	µg/L	<											
	Chrysene	µg/L	<											
	Dibenzo(a,h)Anthrancene	µg/L	<											
	1,2-Dichlorobenzene	µg/L	<											
	1,3-Dichlorobenzene	µg/L	<											
	1,4-Dichlorobenzene	µg/L	<											
	3,3-Dichlorobenzidine	µg/L	<											
	Diethyl Phthalate	µg/L	<											
	Dimethyl Phthalate	µg/L	<											
	Di-n-Butyl Phthalate	µg/L	<											
	2,4-Dinitrotoluene	µg/L	<											
	2,6-Dinitrotoluene	µg/L	<											
	Di-n-Octyl Phthalate	µg/L	<											
	1,2-Diphenylhydrazine	µg/L	<											
	Fluoranthene	µg/L	<											
	Fluorene	µg/L	<											
	Hexachlorobenzene	µg/L	<											
	Hexachlorobutadiene	µg/L	<											
	Hexachlorocyclopentadiene	µg/L	<											
	Hexachloroethane	µg/L	<											
	Indeno(1,2,3-cd)Pyrene	µg/L	<											

	Isophorone	µg/L	<											
	Naphthalene	µg/L	<											
	Nitrobenzene	µg/L	<											
	n-Nitrosodimethylamine	µg/L	<											
	n-Nitrosodi-n-Propylamine	µg/L	<											
	n-Nitrosodiphenylamine	µg/L	<											
	Phenanthrene	µg/L	<											
	Pyrene	µg/L	<											
	1,2,4-Trichlorobenzene	µg/L	<											
Group 6	Aldrin	µg/L	<											
	alpha-BHC	µg/L	<											
	beta-BHC	µg/L	<											
	gamma-BHC	µg/L	<											
	delta BHC	µg/L	<											
	Chlordane	µg/L	<											
	4,4-DDT	µg/L	<											
	4,4-DDE	µg/L	<											
	4,4-DDD	µg/L	<											
	Dieldrin	µg/L	<											
	alpha-Endosulfan	µg/L	<											
	beta-Endosulfan	µg/L	<											
	Endosulfan Sulfate	µg/L	<											
	Endrin	µg/L	<											
	Endrin Aldehyde	µg/L	<											
	Heptachlor	µg/L	<											
	Heptachlor Epoxide	µg/L	<											
	PCB-1016	µg/L	<											
	PCB-1221	µg/L	<											
	PCB-1232	µg/L	<											
	PCB-1242	µg/L	<											
	PCB-1248	µg/L	<											
	PCB-1254	µg/L	<											
	PCB-1260	µg/L	<											
	PCBs, Total	µg/L		28.1										
	Toxaphene	µg/L	<											
	2,3,7,8-TCDD	ng/L	<											
Group 7	Gross Alpha	pCi/L												
	Total Beta	pCi/L	<											
	Radium 226/228	pCi/L	<											
	Total Strontium	µg/L	<											
	Total Uranium	µg/L	<											
	Osmotic Pressure	mOs/kg												

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Toxics Management Spreadsheet
Version 1.3, March 2021

Stream / Surface Water Information

Texas Eastern Grantville, NPDES Permit No. PA0086282, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Trib 09655 to Bow Creek**

No. Reaches to Model: **1**

- (●) Statewide Criteria
- ( ) Great Lakes Criteria
- ( ) ORSANCO Criteria

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi^2)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	009361	0.6	457	0.21			Yes
End of Reach 1	009361	0	416	0.39			Yes

$Q_{7\text{-}10}$

Location	RMI	LFY (cfs/mi^2)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	0.6	0.1										100	7		
End of Reach 1	0	0.1													

Q_h

Location	RMI	LFY (cfs/mi^2)	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	0.6														
End of Reach 1	0														

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Toxics Management Spreadsheet
Version 1.3, March 2021

Model Results

Texas Eastern Grantville, NPDES Permit No. PA0086282, Outfall 001

Instructions | Results | RETURN TO INPUTS | SAVE AS PDF | PRINT | ◉ All ○ Inputs ○ Results ○ Limits

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 0.011 PMF: 1 Analysis Hardness (mg/l): 57.079 Analysis pH: 7.00

Pollutants	Stream Conc	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Dissolved Iron	0	0		0	N/A	N/A	N/A	
PCBs, Total	0	0		0	N/A	N/A	N/A	

☑ ***CFC*** CCT (min): 0.011 PMF: 1 Analysis Hardness (mg/l): 57.079 Analysis pH: 7.00

Pollutants	Stream Conc	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Dissolved Iron	0	0		0	N/A	N/A	N/A	
PCBs, Total	0	0		0	0.014	0.014	0.016	

☑ ***THH*** CCT (min): 0.011 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Dissolved Iron	0	0		0	300	300	349	
PCBs, Total	0	0		0	N/A	N/A	N/A	

☑ ***CRL*** CCT (min): 0.136 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Dissolved Iron	0	0		0	N/A	N/A	N/A	

PCBs, Total	0	0		0	0.000064	0.00006	0.0002	

☑ ***Recommended WQBELs & Monitoring Requirements***

No. Samples/Month: 4

	Mass Limits		*Concentration Limits*						
Pollutants	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
Dissolved Iron	Report	Report	Report	Report	Report	mg/L	0.35	THH	Discharge Conc > 10% WQBEL (no RP)
PCBs, Total	1.32E-07	2.05E-07	0.0002	0.0003	0.0005	µg/L	0.0002	CRL	Discharge Conc ≥ 50% WQBEL (RP)

☑ ***Other Pollutants without Limits or Monitoring***

The following pollutants do not require effluent limits or monitoring based on water quality because reasonable potential to exceed water quality criteria was not determined and the discharge concentration was less than thresholds for monitoring, or the pollutant was not detected and a sufficiently sensitive analytical method was used (e.g., <= Target QL).

Pollutants	Governing WQBEL	Units	Comments