



STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF WATER RESOURCES

William R. Snodgrass - Tennessee Tower
312 Rosa L. Parks Avenue, 11th Floor
Nashville, Tennessee 37243-1102

February 21, 2024

Honorable Stephen Babcock
Mayor
e-copy: mayorbabcock@townofcarthagetn.gov
Town of Carthage

Subject: **Draft of NPDES Permit No. TN0022993**
Town of Carthage
Carthage, Smith County, Tennessee

Dear Mayor Babcock:

Enclosed please find a draft copy of the NPDES Permit No. TN0022993, which the Division of Water Resources proposes to issue. This draft copy is furnished to you solely for your review of its provisions. No wastewater discharges are authorized by this draft permit. The issuance of this permit is contingent upon your meeting all of the requirements of the Tennessee Water Quality Control Act and the Rules and Regulations of the Tennessee Water Quality, Oil and Gas Board.

Also enclosed is a copy of the public notice that announces our intent to issue this permit. The notice affords the public an opportunity to review the draft permit and, if necessary, request a public hearing on this issuance process. If you disagree with the provisions and requirements contained in the draft permit, you have thirty (30) days from the date of this correspondence to notify the division of your objections. If your objections cannot be resolved, you may appeal this permit upon issuance. This appeal should be filed in accordance with Section 69-3-110 of the Tennessee Code Annotated.

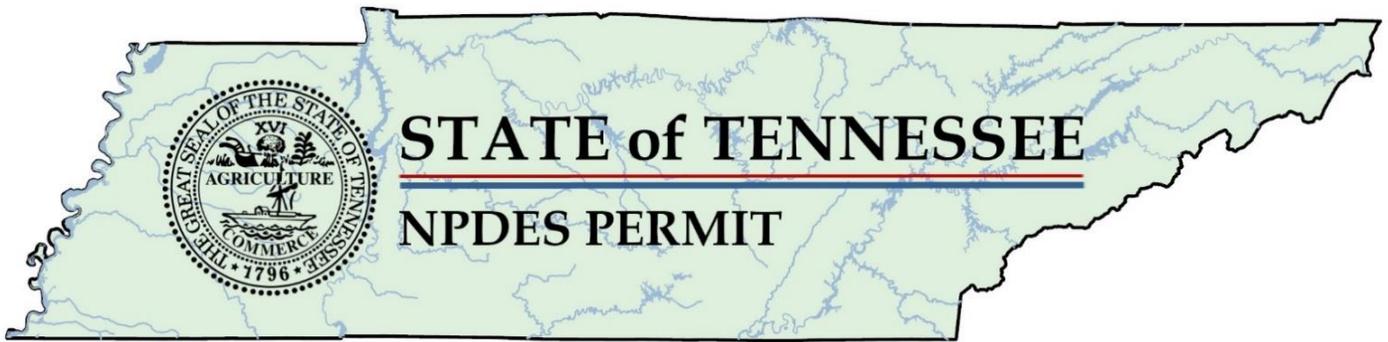
If you have questions, please contact the Cookeville EFO at 1-888-891-TDEC; or, at this office, please contact Ms. Priyaa Dhasarathy at (615) 913-0076 or by E-mail at Priyaa.Dhasarathy@tn.gov.

Sincerely,

Vojin Janjić
Manager, Water-Based Systems

Enclosure

cc: Permit File
Cookeville Environmental Field Office (EFO)
Mr. Stevie Gentry, Wastewater Superintendent, Town of Carthage, gentry_drew@yahoo.com
Mr. Steve Key, Supervisor, Town of Carthage, skvwbk@hotmail.com
Ms. Julie Davenport, City Clerk, Carthage, Town of Carthage, clerk@townofcarthagetn.gov
Mr. George E. Kurz, P.E., DEE, Consulting Engineer, george.kurz@comcast.net
Mr. Ricky Brown, Chief Operator Wastewater Treatment, Town of Carthage, wwtp@townofcarthagetn.gov



**Authorization to Discharge Under the
National Pollutant Discharge Elimination System (NPDES)
Permit Number TN0022993**

Issued by
**Department of Environment and Conservation
Division of Water Resources
William R. Snodgrass - Tennessee Tower
312 Rosa L. Parks Avenue, 11th Floor
Nashville, Tennessee 37243-1102**

Under authority of the Tennessee Water Quality Control Act of 1977 (T.C.A. 69-3-101 et seq.) and the delegation of authority from the United States Environmental Protection Agency under the Federal Water Pollution Control Act, as amended by the Clean Water Act of 1977 (33 U.S.C. 1251, et seq.)

Permittee: **Town of Carthage
Carthage STP**

is authorized to discharge: treated municipal wastewater from Outfall 001
from a facility located at: 214 First Avenue West, Carthage, Smith County, Tennessee
to receiving waters named: Cumberland River (Old Hickory Reservoir) at mile 308
in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective on:

This permit shall expire on:

Issuance date:

DRAFT

for Jennifer Dodd
Director

Table of Contents

PART 1.....	1
1. Effluent Limitations and Monitoring Requirements.....	1
1.1. Numeric and Narrative Effluent Limitations.....	1
1.1.1. Numeric Limitations.....	1
1.1.2. Collection System Requirements.....	4
1.1.3. Narrative Conditions.....	5
1.2. Monitoring Procedures.....	5
1.2.1. Representative Sampling.....	5
1.2.2. Sampling Frequency.....	7
1.2.3. Test Procedures.....	7
1.2.4. Recording of Results.....	8
1.2.5. Records Retention.....	8
1.3. Reporting.....	8
1.3.1. Monitoring Results.....	8
1.3.2. Additional Monitoring by Permittee.....	9
1.3.3. Falsifying Results and/or Reports.....	9
1.3.4. Monthly Report of Operation.....	9
1.3.5. Sanitary Sewer Overflow, Release, and Bypass Reporting.....	10
1.3.5.1. Event Report Requirements.....	10
1.3.5.2. DMR Report Requirements.....	11
1.3.6. Reporting Less Than Detection; Reporting Significant Figures.....	11
1.3.7. Outlier Data.....	12
1.4. Compliance with Section 208.....	12
1.5. Reopener Clause.....	12
1.6. Schedule of Compliance.....	13
1.7. Electronic Reporting.....	13
PART 2.....	15
2. General Permit Requirements.....	15
2.1. General Provisions.....	15

2.1.1.	Duty to Comply	15
2.1.2.	Duty to Reapply.....	15
2.1.3.	Proper Operation and Maintenance.....	15
2.1.4.	Duty to Provide Information	16
2.1.5.	Right of Entry	16
2.1.6.	Availability of Reports	16
2.1.7.	Treatment Facility Failure (Industrial Sources)	16
2.1.8.	Property Rights.....	16
2.1.9.	Severability.....	17
2.1.10.	Other Information.....	17
2.2.	Changes Affecting the Permit.....	17
2.2.1.	Planned Changes.....	17
2.2.2.	Permit Modification, Revocation, or Termination	17
2.2.3.	Change of Ownership.....	18
2.2.4.	Change of Mailing Address	19
2.3.	Noncompliance.....	19
2.3.1.	Reporting of Noncompliance	19
2.3.2.	Sanitary Sewer Overflows and Releases	21
2.3.3.	Upset.....	22
2.3.4.	Adverse Impact	23
2.3.5.	Bypass	23
2.3.6.	Washout.....	24
2.4.	Liabilities.....	24
2.4.1.	Civil and Criminal Liability	24
2.4.2.	Liability Under State Law	24
PART 3.....		25
3.	Permit Specific Requirements	25
3.1.	Certified Operator	25
3.2.	POTW Pretreatment Program General Provisions	25
3.3.	Biosolids Management Practices	27
3.4.	Placement of Signs	28
PART 4.....		30

4.	Definitions and Acronyms.....	30
4.1.	Definitions	30
4.2.	Acronyms and Abbreviations	38
4.3.	Resources, Hyperlinks, and Web Pages.....	40
RATIONALE.....		1
1.	Permit Status & Public Participation	1
2.	Facility Information.....	2
2.1	Facility History	3
3.	Receiving Stream Information.....	4
4.	New Permit Limitations and Compliance Schedule Summary	5
5.	Previous Permit Term Review.....	6
6.	Proposed Effluent Limits and Rationale	8
6.1.	Conventional Parameters	9
6.1.1.	BOD ₅ and Dissolved Oxygen	9
6.1.2.	Total Suspended Solids (TSS)	9
6.1.3.	Percent Removal	10
6.1.4.	Settleable Solids.....	10
6.2.	Flow.....	10
6.3.	pH.....	10
6.4.	Ammonia (NH ₃ -N).....	10
6.5.	Chlorination	13
6.6.	Total Nitrogen and Total Phosphorus.....	14
6.7.	<i>E. coli</i>	15
6.8.	Biomonitoring.....	15
7.	Collection Systems.....	16
7.1.	Collection System Certified Operator	16
7.2.	Collection System Operation	16
7.3.	Low Pressure System Ownership/Control.....	17
8.	Other Permit Requirements and Conditions	18
8.1.	Certified Wastewater Treatment Operator	18
8.2.	Pretreatment Program.....	18
8.3.	Biosolids Management Practices	19

8.4. Permit Term 19

8.5. Electronic Reporting 19

8.6. Antidegradation Statement / Water Quality Status 20

Appendix 1 –Previous Permit Limits 22

Appendix 2 – DMR Summary 25

PART 1

1. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1.1. NUMERIC AND NARRATIVE EFFLUENT LIMITATIONS

1.1.1. Numeric Limitations

Town of Carthage is authorized to discharge treated municipal wastewater from Outfall 001 to Cumberland River (Old Hickory Reservoir) at mile 308 from a treatment facility with a design capacity of 0.625 MGD. Discharge from Outfall 001 shall be limited and monitored by the permittee as specified below:

Outfall 001, Effluent Gross, All Year							
Code	Parameter	Qualifier	Value	Unit	Sample Type	Monitoring Frequency	Statistical Base
00300	Oxygen, dissolved (DO)	>=	1.0	mg/L	Grab	2/Week	Instantaneous Minimum
00310	BOD, 5-day, 20 C	<=	30	mg/L	Composite	2/Week	Monthly Average
00310	BOD, 5-day, 20 C	<=	45	mg/L	Composite	2/Week	Daily Maximum
00310	BOD, 5-day, 20 C	<=	40	mg/L	Composite	2/Week	Weekly Average
00310	BOD, 5-day, 20 C	<=	156	lb/d	Composite	2/Week	Monthly Average
00310	BOD, 5-day, 20 C	<=	209	lb/d	Composite	2/Week	Weekly Average
00400	pH	>=	6.0	SU	Grab	2/Week	Minimum
00400	pH	<=	9.0	SU	Grab	2/Week	Maximum
00530	Total Suspended Solids (TSS)	<=	30	mg/L	Composite	1/Week	Monthly Average
00530	Total Suspended Solids (TSS)	<=	40	mg/L	Composite	1/Week	Weekly Average
00530	Total Suspended Solids (TSS)	<=	45	mg/L	Composite	1/Week	Daily Maximum
00530	Total Suspended Solids (TSS)	<=	156	lb/d	Composite	1/Week	Monthly Average
00530	Total Suspended Solids (TSS)	<=	209	lb/d	Composite	1/Week	Weekly Average
00545	Settleable Solids	<=	1.0	mL/L	Grab	5/Week	Daily Maximum
00600	Nitrogen, total (as N)	Report	-	lb/d	Composite	Quarterly	Daily Maximum
00600	Nitrogen, total (as N)	Report	-	mg/L	Composite	Quarterly	Daily Maximum
00665	Phosphorus, total (as P)	Report	-	mg/L	Composite	Quarterly	Daily Maximum
00665	Phosphorus, total (as P)	Report	-	lb/d	Composite	Quarterly	Daily Maximum
50050	Flow	Report	-	MGD	Continuous	Daily	Daily Maximum
50050	Flow	Report	-	MGD	Continuous	Daily	Monthly Average

50060	Chlorine, total residual (TRC)	<=	2.0	mg/L	Grab	5/Week	Daily Maximum
50060	Chlorine, total residual (TRC)	<=	2.0	mg/L	Grab	5/Week	Monthly Average
51040	E. coli	<=	410	#/100mL	Grab	1/Week	Daily Maximum
51040	E. coli	<=	126	#/100mL	Grab	1/Week	Geometric Mean
Outfall 001, Percent Removal, All Year							
Code	Parameter	Qualifier	Value	Unit	Sample Type	Monitoring Frequency	Statistical Base
81010	BOD, 5-day, % removal	>=	40	%	Composite	2/Week	Daily Minimum
81010	BOD, 5-day, % removal	>=	85	%	Composite	2/Week	Monthly Average Minimum
81011	TSS, % removal	>=	40	%	Composite	1/Week	Daily Minimum
81011	TSS, % removal	>=	85	%	Composite	1/Week	Monthly Average Minimum

Influent Structure INF1, Raw Sewage Influent, All Year							
Code	Parameter	Qualifier	Value	Unit	Sample Type	Monitoring Frequency	Statistical Base
00310	BOD, 5-day, 20 C	Report	-	mg/L	Composite	2/Week	Daily Maximum
00310	BOD, 5-day, 20 C	Report	-	mg/L	Composite	2/Week	Monthly Average
00530	Total Suspended Solids (TSS)	Report	-	mg/L	Composite	1/Week	Daily Maximum
00530	Total Suspended Solids (TSS)	Report	-	mg/L	Composite	1/Week	Monthly Average
50050	Flow	Report	-	MGD	Continuous	Daily	Daily Maximum
50050	Flow	Report	-	MGD	Continuous	Daily	Monthly Average

General MyTDEC Forms Report Requirements*	
Bypass of Treatment Facility	See Section 1.3.5.1. and 2.3.5.
Anticipated Bypass of Treatment Facility	See Section 1.3.5.1. and 2.3.5.
Five-day Follow-up Noncompliance Report	See Sections 1.3.5.1. and 2.3.1.a.
Scheduled Reporting	See Section 2.3.1.b.

* Each event shall be reported via MyTDEC Forms.

Notes:

The permittee shall achieve 85 % removal of BOD₅ and TSS on a monthly average basis. The permittee shall report all instances of releases, sanitary sewer overflows and/or bypasses. See **Part 2.3.2(a)** for the definition of sanitary sewer overflow and **Part 1.3.5** for reporting requirements.

Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in the permit.

Unless elsewhere specified, summer months are May through October; winter months are November through April.

See **Part 1.2.3** for test procedures.

See below for percent removal calculations.

The permittee may collect more samples than specified as the monitoring frequency in the permit. Samples may not be collected at intervals of less than 12 hours. For the purpose of determining the geometric mean, individual samples having an *E. coli* group concentration of less than 1 per 100 mL shall be considered as having a concentration of 1 per 100 mL. In addition, the concentration of the *E. coli* group in any individual sample shall not exceed a specified maximum amount.

Total residual chlorine (TRC) monitoring shall be applicable when chlorine, bromine, or any other oxidants are added. The acceptable methods for analysis of TRC are any methods specified in Title 40 CFR § 136 as amended, so long as the requirements of Tennessee Rule [0400-40-03-05\(8\)](#) are met. The method detection limit (MDL) should be determined in accordance with 40 CFR § 136 as amended, Appendix B. The MDL for TRC shall not exceed 0.05 mg/l unless the permittee demonstrates that its MDL is higher. The permittee shall retain the documentation that justifies the MDL and have it available for review upon request. In cases where the permit limit is less than the MDL, the reporting of TRC at less than the MDL shall be interpreted to constitute compliance with the permit.

A monthly average limit for TRC has been added to the renewed permit. The criterion continuous concentration (chronic exposure) of 0.011 mg/L is for protection of fish and aquatic life designated use of the receiving stream.

For BOD₅ and TSS, the treatment facility shall demonstrate a minimum of 85% removal efficiency on a monthly average basis. This is calculated by determining an average of all daily influent concentrations and comparing this to an average of all daily effluent concentrations. The formula for this calculation is as follows:

$$\left(1 - \frac{\text{average of daily effluent concentrations}}{\text{average of daily influent concentrations}}\right) * 100\% = \% \text{ removal}$$

This treatment facility will also demonstrate 40% daily minimum removal of BOD₅ and TSS based on each daily composite sample. The formula for this calculation is as follows:

$$\left(1 - \frac{\text{daily effluent concentration}}{\text{daily influent concentration}}\right) * 100\% = \% \text{ removal}$$

Each daily load is calculated by multiplying the day's sample concentration (mg/L) by the effluent flow rate (MGD) for the day the sample was collected and the conversion factor 8.34 lbs/gal.

$$\text{Load} = \left(\frac{\text{Effluent}}{\text{Concentration}}\right) * \left(\frac{\text{Effluent flow for the day the}}{\text{day the sample was collected}}\right) * (8.34)$$

The average pound per day is the mathematical average where the sum of all the calculated loads during the current reporting period is divided by the number of calculated loads.

$$\text{Average Pounds per Day} = \left(\frac{\text{Sum of All Loads in } \frac{\text{lbs}}{\text{day}} \text{ During the Current Month}}{\text{Total Number of Loads Calculated During the Current Month}} \right)$$

1.1.2. Collection System Requirements

Town of Carthage is authorized to operate a sewage collection system. Operation and discharges from the collection system shall be limited and monitored by the permittee as specified below:

Code	Monitoring	Parameter	Qualifier	Value	Unit	Sample Type	Monitoring Frequency	Statistical Base
51925	Dry Weather	SSO, Dry Weather	<=	0	occur/mo	Occurrences	Continuous	Monthly Total
51926	Wet Weather	SSO, Wet Weather	<=	0	occur/mo	Occurrences	Continuous	Monthly Total

Report via NetDMR. See sections **1.3.1.** and **1.3.5.2.**

Collection System MyTDEC Forms Report Requirements*	
Sanitary Sewer Overflow (SSO, Dry Weather)	See Section 1.3.5.1.
Sanitary Sewer Overflow (SSO, Wet Weather)	See Section 1.3.5.1.
Release (Dry Weather)	See Section 1.3.5.1.
Release (Wet Weather)	See Section 1.3.5.1.
Five-day Follow-up Noncompliance Report	See Sections 1.3.5.1. and 2.3.1.

* Each event shall be reported via MyTDEC Forms.

1.1.3. Narrative Conditions

Due Date	Narrative Requirement
120 days from permit effective date	The permittee shall submit the results of an Industrial Waste Survey (IWS) to the Division of Water Resources, Pretreatment Section within 120 days of the effective date of this permit, unless such a survey has been submitted within 3 years of the effective date. If an IWS has been submitted within the past 3 years, the permittee shall notify the Division of the date when the IWS was previously submitted to the Division. The IWS shall be submitted to the following email address: DWRWater.Compliance@tn.gov .

The authorized discharge shall not:

- Result in distinctly visible solids, scum, foam, oily slick, or the formation of slimes, bottom deposits, or sludge banks of such size or character as may be detrimental to fish and aquatic life.
- Result in total suspended solids, turbidity, or color in such amounts or character that will result in any objectionable appearance to the receiving water, considering the nature and location of the water.
- Contain pollutants in quantities that will be hazardous or otherwise detrimental to humans, livestock, wildlife, plant life, or fish and aquatic life in the receiving stream.

Sludge or any other material removed by any treatment works must be disposed of in a manner that prevents its entrance into or pollution of any surface or subsurface waters. Additionally, the disposal of such sludge or other material must be in compliance with the Tennessee Solid Waste Disposal Act, Tennessee Code Annotated (Tenn. Code Ann.) §68-31-101 et seq. and the Tennessee Hazardous Waste Management Act, Tenn. Code Ann. §68-46-101 et. seq.

Based on the Control Authority's designation of local landfill leachate as a Significant Industrial User, the permittee may not accept landfill leachate at the facility prior to the reactivation of the permittee's pretreatment program.

1.2. MONITORING PROCEDURES

1.2.1. Representative Sampling

Samples and measurements taken in compliance with the monitoring requirements specified herein shall be representative of the volume and nature

of the monitored discharge and shall be taken after treatment and prior to mixing with uncontaminated stormwater runoff or the receiving stream. Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed and calibrated by a qualified source at least once every 12 months¹, and maintained to ensure that the accuracy of the measurements is consistent with accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of plus or minus 10% from the true discharge rates throughout the range of expected discharge volumes.

Composite samples must be proportioned by flow at the time of sampling. Aliquots may be collected manually or automatically. The sample aliquots must be maintained at $\leq 6^{\circ}\text{C}$ during the compositing period, or as otherwise specified in 40 CFR §136 or in the method.

Samples and measurements taken in compliance with the monitoring requirements specified above shall be representative of the volume and nature of the monitored discharge, and shall be taken at the following location(s):

Influent samples must be collected prior to mixing with any other wastewater being returned to the head of the plant, such as sludge return. Those systems with more than one influent line must collect samples from each and proportion the results by the flow from each line.

Effluent samples must be representative of the wastewater being discharged and collected prior to mixing with any other discharge or the receiving stream. This can be a different point for different parameters but must be after all treatment for that parameter or all expected changes. Specifically:

- a) The chlorine residual must be measured after the chlorine contact chamber and any dechlorination. It may be to the advantage of the permittee to measure at the end of any long outfall lines.
- b) Samples for *E. coli* can be collected at any point between completion of disinfection and the actual discharge.
- c) The dissolved oxygen (DO) can drop in the outfall line; therefore, DO measurements are required at the discharge end of outfall lines greater than

¹ The Division expects for permittees to meet EPA's guidance on proper operation and maintenance of flow measurement devices, as stated in the [NPDES Compliance Inspection Manual](#).



one mile long. Systems with outfall lines less than one mile may measure dissolved oxygen as the wastewater leaves the treatment facility. For systems with dechlorination, DO must be measured after this step and as close to the end of the outfall line as possible.

- d) Total suspended solids (TSS) and settleable solids can be collected at any point after the final clarifier.
- e) Biomonitoring tests (if required) shall be conducted on final effluent.

1.2.2. Sampling Frequency

The permittee should report "No Discharge" on Discharge Monitoring Reports (DMRs) only if a permitted outfall does not discharge at any time during the monitoring period. If the outfall discharges effluent at any time during the monitoring period, the permittee must provide at least one sampling result from the effluent of that outfall.

If the required monitoring frequency is once per month or 1/month, the monitoring period is one month. If the discharge occurs during only one day in that period, the permittee must sample on that day and report the results of analyses accordingly.

1.2.3. Test Procedures

- a) Test procedures for the analysis of pollutants shall conform to regulations published pursuant to Section 304 (h) of the Clean Water Act (the "Act"), as amended, under which such procedures may be required.
- b) Unless otherwise noted in the permit, all pollutant parameters shall be determined using sufficiently sensitive methods in Title 40 CFR § 136, as amended, and promulgated pursuant to Section 304 (h) of the Act. The chosen methods must be sufficiently sensitive as required in state rule 0400-40-03-.05(8).
- c) If the minimum level of quantification (ML) for all methods available in accordance with 40 CFR § 136 are above the stated permit limit or applicable water quality criteria for that parameter, then the method with the lowest ML shall be used.
- d) Where the analytical results are below the method detection limit (MDL), the permittee shall report the actual laboratory MDL and ML values. See **Section 1.3.6.** for instructions regarding reporting less than detection.



- e) When there is no analytical method that has been approved under 40 CFR §136 or required under 40 CFR chapter I, subchapter N or O, and a specific method is not otherwise required by the Director, the permittee may use any suitable method but shall provide a description of the method. When selecting a suitable method, factors such as a method's precision, accuracy, or resolution must be considered when assessing the performance of the method.

1.2.4. Recording of Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

- i. The date, exact place, and time of sampling or measurements;
- ii. The individual(s) who performed the sampling or measurements;
- iii. The date analyses were performed;
- iv. The individual(s) who performed the analyses;
- v. The laboratory where the analyses were performed;
- vi. The analytical techniques or methods used; and
- vii. The results of such analyses.

1.2.5. Records Retention

The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time.

1.3. REPORTING

1.3.1. Monitoring Results

Monitoring results shall be recorded monthly and submitted monthly on Discharge Monitoring Reports (DMRs) using EPA's [NetDMR](#) website. The first DMR is due on the 15th of the month following permit effectiveness. Subsequent DMRs shall be submitted through NetDMR no later than 15 days after the completion of the reporting period. In compliance with the Federal NPDES Electronic Reporting Rule, DMRs may not be submitted via email under any circumstances.

Discharge Monitoring Reports and any other information or report must be signed and certified by a responsible corporate officer as defined in Tennessee

Rules, Chapter [0400-40-05-.07\(2\)\(i\)](#), a general partner or proprietor, a principal municipal executive officer or ranking elected official, or his or her duly authorized representative. Such authorization must be submitted in writing and must explain the duties and responsibilities of the authorized representative.

In the event that electronic reporting is unavailable, the permittee shall comply with reporting conditions provided in **Section 1.7**.

1.3.2. Additional Monitoring by Permittee

If the permittee monitors any pollutant more frequently than required by the permit using test procedures approved under 40 CFR § 136, or as specified in the permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or other reporting form specified by the Commissioner. Such increased frequency shall also be indicated.

1.3.3. Falsifying Results and/or Reports

Knowingly making any false statement on any report required by this permit or falsifying any result may result in the imposition of criminal penalties as provided for in Section 309 of the Federal Water Pollution Control Act, as amended, and in § 69-3-115 of the Tennessee Water Quality Control Act.

1.3.4. Monthly Report of Operation

Monthly Operational Reports (MORs) shall be submitted by the 15th day of the month following data collection. Reports shall be submitted by one of the following methods, presented below in order of preference:

- 1) Using [MyTDEC Forms](#), if available.
- 2) Submitting both a signed and certified copy in pdf format, uploaded as an attachment to NetDMR, *and* a copy of the native format spreadsheet file emailed to DWRWW.Report@tn.gov and the Cookeville EFO:

Chattanooga	TDEC.Chattanooga.EFO@tn.gov
Columbia	TDEC.Columbia.EFO@tn.gov
Cookeville	TDEC.Cookeville.EFO@tn.gov
Jackson	TDEC.Jackson@tn.gov
Johnson City	TDEC.JohnsonCity.EFO@tn.gov
Knoxville	TDEC.KEFO.DWRPermits@tn.gov
Memphis	TDEC.Memphis.EFO@tn.gov
Nashville	DWR.NEFO@tn.gov

3) Submitting signed and certified forms to the EFO at the following address:

*STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF WATER RESOURCES
Cookeville Environmental Field Office
1221 South Willow Avenue
Cookeville, Tennessee 38506*

1.3.5. Sanitary Sewer Overflow, Release, and Bypass Reporting

1.3.5.1. Event Report Requirements

For the purpose of this section, “events” are known as instances of sanitary sewer overflows, releases, upsets, and bypasses. These events shall be reported through [MyTDEC Forms](#) according to the following conditions:

- a) Events that are not a threat to human health and the environment shall be reported using MyTDEC Forms no later than 15 days following the completion of the DMR reporting period.
- b) Events that could cause a threat to human health or the environment, as defined in **Section 2.3.1.a.**, shall be reported using MyTDEC Forms no later than 5 days after becoming aware of the non-compliance.

In both cases, the event report must contain the following:

- i. Start date;
- ii. Estimated duration in hours;
- iii. Estimated volume in gallons;
- iv. Type of event;
- v. Type of structure (e.g., manhole);
- vi. Types of human health and environmental impacts;
- vii. Location (i.e., latitude and longitude);
- viii. The name of receiving water (if applicable);
- ix. Description of the cause;
- x. The steps being taken to correct, reduce, eliminate, and prevent recurrence of the noncompliance; and
- xi. The next downstream pump/lift station using the permittee’s naming conventions.

In the event that MyTDEC Forms is not functioning, the permittee shall comply with reporting conditions provided in **Section 1.7.**



1.3.5.2. DMR Report Requirements

On the DMR, the permittee must separately report:

- i. The total number of wet-weather sanitary sewer overflows for the reporting month; and
- ii. The total number of dry-weather sanitary sewer overflows for the reporting month.

On the DMR, sanitary sewer overflows are coded "SSO, Dry Weather" and "SSO, Wet Weather". Each discrete location of a sanitary sewer overflow shall be reported as a separate value.

1.3.6. Reporting Less Than Detection; Reporting Significant Figures

For the purpose of evaluating compliance with the permit limits established herein, where certain limits are below the minimum level (ML) of 40 CFR § 136 approved analytical methods, compliance will be demonstrated when a non-detect result is obtained using the most sensitive method available. The results of non-detect analyses, in this case, shall be reported as Below Detection Limit (BDL) or "NODI = B" in NetDMR. Reporting examples are provided below.

Reporting Example 1: If the permit limit is 0.02 mg/L with a method detection limit (MDL) of 0.05 mg/L and no detection is shown, the permittee must report "BDL" or "NODI = B" on DMRs in NetDMR. Whenever "BDL" or "NODI = B" is reported, the actual MDL must be reported in the DMR comments or in an attachment submitted in NetDMR.

Reporting Example 2: If the permit limit is 0.02 mg/L with an MDL of 0.05 mg/L and detection is shown, the actual detected value must be reported.

Reporting Example 3: If the permit limit is 0.02 mg/L with an MDL of 0.01 mg/L and no detection is shown, the permittee must report less than MDL (<0.01 mg/L in this case).

For purposes of calculating averages, zero may be assigned for values less than the MDL, the numeric value of the MDL may be assigned for values between the MDL and the ML. If the average value is less than the MDL, the permittee must report "less than {numeric value of the MDL}" and if the average value is less than the ML, the permittee must report "less than {numeric value of the ML}." If a value is equal to or greater than the ML, the permittee must report and use the actual value. The resulting average value must be compared to the compliance level, the ML, in assessing compliance.



Reported results are to correspond to the number of significant figures (decimal places) set forth in the permit conditions. The permittee shall round values, if allowed by the method of sample analysis, using a uniform rounding convention adopted by the permittee.

1.3.7. Outlier Data

Outlier data include analytical results that are probably false. The validity of results is based on operational knowledge and a properly implemented quality assurance program. False results may include laboratory artifacts, potential sample tampering, broken or suspect sample containers, sample contamination or similar demonstrated quality control flaw.

Outlier data are identified through a properly implemented quality assurance program, and according to ASTM standards (e.g. Grubbs Test, 'h' and 'k' statistics). Furthermore, outliers should be verified, corrected, or removed based on further inquiries into the matter. If an outlier was verified (through repeated testing and/or analysis), it should remain in the preliminary data set. If an outlier resulted from a transcription or similar clerical error, it should be corrected and subsequently reported.

Therefore, only if an outlier was associated with problems in the collection or analysis of the samples and as such does not conform with the Guidelines Establishing Test Procedures for the Analysis of Pollutants (40 CFR §136), can it be removed from the data set and not reported on DMRs. Otherwise, all results (including monitoring of pollutants more frequently than required at the location(s) designated, using approved analytical methods as specified in the permit) should be included in the calculation and reporting of the values required in the DMR form. The permittee should use the "comment" section in NetDMR to explain any potential outliers or dubious results.

1.4. COMPLIANCE WITH SECTION 208

The limits and conditions in this permit shall require compliance with an area-wide waste treatment plan (208 Water Quality Management Plan) where such approved plan is applicable.

1.5. REOPENER CLAUSE

This permit shall be modified, or alternatively revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 307(a)(2), and 405(d)(2)(D) of the Clean Water Act, as amended, if the effluent standard, limitation, or sludge disposal requirement so issued or approved:

- a) Contains different conditions or is otherwise more stringent than any condition in the permit; or
- b) Controls any pollutant or disposal method not addressed in the permit.

The permit as modified or reissued under this paragraph shall also contain any other requirements of the Act then applicable.

1.6. SCHEDULE OF COMPLIANCE

Full compliance and operational levels shall be attained from the effective date of this permit, except for conditions under compliance schedules. See **Section 1.1.** for numeric and narrative requirements.

1.7. ELECTRONIC REPORTING

This permit requires the submission of forms developed by the Director in order for a person to comply with certain requirements, including, but not limited to, making reports, submitting monitoring results, and applying for permits. The Director may make these forms available electronically and, if submitted electronically, then that electronic submission shall comply with the requirements of Chapter [0400-01-40](#). Electronic submission is required when available unless waived by the Commissioner in accordance with 40 C.F.R. § 127.15.

In the event of large-scale emergencies and/or prolonged electronic reporting system outages, an episodic electronic reporting waiver may be granted by the Commissioner in accordance with 40 CFR § 127.15. A request for a deadline extension or episodic electronic reporting waiver should be submitted to DWRWater.Compliance@tn.gov, in compliance with the Federal NPDES Electronic Reporting Rule.

If an episodic electronic reporting waiver is granted, reports with wet-ink original signatures shall be mailed to the following address:

*STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF WATER RESOURCES
COMPLIANCE & ENFORCEMENT UNIT
William R. Snodgrass - Tennessee Tower
312 Rosa L. Parks Avenue, 11th Floor
Nashville, Tennessee 37243-1102*

For purposes of determining compliance with this permit, data provided to the Division electronically is legally equivalent to data submitted on signed and certified forms. A copy must be retained for the permittee's files.

PART 2

2. GENERAL PERMIT REQUIREMENTS

2.1. GENERAL PROVISIONS

2.1.1. Duty to Comply

The permittee shall comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

2.1.2. Duty to Reapply

The permittee is not authorized to discharge after the expiration date of this permit. In order to receive authorization to discharge beyond the expiration date, the permittee shall submit such information and forms as are required to the Division Director no later than 180 days prior to the expiration date. Such forms shall be properly signed and certified.

2.1.3. Proper Operation and Maintenance

- a) The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances, including but not limited to collection and conveyance systems) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Low pressure pumps, low pressure tanks, septic tank effluent pumps (STEP), STEP tanks, and septic tank effluent gravity tanks are integral to the treatment and conveyance of sewage in a low-pressure system design, and shall be owned or under control of the municipality, other body of government, public utility district, or a privately-owned public utility demonstrating lawful jurisdiction over the service area. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems, which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.
- b) Dilution water shall not be added to comply with effluent requirements to achieve BCT, BPT, BAT, or other technology based effluent limitations such as those established in Tennessee Rule [0400-40-05-.09](#).



2.1.4. Duty to Provide Information

The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

2.1.5. Right of Entry

The permittee shall allow the Director, the Regional Administrator of the U.S. Environmental Protection Agency, or their authorized representatives, upon the presentation of credentials, to:

- a) Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records shall be kept under the conditions of this permit;
- b) Have access to and copy, at reasonable times, any records that shall be kept under the conditions of this permit;
- c) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
- d) Sample or monitor at reasonable times for the purposes of assuring permit compliance or as otherwise authorized by the Director.

2.1.6. Availability of Reports

Except for data determined to be confidential under Section 308 of the Federal Water Pollution Control Act, as amended, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the Division's offices or via the Department's [dataviewer webpage](#). As required by the Federal Act, effluent data shall not be considered confidential.

2.1.7. Treatment Facility Failure (Industrial Sources)

The permittee, in order to maintain compliance with this permit, shall control production, all discharges, or both, upon reduction, loss, or failure of the treatment facility until the facility is restored or an alternative method of treatment is provided. This requirement applies in such situations as the reduction, loss, or failure of the primary source of power.

2.1.8. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to



private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations.

2.1.9. Severability

The provisions of this permit are severable. If any provision of this permit due to any circumstance is held invalid, then the application of such provision to other circumstances and to the remainder of this permit shall not be affected thereby.

2.1.10. Other Information

If the permittee becomes aware of failure to submit any relevant facts in a permit application, or of submission of incorrect information in a permit application or in any report to the Director, then the permittee shall promptly submit such facts or information.

2.2. CHANGES AFFECTING THE PERMIT

2.2.1. Planned Changes

The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

- a) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source as defined in Rule [0400-40-05-02](#);
- b) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit nor to notification requirements under 40 CFR § 122.42(a)(1); or
- c) The alteration or addition results in a significant change in the permittee's sludge use or disposal practices.

2.2.2. Permit Modification, Revocation, or Termination

- a) This permit may be modified, revoked and reissued, or terminated for cause as described in 40 CFR § 122.62 and § 122.64, Federal Register, Volume 49, No. 188 (Wednesday, September 26, 1984), as amended. Causes for such permit action include but are not limited to the following:
 - i. Violation of any terms or conditions of the permit;



- ii. Obtaining a permit by misrepresentation or failure to disclose fully all relevant facts; and
 - iii. A change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge.
- b) The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit.
- c) If any applicable effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established for any toxic pollutant under Section 307(a) of the Federal Water Pollution Control Act, as amended, the Director shall modify or revoke and reissue the permit to conform to the prohibition or to the effluent standard, providing that the effluent standard is more stringent than the limitation in the permit for the toxic pollutant. The permittee shall comply with these effluent standards or prohibitions within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified or revoked and reissued to incorporate the requirement.
- d) The filing of a request by the permittee for a modification, revocation, reissuance, termination, or notification of planned changes or anticipated noncompliance does not halt any permit condition.

2.2.3. Change of Ownership

Except as provided in Tennessee Rule Chapter [0400-40-05-.06\(5\)](#)(a) or (b), this permit may be transferred to another party (provided there are neither modifications to the facility or its operations, nor any other changes which might affect permit limits and conditions contained in the permit) by the permittee if:

- a) The permittee notifies the Director of the proposed transfer at least 30 days in advance of the proposed transfer date;
- b) The notice includes a written agreement between the existing and new permittees containing a specified date for transfer of permit responsibility, coverage, and liability between them; and
- c) The permittee shall provide the following information to the Director in the permittee's formal notice of intent to transfer ownership:

- i. The permit number of the subject permit;
- ii. The effective date of the proposed transfer;
- iii. The name, address, and contact information of the transferor;
- iv. The name, address, and contact information of the transferee;
- v. The names of the responsible parties for both the transferor and transferee;
- vi. A statement that the transferee assumes responsibility for the subject permit;
- vii. A statement that the transferor relinquishes responsibility for the subject permit;
- viii. The signatures of the responsible parties for both the transferor and transferee pursuant to the signatory requirements of subparagraph (i) of Rule [0400-40-05-.07\(2\)](#); and
- ix. A statement regarding any proposed modifications to the facility, its operations, or any other changes, which might affect the permit, limits and conditions contained in the permit.

2.2.4. Change of Mailing Address

The permittee shall promptly provide to the Director written notice of any change of mailing address. In the absence of such notice, the original address of the permittee will be assumed to be correct.

2.3. NONCOMPLIANCE

2.3.1. Reporting of Noncompliance

a) 24-hour Reporting:

In the case of any noncompliance, or any release (whether or not caused by improper operation and maintenance), which could cause a threat to human health or the environment, the permittee shall:

- i. Report the noncompliance or release to the Commissioner within 24 hours from the time the permittee becomes aware of the circumstances. Such noncompliance or release includes, but is not limited to, any unanticipated bypass exceeding any effluent limitation, any upset exceeding any effluent limitation, and violations of any maximum daily effluent limitation identified in the permit as requiring 24-hour reporting. (The EFO should be contacted for names and phone numbers of the environmental response team.)

- ii. Submit a written report within five days of the time the permittee becomes aware of the noncompliance. The permittee shall provide the following information:
 1. A description of and the cause of the noncompliance or release;
 2. The period of noncompliance or release, including start and end dates and times i.e. duration or, if not corrected, the anticipated time the noncompliance or release is expected to continue;
 3. The steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance or release; and
 4. For POTWs or domestic wastewater treatment plants, reporting any dry weather overflow, wet weather overflow, dry weather release, wet weather release, combined sewer overflow, or bypass, this written report must also include the following:
 - I. Type of event;
 - II. Type of sanitary sewer overflow, release, or bypass structure (e.g., manhole, combined sewer overflow outfall);
 - III. Estimated volume (gallons);
 - IV. Types of human health and environmental impacts;
 - V. Location (latitude and longitude);
 - VI. Estimated duration (hours);
 - VII. The next downstream pump station (for sanitary sewer overflows and releases only); and
 - VIII. The name of receiving water (if applicable).
 - iii. Industrial dischargers that do not treat domestic waste shall comply with subpart a) ii. 4. of this subparagraph with respect to bypasses only.
 - iv. For sanitary sewer overflows, releases, bypasses, upsets and washouts, the report required by a) ii. Shall be submitted electronically via MyTDEC Forms.
- b) Other Noncompliance.
- i. All permittees shall report each instance of noncompliance or any release (whether or not caused by improper operation and maintenance), not reported under sub-part a) at the time of submitting the next routine



monitoring report, including all information required by sub-parts a) ii. 1-3.

- ii. In addition to the information required by part i of this sub-part, POTWs and domestic wastewater treatment plants shall submit a written report containing the information required by sub-part a) ii. 4. If these events are caused by an extreme weather event, the Commissioner may provide a written waiver of some or all of these reporting requirements.
- iii. In addition to the information required by sub-part i, industrial dischargers shall submit a written report of bypasses containing the information required by sub-part a) i. 4. This part does not relieve industrial dischargers from any applicable reporting requirements of 40 C.F.R. Part 117 (2021) and 40 C.F.R. Part 302 (2021).

2.3.2. Sanitary Sewer Overflows and Releases

- a) For publicly owned treatment works (POTW) or domestic wastewater treatment plants, sanitary sewer overflows, including dry-weather overflows and wet weather overflows, are prohibited.
- b) Releases caused by improper operation and maintenance, which is to be determined by the Commissioner based on the totality of the circumstances, are prohibited.
- c) The permittee shall operate the collection, transmission, and treatment system so as to avoid sanitary sewer overflows and releases due to improper operation or maintenance. A “release” may be due to improper operation or maintenance of the collection system or may be due to other cause(s).
- d) The permittee shall take all reasonable steps to minimize any adverse impact associated with sanitary sewer overflows and releases.
- e) No new or additional flows shall be added upstream of any point in the collection, transmission, or treatment system that experiences greater than 5 sanitary sewer overflows and/or releases per year² or would otherwise

² This includes dry weather overflows, wet weather overflows, dry weather releases and wet weather releases.

overload any portion of the system. Unless there is specific enforcement action to the contrary, the permittee is relieved of this requirement after:

- 1) An authorized representative of the Commissioner of the Department of Environment and Conservation has approved an engineering report and construction plans and specifications prepared in accordance with accepted engineering practices for correction of the problem;
- 2) The correction work is underway; and
- 3) The cumulative, peak-design flows potentially added from new connections and line extensions upstream of any chronic sanitary sewer overflow or release point are less than or proportional to the amount of inflow and infiltration removal documented upstream from that point.

The inflow and infiltration reduction must be measured by the permittee using practices that are customary in the environmental engineering field and reported in an attachment to the permittee's DMR and uploaded to NetDMR. The data measurement period shall be sufficient to account for seasonal rainfall patterns and seasonal groundwater table elevations.

- f) In the event that chronic sanitary sewer overflows or releases have occurred from a single point in the collection system for reasons that may not warrant the self-imposed moratorium of the actions identified in this paragraph, the permittee may request a meeting with Division EFO staff to petition for a waiver based on mitigating evidence.
- g) For industrial dischargers, the discharge of pollutants from any location other than a permitted outfall is prohibited.

2.3.3. Upset

- a) An upset shall constitute an affirmative defense to an action brought for noncompliance with technology-based permit effluent limitations if the permittee demonstrates, through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - i. An upset occurred and that the permittee can identify the cause(s) of the upset;
 - ii. The permitted facility was at the time being operated in a prudent and workman-like manner and in compliance with proper operation and maintenance procedures;



- iii. The permittee submitted information required under “Reporting of Noncompliance” within 24 hours of becoming aware of the upset (if this information is provided orally, a written submission must be provided within five days); and
 - iv. The permittee complied with any remedial measures required under “Adverse Impact”.
- b) In any enforcement proceeding, the permittee seeking to establish the affirmative defense of an upset has the burden of proof.

2.3.4. Adverse Impact

The permittee shall take all reasonable steps to minimize any adverse impact to the waters of Tennessee resulting from noncompliance with this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge. It shall not be a defense for the 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 this permit.

2.3.5. Bypass

- a) Bypasses (see subpart 4.1) are prohibited unless all the following conditions are met:
- i. The bypass is unavoidable to prevent loss of life, personal injury, or severe property damage;
 - ii. There are no feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance; and
 - a. For anticipated bypass, the permittee submits prior notice, if possible at least ten days before the date of the bypass, or
 - b. For unanticipated bypass, the permittee submits notice of an unanticipated bypass within 24 hours from the time that the permittee becomes aware of the bypass.
- b) Bypasses that do not cause effluent limitations to be exceeded may be allowed only if the bypass is necessary for essential maintenance to assure efficient operation. The permittee must sample and report the discharge during each

bypass to demonstrate that the bypass does not cause effluent limitations to be exceeded.

2.3.6. Washout

- a) For domestic wastewater plants only, a "washout" shall be defined as loss of Mixed Liquor Suspended Solids (MLSS) of 30.00% or more. This refers to the MLSS in the aeration basin(s) only. This does not include MLSS decreases due to solids wasting to the sludge disposal system. A washout can be caused by improper operation or from peak flows due to inflow and infiltration.
- b) A washout is prohibited. If a washout occurs the permittee must report the incident to the Division in the appropriate EFO within 24 hours by telephone. A written submission must be provided within five days. The washout must be noted on that month's DMR. Each day of a washout is a separate violation.

2.4. LIABILITIES

2.4.1. Civil and Criminal Liability

Except as provided in permit conditions for "Bypass" (**Section 2.3.5**), "Sanitary sewer overflows and Releases" (**Section 2.3.2**), and "Upset" (**Section 2.3.3**), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance. Notwithstanding this permit, the permittee shall remain liable for any damages sustained by the State of Tennessee, including, but not limited to, fish kills and losses of aquatic life and/or wildlife as a result of the discharge of wastewater to any surface or subsurface waters. Additionally, notwithstanding this permit, it shall be the responsibility of the permittee to conduct its wastewater treatment and/or discharge activities in a manner such that public or private nuisances or health hazards will not be created.

2.4.2. Liability Under State Law

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or the Federal Water Pollution Control Act, as amended.

PART 3

3. PERMIT SPECIFIC REQUIREMENTS

3.1. CERTIFIED OPERATOR

The waste treatment facilities shall be operated under the supervision of a certified wastewater treatment operator, and the collection system shall be operated under the supervision of a certified collection system operator in accordance with the Water Environmental Health Act of 1984.

3.2. POTW PRETREATMENT PROGRAM GENERAL PROVISIONS

As an update of information previously submitted to the Division, the permittee will undertake the following activity:

- a) The current pretreatment program is in the inactive stage. The program will remain inactive as long as no significant industries discharge into the collection system. Should a significant industrial user request permission to discharge into the Town of Carthage system, then the permittee must request that the Division reactivate the pretreatment program. This must be done prior to the industrial discharge taking place.

The permittee shall submit the results of an Industrial Waste Survey (IWS) in accordance with Rule [0400-40-14-.08-\(6\)\(b\)1](#), including any industrial users (IU) covered under Section 301(i)(2) of the Act. As much information as possible must be obtained relative to the character and volume of pollutants contributed to the POTW by the IUs. This information will be submitted to the Division of Water Resources, Pretreatment Section within one hundred twenty (120) days of the effective date of this permit, unless such a survey has been submitted within 3 years of the effective date. Development of a pretreatment program may be required after completion of the industrial user review. All requirements and conditions of the pretreatment program are enforceable through the NPDES permit.

- b) The permittee shall enforce Rule [0400-40-14-.05](#), "prohibited discharges". Pollutants introduced into the POTW by a non-domestic source shall not cause pass through or interference as defined in Rule [0400-40-14-.03](#). These general prohibitions and the specific prohibitions in this section apply to all non-domestic sources introducing pollutants into the POTW whether the source is subject to other National Pretreatment Standards or any state or local pretreatment requirements.

Specific prohibitions: Under no circumstances shall the permittee allow introduction of the following wastes into the POTW:

- i. Pollutants which create a fire or explosion hazard in the POTW, including, but not limited to, wastestreams with a closed cup flashpoint of less than 140°F or 60°C using the test methods specified in 40 CFR § 261.21;
 - ii. Pollutants which will cause corrosive structural damage to the POTW, but in no case discharges with pH lower than 5.0 unless the system is specifically designed to accommodate such discharges;
 - iii. Solid or viscous pollutants in amounts which will cause obstruction to the flow in the POTW resulting in interference;
 - iv. Any pollutant, including oxygen-demanding pollutants (BOD, etc.) released in a discharge at a flow rate and/or pollutant concentration which will cause interference with the POTW;
 - v. Heat in amounts which will inhibit biological activity in the POTW resulting in interference, but in no case heat in such quantities that the temperature at the POTW Treatment Plant exceeds 40°C (104°F) unless the Division, upon request of the POTW, approves alternate temperature limits;
 - vi. Any priority pollutant in amounts that will contaminate the treatment works sludge;
 - vii. Petroleum oil, nonbiodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through;
 - viii. Pollutants which result in the presence of toxic gases, vapors or fumes within the POTW in a quantity that may cause acute worker health and safety problems; or
 - ix. Any trucked or hauled pollutants except at discharge points designated by the POTW.
- c) The permittee shall notify the Division of any of the following changes in user discharge to the system no later than 30 days prior to change of discharge:
- i. New introductions into such works of pollutants from any source which would be a new source as defined in Section 306 of the Act if such source were discharging pollutants;
 - ii. New introductions of pollutants into such works from a source which would be subject to Section 301 of the "Federal Water Quality Act as Amended" if it were discharging such pollutants; or
 - iii. A substantial change in volume or character of pollutants being introduced into such works by a source already discharging pollutants into such works at the time this permit is issued.

This notice will include information on the quantity and quality of the wastewater introduced by the new source into the POTW, and on any anticipated impact on the effluent discharged from such works. If this discharge necessitates a revision of the current NPDES permit or pass-through guidelines, discharge by this source is prohibited until the Tennessee Division of Water Resources gives final authorization.

3.3. BIOSOLIDS MANAGEMENT PRACTICES

All sludge and/or biosolids use or disposal must comply with 40 CFR § 503 *et seq.* Biosolids shall be sampled and analyzed at a frequency dependent on the amount used annually.

Any facility that land applies non-exceptional quality biosolids must obtain an appropriate permit from the Division in accordance with Chapter [0400-40-15](#).

- a) Reopener: If an applicable "acceptable management practice" or numerical limitation for pollutants in sewage sludge promulgated under Section 405(d)(2) of the Clean Water Act, as amended by the Water Quality Act of 1987, is more stringent than the sludge pollutant limit or acceptable management practice in this permit, or controls a pollutant not limited in this permit, this permit shall be promptly modified or revoked and reissued to conform to the requirements promulgated under Section 405(d)(2). The permittee shall comply with the limitations by no later than the compliance deadline specified in the applicable regulations as required by Section 405(d)(2) of the Clean Water Act.
- b) Notice of change in sludge disposal practice: The permittee shall give prior notice to the Director of any change planned in the permittee's sludge disposal practice. If land application activities are suspended permanently and sludge disposal moves to a municipal solid waste landfill, the permittee shall contact the local Division of Solid Waste Management office address for other permitting and approvals.

*STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF SOLID WASTE MANAGEMENT
Cookeville Environmental Field Office
1221 South Willow Avenue
Cookeville, Tennessee 38506
(931)520-6688*



3.4. PLACEMENT OF SIGNS

The permittee shall place and maintain a sign at each outfall and any sanitary sewer overflow/release point in the collection system or the nearest publicly accessible location. For the purposes of this requirement, any point that has had a total of 5 or more overflows plus releases in the previous 12 months must be so posted. Signs at locations that are posted at the permit effective date must be maintained. Signs for locations identified during the permit term must be placed within 60 days of the event triggering the requirement.

The sign(s) should be clearly visible to the public from the bank and the receiving stream. The *minimum* sign size should be two feet by two feet (2' x 2') with one-inch (1") letters. The sign should be made of durable material and have a white background with black letters.

The sign(s) are to provide notice to the public as to the nature of the discharge and, in the case of the permitted outfalls, that the discharge is regulated by the Tennessee Department of Environment and Conservation, Division of Water Resources. The following are given as examples of the minimal amount of information that must be included on the signs:

NPDES Permitted Municipal/Sanitary Outfall:

TREATED MUNICIPAL/SANITARY WASTEWATER
Town of Carthage
Carthage STP
(615) 735-1881
NPDES Permit NO. TN0022993
TENNESSEE DIVISION OF WATER RESOURCES
1-888-891-8332 ENVIRONMENTAL FIELD OFFICE - Cookeville

Unpermitted release/sanitary sewer overflow point:

UNTREATED WASTEWATER DISCHARGE POINT
Town of Carthage
Carthage STP
(615) 735-1881
NPDES Permit No. TN0022993
TENNESSEE DIVISION OF WATER RESOURCES
1-888-891-8332 ENVIRONMENTAL FIELD OFFICE - Cookeville

The permittee may request the removal of signs for unpermitted release/sanitary sewer overflows points only. This request should be sent to Division EFO staff detailing the work that has been completed to rectify the cause(s) contributing to sanitary sewer overflows and releases at that location. In no case will approval to remove the signs be granted if either a sanitary sewer overflow or release has occurred at that location in the previous 12 months.

PART 4

4. DEFINITIONS AND ACRONYMS

All terminology not specifically defined herein shall be defined in accordance with the Water Quality Control Act of 1977, T.C.A. Title 69, Chapter 3, Part 1 and Tennessee Rule 0400-40-05. The following terms have the meanings given below unless otherwise specified.

4.1. DEFINITIONS

For the purposes of this permit, **annually** is defined as a monitoring frequency of once every 12 months beginning with the effective date of this permit, so long as the following set of measurements for a given 12 month period are made approximately 12 months subsequent to that time.

Biosolids are treated sewage sludge that have contaminant concentrations less than or equal to the contaminant concentrations listed in Table 1 of subparagraph (3)(b) of Rule [0400-40-15-.02](#), meet any one of the ten vector attraction reduction options listed in part (4)(b)1, 2, 3, 4, 5, 6, 7, 8, 9, or 10 of Rule [0400-40-15-.04](#), and meet either one of the six pathogen reduction alternatives for Class A listed in part (3)(a)3, 4, 5, 6, 7, or 8, or one of the three pathogen reduction alternatives for Class B listed in part (3)(b)2, 3, or 4 of Rule [0400-40-15-.04](#).

Bypass means the intentional diversion of waste streams from any portion of a treatment facility.

A **calendar day** means the 24-hour period from midnight to midnight or any other 24-hour period that reasonably approximates the midnight to midnight time period.

Combined sewer overflow or "CSO" means a discharge from a combined sewer system (CSS) at a point prior to the publicly owned treatment works (POTW) treatment plant headworks.

Combined sewer system or "CSS" means a wastewater collection system owned by a State or municipality which was originally designed to convey sanitary wastewaters (domestic, commercial, and industrial wastewaters) and stormwater through a single-pipe system into a publicly owned treatment works (POTW) treatment plant headworks.

A **composite sample** means a combination of not less than eight influent or effluent portions (aliquots), collected over a 24-hour period. Under certain circumstances a lesser time period may be allowed, but in no case less than eight hours. A sufficient volume of sample to perform all required analyses plus any additional amount for quality control must be obtained. For automatic samplers that use a peristaltic pump, a minimum 100 ml aliquot must be obtained.

The **daily maximum amount** means the total amount of any pollutant in the discharge by weight during any calendar day.

The **daily maximum concentration** is a limitation on the average concentration in units of mass per volume (e.g. milligrams per liter) of the discharge during any calendar day. When a proportional-to-flow composite sampling device is used, the daily maximum concentration is the concentration of that 24-hour composite; when other sampling means are used, the daily maximum concentration is the arithmetic mean of the concentrations of equal volume samples collected during any calendar day or sampling period.

Degradation means the alteration of the properties of waters by the addition of pollutants, withdrawal of water, or removal of habitat, except those alterations of a short duration.

De Minimis is degradation of a small magnitude, as provided in this paragraph:

(a) Discharges and withdrawals:

1. Subject to the limitation in part 3 of this subparagraph, a single discharge other than those from new domestic wastewater sources will be considered de minimis if it uses less than five percent of the available assimilative capacity for the substance being discharged.

(Note: Consistent with T.C.A. § 69-3-108, special consideration will be given to bioaccumulative substances to confirm the effect is de minimis, even if they are less than five percent of the available assimilative capacity.)

2. Subject to the limitation in part 3 of this subparagraph, a single water withdrawal will be considered de minimis if it removes less than five percent of the 7Q10 flow of the stream.
3. If more than one activity described in part 1 or 2 of this subparagraph has been authorized in a segment and the total of the authorized and proposed impacts uses no more than 10% of the assimilative capacity, or 7Q10 low flow, they are presumed to be de minimis. Where the total of the



authorized and proposed impacts uses 10% of the assimilative capacity, or 7Q10 low flow, additional degradation may only be treated as de minimis if the Division finds on a scientific basis that the additional degradation has an insignificant effect on the resource.

- (b) Habitat alterations authorized by an Aquatic Resource Alteration Permit (ARAP) are de minimis if the Division finds that the impacts, individually and cumulatively, are offset by impact minimization and/or in-system mitigation, provided however, in Outstanding National Resource Waters (ONRWs) the mitigation must occur within the ONRW.

Discharge or **discharge of a pollutant** refers to the addition of pollutants to waters from a source.

A **dry weather overflow** means a sanitary sewer overflow that is not directly related to a rainfall event.

An **ecoregion** is a relatively homogeneous area defined by similarity of climate, landform, soil, potential natural vegetation, hydrology, or other ecologically relevant variables.

The **geometric mean** of any set of values means the n^{th} root of the product of the individual values where n is equal to the number of individual values. The geometric mean is equivalent to the antilog of the arithmetic mean of the logarithms of the individual values. For the purposes of calculating the geometric mean, values of zero shall be considered to be one.

A **grab sample** means a single sample collected at a particular time.

IC₂₅ means the inhibition concentration in which at least a 25% reduction in reproduction and/or growth in test organisms occurs.

Industrial discharger means those industries identified in the standard industrial classification manual, Bureau of the Budget, 1987, as amended and supplemented, under the category "Division D - Manufacturing" and such other classes of significant waste producers as the Board or Commissioner deems appropriate.

Industrial wastes means any liquid, solid, or gaseous substance, or combination thereof, or form of energy including heat, resulting from any process of industry, manufacture, trade, or business or from the development of any natural resource.



The ***instantaneous maximum concentration*** means the concentration, in units of mass per volume, of any pollutant parameter in a grab sample taken at any point in time.

The ***instantaneous minimum concentration*** means the minimum concentration, in units of mass per volume, of a pollutant parameter in a grab sample taken at any point in time.

LC₅₀ means the concentration that causes at least 50% lethality of the test organisms.

Major facility means a municipal or domestic wastewater treatment plant with a design capacity of one million gallons per day or greater; or any other facility or activity classified as such by the Commissioner.

Minor facility means any facility that is not a major facility.

The ***monthly average amount*** means the arithmetic mean of all the measured daily discharges by weight during the calendar month when the measurements were made.

The ***monthly average concentration***, means the arithmetic mean of all samples collected in a one calendar-month period, expressed in units of mass per volume of any pollutant other than bacteria.

National Pollutant Discharge Elimination System or ***NPDES*** means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under sections 307, 402, 318, and 405 of the federal CWA. The term includes an "approved program."

New or increased discharge is a new discharge of pollutants to waters of the state or an increase in the authorized loading of a pollutant above either (1) numeric effluent limitations established in a National Pollutant Discharge Elimination System permit for that discharge, or (2) if no such limitations exist, the actual discharges of that pollutant.

New source means any building, structure, facility, area, or installation from which there is or may be a "discharge of pollutants," the construction of which commenced after the publication of state or federal regulations prescribing a standard of performance.



Nitrate (as N) means nitrate reported as nitrogen.

A **one-week period** (or **calendar-week**) means the period from Sunday through Saturday. For weekly average reporting purposes, a calendar week that contains a change of month shall be considered part of the latter month.

Owner or **operator** means any person who owns, leases, operates, controls, or supervises a source.

Person means an individual, association, partnership, corporation, municipality, state or federal agency, or an agent or employee thereof.

Point source means any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel, or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural stormwater runoff.

Pollutant means sewage, industrial wastes, or other wastes.

Pollution means such alteration of the physical, chemical, biological, bacteriological, or radiological properties of the waters of this state including, but not limited to, changes in temperature, taste, color, turbidity, or odor of the waters that will:

- (a) Result or will likely result in harm, potential harm, or detriment to the public health, safety, or welfare;
- (b) Result or will likely result in harm, potential harm, or detriment to the health of animals, birds, fish, or aquatic life;
- (c) Render or will likely render the waters substantially less useful for domestic, municipal, industrial, agricultural, recreational, or other reasonable uses; or
- (d) Leave or likely leave the waters in such condition as to violate any standards of water quality established by the Board.

Quarter means any one of the following three-month periods: January 1 through March 31, April 1 through June 30, July 1 through September 30, and/or October 1 through December 31.

Rainfall event means any occurrence of rain, preceded by 10 hours without precipitation that results in an accumulation of 0.01 inches or more. Instances of rainfall occurring within 10 hours of each other will be considered a single rainfall event.

Rationale or **fact sheet** means a document that is prepared when drafting an NPDES permit or permit action. It provides the technical, regulatory and administrative basis for an agency's permit decision.

A **reference site** means the least impacted waters within an ecoregion that have been monitored to establish a baseline to which alterations of other waters can be compared.

A **reference condition** is a parameter-specific set of data from regional reference sites that establish the statistical range of values for that particular substance at least-impacted streams.

Release means the flow of sewage from any portion of the collection or transmission system owned or operated by a publicly owned treatment works (POTW) or a domestic wastewater treatment plant, other than through permitted outfalls, that does not reach waters. In addition, a "release" includes a backup into a building or private property that is caused by blockages, flow conditions, or other malfunctions originating in the collection or transmission system owned or operated by the permittee. A "release" does not include:

- (a) Backups into a building or private property caused by blockages or other malfunctions originating in a private lateral;
- (b) Events caused by vandalism;
- (c) Events caused by lightning strike;
- (d) Events caused by damage due to third parties working on other utilities in the right of way, e.g., cross bore from telecommunications line; or
- (e) Events that are directly incidental to planned, preventative, or predictive maintenance provided the site is under the direct control of a certified operator or contractor, public access is restricted, and the site is disinfected.

Sanitary sewer overflow or SSO means an unpermitted discharge of wastewater from the collection or treatment system of a publicly owned treatment works



(POTW) or a domestic wastewater treatment plant other than through a permitted outfall.

Schedule of compliance means a schedule of remedial measures including an enforceable sequence of actions or operations leading to compliance with an effluent limitation, condition of a permit, other limitation, prohibition, standard, or regulation. This term includes, but is not limited to, schedules authorized by national effluent limitations guidelines or by Tennessee's water quality standards.

The term **semi-annually**, for the purposes of this permit, means the same as once every 6 months. Measurements of the limited effluent parameters may be made any time during a 6 month period beginning from the effective date of this permit, so long as the second set of measurements for a given 12 month period are made approximately 6 months subsequent to that time, if feasible.

Severe property damage, when used to consider the allowance of a bypass, means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

Sewage means water-carried waste or discharges from human beings or animals, from residences, public or private buildings, or industrial establishments, or boats, together with such other wastes and ground, surface, storm, or other water as may be present

Sewerage system means the conduits, sewers, and all devices and appurtenances by means of which sewage and other waste is collected, pumped, treated, or disposed.

Sludge or **sewage sludge** is solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in a treatment works. Sewage sludge includes, but is not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment processes; and a material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screenings generated during preliminary treatment of domestic sewage in a treatment works.

Source means any activity, operation, construction, building, structure, facility, or installation from which there is or may be the discharge of pollutants.



Standard of performance means a standard for the control of the discharge of pollutants that reflects the greatest degree of effluent reduction that the Commissioner determines to be achievable through application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants.

Stream means a surface water that is not a wet weather conveyance.

Subcoregion is a smaller, more homogenous area that has been delineated within an ecoregion.

Total dissolved solids or **TDS** means nonfilterable residue.

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

The term **washout** is applicable to domestic wastewater activated sludge plants and means a loss of mixed liquor suspended solids (MLSS) of 30.00% or more from the aeration basin(s).

Waters means any and all water, public or private, on or beneath the surface of the ground, which are contained within, flow through, or border upon Tennessee or any portion thereof, except those bodies of water confined to and retained within the limits of private property in single ownership which do not combine or effect a junction with natural surface or underground waters.

Watercourse means a man-made or natural hydrologic feature with a defined linear channel that discretely conveys flowing water, as opposed to sheet-flow.

Weekly average amount means the arithmetic mean of all the measured daily discharges by weight during the calendar week when the measurements were made.

Weekly average concentration means the arithmetic mean of all the concentrations expressed in units of mass per volume of any pollutant measured in a calendar week.



Wet weather conveyance means, notwithstanding any other law or rule to the contrary, man-made or natural watercourses, including natural watercourses that have been modified by channelization:

- (a) That flow only in direct response to precipitation runoff in their immediate locality;
- (b) Whose channels are at all times above the groundwater table;
- (c) That are not suitable for drinking water supplies; and
- (d) In which hydrological and biological analyses indicate that, under normal weather conditions, due to naturally occurring ephemeral or low flow there is not sufficient water to support fish, or multiple populations of obligate lotic aquatic organisms whose life cycle includes an aquatic phase of at least two months.

Wet weather overflow means a sanitary sewer overflow that is directly related to a specific rainfall event.

Wet weather release means a release that is directly related to a specific rainfall event.

4.2. ACRONYMS AND ABBREVIATIONS

1Q10 –	1-day minimum, 10-year recurrence interval
30Q5 –	30-day minimum, 5-year recurrence interval
7Q10 –	7-day minimum, 10-year recurrence interval
BAT –	best available technology economically achievable
BCT –	best conventional pollutant control technology
BDL –	below detection limit
BOD ₅ –	five-day biochemical oxygen demand
BPT –	best practicable control technology currently available
CBOD ₅ –	five-day carbonaceous biochemical oxygen demand
CEI –	compliance evaluation inspection
CFR –	code of federal regulations
CFS –	cubic feet per second
CFU –	colony forming units
CIU –	categorical industrial user
CSO –	combined sewer overflow
DMR –	discharge monitoring report
D.O. –	dissolved oxygen



<i>E. coli</i>	-	<i>Escherichia coli</i>
EPA	-	Environmental Protection Agency
EFO	-	environmental field office
GPM	-	gallons per minute
IC ₂₅	-	inhibition concentration causing 25% reduction in survival, reproduction, and growth of the test organisms
IU	-	industrial user
IWS	-	industrial waste survey
LB (lb)	-	pound
LC ₅₀	-	acute test causing 50% lethality
MDL	-	method detection limit
MGD	-	million gallons per day
mg/L	-	milligrams per liter
ML	-	minimum level of quantification
mL	-	milliliter
MLSS	-	mixed liquor suspended solids
MOR	-	monthly operating report
NODI	-	no discharge code in NetDMR
NPDES	-	national pollutant discharge elimination system
PL	-	permit limit
POTW	-	publicly owned treatment works
SAR	-	semi-annual report [pretreatment program]
SIU	-	significant industrial user
SSO	-	sanitary sewer overflow
STP	-	sewage treatment plant
TBEL	-	technology-based effluent limit
TCA	-	Tennessee code annotated
TDEC	-	Tennessee Department of Environment and Conservation
TIE/TRE	-	toxicity identification evaluation/toxicity reduction evaluation
TMDL	-	total maximum daily load
TRC	-	total residual chlorine
TSS	-	total suspended solids
WQBEL	-	water quality-based effluent limit



4.3. RESOURCES, HYPERLINKS, AND WEB PAGES

Clean Water Act NPDES Electronic Reporting (eReporting) Information

<https://www.epa.gov/compliance/npdes-ereporting>

Electronic Code of Federal Regulations (eCFR), Title 40 (40 CFR § 1 through § 1099)

<https://www.ecfr.gov/cgi-bin/text-idx?SID=75202eb5d09974cab585afeea981220b&mc=true&tpl=/ecfrbrowse/Title40/40chapter1.tpl>

Electronic Reporting (NetDMR) Waiver Request

https://www.tn.gov/content/dam/tn/environment/water/documents/wr_ereporting_waiver.pdf

Low Flow Statistics Tools: A How-To Handbook for NPDES Permit Writers (EPA)

https://www.epa.gov/sites/production/files/2018-11/documents/low_flow_stats_tools_handbook.pdf

Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms (EPA)

https://www.epa.gov/sites/production/files/2015-08/documents/acute-freshwater-and-marine-wet-manual_2002.pdf

NetDMR Login

<https://cdxnodengn.epa.gov/net-netdmr/>

NetDMR, MyTDEC Forms, & Electronic Reporting Information

<https://www.tn.gov/environment/program-areas/wr-water-resources/netdmr-and-electronic-reporting.html>

NPDES Compliance Inspection Manual (EPA)

<https://www.epa.gov/sites/production/files/2017-01/documents/npdesinspect.pdf>

NPDES Electronic Reporting Rule

<https://www.federalregister.gov/documents/2015/10/22/2015-24954/national-pollutant-discharge-elimination-system-npdes-electronic-reporting-rule>

Quality System Standard Operating Procedure for Macroinvertebrate Stream Surveys (QSSOP)

https://www.tn.gov/content/dam/tn/environment/water/documents/DWR-PAS-P-01-Quality_System_SOP_for_Macroinvertebrate_Stream_Surveys-081117.pdf

Rules of the TN Department of Environment and Conservation, Chapter 0400-40

<https://publications.tnsosfiles.com/rules/0400/0400-40/0400-40.htm>

Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms (EPA)

https://www.epa.gov/sites/production/files/2015-08/documents/short-term-chronic-freshwater-wet-manual_2002.pdf

TDEC Water Quality Rules, Reports, and Publications

<https://www.tn.gov/environment/program-areas/wr-water-resources/water-quality/water-quality-reports---publications.html>

Technical Support Document for Water Quality-based Toxics Control (EPA)

<https://www3.epa.gov/npdes/pubs/owm0264.pdf>

Tennessee Nutrient Reduction Framework

https://www.tn.gov/content/dam/tn/environment/water/tmdl-program/wr-ws_tennessee-draft-nutrient-reduction-framework_030315.pdf

Tennessee Plant Optimization Program (TNPOP)

<https://www.tn.gov/environment/program-areas/wr-water-resources/tn-plant-optimization-programs/tnpop.html>

Tennessee Water Resources Data and Map Viewers

<https://www.tn.gov/environment/program-areas/wr-water-resources/water-quality/water-resources-data-map-viewers.html>

USGS StreamStats

https://www.usgs.gov/mission-areas/water-resources/science/streamstats-streamflow-statistics-and-spatial-analysis-tools?qt-science_center_objects=0#qt-science_center_objects

USGS SWToolbox

<https://www.usgs.gov/software/swtoolbox-software-information>

RATIONALE

**Town of Carthage
Carthage STP
NPDES Permit No. TN0022993
Permit Writer: Priyaa Dhasarathy**

1. PERMIT STATUS & PUBLIC PARTICIPATION

Permit Type:	Municipal
Classification:	Minor
Previous Issuance Date:	01-APR-19
Previous Expiration Date:	30-APR-24
Previous Effective Date:	01-MAY-19

As provided under Rule 0400-40-05-.06, this permit allows 30 days for public comment on the proposed permit. The 30-day public comment period begins the date this permit is placed on public notice. The public notice document for this permit can be found at the Division's [Water Notices and Hearings website](#) under "Permit Public Notices".

Public Notice Date:	February 20, 2024
Comment Period Ends:	March 21, 2024

Those wishing to make a formal comment on the proposed permit may submit comments electronically to Water.Permits@tn.gov, or by mail to:

*Division of Water Resources - Water Based Systems Unit
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 11th Floor
Nashville, TN 37243-1102*

The public may also request a public hearing on a proposed permit by submitting such a request in writing during the public comment period specified above. The request should indicate the interest of the party filing it and the reasons why a hearing is warranted. A request for public hearing should be submitted as soon as practicable to the addresses provided above. Questions regarding the draft permit may be directed to 1-888-891-TDEC.

2. FACILITY INFORMATION

Permittee Name:	Town of Carthage
Project Name:	Carthage STP
Location:	214 First Avenue West, Carthage, Smith County, Tennessee
Contact:	Honorable Stephen Babcock - Mayor (615) 735-1881 mayorbabcock@townofcarthagetn.gov
Design Flow Rate:	0.625 MGD
Percentage Industrial Flow:	0 %
Certified Operator Grades:	STP: III; CS: I; Date Rated: 12/17/2015
Treatment Description:	Activated sludge with chlorination



FACILITY DISCHARGES AND RECEIVING WATERS

OUTFALL 001	
LONGITUDE	LATITUDE
-85.955781	36.250675

FLOW (MGD)	DISCHARGE SOURCE
0.6250	Process wastewater
0.6250	TOTAL DISCHARGE

RECEIVING STREAM DISCHARGE ROUTE			
Cumberland River Mile 308			
STREAM LOW FLOW (CFS) *	7Q10	1Q10	30Q5
	459.00	237.00	690.00
(MGD)	296.65	153.00	446.00

STREAM USE CLASSIFICATIONS (WATER QUALITY)				
FISH & AQUATIC LIFE	RECREATION	IRRIGATION	LIVESTOCK & WILDLIFE	DOMESTIC WATER SUPPLY
X	X	X	X	X
INDUSTRIAL	NAVIGATION			
X	X			

Treatment: Screening, Oxidation, Secondary sedimentation/ clarification, Disinfection

* Also: 1Q10: Tennessee River and Reservoir System Operation and Planning Review, Final Environmental Impact Statement, Tennessee Valley Authority (TVA), TVA/GDG/EQS/-91/1, page xxx.

2.1 FACILITY HISTORY

Date	Permit Activity
January 25, 1974	First permit issued
April 01, 1999	Certified operator grade STP III
May 30, 2002	Request to inactivate pretreatment program. <ul style="list-style-type: none"> Letter from Division to the Mayor acknowledging inactivation of pretreatment program: July 2, 2002
August 27, 2003	Permit Application to EFO <ul style="list-style-type: none"> Permit application sent to NCO: September 17, 2003 Public notice of Draft Permit: December 15, 2003
February 27, 2004	NPDES Permit issued. <ul style="list-style-type: none"> Effective date: April 1, 2004 Expiration date: February 27, 2009
August 25, 2008	Permit Application to EFO <ul style="list-style-type: none"> Permit application sent to NCO: August 26, 2008

	<ul style="list-style-type: none"> Public notice of Draft Permit: December 22, 2008
February 27, 2009	NPDES Permit issued. <ul style="list-style-type: none"> Effective date: April 1, 2009 Expiration date: February 27, 2014
May 26, 2010	Repairs at the plant
July 10, 2013	Permit Application submitted
February 1, 2016	NPDES Permit issued. <ul style="list-style-type: none"> Effective date: March 1, 2016 Expiration date: February 28, 2019
April 25, 2016	NetDMR Electronic Subscriber Agreement
April 1, 2019	NPDES Permit issued <ul style="list-style-type: none"> Effective Date: May 1, 2019 Expiration date: April 30, 2024
February 20, 2024	Removal of ammonia and chloride proposed in the draft permit monitoring due to lack of pretreatment program & landfill leachate

3. RECEIVING STREAM INFORMATION

Receiving Waterbody:	Cumberland River (Old Hickory Reservoir) at mile 308			
Watershed Group:	Cumberland-Old Hickory Lake			
Hydrocode:	05130201			
Low Flow:	1Q10 = 153 MGD (237 CFS)			
Low Flow Reference:	USGS Streamstats/ Hydrologic Toolbox, Gage Station 03425000			
Stream Designated Uses:	<i>Domestic Water Supply</i>	<i>Industrial</i>	<i>Fish & Aquatic Life</i>	<i>Recreation</i>
	X	X	X	X
	<i>Livestock & Wildlife</i>	<i>Irrigation</i>	<i>Navigation</i>	<i>Trout</i>
	X	X	X	

The low flow of the receiving stream is reduced based on updated United States Geological Survey (USGS) information. That agency's 1996 "Water-Resources Investigations Report 95-4293" reported the 1Q10 and 7Q10 flows at Cumberland River mile 308.2 (Gage station #03425000) to be 1,210 cfs and 2,340 cfs, respectively, based on the period of record 1968-1991. That agency's updated 2009 "Scientific Investigations Report 2009-5159" reports the 7Q10 flow for the same location to be 459 cfs. This represents a significant reduction in low flow.

This stream is regulated by Center Hill and Cordell Hull dams, so the fish and aquatic life criteria in the state water quality standards apply on the basis of the regulated, 1Q10 critical low flow. The previous permit identified the 1Q10 critical low flow as 782 MGD (or 1,210 cfs), based on the 1996 report. Since the updated USGS flow report does not report a 1Q10 flow, a proportional value was estimated from the above data as follows:

Report	95-4293	2009-5159
1Q10	1,210 cfs	X cfs
7Q10	2,340 cfs	459 cfs

$$X = (1,210 \text{ cfs} * 459 \text{ cfs}) / 2,340 \text{ cfs} = 237 \text{ cfs} = 153 \text{ MGD}$$

4. NEW PERMIT LIMITATIONS AND COMPLIANCE SCHEDULE SUMMARY

- a) The units for *E. coli* have been standardized to number per 100 mL (#/100 mL). Previously, the Division used either MPN/100 mL or CFU/100 mL. The identification of one of these two units indirectly created a requirement for a specific type of testing methodology. By utilizing #/100 mL unit, permittees are provided the flexibility to select the 40 CFR § 136 method that is most suitable for their operations. The limit value (number) will remain the same as the limit units are functionally equivalent.

The Division proposes to lower the daily maximum from 487 #/100 ml to 410 #/100 ml. See Section 6.7 for more information.

Language throughout the permit has been updated to reflect the eReporting phase 2 requirements in 40 CFR § 127. This includes (but is not limited to) detailing specific data elements that are required to be reported for sanitary sewer overflows, releases and bypasses as well as pretreatment program information.

In its application, the permittee indicated it did not plan on completing an Industrial Waste Survey because it did not have an active pretreatment program. The permittee will be required, however, to complete an IWS. Since the purpose of an IWS is to help identify and/or characterize any Significant Industrial Users, or to verify the lack thereof, all publicly owned treatment works (POTWs) are required to submit an Industrial Waste Survey, whether or not an active pretreatment program exists.

The previous permit included conditional monitoring requirements for ammonia and chloride which were only applicable in the event the permittee accepted landfill leachate. Since the permit has language prohibiting acceptance of landfill leachate without an active pretreatment program, monitoring for these parameters has been removed from the permit with the understanding that ammonia and chloride may be added back to the permit in the event the permittee's pretreatment program is reactivated and landfill leachate (or waste from other industrial users) is accepted by the facility.

b) Compliance Schedule Summary

Description of Report to be Submitted	Reference Section in Permit
Monthly Discharge Monitoring Reports	1.3.1.
Monthly Operational Reports	1.3.4.
Bypass and Sanitary sewer overflow and Release Report	1.3.5.1.
Industrial Waste Survey Report within 120 days of the effective permit date	3.2.

c) For comparison, this rationale contains a table depicting the previous permit limits and effluent monitoring requirements in Appendix 1.

5. PREVIOUS PERMIT TERM REVIEW

A review of the permittee's Discharge Monitoring Reports (DMRs) from January 31, 2019, to December 31, 2023 revealed that the permittee reported violations of Sanitary Sewer overflows (SSO) A summary of data reported on DMRs during the previous permit term is located in Appendix 2.

During the previous permit term, Division personnel from the Cookeville Environmental Field Office performed a Compliance Evaluation Inspection (CEI) of the permittee's facility. The CEI was performed by Oakley Hall on July 16, 2020, and the permittee was found to be in compliance. The inspection report described the STP to be well maintained by the Operators. The STP was found to be aging and showing signs of corrosion. Measures have been taken to preserve the main tank structure. Bank erosion is of concern as the Cumberland River slowly erodes the right descending riverbank and moves closer to the infrastructure of the STP. This could result in catastrophic failure. The STP's effluent flow was clear as it entered the Cumberland River.

The laboratory was reviewed and found to be in good order. The Operators are conscientious in performing quality work. The effluent was observed and found to be clear. The operators continue to work to solve problems at this facility. The report also reiterated that the operators should continue to monitor the STP's corrosion and the riverbank's erosion, which are the primary concern.

The STP has had 10 violations for Sanitary Sewer overflows (SSO) in the last permit cycle (DMR data- January1, 2019 to December 31, 2023). The inspection report also stated that the inflow and infiltration (I&I) of stormwater does exist within the Carthage collection system. The report also stated that the Carthage STP was working on the collection system I&I issues with a private consultant.

6. PROPOSED EFFLUENT LIMITS AND RATIONALE

PARAMETERS	MONTHLY AVERAGE CONCENTRATION (MG/L)	MONTHLY AVERAGE AMOUNT (LB/DAY)	WEEKLY AVERAGE CONCENTRATION (MG/L)	WEEKLY AVERAGE AMOUNT (LB/DAY)	DAILY MAXIMUM CONCENTRATION (MG/L)	DAILY MINIMUM PERCENT REMOVAL	RATIONALE
BOD ₅	30	156	40	209	45	40	Rule 0400-40-05-.09 (for BOD ₅)
Total Suspended Solids	30	156	40	209	45	40	Rule 0400-40-05-.09
Dissolved Oxygen	1.0 (daily minimum) instantaneous	—	—	—	—	—	D.O. protection, Refer to 6.1 below
Total Chlorine Residual	2.0	—	—	—	2.0	—	Refer to 6.5 below
Total Nitrogen	—	Report (qtr load)	—	—	Report (qtr concentration)	-	Refer to 6.6 below
Total Phosphorus	—	Report (qtr load)	—	—	Report (qtr concentration)		Refer to 6.6 below
<i>E. coli</i> (#/100mL)	126/100 mL	—	—	—	410/100	—	Rule 0400-40-03-.03 , Refer to 6.7 below
Settleable Solids (mL/L)		—	—	—	1.0	—	Rule 0400-40-05-.09
pH (standard units)	6.0 - 9.0	—	—	—	—	—	Rule 0400-40-03-.03
Flow (MGD):							
Influent	Report	—	—	—	Report	—	Used to quantify pollutant load
Effluent	Report	—	—	—	Report	—	Used to quantify pollutant load
	Monthly Total		Refer to 7 below				
Dry Weather	Sanitary sewer overflows	0	Refer to 7 below				
Wet Weather	Sanitary sewer overflows	0	Refer to 7 below				

Note: Weekly limitations on BOD₅/CBOD₅ and TSS concentrations are given as required per 40 CFR 133.102(a)(2) or 133.102(a)(4)(2) & 133.102 (b)(2) respectively; daily BOD₅/CBOD₅ and TSS limitations are authorized by T.C.A. 0400-40-05-.09; monthly and weekly mass loads are limited per 40 CFR 122.45(f) and based on the design flow as per 40 CFR 122.45(b); monthly average percent removal rates for BOD₅/CBOD₅ and TSS are required per 40 CFR 133.102(a)(3) or 133.102(a)(4)(iii) and 133.102 (b)(3) respectively. A minimum 40% daily removal rate is required as equivalent to a daily mass load limitation.

6.1. CONVENTIONAL PARAMETERS

6.1.1. BOD₅ and Dissolved Oxygen

Biochemical oxygen demand, or BOD, is a measure of the oxygen used when biological processes break down organic pollutants in wastewater. The amount of oxygen used is more specifically referred to as the five-day biochemical oxygen demand, or BOD₅. This parameter is used in the wastewater industry to measure both the strength of wastewater and the performance of wastewater treatment processes.

Limits on the oxygen demand remaining in the treated wastewater is often necessary to prevent pollutants in the wastewater from driving oxygen in the receiving stream down below the levels necessary to support fish and aquatic life. Additionally, the breakdown of ammonia into other forms of nitrogen also requires oxygen and therefore exerts an oxygen demand on receiving wastewaters.

For this facility, the monthly average BOD₅ limit of 30 mg/L is a technology-based effluent limit for conventional secondary treatment plants ([0400-40-05-.09](#)).

The dissolved oxygen effluent limitation of 1.0 mg/L is a practical limit achievable by the facility rather than a water-quality based limit necessary to protect fish and aquatic life. A minimum oxygen level of 1.0 mg/L is necessary in a treatment system to prevent nuisance conditions associated with anaerobic environments.

6.1.2. Total Suspended Solids (TSS)

Total Suspended Solids is a general indicator of the quality of a wastewater and will be limited in this permit. The technology-based TSS limit for conventional treatment plants is provided in Tennessee Rule [0400-40-05-.09\(1\)\(a\)](#).

TSS - Conventional Secondary Treatment Plants			
<i>Monthly Average</i> 30 mg/L	<i>Weekly Average</i> 40 mg/L	<i>Daily Maximum</i> 45 mg/L	<i>Monthly Average</i> 85 % Removal

6.1.3. Percent Removal

The treatment facility is required to remove 85 % of the BOD₅ and TSS that enter the facility on a monthly basis. This is part of the minimum requirement for all municipal treatment facilities contained in Code of Federal Regulations (CFR) 40 § 133.102. The reasons stated by the EPA for these requirements are to achieve these two basic objectives:

- i. To encourage municipalities to correct excessive inflow and infiltration (I/I) problems in their sanitary sewer systems; and
- ii. To help prevent intentional dilution of the influent wastewater as a means of meeting permit limits.

The treatment facility is required to remove 40 % of the BOD₅ and TSS that enter the facility on a daily basis. This percent removal will be calculated three times per week and recorded on the Monthly Operation Report. The number of excursions (days when BOD₅ and/or TSS removal is less than 40%) will be reported on the Discharge Monitoring Report.

6.1.4. Settleable Solids

The settleable solids limit of 1.0 ml/L is a technology-based limit established in Rule [0400-40-05-.09](#).

6.2. FLOW

Monitoring of flow quantifies the load of pollutants to the stream. Flow shall be reported in million gallons per day (MGD) and monitored at the time of sample collection.

6.3. PH

According to the State of Tennessee Water Quality Standards [Chapter [0400-40-03-.03\(3\)\(b\)](#)], the pH for the protection of Fish and Aquatic Life shall not fluctuate more than 1.0 unit over a period of 24 hours and shall not be outside the following ranges: 6.0 – 9.0 standard units (SU) in wadeable streams and 6.5 – 9.0 SU in larger rivers, lakes, reservoirs, and wetlands. Considering that the receiving stream will provide some buffering capacity, effluent limitation for pH will be retained in a range 6.0 to 9.0. The sample type will be grab.

6.4. AMMONIA (NH₃-N)

To assess ammonia toxicity impacts, the state utilizes Tennessee Rules, Chapter [0400-40-03-.03-3\(3\)\(j\)](#), dated September 11, 2019, to derive allowable instream protection values protective of chronic and acute exposures to a continuous

discharge. A mass balance equation with the treatment facility, stream flows, and these allowable values determines the monthly average and daily maximum permit limits.

The temperature used in calculations is determined based on measured ambient instream temperature or is estimated according to Tennessee's Three Grand Divisions as follows: East (winter 15°C, summer 25°C), Middle (winter 17°C, summer 27°C), and West (winter 20°C, summer 30°C). A pH value of 8 is used.

Using temperature and pH values, the criterion continuous concentration (CCC) and criterion maximum concentration (CMC) values are calculated using the following equations:

$$CCC = 0.8876 * \left(\frac{0.0278}{1 + 10^{7.688-pH}} + \frac{1.1994}{1 + 10^{pH-7.688}} \right) * (2.126 * 10^{0.028*(20-MAX(T,7))})$$

and

$$CMC = MIN \left\{ \left(\frac{0.275}{1 + 10^{7.204-pH}} + \frac{39.0}{1 + 10^{pH-7.204}} \right), \left(0.7249 * \left(\frac{0.0114}{1 + 10^{7.204-pH}} + \frac{1.6181}{1 + 10^{pH-7.204}} \right) * (23.12 * 10^{0.036*(20-T)}) \right) \right\}$$

The determined CCC and CMC values are then used in the mass balance equation as follows:

$$CCC = \frac{Q_s C_s + Q_{STP} C_{STP}}{Q_s + Q_{STP}} \quad \text{or} \quad C_{STP} = \frac{CCC(Q_s + Q_{STP}) - (Q_s C_s)}{Q_{STP}}$$

where:

CCC	=	Criteria continuous concentration (mg/L)
Q _s	=	7Q10 flow of receiving stream (MGD)
Q _{STP}	=	Design flow of STP (MGD)
C _s	=	Assumed/Measured instream NH ₃ (mg/L)
C _{STP}	=	Allowable STP discharge of NH ₃ (mg/L)

See below for calculations:

CCC Calculation: Chronic Limits				
	Winter		Summer	
Temp (°C)=	17	Temp (°C)=	27	
pH=	8	pH=	8	
MAX Expression	17.0000	MAX Expression	27.0000	
Winter CCC=	0.94	Summer CCC=	0.49	
CCC - Continuous Chronic Criterion Allowable instream NH3 concentration [mg/l]				
$CCC = \frac{(\text{Critical Low Flow [MGD]} * \text{Background Ammonia [mg/L]}) + (\text{Design Flow [MGD]} * \text{Effluent Concentration [mg/L]})}{(\text{Critical Low Flow [MGD]} + (\text{Design Flow [MGD]}))}$				
where:	153	Critical Low Flow [MGD] (1Q10 value)		
	0.319	Background Ammonia Concentration [mg/L] *		
	0.625	WWTP Design Flow or long-term average flow [MGD]		
Therefore, the Allowable Effluent Concentrations and corresponding Amounts in winter and summer are:				
	Winter		Summer	
	153.67	Concentration [mg/L]	43.537	Concentration [mg/L]
	801.0	Amount [lb/day]	226.9	Amount [lb/day]
* In the absence of measured data, an assumed background concentration of 0.1 mg/L is used based on an Agreed Wasteload Allocation Modeling Methodology between the EPA and State of TN				

CMC Calculation: Acute Limits				
	Winter		Summer	
Temp (°C)=	17	Temp (°C)=	27	
pH=	8	pH=	8	
MAX Expression	17.0000	MAX Expression	27.0000	
Winter CMC=	5.01	Summer CMC=	2.19	
CMC - Continuous Maximum Criterion Allowable instream NH3 concentration [mg/l]				
$CMC = \frac{(\text{Critical Low Flow [MGD]} * \text{Background Ammonia [mg/L]}) + (\text{Design Flow [MGD]} * \text{Effluent Concentration [mg/L]})}{(\text{Critical Low Flow [MGD]} + (\text{Design Flow [MGD]}))}$				
where:	153	Critical Low Flow [MGD] (1Q10 value)		
	0.319	Background Ammonia Concentration [mg/L]		
	0.625	WWTP Design Flow or long-term average flow [MGD]		
Therefore, the Allowable Effluent Concentrations and corresponding Amounts in winter and summer are:				
	Winter		Summer	
	1152.55	Concentration [mg/L]	459.103	Concentration [mg/L]
	6007.7	Amount [lb/day]	2393.1	Amount [lb/day]
* In the absence of measured data, an assumed background concentration of 0.1 mg/L is used based on an Agreed Wasteload Allocation Modeling Methodology between the EPA and State of TN				

The above calculated NH3-N concentration limits present no reasonable potential for toxicity. Any potential oxygen depletion from NH3 is included in the BOD5 limit. Thus, the facility has no reasonable potential to create toxic conditions in the stream due to ammonia and monthly average limits are not applied to the permit. Ammonia, as well as chloride, was included in the previous permit on a "report only" basis not due to toxicity concerns, but because the permittee had indicated that there was a possibility that the facility may accept landfill leachate. Sampling for ammonia and chloride was only required if the permittee accepted such leachate. Since this permit requires that the permittee must reactivate its

pretreatment program prior to accepting landfill leachate, monitoring for ammonia and/or chloride is not necessary in this permit. In the event the permittee does reactivate its pretreatment program in order to accept landfill leachate, it must submit for a permit modification, at which time the inclusion of monitoring requirements for ammonia and chloride will be reassessed and it will be determined if the parameters will be added back to the permit.

6.5. CHLORINATION

Chlorination is used to disinfect the wastewater in order to protect the receiving stream from pathogens. Because chlorine can be toxic to aquatic life, the Division limits residual chlorine. However, when water quality is not the limiting factor due to the large dilution afforded by the receiving stream, an effluent concentration of 2.0 mg/L shall not be exceeded as an operational control of treatment facilities.

$$\frac{0.019 (Qd + Qs)}{Qd} = \text{Limit (mg/L)} = \frac{0.019(.625 + 153)}{.625} = 4.67 \text{ mg/L}$$

Where:

0.019 mg/L	=	acute instream protection value
153	=	Qs – 7Q10 flow of receiving stream (MGD)
0.625	=	Qd – design flow of STP (MGD)

Similarly, the chronic instream protection value of 0.011 mg/L for fish and aquatic life is applied to the mass balance formula to determine the monthly average limit for TRC. Previous permits do not contain rationale for omitting this limit and may have utilized the belief that chlorine's reactivity with other compounds will ensure it does not remain in solution long enough to result in chronic exposure to fish and aquatic life. The best way to reflect that chronic exposure to harmful levels of chlorine is not occurring is reporting successful operation of the de-chlorination technology in compliance with the monthly average limit. This added limit does not entail additional sampling but rather calculation of a monthly average value based on the sampling results in consideration of the method detection limit of the test method.

$$\frac{0.011 (Qd + Qs)}{Qd} = \text{Limit (mg/L)} = \frac{0.011(.625 + 153)}{.625} = 2.703 \text{ mg/L} \approx 2.70 \text{ mg/L}$$

This calculation shows that the effluent limit of 2.0 mg/L, based on good operational practices, is more stringent than both the chronic and acute

calculated water quality-based effluent limits. Therefore, the 2.0 mg/L limit applies for both monthly average and daily maximum.

6.6. TOTAL NITROGEN AND TOTAL PHOSPHORUS

Nutrients are naturally occurring and essential components of healthy aquatic systems. Excessive amounts of nutrients, however, can impact water quality. The enrichment of a waterbody with nutrients, called eutrophication, can result in dense, rapidly multiplying growths, or blooms, of algal species and other nuisance aquatic plants. These have potential for negatively impacting the habitat for fish and aquatic life and degrading the water quality for drinking water supply and recreation uses. These impacts can present both locally from an individual activity and much further downstream from the cumulative impact of multiple activities. The Division has therefore developed and begun to implement a strategy to accomplish long-term nutrient reduction in Tennessee waters. The strategy, referred to as the [Tennessee Nutrient Reduction Framework](#) (NRF), contains proposed rationale and the methodology for implementing the strategy within a watershed area. Consequently, the Framework considers impacts from both point and non-point sources of nutrients and recommends possible reduction goals for both point and non-point sources. The NRF approach to nutrient reduction is intended to utilize an adaptive management approach in consideration of the facts presenting within a watershed and reevaluation of the effectiveness of progress being made. Regular reassessments of goals and action plans will be conducted by reviewing monitoring data, modeling results and other measures of success. As additional data becomes available (such as WWTP effluent characterization and instream water quality data), model results can be re-evaluated.

Therefore, for purposes of implementing this strategy, the Division is imposing a minimum of quarterly effluent characterization for total nitrogen and total phosphorus on all discharges of treated domestic wastewater. These values will be used to reevaluate the nutrient loads from discharges within a watershed over time for comparison with those loads from non-point sources.

In coordination with the NRF and in recognition that meeting nutrient limits may require changes in plant operations, the Division has created the Tennessee Plant Optimization Program (TNPOP), which is a free program created to provide technical assistance and other resources to participating wastewater treatment plants. TNPOP can help wastewater treatment plants optimize energy use and nutrient removal, which can result in cost and energy savings. Interested facilities should visit the Division's [TNPOP website](#) for a program description, frequently asked questions, and information on how to apply.

6.7. E. COLI

Disinfection of wastewater is required to protect the receiving stream from pathogenic microorganisms. *E. coli* is used as an indicator organism as a measure of the bacteriological health of a receiving stream and the effectiveness of disinfection. Both the geometric mean and daily maximum are limited for *E. coli* in accordance with Rule [0400-40-03-.03](#). While the Rule retains the geometric mean for *E. coli* of 126 cfu/100 mL, the maximum has been changed. Formerly, the *E. coli* daily maximum limit of 487 colony forming units (cfu) per 100 mL applied to lakes and exceptional Tennessee waters, while a daily maximum limit of 941 cfu/100 mL applied to all other recreational waters.

In November 2022, the Tennessee Board of Water Quality, Oil, and Gas adopted a new maximum criterion to align with U.S. Environmental Protection Agency national recommended criteria. That criterion will apply to Tennessee waters to protect the recreation use designation effective March 17, 2024. EPA established a statistical relationship between number of colony forming units and percent of time when such numbers were observed in any 30-day period. The new criterion of 410 cfu/100 mL corresponds to no exceedances in more than 10% of samples during any 30-day interval for all receiving waters.

Tennessee has historically applied water quality standards for pathogens at the outfall of POTWs so that a discharger can demonstrate that it is not contributing to any violation of the criterion in the receiving waterbody. The Division therefore proposes to apply the new criterion as a daily maximum of 410 cfu/100 mL in accordance with EPA guidance and retains the monthly geometric mean for *E. coli* of 126 cfu/100 mL.

The units for *E. coli* have been standardized to #/100 mL, which is functionally equivalent to colony forming units.

6.8. BIOMONITORING

The Division evaluates all dischargers for reasonable potential to exceed the narrative water quality criterion “no toxics in toxic amounts”. The Division has determined that for municipal facilities with stream dilutions of less than 500 to 1, any of the following conditions may demonstrate reasonable potential to exceed this criterion:

- i. Toxicity is suspected or demonstrated;
- ii. A pretreatment program is required; or
- iii. The design capacity of the facility is greater than 1.0 MGD.

This facility has a design capacity of less than 1.0 MGD and does not have a pretreatment program. Moreover, the permittee did not report any violations of the previous permit's limit. Based on this information, there is no suspected or demonstrated toxicity and the limit is removed in this permit.

7. COLLECTION SYSTEMS

7.1. COLLECTION SYSTEM CERTIFIED OPERATOR

The collection system shall be operated under the supervision of a Grade I certified collection system operator in accordance with the Water Environmental Health Act of 1984.

7.2. COLLECTION SYSTEM OPERATION

For the purposes of demonstrating proper operation of the collection, transmission and treatment system, the permit treats releases separately from sanitary sewer overflows and bypass. State regulations at [0400-40-05-.07\(2\)](#) establish "standard conditions". These standard conditions include [0400-40-05-.07\(2\)\(n\)](#) that sets forth specific language prohibiting sanitary sewer overflows (defined in the regulations as a "discharge") and standard conditions in [0400-40-05-.07\(2\)\(l\)](#) and (m) pertaining to bypass. While the regulations prohibit sanitary sewer overflow (*i.e.*, discharges that reach or are likely to reach receiving waters) it does not prohibit "releases" that do not reach or are not likely to reach receiving waters. However, releases that do not reach receiving waters may be indicative of other problems, such as improper operation and maintenance of the sewer system. Whether another violation occurs or whether, for example, there is an unavoidable accident (see, e.g., § 69-3-114(a)), will involve case-specific evaluations. Regardless, the permit assures, without waiving rights to pursue other violations associated with a release, as applicable, that the permittee would, at a minimum be reporting and responding to releases. Any release potentially warrants permittee mitigation of human health risks via direct or indirect contact and may demonstrate a hydraulic problem in the system that warrants permittee consideration as part of proper operation and maintenance of the system.

Proper operation and maintenance of the collection system may include, but is not limited to:

1. A comprehensive collection system map showing all drainage areas, manholes, pump stations (number and size of pumps), flow meters, chronic sanitary sewer overflow and release locations, miles of collection system, material and diameter of construction, and other relevant system elements.

2. Rainfall data at location(s) using method(s) representative of precipitation within the collection system area.
3. Flow meters at locations in the collection system that would enable drainage area analysis and prioritization based on the amount of inflow and infiltration (I/I) observed.
4. A collection system hydraulic model that predicts I/I problems in response to rainfall events and the effects of new conditions.

When determining if a location experiences chronic sanitary sewer overflows or releases, the term “event(s)” includes dry weather overflows, wet weather overflows, dry weather releases and wet weather releases.

7.3. LOW PRESSURE SYSTEM OWNERSHIP/CONTROL

On May 15, 2022, Tennessee Rule 0400-40-05 became effective. In those rules, clarifying language was added regarding low pressure systems. The Board received a comment during the rulemaking process noting that the inclusion of ownership or control of low pressure systems in Tennessee Rule 0400-40-06 governing land based disposal systems should be included Tennessee Rule 0400-40-05 which governs discharging systems. The response to that comment is included below to provide direction to municipal agencies in implementing this condition of the permit.

The Board agrees, and has added the following to Rule 0400-40-05-.07(2)(c) concerning proper operation and maintenance, “Low pressure pumps, low pressure tanks, septic tank effluent pumps (STEP), STEP tanks, and septic tank effluent gravity tanks are integral to the treatment and conveyance of sewage in a low-pressure system design, and shall be owned or under control of the municipality, other body of government, public utility district, or a privately-owned public utility demonstrating lawful jurisdiction over the service area.” This permit condition is not applicable to pumps and appurtenances that are service lines to other than a low-pressure public system. This condition applies to sewer projects or extensions that are approved for construction after the effective date of the permit.

While the Board encourages direct ownership of the low pressure pumps and tanks, it does recognize that in some cases, operational control without direct asset ownership may suffice. The Board acknowledges that operational control may be implemented collectively by multiple local agencies. Operational control for privately-owned low pressure pumps and appurtenances appropriately includes the following:

- *Legal mechanism e.g. local regulations, ordinance, plumbing codes, resolution etc. that provides the authority to:*
 - *Deny the use of low pressure pumps and tanks*
 - *Establish and enforce design standards*
 - *Access the site and equipment (including inspection)*
 - *Obtain remedies for non-compliance*
 - *Conduct an emergency response*
- *Plans review process to ensure compliance with the locally established design standards (including inspection of installation)*
- *Construction, inspection, and approval process*
- *Preventative and emergency maintenance program*

In addition, all components of the sewerage system must be owned by a municipality, other body of government, public utility district, or a privately-owned public utility demonstrating lawful jurisdiction over the service area in accordance with Rule 0400-40-16-.02(8).

8. OTHER PERMIT REQUIREMENTS AND CONDITIONS

8.1. CERTIFIED WASTEWATER TREATMENT OPERATOR

The waste treatment facilities shall be operated under the supervision of a Grade III certified wastewater treatment operator in accordance with the Water Environmental Health Act of 1984. Operator grades are under jurisdiction of the Water and Wastewater Operators Certification Board. This NPDES permit is under jurisdiction of the Tennessee Board of Water Quality, Oil and Gas. Operator grades are rated and recommended by the Division of Water Resources pursuant to Rule [0400-49-01](#) and are included in this fact sheet for reference. The grades are intentionally not specified in the permit so that the operation certification board can authorize changes in grade without conflicting with this permit.

8.2. PRETREATMENT PROGRAM

The current pretreatment program is in the inactive stage. The program will remain inactive as long as no significant industries discharge into the collection system. Should a significant industrial user request permission to discharge into the permittee's system, then the permittee must request that the Division reactivate the pretreatment program. This must be done prior to the industrial discharge taking place.

Narrative conditions will be included for conducting and submitting an industrial waste survey. The drafted permit will include a due date for these reports based on the anticipated effective date. If permit issuance is delayed, these dates will be adjusted accordingly.



8.3. **BIOSOLIDS MANAGEMENT PRACTICES**

The Clean Water Act (CWA) requires that any NPDES permit issued to a publicly owned treatment works or any other treatment works treating domestic sewage shall comply with 40 CFR § 503, the federal regulation governing the use and disposal of sewage sludge. It is important to note that “biosolids” are sewage sludge that have been treated to a level so that they can be land applied.

The language in **section 3.3.** of the permit, relative to biosolids management, a CWA requirement, allows the “permitting authority” under 40 CFR § 503.9(p) to be able to enforce the provisions of § 503. The “permitting authority” relative to Part 503 is either a state that has been delegated biosolids management authority or the applicable EPA Region; for Tennessee it is EPA Region 4.

Tennessee regulates the land application of non-exceptional quality biosolids under state rules, Chapter [0400-40-15](#). The state rules became effective on June 30, 2013. Under these state rules, all facilities that land apply non-exceptional quality biosolids must obtain a biosolids permit from the division. The land application of non-exceptional quality biosolids under state rules is regulated through either a general permit or by an individual permit. Questions about the division’s biosolids regulations and permitting program should be directed to the State Biosolids Coordinator at:

*Division of Water Resources
State Biosolids Coordinator
William R. Snodgrass - Tennessee Tower
312 Rosa L. Parks Avenue, 11th Floor
Nashville, Tennessee 37243-1102
615-532-0625*

8.4. **PERMIT TERM**

In order to meet the target reissuance date for the Cumberland-Old Hickory Lake watershed and following the directives for the Watershed Management Program initiated in January 1996, the permit will be issued to expire in 2029.

8.5. **ELECTRONIC REPORTING**

The [NPDES Electronic Reporting Rule \(eRule\)](#), which became effective on December 21, 2016, replaces most paper-based reporting requirements with electronic reporting requirements. NetDMR allows NPDES permittees to submit DMRs electronically to EPA through a secure internet application and has been approved by Tennessee as the official electronic reporting tool for DMRs. The permittee has been reporting electronically via NetDMR since May 9, 2016.

Monitoring results shall be recorded monthly and submitted monthly using Discharge Monitoring Reports (DMRs) based on the effluent limits in **section 1.1** of the permit. DMRs and DMR attachments, including laboratory data and sanitary sewer overflow reports, shall be submitted electronically in [NetDMR](#) or other electronic reporting tool approved by the State, no later than the 15th of the month following the end of the monitoring period. All NPDES program reports must be signed and certified by a responsible official or a duly authorized representative, as defined in 40 CFR § 122.22.

According to 40 CFR § 127.15, states have the flexibility to grant temporary or episodic waivers from electronic reporting to NPDES permittees who are unable to meet the electronic reporting requirements. To obtain an electronic reporting waiver, an [electronic reporting waiver request](#) must be submitted by email to DWRwater.compliance@tn.gov or by mail to the following address:

*Division of Water Resources
Compliance and Enforcement Unit – NetDMR Waivers
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 11th Floor
Nashville, TN 37243-1102*

For contact and training information about NetDMR electronic reporting, visit the Division's website [here](#).

The permit language has been modified to accommodate the implementation of the MyTDEC Forms electronic reporting tool. For more information, visit EPA's website on [eReporting requirements](#).

8.6. ANTIDegradation Statement / Water Quality Status

Tennessee's Antidegradation Statement is found in the Rules of the Tennessee Department of Environment and Conservation, Chapter [0400-40-03-.06](#). It is the purpose of Tennessee's standards to fully protect existing uses of all surface waters as established under the Act.

Stream determinations for this permit action are associated with the waterbody segment identified by the Division as segment ID# TN05130201001_1000 .

The Division has made a determination of the receiving waters associated with the subject discharge(s) and has found the (stream or river) to be an exceptional Tennessee water. No permanent degradation of water quality above the level of *de minimis* will be allowed unless the applicant demonstrates to the Division that

the degradation is for necessary economic or social development and will not interfere with or become injurious to any existing uses. The specific requirements for this demonstration are described in the Rules of the Tennessee Department of Environment and Conservation, Chapter 0400-40-03-.06(4).

TMDLs have not been developed and approved for this waterbody segment of the Cumberland River.

On September 21, 2023, the permittee submitted an analysis of reasonable alternatives to the continued treated wastewater discharge into the Cumberland River (Old Hickory Reservoir) at mile 308, as required for Exceptional Tennessee Waters by Rule [0400-40-03-.06\(c\)](#).

The Town of Carthage has examined alternatives to the current discharge point and has chosen the current discharge point as the most cost effective and feasible solution to wastewater disposal at this time.

The Division agrees with the permittee's alternatives analysis.



APPENDIX 1 –PREVIOUS PERMIT LIMITS

Monitoring : All Weather							
Code	Parameter	Qualifier	Value	Unit	Sample Type	Monitoring Frequency	Statistical Base
51929	Bypass of Treatment Facility	Report	-	occur/mo	Occurrences	Continuous	Monthly Total
51929	Bypass of Treatment Facility	Report	-	gal/mo	Estimate	Continuous	Monthly Total
Monitoring : Dry Weather							
Code	Parameter	Qualifier	Value	Unit	Sample Type	Monitoring Frequency	Statistical Base
51925	SSO, Dry Weather	Report	-	gal/mo	Estimate	Continuous	Monthly Total
51925	SSO, Dry Weather	Report	-	occur/12 Mo Cumulative Total	Calculated	Continuous	Total
51925	SSO, Dry Weather	<=	0	occur/mo	Occurrences	Continuous	Monthly Total
51927	Release [Sewer], Dry Weather	Report	-	occur/mo	Occurrences	Continuous	Monthly Total
51927	Release [Sewer], Dry Weather	Report	-	gal/mo	Estimate	Continuous	Monthly Total
Monitoring : Wet Weather							
Code	Parameter	Qualifier	Value	Unit	Sample Type	Monitoring Frequency	Statistical Base
51926	SSO, Wet Weather	Report	-	gal/mo	Estimate	Continuous	Monthly Total
51926	SSO, Wet Weather	Report	-	occur/12 Mo Cumulative Total	Calculated	Continuous	Total
51926	SSO, Wet Weather	<=	0	occur/mo	Occurrences	Continuous	Monthly Total
51928	Release [Sewer], Wet Weather	Report	-	gal/mo	Estimate	Continuous	Monthly Total
51928	Release [Sewer], Wet Weather	Report	-	occur/mo	Occurrences	Continuous	Monthly Total



Description : External Outfall, Number : 001, Monitoring : Effluent Gross, Season : All Year							
Code	Parameter	Qualifier	Value	Unit	Sample Type	Monitoring Frequency	Statistical Base
00300	Oxygen, dissolved (DO)	>=	1.0	mg/L	Grab	Two Per Week	Instantaneous Minimum
00310	BOD, 5-day, 20 C	<=	156	lb/d	Composite	Two Per Week	Monthly Average
00310	BOD, 5-day, 20 C	<=	209	lb/d	Composite	Two Per Week	Weekly Average
00310	BOD, 5-day, 20 C	<=	30	mg/L	Composite	Two Per Week	Monthly Average
00310	BOD, 5-day, 20 C	<=	40	mg/L	Composite	Two Per Week	Weekly Average
00310	BOD, 5-day, 20 C	<=	45	mg/L	Composite	Two Per Week	Daily Maximum
00400	pH	>=	6.0	SU	Grab	Two Per Week	Minimum
00400	pH	<=	9.0	SU	Grab	Two Per Week	Maximum
00530	Total Suspended Solids (TSS)	<=	30	mg/L	Composite	Weekly	Monthly Average
00530	Total Suspended Solids (TSS)	<=	40	mg/L	Composite	Weekly	Weekly Average
00530	Total Suspended Solids (TSS)	<=	45	mg/L	Composite	Weekly	Daily Maximum
00530	Total Suspended Solids (TSS)	<=	156	lb/d	Composite	Weekly	Monthly Average
00530	Total Suspended Solids (TSS)	<=	209	lb/d	Composite	Weekly	Weekly Average
00545	Settleable Solids	<=	1	mL/L	Grab	Five Per Week	Daily Maximum
00600	Nitrogen, total (as N)	Report	-	lb/d	Composite	Quarterly	Quarterly Average
00600	Nitrogen, total (as N)	Report	-	lb/d	Composite	Quarterly	Daily Maximum
00600	Nitrogen, total (as N)	Report	-	mg/L	Composite	Quarterly	Quarterly Average
00600	Nitrogen, total (as N)	Report	-	mg/L	Composite	Quarterly	Daily Maximum
00610	Nitrogen, Ammonia total (as N) *	Report	-	mg/L	Composite	Weekly	Monthly Average
00610	Nitrogen, Ammonia total (as N) *	Report	-	mg/L	Composite	Weekly	Daily Maximum



00665	Phosphorus, total (as P)	Report	-	lb/d	Composite	Quarterly	Quarterly Average
00665	Phosphorus, total (as P)	Report	-	mg/L	Composite	Quarterly	Quarterly Average
00665	Phosphorus, total (as P)	Report	-	mg/L	Composite	Quarterly	Daily Maximum
00665	Phosphorus, total (as P)	Report	-	lb/d	Composite	Quarterly	Daily Maximum
00940	Chloride (as Cl) *	Report	-	mg/L	Composite	Weekly	Daily Maximum
00940	Chloride (as Cl) *	Report	-	mg/L	Composite	Weekly	Monthly Average
50050	Flow	Report	-	Mgal/d	Continuous	Daily	Daily Maximum
50050	Flow	Report	-	Mgal/d	Continuous	Daily	Monthly Average
50060	Chlorine, total residual (TRC)	<=	2.0	mg/L	Grab	Five Per Week	Daily Maximum
51040	E. coli	<=	126	#/100mL	Grab	Weekly	Geometric Mean
51040	E. coli	<=	487	#/100mL	Grab	Weekly	Daily Maximum
TAA3B	LC50 Static 48Hr Acute Ceriodaphnia	>=	1.4	%	Composite	Annual	Minimum
TAA6C	LC50 Static 48Hr Acute Pimephales promelas	>=	1.4	%	Composite	Annual	Minimum

If the permittee does not accept landfill leachate at the facility, monitoring is not required for chloride (as Cl) or ammonia (as N).

Description : External Outfall, Number : 001, Monitoring : Percent Removal, Season : All Year

Code	Parameter	Qualifier	Value	Unit	Sample Type	Monitoring Frequency	Statistical Base
81010	BOD, 5-day, % removal	>=	40	%	Composite	Two Per Week	Daily Minimum
81010	BOD, 5-day, % removal	>=	85	%	Composite	Two Per Week	Monthly Average Minimum
81011	TSS, % removal	>=	40	%	Composite	Weekly	Daily Minimum
81011	TSS, % removal	>=	85	%	Composite	Weekly	Monthly Average Minimum

Description : External Outfall, Number : 001, Monitoring : Raw Sewage Influent, Season : All Year

Code	Parameter	Qualifier	Value	Unit	Sample Type	Monitoring Frequency	Statistical Base
00310	BOD, 5-day, 20 C	Report	-	mg/L	Composite	Two Per Week	Monthly Average
00310	BOD, 5-day, 20 C	Report	-	mg/L	Composite	Two Per Week	Daily Maximum
00530	Total Suspended Solids (TSS)	Report	-	mg/L	Composite	Weekly	Monthly Average
00530	Total Suspended Solids (TSS)	Report	-	mg/L	Composite	Weekly	Daily Maximum
50050	Flow	Report	-	Mgal/d	Continuous	Daily	Daily Maximum
50050	Flow	Report	-	Mgal/d	Continuous	Daily	Monthly Average



APPENDIX 2 – DMR SUMMARY

	BOD, Effluent					BOD, Influent		BOD, Percent Removal		Bypass		Bypass valve
	Monthly avg (lb/d)	Weekly avg (lb/d)	Monthly average (mg/L)	Weekly average (mg/L)	Daily max. (mg/L)	Weekly average (mg/L)	Daily max. (mg/L)	Monthly average or min. (%)	Weekly average or geo. mean (%)	Monthly or total (occur/mo)	Monthly average or min. (gal/mo)	Monthly or total (occur/mo)
12/31/2023	29.7	43.2	12.3	18.1	19.7	256.1	303.3	92.9	95.2			
11/30/2023	19.5	32.4	7.6	11.7	13.8	239.5	342.5	93.8	96.8			
10/31/2023	13	15.7	5.4	6.2	7.3	205.3	247	96.8	97.4			
09/30/2023	139.1	25.8	5.8	7.3	9.5	216.5	304	94.4	97.3			
08/31/2023	21.7	33.8	6.9	12.9	12.9	188.9	269	94.4	96.3			
07/31/2023	23.9	39.3	7	8	9	169.6	247	95.3	95.9			
06/30/2023	18.3	21.8	7.4	7.9	9.2	217	305	94.7	96.6			
05/31/2023	19.1	25.9	6.5	9	13	225.6	325	94.5	97.1			
04/30/2023	20.9	26.7	7	9.5	14	229.9	400	92.3	97			
03/31/2023	28.9	69.1	7.8	14.6	23.3	243	347.5	93.3	96.8			
02/28/2023	47.7	92.4	11	17	20.9	234.1	390	93.7	95.3			
01/31/2023	63.4	121	11	19.5	20	198.5	287	89.5	94.5			
12/31/2022	41.3	49.1	7.3	13.5	17	197.9	311	85.6	98.4			
11/30/2022	13	10.5	5.4	5	8	266.1	303	97.3	98			
10/31/2022	14.1	18.9	6.8	8.5	9	280	345	95.9	97.6			
09/30/2022	25.5	47	10.5	17.5	19.3	257.8	320	91.1	95.9			
08/31/2022	15.1	23.4	5.4	7	9	258.7	346	97	97.9			
07/31/2022	31.4	47.1	7.9	12.3	13	188.5	318	92.4	95.8			
06/30/2022	19.2	26.4	7.3	11.8	13.3	224.4	345	93.9	96.8			
05/31/2022	25.6	39.1	8.1	13	16	283.1	345	94.1	97.1			
04/30/2022	26.9	41.3	6.4	8.2	11	182.4	328	93.9	96.5			
03/31/2022	26.5	51.4	7.8	15.9	22	209.1	341	91.9	96.3			
02/28/2022	34.1	43.8	5.3	6.2	7.3	209.8	282	95.5	97.5			
01/31/2022	29.5	49.4	5	5	5	144.9	211	95	96.5			



	BOD, Effluent					BOD, Influent		BOD, Percent Removal		Bypass		Bypass valve
	<i>Monthly avg (lb/d)</i>	<i>Weekly avg (lb/d)</i>	<i>Monthly average (mg/L)</i>	<i>Weekly average (mg/L)</i>	<i>Daily max. (mg/L)</i>	<i>Weekly average (mg/L)</i>	<i>Daily max. (mg/L)</i>	<i>Monthly average or min. (%)</i>	<i>Weekly average or geo. mean (%)</i>	<i>Monthly or total (occur/mo)</i>	<i>Monthly average or min. (gal/mo)</i>	<i>Monthly or total (occur/mo)</i>
12/31/2021	26.4	46.9	7.6	16.3	16	276.3	358	94.2	97.3			
11/30/2021	24.2	60.9	9.4	23	25	333.9	453	89.8	97.2	1	811000	
10/31/2021	20.8	47.5	5	5	5	226.9	264	97.3	97.8	0	0	
09/30/2021	17.1	30.5	5.2	6	7	231.7	318	95.4	97.8	0	0	
08/31/2021	15.4	19	5.8	6.5	8	253.1	353	94.6	98.6	0	0	
07/31/2021	14.2	15.2	6	6.5	6.5	259	354	96.5	97.8	0	0	
06/30/2021	30.5	63.6	6.9	9.5	14	254	340	95.9	97.3	0	0	
05/31/2021	17.6	26.2	5	5	5	225.3	332	94.8	97.8	0	0	
04/30/2021	34.3	39.6	7.7	12.5	15	234.1	326	90.6	96.7	0	0	
03/31/2021	38.2	46	6.3	7.5	10	207.9	308	92.6	97	0	0	
02/28/2021	29	38.4	7	8.5	12	180.8	248	92.8	96.1	0	0	
01/31/2021	22.3	28.8	6.4	8	10	230.3	440	94	97.2	0	0	
12/31/2020	54.1	103.1	9.4	13	19	263.1	353	93.1	96.4	0	0	
11/30/2020	9.3	16.4	7.1	12.5	17	307.9	345	94.6	97.7	0	0	
10/31/2020	17.4	28.3	9.8	17.5	19	250.1	303	92.3	96.1	0	0	
09/30/2020	14.5	23.7	6.5	10.5	12	236.5	283	95.3	97.2	0	0	
08/31/2020	12	15	5.4	6.5	8	272.9	332	97.1	98	1	200000	
07/31/2020	18.9	27.6	7.1	11	14	241.1	283	94.7	97.1	0	0	
06/30/2020	17.2	28.5	6.1	9	9	262.5	317	96.9	97.7	0	0	
05/31/2020	20.9	29.7	6.3	7.5	9	234.4	310	94.9	97.3	0	0	
04/30/2020	31	50	6	10	11	104	134	91	94	0	0	
03/31/2020	59	87	8	10	13	150	249	90	95	0	0	
02/29/2020	47	72	5	7	8	138	158	95	96	0	0	
01/31/2020	46	88	8	11	16	163	210	91	95	0	0	



	BOD, Effluent					BOD, Influent		BOD, Percent Removal		Bypass		Bypass valve
	Monthl y avg (lb/d)	Weekly avg (lb/d)	Monthly average (mg/L)	Weekly average (mg/L)	Daily max. (mg/L)	Weekly average (mg/L)	Daily max. (mg/L)	Monthly average or min. (%)	Weekly average or geo. mean (%)	Monthly or total (occur/mo)	Monthly average or min. (gal/mo)	Monthly or total (occur/mo)
07/31/2020	40	60	8	11	10	103	210	91	93	0	0	
12/31/2019	32	38	8	13	13	139	236	90	94	0	0	
11/30/2019	48	77	12	14	16	251	332	92	95	0	0	
10/31/2019	13	16	6	8	10	245	360	96	98	0	0	
09/30/2019	18	21	8	10	15	312	410	96	97	0	0	
08/31/2019	19	28	7	8	10	285	408	97	98	0	0	
07/31/2019	29	43	10	15	17	295	383	94	97	0	0	
06/30/2019	38	58	10	12	14	296	410	95	97	0	0	
05/31/2019	39	53	14	18	18	308	450	94	96	0	0	
04/30/2019	35	40	9	10	12	219	333	94	96			0
03/31/2019	6.6	108	11	12	17	150	300	84	93			0
02/28/2019	90	132	10	12	25	155	405	81	94			0
01/31/2019	70	107	13	20	25	201	325	89	94			0
Std. dev.	21.236	28.12452757	2.1485371	4.25462	5.2155623	48.6412	63.578528	3.1271835	1.24395	0.249731	148856.68	0
Min:	6.6	10.5	5	5	5	104	134	81	93	0	0	0
Max:	139.1	132	14	23	25	333.9	453	97.3	98.6	1	811000	0
Count:												
Average:	30.372	45.79	7.665	10.9567	13.383333	228.658	322.42167	93.426667	96.5933	0.064516	32612.903	0
Permit limit:												
Ratio of long term												

	Chloride, Effluent		TRC, Effluent	E. coli, Effluent		Flow, Effluent		Flow, Influent		LC50 Static 48Hr Acute Ceriodaphnia dubia, Effluent Gross	LC50 Static 48Hr Acute Pimephales promelas, Effluent Gross	Ammonia, Effluent	
	Weekly average or geo. mean (mg/L)	Daily max. (mg/L)	Daily max. (mg/L)	Monthly geo. mean (MPN/100mL)	Daily max. (MPN/100mL)	Monthly avg (MGD)	Daily max (MGD)	Monthly avg (MGD)	Daily max (MGD)	Monthly average or min. (%)	Monthly average or min. (%)	Weekly average (mg/L)	Daily max. (mg/L)
12/31/2023	NODI9	NODI9	1.9	23.9	70	0.33	0.598	0.319	0.557	NODI9	NODI9	NODI9	NODI9
11/30/2023	NODI9	NODI9	1.9	1.3	3	0.3	0.482	0.294	0.455	NODI9	NODI9	NODI9	NODI9
10/31/2023	NODI9	NODI9	1.9	5.5	17.3	0.291	0.347	0.29	0.345	NODI9	> 5.6	NODI9	NODI9
09/30/2023	NODI9	NODI9	1.9	3.7	43.9	0.324	0.513	0.31	0.47	153	NODI9	NODI9	NODI9
08/31/2023	NODI9	NODI9	1.9	12.6	30.9	0.4	0.842	0.369	0.746	NODI9	NODI9	NODI9	NODI9
07/31/2023	NODI9	NODI9	1.9	17.7	122.2	0.397	1.144	0.393	1.076	NODI9	NODI9	NODI9	NODI9
06/30/2023	NODI9	NODI9	1.9	33	85.9	0.309	0.5	0.302	0.46	NODI9	NODI9	NODI9	NODI9
05/31/2023	NODI9	NODI9	1.9	11.9	253.5	0.397	0.964	0.394	1.196	NODI9	NODI9	NODI9	NODI9
04/30/2023	NODI9	NODI9	1.9	6.3	100.3	0.358	0.607	0.328	0.514	NODI9	NODI9	NODI9	NODI9
03/31/2023	NODI9	NODI9	1.9	39.6	172.5	0.43	0.645	0.395	0.595	NODI9	NODI9	NODI9	NODI9
02/28/2023	NODI9	NODI9	1.9	92.2	435.2	0.453	0.808	0.416	0.746	NODI9	NODI9	NODI9	NODI9
01/31/2023	NODI9	NODI9	1.9	56.8	313	0.549	1.158	0.511	1.372	NODI9	NODI9	NODI9	NODI9
12/31/2022	NODI9	NODI9	1.9	12.6	64	0.534	1.485	0.495	1.54	NODI9	NODI9	NODI9	NODI9
11/30/2022	NODI9	NODI9	1.9	13	461.1	0.273	0.703	0.267	0.65	NODI9	NODI9	NODI9	NODI9
10/31/2022	NODI9	NODI9	1.9	9.8	19.7	0.245	0.297	0.241	0.317	NODI9	NODI9	NODI9	NODI9
09/30/2022	NODI9	NODI9	1.9	5.7	344.8	0.302	0.56	0.288	0.6	> 5.6	> 5.6	NODI9	NODI9
08/31/2022	NODI9	NODI9	1.9	7.5	140	0.313	0.665	0.277	0.59	NODI9	NODI9	NODI9	NODI9
07/31/2022	NODI9	NODI9	1.9	6.1	125	0.486	1.305	0.426	1.41	NODI9	NODI9	NODI9	NODI9
06/30/2022	NODI9	NODI9	1.9	38.9	93	0.33	0.87	0.281	0.59	NODI9	NODI9	NODI9	NODI9
05/31/2022	NODI9	NODI9	1.9	6.9	20.5	0.394	1.06	0.342	1	NODI9	NODI9	NODI9	NODI9
04/30/2022	NODI9	NODI9	1.9	12	38.1	0.484	1.046	0.476	1.291	NODI9	NODI9	NODI9	NODI9
03/31/2022	NODI9	NODI9	1.9	11.8	27.4	0.399	0.624	0.354	0.534	NODI9	NODI9	NODI9	NODI9
02/28/2022	NODI9	NODI9	1.9	14	4.1	0.632	1.447	0.593	1.376	NODI9	NODI9	NODI9	NODI9
01/31/2022	NODI9	NODI9	1.6	40	143.7	0.733	1.342	0.618	1.7	NODI9	NODI9	NODI9	NODI9



	Chloride, Effluent		TRC, Effluent	E. coli, Effluent		Flow, Effluent		Flow, Influent		LC50 Static 48Hr Acute Ceriodaphnia a dubia, Effluent Gross	LC50 Static 48Hr Acute Pimephales promelas, Effluent Gross	Ammonia, Effluent	
	Weekly average or geo. mean (mg/L)	Daily max. (mg/L)	Daily max. (mg/L)	Monthly geo. mean (MPN/100 mL)	Daily max. (MPN/100m L)	Monthly avg (MGD)	Daily max (MGD)	Monthly avg (MGD)	Daily max (MGD)	Monthly average or min. (%)	Monthly average or min. (%)	Weekly average(mg/L)	Daily max. (mg/L)
12/31/2021	NODI 9	NODI 9	1.9	36.3	88.4	0.506	1.112	0.421	1.115	NODI 9	NODI 9	NODI 9	NODI 9
11/30/2021	NODI 9	NODI 9	1.9	9.7	152.3	0.289	0.555	0.269	0.478	NODI 9	NODI 9	NODI 9	NODI 9
10/31/2021	NODI 9	NODI 9	1.9	2.6	11	0.407	1.238	0.369	1.242	NODI 9	NODI 9	NODI 9	NODI 9
09/30/2021	NODI 9	NODI 9	1.4	3.6	14.6	0.379	1.024	0.341	0.934	> 5.6	> 5.6	NODI 9	NODI 9
08/31/2021	NODI 9	NODI 9	1.9	8.4	16	0.354	1.104	0.329	0.972	NODI 9	NODI 9	NODI 9	NODI 9
07/31/2021	NODI 9	NODI 9	1.9	5.3	32	0.31	0.569	0.278	0.47	NODI 9	NODI 9	NODI 9	NODI 9
06/30/2021	NODI 9	NODI 9	1.9	2.5	38	0.422	1.049	0.407	0.915	NODI 9	NODI 9	NODI 9	NODI 9
05/31/2021	NODI 9	NODI 9	1.9	7.1	193.5	0.459	1.037	0.404	0.967	NODI 9	NODI 9	NODI 9	NODI 9
04/30/2021	NODI 9	NODI 9	1.9	10.1	53.7	0.52	1.27	0.495	1.212	NODI 9	NODI 9	NODI 9	NODI 9
03/31/2021	NODI 9	NODI 9	1.9	34.7	410.6	0.719	1.77	0.674	1.689	NODI 9	NODI 9	NODI 9	NODI 9
02/28/2021	NODI 9	NODI 9	1.9	7.2	162.4	0.57	1.027	0.586	1.94	NODI 9	NODI 9	NODI 9	NODI 9
01/31/2021	NODI 9	NODI 9	1.9	9.6	41	0.48	1.29	0.457	1.162	NODI 9	NODI 9	NODI 9	NODI 9
12/31/2020	NODI 9	NODI 9	1.9	24.4	219	0.571	1.172	0.525	1.15	NODI 9	NODI 9	NODI 9	NODI 9
11/30/2020	NODI 9	NODI 9	1.9	7.1	70.3	0.171	0.374	0.249	0.411	NODI 9	NODI 9	NODI 9	NODI 9
10/31/2020	NODI 9	NODI 9	1.9	3	9	0.229	0.533	0.3	0.514	NODI 9	NODI 9	NODI 9	NODI 9
09/30/2020	NODI 9	NODI 9	1.9	7.4	51	0.282	1.119	0.357	1.059	2.2	5.6	NODI 9	NODI 9
08/31/2020	NODI 9	NODI 9	1.9	2.6	60.5	0.337	1.027	0.351	0.978	NODI 9	NODI 9	NODI 9	NODI 9
07/31/2020	NODI 9	NODI 9	1.9	2	8	0.32	0.427	0.304	0.392	NODI 9	NODI 9	NODI 9	NODI 9
06/30/2020	NODI 9	NODI 9	1.9	3.5	211	0.303	0.527	0.282	0.526	NODI 9	NODI 9	NODI 9	NODI 9
05/31/2020	NODI 9	NODI 9	1.9	2.2	4.1	0.356	0.86	0.324	0.746	NODI 9	NODI 9	NODI 9	NODI 9
04/30/2020	NODI 9	NODI 9	1.9	8.8	34.5	0.667	1.979	0.702	1.999	NODI 9	NODI 9	NODI 9	NODI 9
03/31/2020	NODI 9	NODI 9	1.9	23.4	67	0.773	1.565	0.795	1.886	NODI 9	NODI 9	NODI 9	NODI 9
02/29/2020	NODI 9	NODI 9	1.9	17	188	0.938	1.976	1.049	2.113	NODI 9	NODI 9	NODI 9	NODI 9
01/31/2020	NODI 9	NODI 9	1.9	62.1	203	0.792	1.683	0.803	1.662	NODI 9	NODI 9	NODI 9	NODI 9



	Total Nitrogen, Effluent				Overflows	Dissolved Oxygen, Effluent	pH, Effluent		Total Phosphorus, Effluent			
	Monthly avg (lb/d)	Weekly avg (lb/d)	Weekly average (mg/L)	Daily max. (mg/L)			Monthly or total (occurs/mo)	Monthly average or min. (mg/L)	Monthly average or min. (SU)	Daily max. (SU)	Monthly or total (lb/d)	Weekly or daily (lb/d)
12/31/2023	NODI9	NODI9	NODI9	NODI9		3.2	7.1	7.4	NODI9	NODI9	NODI9	NODI9
11/30/2023	NODI9	NODI9	NODI9	NODI9		2.8	7	7.4	NODI9	NODI9	NODI9	NODI9
10/31/2023	19.5	19.5	8.01	8.01		3.4	7	7.3	4.9	4.9	2.01	2.01
09/30/2023	NODI9	NODI9	NODI9	NODI9		3	7.1	7.3	NODI9	NODI9	NODI9	NODI9
08/31/2023	NODI9	NODI9	NODI9	NODI9		3	7.2	7.4	NODI9	NODI9	NODI9	NODI9
07/31/2023	39.3	39.3	15.3	15.3		3	7.2	7.4	4.6	4.6	1.8	1.8
06/30/2023	NODI9	NODI9	NODI9	NODI9		2.6	7.3	7.4	NODI9	NODI9	NODI9	NODI9
05/31/2023	NODI9	NODI9	NODI9	NODI9		2	7.1	7.4	NODI9	NODI9	NODI9	NODI9
04/30/2023	23.2	23.2	7.9	7.9		3.7	7.1	7.4	3.5	3.5	1.2	1.2
03/31/2023	NODI9	NODI9	NODI9	NODI9		4.3	7.1	7.3	NODI9	NODI9	NODI9	NODI9
02/28/2023	NODI9	NODI9	NODI9	NODI9		3.6	7	7.3	NODI9	NODI9	NODI9	NODI9
01/31/2023	38.8	38.8	6.4	6.4		3.7	7.1	7.4	0.6	0.6	0.1	0.1
12/31/2022	NODI9	NODI9	NODI9	NODI9		3.7	7.1	7.3	NODI9	NODI9	NODI9	NODI9
11/30/2022	NODI9	NODI9	NODI9	NODI9		3.2	7	7.4	NODI9	NODI9	NODI9	NODI9
10/31/2022	62.2	62.2	30.7	30.7		2.7	7.1	7.3	4.8	4.8	2.4	2.4
09/30/2022	NODI9	NODI9	NODI9	NODI9		2.3	6.9	7.2	NODI9	NODI9	NODI9	NODI9
08/31/2022	NODI9	NODI9	NODI9	NODI9		3	6.9	7.3	NODI9	NODI9	NODI9	NODI9
07/31/2022	69.2	69.2	10.9	10.9		3.1	7	7.4	30	30	4.7	4.7
06/30/2022	NODI9	NODI9	NODI9	NODI9		3.4	6.9	7.3	NODI9	NODI9	NODI9	NODI9
05/31/2022	NODI9	NODI9	NODI9	NODI9		3.2	7.2	7.4	NODI9	NODI9	NODI9	NODI9
04/30/2022	92	92	24.3	24.3		3.1	7.1	7.4	7	7	1.9	1.9
03/31/2022	NODI9	NODI9	NODI9	NODI9		3.3	7.1	7.3	NODI9	NODI9	NODI9	NODI9
02/28/2022	NODI9	NODI9	NODI9	NODI9		3.2	6.9	7.4	NODI9	NODI9	NODI9	NODI9
01/31/2022	52.2	52.2	6.1	6.1		4.4	7.1	7.4	2.1	2.1	0.2	0.2



	Release, Dry Weather		Release, Wet Weather		Solids, settleable, Effluent	TSS, percent removal			TSS, Effluent					TSS, Influent	
	Monthly or total (occur/mo)	Monthly average or min. (gal/mo)	Monthly or total (occur/mo)	Monthly average or min. (gal/mo)		Daily max. (mL/L)	Monthly avg. min. (%)	Daily minimum (%)	Monthly avg. (lb/d)	Weekly or daily (lb/d)	Monthly average or min. (mg/L)	Weekly average or geo. mean (mg/L)	Daily max. (mg/L)	Weekly average or geo. mean (mg/L)	Daily max. (mg/L)
12/31/2023					0.1	74.6	90.9	23.3	36.6	8.7	11.3	11.3	95.1	164	
11/30/2023					0.1	93.1	96.7	9.8	14.5	3.6	4.3	4.3	108	160	
10/31/2023					0.1	93.1	98.1	6.5	9.3	2.6	3.3	3.7	136	192	
09/30/2023					0.1	93.9	97.6	4	6	1.6	2.3	2.3	66	94	
08/31/2023					0.3	91.7	95.3	11.3	22	3.2	4.7	4.7	67.5	146	
07/31/2023					0.1	95	96.1	10.1	11.4	3.7	4	4	94	132	
06/30/2023					0.1	92.3	95.2	8.5	12.3	3.3	4	4	68	100	
05/31/2023					0.1	96.3	96.8	16.9	32.2	4.7	7	7	149.2	224	
04/30/2023					0.1	95.9	98.4	6.8	12.9	2.4	4	4	154.5	274	
03/31/2023					0.7	80.6	90.3	23.9	26.9	7.4	9	26.9	76.5	112	
02/28/2023					0.4	91.6	92.9	28.9	33.4	9.3	14	14	130	166	
01/31/2023					0.4	91.9	96.6	14.9	22.1	4.2	7.3	7.3	122.4	184	
12/31/2022					0.7	95.9	98.1	11.6	16.1	3.6	5	5	193	304	
11/30/2022					0.1	97.3	98.3	7.4	8.9	3.5	4.3	4.3	210.5	240	
10/31/2022					0.1	93.2	96.8	8.8	15.8	4.2	8.3	8.3	134	224	
09/30/2022					0.7	93.6	96.6	15	34.4	5.9	13	13	174.5	204	
08/31/2022					0.4	95.4	97.8	8	14	3.2	5	5	145.2	192	
07/31/2022					0.1	94	96.2	35.2	98	5.8	9	9	152.5	192	
06/30/2022					0.3	92.7	96.7	17.2	24.7	6.8	11	11	202	240	
05/31/2022					0.1	96.6	97.2	16.9	27.2	5.9	9	9	215.6	302	
04/30/2022					0.6	95	96.5	19.9	33.5	5	7.7	7.7	144	214	
03/31/2022					0.1	95.5	97.4	14.3	20.8	4.1	5.7	5.7	156.5	250	
02/28/2022					1	94.9	96.4	22.4	7.7	5.5	7.7	7.7	154.5	192	
01/31/2022					0.9	92.1	96.8	31.3	83.4	4.3	9	9	133.6	178	

	Release, Dry Weather		Release, Wet Weather		Solids, settleable, Effluent	TSS, percent removal			TSS, Effluent					TSS, Influent	
	Monthly or total (occur/mo)	Monthly average or min. (gal/mo)	Monthly or total (occur/mo)	Monthly average or min. (gal/mo)		Daily max. (mL/L)	Monthly avg. min. (%)	Daily minimum (%)	Monthly avg. (lb/d)	Weekly or daily (lb/d)	Monthly average or min. (mg/L)	Weekly average or geo. mean (mg/L)	Daily max. (mg/L)	Weekly average or geo. mean (mg/L)	Daily max. (mg/L)
12/31/2021					0.1	96.7	98.1	14.4	25.6	3.3	5	5	172.5	312	
11/30/2021	0	0	0	0	0.4	94.1	97.6	13.3	95.2	4.3	6.7	6.7	179.6	372	
10/31/2021	0	0	0	0	0.4	95	96.7	18.8	27.3	6	8	8	184.5	302	
09/30/2021	0	0	0	0	0.1	95.7	96.8	14.8	20.6	5	8	8	158.5	192	
08/31/2021	0	0	0	0	0.6	93.9	96.8	23.1	43.3	5.5	10	10	168	208	
07/31/2021	0	0	0	0	0.1	97.4	98.1	12	16.9	4	5	5	213	222	
06/30/2021	0	0	0	0	0.1	94.7	96.7	18.5	37.5	5.4	8.3	8.3	163	220	
05/31/2021	0	0	0	0	0.1	95.7	97.7	19.2	23.3	4.4	7	7	189.6	292	
04/30/2021	0	0	0	0	0.1	87.5	96	24.7	57.9	5.7	10	10	143	188	
03/31/2021	0	0	0	0	0.7	84.7	96.3	51.3	197.5	5.8	15	15	156	254	
02/28/2021	0	0	0	0	0.1	94.4	97.3	15.3	23.1	3	5	5	111	138	
01/31/2021	0	0	0	0	0.6	91.5	97.3	18.6	26.9	4.8	9	9	174	258	
12/31/2020	0	0	0	0	0.4	89.4	96.4	27.2	41.4	6	11	11	169	304	
11/30/2020	0	0	0	0	0.3	88.7	97.6	11.9	37.4	5.6	12	12	231.2	312	
10/31/2020	0	0	0	0	0.1	96.4	98	6.4	8.2	3.6	5	5	176.5	264	
09/30/2020	0	0	0	0	0.3	96.7	98.3	9.3	15.5	3.8	5	5	215.5	386	
08/31/2020	0	0	0	0	0.4	94.3	97.7	13.3	29.3	4	6	6	174	330	
07/31/2020	1	10000	0	0	<.1	93.7	97.1	17.1	29.5	6	11	11	210	252	
06/30/2020	0	0	0	0	0.1	94.1	97.5	14.2	39.6	5.6	16	16	220.8	330	
05/31/2020	0	0	0	0	0.1	97.3	98.6	9.7	31.5	2.8	8	8	202.5	296	
04/30/2020	0	0	0	0	0.1	92	98	18	28	3	5	5	150	308	
03/31/2020	0	0	0	0	0.8	92	98	27	27	3	5	5	117	172	
02/29/2020	0	0	0	0	0.7	93	96	44	99	5	7	7	119	166	
01/31/2020	0	0	0	0	0.8	94	97	27	31	5	7	7	145	220	



	SSO, Dry Weather			SSO, Wet Weather		
	<i>Monthly or total (occur/mo)</i>	<i>Monthly average or min. (gal/mo)</i>	<i>Percent exceedance</i>	<i>Monthly or total (occur/mo)</i>	<i>Monthly average or min. (gal/mo)</i>	<i>Percent exceedance</i>
12/31/2023	1		2147483650	0		
11/30/2023	0			0		
10/31/2023	0			0		
09/30/2023	0			0		
08/31/2023	0			0		
07/31/2023	0			1		2147483650
06/30/2023	0			0		
05/31/2023	0			0		
04/30/2023	0			0		
03/31/2023	0			0		
02/28/2023	0			1		2147483650
01/31/2023	0			1		2147483650
12/31/2022	0			1		2147483650
11/30/2022	0			0		
10/31/2022	0			0		
09/30/2022	0			0		
08/31/2022	0			0		
07/31/2022	7		2147483650	0		
06/30/2022	7		2147483650	0		
05/31/2022	0			0		
04/30/2022	0			0		
03/31/2022	0			0		
02/28/2022	0			0		
01/31/2022	0			0		



	SSO, Dry Weather			SSO, Wet Weather		
	Monthly or total (occur/mo)	Monthly average or min. (gal/mo)	Percent exceedance	Monthly or total (occur/mo)	Monthly average or min. (gal/mo)	Percent exceedance
12/31/2021	0			0		
11/30/2021	0	0		1	0	
10/31/2021	0	0		1	0	
09/30/2021	0	0		1	0	
08/31/2021	0	0		1	0	
07/31/2021	0	0		1	0	
06/30/2021	0	0		1	0	
05/31/2021	0	0		1	0	
04/30/2021	0	0		1	0	
03/31/2021	0	0		1	50000	2147483650
02/28/2021	0	0		0	0	
01/31/2021	0	0		0	0	
12/31/2020	0	0		0	0	
11/30/2020	0	0		0	0	
10/31/2020	0	0		0	0	
09/30/2020	0	0		0	0	
08/31/2020	0	0		0	0	
07/31/2020	0	0		0	0	
06/30/2020	0	0		0	0	
05/31/2020	0	0		0	0	
04/30/2020	0	0		0	0	
03/31/2020	0	0		0	0	
02/29/2020	0	0		0	0	
01/31/2020	1	66000	2147483650	0	0	

	SSO, Dry Weather			SSO, Wet Weather		
	Monthly or total (occur/mo)	Monthly average or min. (gal/mo)	Percent exceedance	Monthly or total (occur/mo)	Monthly average or min. (gal/mo)	Percent exceedance
12/31/2019	0	0		0	0	
11/30/2019	0	0		0	0	
10/31/2019	0	0		0	0	
09/30/2019	0	0		0	0	
08/31/2019	1	8400	2147483650	0	0	
07/31/2019	0	0		0	0	
06/30/2019	0	0		0	0	
05/31/2019	0	0		0	0	
04/30/2019						
03/31/2019						
02/28/2019						
01/31/2019						
Std. dev.	1.32005	11899.58	0	0.426021	8980.2651	0
Min:	0	0	2.15E+09	0	0	2.15E+09
Max:	7	66000	2.15E+09	1	50000	2.15E+09
Count:						
Average:	0.303571	2400	2.15E+09	0.232143	1612.9032	2.15E+09
Permit limit:						
Ratio of long term						