STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF WATER RESOURCES
Davy Crockett Tower, 9th Floor
500 James Robertson Parkway
Nashville, Tennessee 37243

February 3, 2026

Mr. Lonnie Foley
General Manager
e-copy: lonnie.foley@berryschapel.com
Berrys Chapel Utility, Inc.
Franklin, TN 37067

Subject: **Draft of NPDES Permit No. TN0029718**
Berry's Chapel Utility, Inc.
Franklin, Williamson County, Tennessee

Dear Mr. Foley:

Enclosed please find a draft copy of the NPDES Permit No. TN0029718, 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.

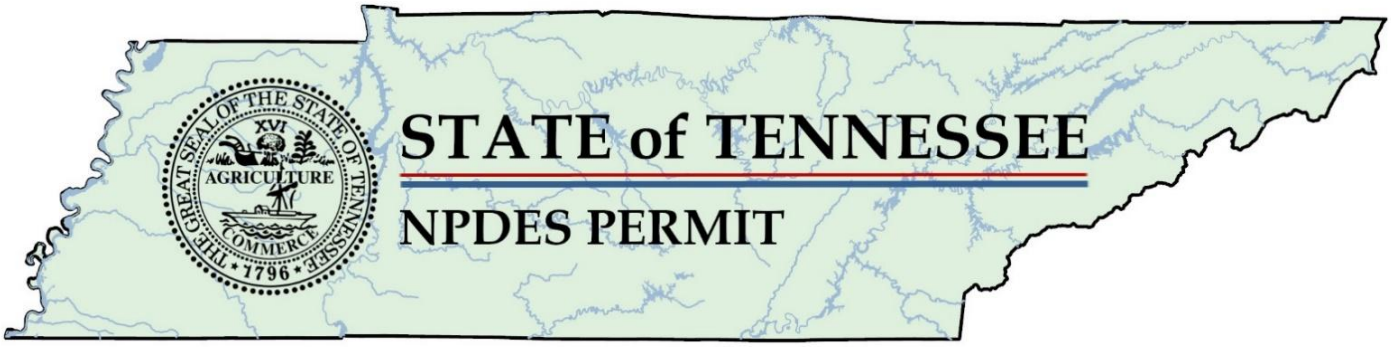
If you have questions, please contact the Nashville EFO at 1-888-891-TDEC; or, at this office, please contact Mr. Wade Murphy at (615) 532-0666 or by E-mail at *Wade.Murphy@tn.gov*.

Sincerely,

Sarah Terpstra
Manager, Water-Based Systems

Enclosure

cc: Mr. James Savage, Chairman, Board of Directors, Berrys Chapel Utility STP, admin@berryschapel.com
Ms. Stacy Crouch, Office Manager, Harpeth Wastewater Cooperative, stacy.crouch@berryschapel.com
Mr. Kevin Bibby, Chief Plant Operator, Berrys Chapel Utilities, kevin.bibby@berryschapel.com
Mr. Eric Rowan, Operator in Training, Berrys Chapel Utility STP, eric.rowan@berryschapel.com
NPDES Permit Section, EPA Region IV, r4npdespermits@epa.gov
Mr. Cole McCormick, Tennessee Public Utility Commission (TPUC), cole.mccormick@tn.gov
EFO-Nashville-DWR, teri.horsley@tn.gov



Authorization to Discharge Under the National Pollutant Discharge Elimination System (NPDES) Permit Number TN0029718

Issued by

Department of Environment and Conservation
Division of Water Resources
Davy Crockett Tower, 9th Floor
500 James Robertson Parkway
Nashville, Tennessee 37243

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: **Berry's Chapel Utility, Inc.**
Berry's Chapel Utility STP

is authorized to discharge: treated domestic wastewater from Outfall 001

from a facility located at: 180 Cottonwood Drive, Franklin, Williamson County, Tennessee

to receiving waters named: Harpeth River at mile 77.9

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 April Grippo
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 7

1.1.3. Narrative Conditions 7

1.2. Monitoring Procedures 8

1.2.1. Representative Sampling 8

1.2.2. Sampling Frequency 9

1.2.3. Test Procedures 9

1.2.4. Recording of Results 10

1.2.5. Records Retention 10

1.3. Reporting 10

1.3.1. Monitoring Results 10

1.3.2. Additional Monitoring by Permittee 11

1.3.3. Falsifying Results and/or Reports 11

1.3.4. Monthly Report of Operation 11

1.3.5. Sanitary Sewer Overflow, Release, and Bypass Reporting 12

1.3.5.1. Event Report Requirements 12

1.3.5.2. DMR Report Requirements 13

1.3.6. Reporting Less Than Detection; Reporting Significant Figures 13

1.3.7. Outlier Data 14

1.4. Compliance with Section 208 14

1.5. Reopener Clause 14

1.6. Schedule of Compliance 15

1.7. Electronic Reporting 15

PART 2 17

2. General Permit Requirements 17

2.1. General Provisions 17

2.1.1. Duty to Comply 17

2.1.2. Duty to Reapply 17
2.1.3. Proper Operation and Maintenance 17
2.1.4. Duty to Provide Information 18
2.1.5. Right of Entry 18
2.1.6. Availability of Reports 18
2.1.7. Treatment Facility Failure (Industrial Sources) 18
2.1.8. Property Rights 18
2.1.9. Severability 19
2.1.10. Other Information 19
2.2. Changes Affecting the Permit 19
2.2.1. Planned Changes 19
2.2.2. Permit Modification, Revocation, or Termination 19
2.2.3. Change of Ownership 20
2.2.4. Change of Mailing Address 21
2.3. Noncompliance 21
2.3.1. Reporting of Noncompliance 21
2.3.2. Sanitary Sewer Overflows and Releases 23
2.3.3. Upset 24
2.3.4. Adverse Impact 25
2.3.5. Bypass 25
2.3.6. Washout 26
2.4. Liabilities 26
2.4.1. Civil and Criminal Liability 26
2.4.2. Liability Under State Law 26
PART 3 27
3. Permit Specific Requirements 27
3.1. Certified Operator 27
3.2. POTW Pretreatment Program General Provisions 27
3.3. Biosolids Management Practices 29
3.4. Placement of Signs 30
PART 4 32
4. Definitions and Acronyms 32

4.1. Definitions 32
4.2. Acronyms and Abbreviations 40
4.3. Resources, Hyperlinks, and Web Pages 42
RATIONALE 1
1. Permit Status & Public Participation 1
2. Facility Information 2
3. Receiving Stream Information 3
4. New Permit Limitations and Compliance Schedule Summary 4
5. Permit Term Review & Permit History 4
6. Proposed Effluent Limits and Rationale 6
6.1. Conventional Parameters 7
6.1.1. $CBOD_5$ and Dissolved Oxygen 7
6.1.2. Total Suspended Solids (TSS) 7
6.1.3. Percent Removal 7
6.1.4. Settleable Solids 8
6.2. Flow 8
6.3. pH 8
6.4. Ammonia (NH_3-N) 8
6.5. Disinfection 11
6.6. Total Nitrogen and Total Phosphorus 11
6.7. *E. coli* 14
6.8. Biomonitoring 15
7. Collection Systems 15
7.1. Collection System Certified Operator 15
7.2. Collection System Operation 15
7.3. Low Pressure System Ownership/Control 16
8. Other Permit Requirements and Conditions 17
8.1. Certified Wastewater Treatment Operator 17
8.2. Pretreatment Program 18
8.3. Biosolids Management Practices 18
8.4. Permit Term 18
8.5. Electronic Reporting 19

8.6. Antidegradation Statement / Water Quality Status 20
Appendix 1 – Previous Permit Limits 21
Appendix 2 – DMR Summary 22
Appendix 3 – Receiving Stream Low Flow Determination 24

WDM
TN0029718.DOC

PART 1

1. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1.1. NUMERIC AND NARRATIVE EFFLUENT LIMITATIONS

1.1.1. Numeric Limitations

Berry's Chapel Utility, Inc. is authorized to discharge treated municipal wastewater from Outfall 001 to Harpeth River at mile 77.9 from a treatment facility with a design capacity of 0.4 MGD. Discharge from Outfall 001 shall be limited and monitored by the permittee as specified below:

External Outfall, Number: 001, Monitoring: Effluent Gross, Season: All Year

Code	Parameter	Qualifier	Value	Unit	Statistical Base	Sample Type	Monitoring Frequency
00300	Oxygen, dissolved (DO)	>=	6.0	mg/L	Instantaneous Minimum	Grab	Five Per Week
00400	pH	>=	6.0	SU	Minimum	Grab	Five Per Week
		<=	9.0	SU	Maximum		
	Total Suspended Solids (TSS)	<=	30	mg/L	Monthly Average	Composite	Three Per Week
		<=	40	mg/L	Weekly Average		
		<=	45	mg/L	Daily Maximum		
		<=	100	lb/d	Monthly Average		
		<=	133	lb/d	Weekly Average		
00545	Settleable Solids	<=	1.0	mL/L	Daily Maximum	Grab	Three Per Week
00600	Nitrogen, total (as N)	<=	22	lb/d	Monthly Average	Calculated	Twice Per Month
50050	Flow	Report	-	MGD	Monthly Average	Continuous	Daily
			-	MGD	Daily Maximum		
50060	Chlorine, total residual (TRC)	<=	0.1	mg/L	Monthly Average	Grab	Five Per Week
		<=	.18	mg/L	Daily Maximum		

51040	E. coli	<=	126	#/100mL	Monthly Average	Grab	Three Per Week
		<=	410	#/100mL	Daily Maximum		

External Outfall, Number: 001, Monitoring: Effluent Gross, Season: Summer

Code	Parameter	Qualifier	Value	Unit	Statistical Base	Sample Type	Monitoring Frequency
00600	Nitrogen, total (as N)	<=	3	mg/L	Monthly Average	Composite	Twice Per Month
		<=	4.5	mg/L	Weekly Average		
		<=	6	mg/L	Daily Maximum		
		<=	10	lb/d	Monthly Average		
		<=	15	lb/d	Weekly Average		
00610	Nitrogen, Ammonia total (as N)	<=	2	mg/L	Monthly Average	Composite	Three Per Week
		<=	3	mg/L	Weekly Average		
		<=	4	mg/L	Daily Maximum		
		<=	7	lb/d	Monthly Average		
		<=	10	lb/d	Weekly Average		
00625	Nitrogen, Kjeldahl, Total (TKN as N)	Report	-	lb/d	Monthly Average	Composite	Twice Per Month
00665	Phosphorus, total (as P)	<=	5.7	mg/L	Monthly Average	Composite	Twice Per Month
		Report	-	mg/L	Daily Maximum		
			-	lb/d	Monthly Average		
			-	lb/d	Daily Maximum		
51663	Phosphorus, insoluble	Report	-	mL/L	Monthly Average	Composite	Twice Per Month

80082	CBOD, 5-day, 20 C	<=	5	mg/L	Monthly Average	Composite	Three Per Week
		<=	7.5	mg/L	Weekly Average		
		<=	10	mg/L	Daily Maximum		
		<=	17	lb/d	Monthly Average		
		<=	25	lb/d	Weekly Average		

External Outfall, Number: 001, Monitoring: Effluent Gross, Season: Winter

Code	Parameter	Qualifier	Value	Unit	Statistical Base	Sample Type	Monitoring Frequency
00600	Nitrogen, total (as N)	Report	-	mg/L	Monthly Average	Composite	Twice Per Month
			-	mg/L	Daily Maximum		
			-	lb/d	Monthly Average		
			-	lb/d	Daily Maximum		
00610	Nitrogen, Ammonia total (as N)	<=	5	mg/L	Monthly Average	Composite	Three Per Week
		<=	7.5	mg/L	Weekly Average		
		<=	10	mg/L	Daily Maximum		
		<=	17	lb/d	Monthly Average		
		<=	25	lb/d	Weekly Average		
00665	Phosphorus, total (as P)	Report	-	mg/L	Monthly Average	Composite	Twice Per Month
			-	mg/L	Daily Maximum		
			-	lb/d	Monthly Average		
			-	lb/d	Daily Maximum		

80082	CBOD, 5-day, 20 C	<=	10	mg/L	Monthly Average	Composite	Three Per Week
		<=	15	mg/L	Weekly Average		
		<=	20	mg/L	Daily Maximum		
		<=	33	lb/d	Monthly Average		
		<=	50	lb/d	Weekly Average		

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

Code	Parameter	Qualifier	Value	Unit	Statistical Base	Sample Type	Monitoring Frequency
80358	CBOD, 5-day, 20 C, % removal	>=	85	%	Monthly Average Minimum	Composite	Three Per Week
		>=	40	%	Daily Minimum		
81011	TSS, % removal	>=	85	%	Monthly Average Minimum	Composite	Three Per Week
		>=	40	%	Daily Minimum		

Influent Monitoring: All Year

Code	Parameter	Qualifier	Value	Unit	Statistical Base	Sample Type	Monitoring Frequency
00530	Total Suspended Solids (TSS)	Report	-	mg/L	Monthly Average	Composite	Three Per Week
			-	mg/L	Daily Maximum		
50050	Flow	Report	-	MGD	Daily Maximum	Continuous	Daily
			-	MGD	Monthly Average		
80082	CBOD, 5-day, 20 C	Report	-	mg/L	Monthly Average	Composite	Three Per Week
			-	mg/L	Daily Maximum		

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 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 that 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. Considering the reported Total Residual Chlorine (TRC) will be that of the effluent, exceedance above the monthly average value of 0.011 mg/L will be considered a violation. See 1.3.6 for reporting requirements and guidance.

For $CBOD_5$ 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:

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

This treatment facility will also demonstrate 85% daily minimum removal of $CBOD_5$ and TSS based on each daily composite sample. The formula for this calculation is as follows:

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

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.

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

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

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

1.1.2. Collection System Requirements

Berry's Chapel Utility, Inc. 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

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(s) shall not:

- Contain distinctly visible solids, scum, foam, oil, or sludge.
- Contain pollutants in amounts that were not disclosed to the department in such a manner that the discharge was within the reasonable contemplation of the department at the time of issuance of the final permit.

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.

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 months[1], 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 ≤ 6°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.

[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.

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 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 Nashville EFO:

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
Nashville Environmental Field Office
711 R.S. Gass Boulevard
Nashville, Tennessee 37216

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:

DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF WATER RESOURCES
COMPLIANCE & ENFORCEMENT UNIT
Davy Crockett Tower, 9th Floor
500 James Robertson Parkway
Nashville, Tennessee 37243

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 year[2] 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 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.

STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF SOLID WASTE MANAGEMENT
Nashville Environmental Field Office
711 R.S. Gass Boulevard
Nashville, Tennessee 37216
(615)687-7000

The current method of sludge disposal is to a municipal solid waste landfill (or co-composting facility). This method of disposal is controlled by the rules of the Tennessee Division of Solid Waste Management (DSWM) and Federal Regulations at 40 CFR § 258. If the permittee anticipates changing its disposal practices to either land application or surface disposal, the Division of Water Resources shall be notified prior to the change. A copy of any results of pollutant analyses required by the Tennessee Division of Solid Waste Management (DSWM) and/or 40 CFR § 258 shall be submitted to the Division of Water Resources.

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
Berry's Chapel Utility, Inc.
Berry's Chapel Utility STP
(Permittee's Phone Number)
NPDES Permit NO. TN0029718
TENNESSEE DIVISION OF WATER RESOURCES
1-888-891-8332 ENVIRONMENTAL FIELD OFFICE - Nashville

Unpermitted release/sanitary sewer overflow point:

UNTREATED WASTEWATER DISCHARGE POINT
Berry's Chapel Utility, Inc.
Berry's Chapel Utility STP
(Permittee's Phone Number)
NPDES Permit No. TN0029718
TENNESSEE DIVISION OF WATER RESOURCES
1-888-891-8332 ENVIRONMENTAL FIELD OFFICE - Nashville

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.

IC_{25} 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.

LC_{50} 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.

Subecoregion 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
E. coli – *Escherichia coli*
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/Title40/40chaptI.tpl

Electronic Reporting (NetDMR) Waiver Request
https://www.tn.gov/environment/program-areas/wr-water-resources/netdmr-and-electronic-reporting/e-report-waiver.html

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 Hydrologic Toolbox
https://pubs.usgs.gov/publication/tm4D3

RATIONALE

Berry's Chapel Utility, Inc.
Berry's Chapel Utility STP
NPDES Permit No. TN0029718
Permit Writer: Wade Murphy

1. PERMIT STATUS & PUBLIC PARTICIPATION

Permit Type:	Municipal
Classification:	Minor
Previous Issuance Date:	16-MAR-21
Previous Expiration Date:	31-MAR-26
Previous Effective Date:	01-APR-21

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 03, 2026
Comment Period Ends:	March 05, 2026

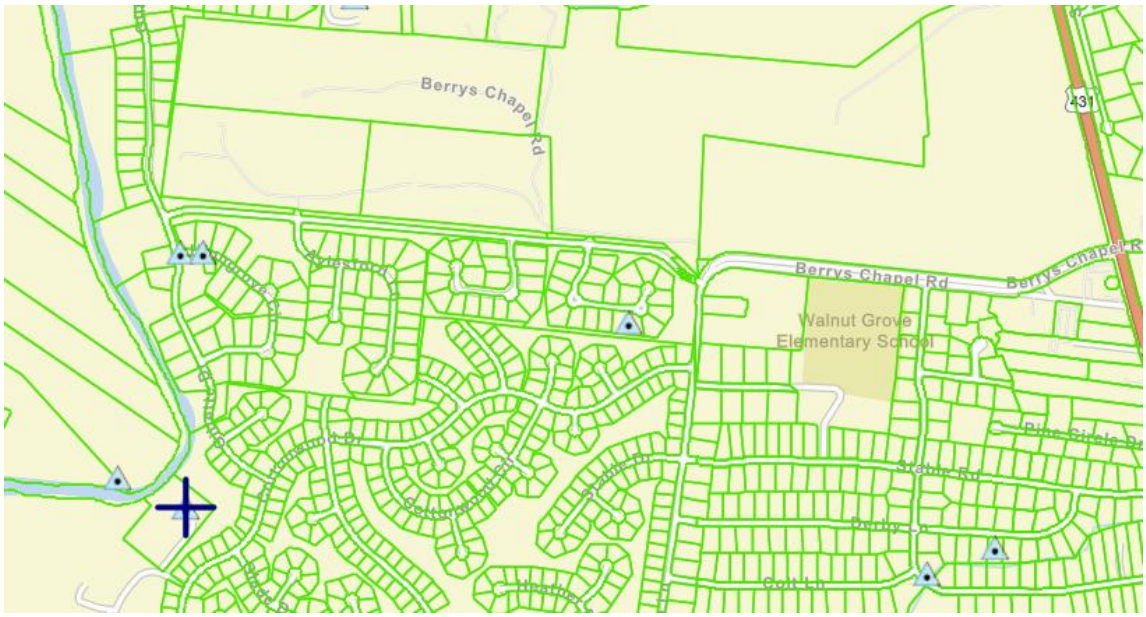
Those wishing to make a formal comment on the proposed permit may submit comments electronically to Water.Permits@tn.gov, or by mail to:

Division of Water Resources - Water Based Systems Unit
Davy Crockett Tower, 9th Floor
500 James Robertson Parkway
Nashville, TN 37243

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:	**Berry's Chapel Utility, Inc.**
Project Name:	**Berry's Chapel Utility STP**
Location:	180 Cottonwood Drive, Franklin, Williamson County, Tennessee
Design Flow Rate:	0.4 MGD
Percentage Industrial Flow:	0 %
Certified Operator Grades:	STP: III; CS: I; Date Rated: 02/17/1998
Treatment Description:	Extended aeration activated sludge (w/nitrification/dentification) and chlorination and dechlorination



3. RECEIVING STREAM INFORMATION

Receiving Waterbody:	**Harpeth River at mile 77.9**
Watershed Group:	Harpeth
Hydrocode:	05130204
Low Flow:	7Q10 = 3.3 MGD (5.05 CFS); 30Q5 = 6.8 MGD (10.5 CFS)
Low Flow Reference:	USGS Streamstats

Stream Designated Uses:

Domestic Water Supply	*Industrial*	*Fish & Aquatic Life*	*Recreation*
X	**X**	**X**	**X**
Livestock & Wildlife	*Irrigation*	*Navigation*	*Trout*
X	**X**		

Low flows on unregulated streams are estimated using guidance from the EPA document *Low Flow Statistics Tools: A How-To Handbook for NPDES Permit Writers*. When sufficient and representative USGS gage data is available, USGS Hydrologic Toolbox is used to analyze the flow data and calculate 7Q10 and 30Q5 values. Using these low flow values at the gage, the permit writer then determines the flow at the point of discharge using the following equation:

$$Q_{outfall} = Q_{gage} \times \frac{A_{outfall}}{A_{gage}}$$

Where:

$Q_{outfall}$ = Low flow statistic at outfall location
Q_{gage} = Low flow statistic at gage location
$A_{outfall}$ = Area draining to outfall
A_{gage} = Area draining to gage

In the absence of sufficient gage data, the Division relies on USGS Streamstats to calculate low flows statistics.

In this permit, USGS Gage Station 03432400 provides sufficient data to characterize the low flow of the Harpeth River at river mile 84.3 for a drainage area covering 211 square miles. However, the permittee discharges at river mile 77.9 just below the confluence of the Harpeth and the West Harpeth which covers an area of 339 square miles. Thus, to capture the additional flow from the West Harpeth drainage area, the Division used USGS Streamstats to delineate the critical low flow at the point of discharge. Appendix 3 shows the Streamstats output used for this estimation.

4. NEW PERMIT LIMITATIONS AND COMPLIANCE SCHEDULE SUMMARY

This permit imposes a monthly average limit on total residual chlorine as well as the daily maximum limit. See Part 6.5 below for additional rationale. The discharge monitoring report summary in Appendix 2 shows that the facility can already achieve the new monthly average limit of 0.10 mg/L.

The daily maximum limit for *E. coli* has been changed to 410 #/100 mL because of updated water quality criteria in Rule 0400-40-03-.03 for the protection of the recreation designated use. See Part 6.7 below for additional rationale.

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.

a) 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.

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

5. PERMIT TERM REVIEW & PERMIT HISTORY

Permit Term Review

A review of the permittee's Discharge Monitoring Reports (DMRs) from September 2022 through November 2025 revealed that the permittee consistently complies with its effluent limits and additionally has reported no collection system overflows. The summary also shows that the facility, at 1.7 lb/d total nitrogen, is well below the limit of 22 lb/d for total nitrogen established in the Total Maximum Daily Load (TMDL) for organic enrichment. Appendix 2 contains a summary of data reported on DMRs during the previous permit term.

During the previous permit term, Division personnel from the Nashville Environmental Field Office performed a Compliance Evaluation Inspection (CEI) of the permittee's facility. Oakley Hall, Jenny Strobel and Christina Wingett conducted the CEI on July 20, 2021, and they found the permittee to be out of compliance. The inspection report described organized record keeping in need of data quality improvements, automatic samplers past their useful life, incorrect influent sampling (not flow proportional), and influent lift station clogging.

This previous permit in 2021 raised the chlorine limit from 0.03 mg/L to 0.18 mg/L based on an updated low flow calculation.

Noteworthy Permit History

Berry's Chapel Utility, Inc, is confirmed to be regulated by the Tennessee Public Utility Commission (TPUC) as a privately-owned, public utility. Details regarding the financial aspects of the utility operation are available in TPUC's file for Docket 1400004. Consequently, the Division no longer includes the Special Requirements for Private Sewer Systems in the permit. The Division included such language in the 2010 permit due to changes in ownership of the facility and outstanding questions in 2010 regarding the new owner's status as a public entity. Now that Berry's Chapel Utility, Inc, is confirmed to be regulated by the Tennessee Public Utility Commission (TPUC) as a public utility, these requirements are removed from the permit.

The Division also deleted from the 2021 permit the narrative requiring that 125,000 gpd of sewerage treatment capacity be reserved for houses in the Hillsboro, Meadowgreen and Farmington Subdivisions. The Division deleted the language on the basis that the applicant has confirmed that these subdivisions now have sewer availability via the City of Franklin and are no longer in need of the formerly reserved capacity commitment pursuant to the Agreed Order between Lynnwood (former owner), TDEC and the Lumsden Bend property owners settling a 2002 permit appeal. This sewer work had been planned when the previous permit was issued October 22, 2010. The email link below indicates that alternative capacity was available in September 2011. Meadowgreen Grassland Area Sewer Construction Arhives | Williamson County, TN - Official Site (williamsoncounty-tn.gov)

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
$CBOD_5$ (summer)	5	10	7.5	25	10	40	D.O. protection, Refer to 6.1 below
$CBOD_5$ (winter)	10	33	15	50	20	40	D.O. protection, Refer to 6.1 below
NH_3-N (summer)	2	7	3	10	4	—	D.O. protection, Refer to 6.4 below
NH_3-N (winter)	5	17	7.5	25	10	—	D.O. protection, Refer to 6.4 below
Total Suspended Solids	30	100	40	133	45	40	Rule 0400-40-05-.09
Dissolved Oxygen	6.0 (daily minimum) instantaneous	—	—	—	—	—	D.O. protection, Refer to 6.1 below
Total Chlorine Residual	0.10	—	—	—	0.18	—	Refer to 6.5 below
Total Nitrogen (summer)	3	10	4.5	15	6.0	Report (lb/d)	Refer to 6.6 below
Total Nitrogen (winter)	Report	Report			Report	Report	Refer to 6.6 below
TKN (summer)	Report						Refer to 6.6 below
Total Nitrogen	Average annual load, equivalent to 22 lb/d, calculated as monthly average all year						Refer to 6.6 below
Total Phosphorus (summer)	5.7	Report			Report	Report (lb/d)	Refer to 6.6 below
Total Phosphorus (winter)	Report	Report			Report	Report (lb/d)	Refer to 6.6 below
Insoluble Phosphorus (summer)	Report						Refer to 6.6 below
E. coli (#/100mL)	126/100 mL	—	—	—	410/100 mL	—	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 $CBOD_5$ 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 $CBOD_5$ 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 $CBOD_5$ 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. $CBOD_5$ 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.

The permittee operates its advanced treatment system (extended aeration two-stage activated sludge for biological nitrification/denitrification (with methanol addition). Sludge disposal is via landfilling. The treatment system has considerable operational flexibility for handling variations in raw wastewater loadings and climatological conditions.

The EPA completed extensive computer modeling for developing its 2004 TMDL for addressing organic enrichment and low dissolved oxygen conditions within the receiving stream. Based on the TMDL requirements, this permit will continue the current permit's Outfall 001 discharge $CBOD_5$, NH_3-N and dissolved oxygen limits. To consistently achieve an instream dissolved oxygen concentration at or above the required minimum of 5.0 mg/l, the TMDL noted that substantial reductions in the receiving stream's sediment oxygen demand (SOD) would be needed in conjunction with an average annual total nitrogen mass loading of < 22 lb/day for the permittee's Outfall 001 discharge.

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			
Monthly Average	*Weekly Average*	*Daily Maximum*	*Monthly Average*
30 mg/L	40 mg/L	45 mg/L	85 % Removal

6.1.3. Percent Removal

The treatment facility is required to remove 85% of the $CBOD_5$ 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 $CBOD_5$ 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 $CBOD_5$ 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 (NH_3-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). The Division uses a pH value of 8 in the calculation based on ambient pH averaging 7.9 upstream of river mile 84.5 between 1999 and 2022.

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

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

and

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

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]

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

where:	3.3	Critical Low Flow [MGD] (7Q10 value)
	0.1	Background Ammonia Concentration [mg/L] *
	0.4	WWTP Design Flow or long-term average flow [MGD]

$$Effluent\ Concentration = \frac{CCC\ X\ ([Background\ Ammonia\ Concentration] + [Design\ Flow]) - ([Critical\ Low\ Flow] * [Background\ Ammonia\ Concentration])}{Design\ Flow}$$

Therefore, the Allowable **Effluent Concentrations** and corresponding **Amounts** in winter and summer are:

Winter		Summer	
7.90	Concentration [mg/L]	**3.752**	Concentration [mg/L]
26.3	Amount [lb/day]	**12.5**	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 calculated acute and chronic toxicity values above are compared to ammonia limits previously imposed to prevent ammonia toxicity or calculated to protect ambient dissolved oxygen levels. The permit imposes the most stringent values in the analysis. The analysis compares the calculated chronic ammonia value (CCC) with a monthly average limit previously imposed to protect dissolved oxygen or to prevent toxicity.

Generally, water quality models have predicted the monthly average ammonia limit to protect dissolved oxygen. The Division has historically developed a companion daily maximum value to protect dissolved oxygen by multiplying the monthly average limit by two. Empirical data supports the factor of two developed in consideration of the natural variation in biological pollutant removal and the design basis for treatment unit sizing.

Because the NH_3-N concentration limits calculated to protect dissolved oxygen are more restrictive than the toxicity limits calculated above, the Division continues to apply the monthly average limits for NH_3-N (2 mg/L summer, 5 mg/L winter), to the permit.

6.5. DISINFECTION

The total residual chlorine (TRC) limit is derived using the mass balance formula and the EPA acute instream protection value of 0.019 mg/L for fish and aquatic life. Applying this formula yields the following calculation for the TRC daily maximum limit:

$$\frac{0.019\ (Qd + Qs)}{Qd} = Limit\ (mg/L) = \frac{0.019(0.4 + 3.3)}{0.4} = 0.176\,mg/L \approx 0.18\,mg/L$$

Where:

0.019 mg/L	=	acute instream protection value
3.3	=	Qs – 7Q10 flow of receiving stream (MGD)
0.4	=	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.

$$\frac{0.011\ (Qd + Qs)}{Qd} = Limit\ (mg/L) = \frac{0.011(0.4 + 3.3)}{0.4} = 0.102\,mg/L \approx 0.10\,mg/L$$

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.

This permit continues more stringent nutrient limits developed to implement the dissolved oxygen TMDL. The TDML highlights that inadequate dissolved oxygen (< 5.0 mg/l) within the receiving stream (upstream and downstream of the permittee's Outfall 001 discharge) under low-flow summer conditions can occur, and discusses the corresponding role of nutrients (total nitrogen and phosphorus) for some portions of the receiving stream. For NPDES dischargers above the Franklin STP (TN0028827), the TMDL specifies required total nitrogen and total phosphorus discharge mass loadings under summer and winter conditions (the ratio of the total nitrogen to total phosphorus mass loadings for these upstream dischargers was 2:1). However, for permittee Outfall 001 treated wastewater, the upstream discharge from Franklin STP (TN0028827) and downstream from Cartwright Creek LLC. STP (TN0027278), the TMDL represents total nitrogen mass loading discharge limits (lb/day) on an annual basis. The TMDL annual Total nitrogen mass loading discharge limits will be used for the permits for these three dischargers. The previous permit used the following rationale to define treated effluent total and insoluble nitrogen and phosphorus limits and monitoring as follows:

Total and Insoluble Nitrogen Requirements

Pursuant to the 2004 TMDL requirements, the total nitrogen limits and monitoring requirements from the permittee's current permit will be retained for the reissued permit. Additionally, the permit retains the TMDL requirement of achieving < 22 lb/day total nitrogen on an annual basis.

The 2004 TMDL noted the SOD's impact on the receiving stream and need for its reduction. The reissued permit continues to have the permittee determine the TKN and insoluble phosphorus associated with its Outfall 001 effluent suspended solids. Although the permittee's treatment system is an advanced system, it does not have tertiary filters. Due to the receiving stream's unusual serial pools arrangement, the Outfall 001 discharge effluent suspended solids may settle/accumulate under the instream pond-like conditions during summer low flow conditions. Settled solids, thicken and lower portions undergo anaerobic digestion, with nutrients release to the water column.

Total and Insoluble Phosphorus Requirements

The TMDL noted that this segment is considered to be nitrogen-limited and that additional total nitrogen reduction requirements along with decreases in the sediment oxygen demand (SOD) would attenuate the low-flow dissolved oxygen problems. The 2004 TMDL does not specifically prescribe Outfall 001 discharge total phosphorus mass loading requirements for the permittee. TDEC now assesses the receiving stream as not fully supporting its fish and aquatic life use due to low dissolved oxygen and total phosphorus. This permit continues to impose an average monthly total phosphorus 5.7 mg/l limit for the summer months, with monitoring reporting required for winter conditions. The division considers that the permittee has demonstrated its ability to technically achieve the monthly average treated effluent total phosphorus of 5.7 mg/l for the summer months, since this limit was previously derived based on the permittee's DMR data and the "Technical Support Document for Water Quality Based Toxics Control" (TSD) methodology, with the limit set at the 95 percentile total phosphorus value.

Appendix 2 contains a summary of data reported on DMRs during the previous permit term.

The receiving stream has been assessed as unavailable for its designated uses due to Nutrients. Previously, the Division assessed a stream as unavailable for its designated uses due to Total Nitrogen (TN) and/or Total Phosphorus (TP). After reviewing the assessment process, the Division has begun to use the term "nutrients" as the cause instead of specifying TN or TP. The biological systems of a stream will utilize all species of the nutrients. The primary driver of the nutrient impairment will often change as the biological processes continue in the stream. As such, identifying one specific nutrient driver (TN or TP) was not adequately convening the causes of the stream's impairment. Therefore, the permit will implement limitations on both TN and TP in the proposed permit.

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 discharger does not meet any of these criteria, so the Division does not impose whole effluent limiting, monitoring and reporting.

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 Berry's Chapel Utility, Inc. has received an exemption from development of a pretreatment program due to the lack of any significant industrial users. Narrative conditions will be included for conducting and submitting an industrial waste survey to maintain the exemption.

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
Davy Crockett Tower, 9th Floor
500 James Robertson Parkway
Nashville, TN 37243
615-532-0625

8.4. PERMIT TERM

In order to meet the target reissuance date for the Harpeth watershed and following the directives for the Watershed Management Program initiated in January 1996, the permit will be issued to expire in 2031.

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 Division issued this permittee a subscriber agreement to report electronically via NetDMR in June 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
Davy Crockett Tower, 9th Floor
500 James Robertson Parkway
Nashville, TN 37243

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# TN05130204009_3000.

Outfall 001: Harpeth River; TN05130204009_3000				
Designated Use	**Fully Supporting**	**Not Supporting**	**Not Assessed**	**Causes**
Domestic Water Supply	☒	☐	☐	
Fish and Aquatic Life	☐	☒	☐	Nutrients
Recreation	☐	☒	☐	*E.coli*
Livestock Watering & Wildlife	☒	☐	☐	
Irrigation	☒	☐	☐	
Industrial Water Supply	☒	☐	☐	
Assessment Date: 09/27/2024				

The Division has made a water quality assessment of the receiving waters associated with the subject discharge(s) and has found the receiving stream to be neither an exceptional nor outstanding national resource water.

Total Maximum Daily Loads (TMDLs) have been developed and approved for this waterbody segment on the following parameters and dates:

Parameter:	TMDL Approval Date:
Organic Enrichment, Low DO	September 2004

The proposed nutrient terms and conditions of this permit comply with the wasteload allocations of these TMDLs.

APPENDIX 1 – PREVIOUS PERMIT LIMITS

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	MEASUREMENT FREQUENCY
$CBOD_5$ (May 1- Oct. 31)	5	17	7.5	25	10	40	3/week
$CBOD_5$ (Nov. 1- April 30)	10	33	15	50	20	40	3/week
NH_3-N (May 1- Oct. 31)	2	7	3	10	4	—	3/week
NH_3-N (Nov. 1- April 30)	5	17	7.5	25	10	—	3/week
Total Suspended Solids	30	100	40	133	45	40	3/week
Dissolved Oxygen (mg/L)	6.0 (daily minimum) instantaneous	—	—	—	—	—	5/week
Total Chlorine Residual (mg/L)	—	—	—	—	0.18 (daily maximum)	—	5/week
Total Nitrogen (May 1- Oct. 31)	3	10	4.5	15	6	—	2/month
Total Nitrogen (Nov 1 – April 30)	Report	Report			Report		2/month
Total Nitrogen	22 lb/d annual average load						2/month
TKN (May 1 – Oct. 31)	Report						2/month
Total Phosphorus (May 1- Oct. 31)	5.7	Report			Report	—	2/month
Total Phosphorus (Nov. 1 – Apr. 30)	Report	Report			Report		2/month
Insoluble Phosphorus	Report						2/month
E. coli (colonies/100ml)	126/100 ml	—	—	—	941/100 ml	—	3/week
Settleable Solids (ml/l)		—	—	—	1.0 (daily maximum)	—	3/week
pH (standard units)	6.0-9.0	—	—	—	—	—	5/week
Flow (MGD):							
Influent	Report	—	—	—	Report	—	7/week
Effluent	Report	—	—	—	Report	—	7/week
Sanitary Sewer Overflows, Total Occurrences			Report				continuous
Dry Weather Overflows, Total Occurrences			Report				continuous
Bypass of Treatment, Total Occurrences			Report				continuous

APPENDIX 2 – DMR SUMMARY

	Flow (MGD)		Biochemical Oxygen Demand				Suspended Solids				Effluent (mg/l)									Overflow and Bypass
			Influent	Effluent (mg/l)		%	Influent	Effluent (mg/l)		%	Settleable	pH		Cl_2	Ammonia		D.O.	E. coli		
	Monthly Average	Daily Max	(mg/l)	Monthly Average	Daily Max	Removal	(mg/l)	Monthly Average	Daily Max	Removal	Solids (ml/l)	(std. units) Min	Max	Daily Max	Monthly Average	Daily Max	Daily Min	Monthly Average	Daily Max	
Limits	Report	Report	Report			85	Report			85	1.0	6.0	9.0				6.0	126	941	
Summer				5	10			30	45					0.18	2.0	4.0				
Winter				10	20			30	45					0.18	5.0	10.0				
Average	0.215	0.342	227	2	4	99	232.3	4	8	98	0.1	6.8	7.5	0.05	0.3	1.1	7.5	4	24	
Maximum	0.310	0.550	305.2	6	18	100	368.9	7	17	99	0.1	7.2	7.9	0.11	2.0	18.3	9.7	32	361	
Minimum	0.146	0.186	153.4	1	1	98	167.1	2	4	95	0.1	6.0	7.1	0.02	0.1	0.2	4.0	1	1	
+ = Exceedence				1	1											2	1			
Date																				
Sep/22	0.230	0.284	233.1	3.2	7.3	98.6	219.8	6.7	16.0	97	0.1	7.0	7.5	0.04	0.46	0.71	7.2	3	12	
Oct/22	0.227	0.269	251.3	4.0	5.9	98.4	236.3	3.0	5.0	98.7	0.1	7.2	7.6	0.04	0.15	0.43	8.0	6.2	58.8	
Nov/22	0.251	0.408	262	3.5	5.7	98.6	238.5	3.4	7.0	98.6	0.1	7.2	7.5	0.02	0.18	0.58	8.4	1	1	
Dec/22	0.301	0.440	228.9	2.4	3.4	98.9	214.9	4.7	10.0	97.7	0.1	7.2	7.4	0.11	0.20	0.94	9.0	1.1	2	
Jan/23	0.310	0.550	200.4	4.4	9.0	98.2	204.6	3.2	6.0	98.2	0.1	7.1	7.6	0.03	0.11	0.25	8.2	2.7	15.8	
Feb/23	0.298	0.486	263.3	5.3	8.8	97.5	198.7	4.0	6.0	97.8	0.1	6.8	7.6	0.05	0.17	0.69	8.4	1.1	2	
Mar/23	0.273	0.376	229.8	3.1	5.2	98.6	221.2	3.9	9.0	98.2	0.1	6.9	7.5	0.05	0.30	0.73	8.3	2.1	6.3	
Apr/23	0.284	0.531	246.1	3.4	6.2	98.6	235.2	4.0	7.0	98.3	0.1	7.2	7.6	0.04	0.13	0.74	8.1	13.7	150	
May/23	0.257	0.363	254.8	3.3	4.8	98.7	253.8	2.8	6.0	98.9	0.1	6.5	7.5	0.07	0.27	0.86	7.0	9	50	
Jun/23	0.146	0.190	239.1	6.2 +	17.5 +	97.5	239.7	5.2	12.0	97.8	0.1	6.9	7.7	0.04	2.00	18.28 +	4.0 +	10	61	
Jul/23	0.180	0.429	229.1	3.1	4.8	98.5	368.9	6.9	14.0	96.3	0.1	7.1	7.4	0.04	0.39	0.78	6.2	1.2	3	
Aug/23	0.184	0.288	234.9	2.8	5.4	98.8	217.8	5.8	10.0	97.3	0.1	6.9	7.4	0.04	0.25	1.03	6.4	2	5.2	
Sep/23	0.152	0.211	238.2	2.8	4.5	98.8	229.7	3.1	6.0	98.7	0.1	6.8	7.5	0.06	0.32	0.92	6.7	1	4	
Oct/23	0.146	0.186	246.1	2.1	4.0	99.2	250	2.0	4.0	99.2	0.1	7.0	7.5	0.03	0.11	0.47	7.1	1.1	2	
Nov/23	0.163	0.211	271.1	2.2	3.0	99	228	2.4	7.0	99	0.1	6.0	7.5	0.07	0.29	0.69	8.0	1.6	7.5	
Dec/23	0.176	0.304	289.5	2.3	3.0	99.2	242.5	3.5	7.0	98.6	0.1	6.8	7.7	0.05	0.14	0.71	8.7	1	1	
Jan/24	0.234	0.373	226.5	2.9	4.3	98.6	243.6	5.4	17.0	97.1	0.1	6.9	7.8	0.06	0.11	0.28	7.2	1.1	2	
Feb/24	0.226	0.443	201.6	2.5	4.2	98.8	200.7	3.7	8.0	97.7	0.1	7.2	7.8	0.02	0.13	0.67	8.0	3.7	11.9	
Mar/24	0.203	0.295	212.8	2.5	3.5	98.8	206	5.8	8.0	97.2	0.1	7.0	7.6	0.05	0.21	0.64	7.8	18.9	35	
Apr/24	0.196	0.329	205.2	1.7	2.4	99.1	233.5	3.9	6.0	98	0.1	6.9	7.7	0.06	0.13	0.25	7.1	2.5	7.3	
May/24	0.251	0.428	189.7	1.7	1.7	99.1	184.1	2.3	5.0	98.8	0.1	6.9	7.9	0.04	0.17	0.47	6.4	6	21	
Jun/24	0.174	0.211	241	2.0	4.2	99.1	264.8	2.2	5.0	99.1	0.1	6.7	7.9	0.05	1.11	5.80 +	6.5	2	5	
Jul/24	0.177	0.294	250.4	1.7	1.9	99.3	264.5	2.0	4.0	99.2	0.1	6.8	7.3	0.05	0.14	0.40	6.2	3.4	16.1	
Aug/24	0.173	0.233	204.2	1.6	2.3	99.2	215.2	2.4	4.0	99	0.1	6.9	7.4	0.06	0.15	0.24	6.4	2	7.3	
Sep/24	0.197	0.378	206.7	1.7	2.6	99.2	228.6	6.2	11.0	97.3	0.1	6.9	7.3	0.06	0.17	0.35	6.1	1	3	
Oct/24	0.168	0.214	207	1.9	3.7	99.1	238.1	2.8	5.0	98.8	0.1	7.0	7.4	0.03	0.18	0.44	7.2	1.4	7.2	
Nov/24	0.201	0.386	214.7	1.9	2.7	99.1	224	2.5	4.0	98.9	0.1	6.4	7.3	0.03	0.17	0.25	8.4	1	1	
Dec/24	0.249	0.418	201.8	1.7	2.2	99	212.5	4.6	9.0	97.8	0.1	6.1	7.2	0.04	0.19	0.28	8.9	1.1	2	
Jan/25	0.219	0.332	216.8	2.4	4.0	98.9	216	6.1	15.0	97	0.1	6.3	7.7	0.04	0.13	0.33	9.7	3	12	
Feb/25	0.291	0.518	153.4	2.7	3.9	97.8	167.1	5.8	12.0	94.7	0.1	6.2	7.2	0.05	0.08	0.16	8.5	2.4	6.2	
Mar/25	0.219	0.473	214.8	2.0	3.2	99	206.1	4.6	15.0	97	0.1	6.8	7.7	0.05	0.11	0.34	8.1	3.8	13.5	
Apr/25	0.253	0.491	171.4	1.3	1.7	99.1	197.3	2.9	6.0	97.8	0.1	6.7	7.1	0.02	0.14	0.30	7.8	1.9	13.5	
May/25	0.242	0.436	173.4	1.4	2.6	99.1	191.9	1.9	6.0	98.8	0.1	6.8	7.1	0.04	0.08	0.15	7.8	1.8	5.2	
Jun/25	0.218	0.331	194.3	1.2	1.5	99.4	232.6	1.5	4.0	99.4	0.1	6.9	7.2	0.04	0.14	0.27	7.6	1	1	
Jul/25	0.189	0.282	305.2	1.3	1.9	99.5	320.8	4.6	9.0	98.4	< .1	6.5	7.4	0.04	0.26	0.77	6.8	32.2	361	
Aug/25	0.184	0.225	234.7	1.0	1.6	99.5	251.6	4.9	8.0	97.9	0.1	6.7	7.7	0.05	0.22	0.44	6.3	2.2	6.3	
Sep/25	0.178	0.236	218.5	1.1	1.4	99.4	253	2.9	5.0	98.8	< .1	7.2	7.6	0.04	0.24	0.93	7.1	1.2	3.1	
Oct/25	0.174	0.271	232.9	1.5	4.6	99.3	240	2.9	5.0	98.8	< .1	7.1	7.5	0.05	0.12	0.31	7.7	1.1	2	
Nov/25	0.184	0.227	242.8	1.0	1.3	99.6	268	2.7	8.0	98.9	< .1	7.2	7.7	0.03	0.09	0.18	8.0	1.2	2	
Dec/25																				

See next page for nutrient summary.

BERRY CHAPEL NUTRIENT SUMMARY 2022-2025

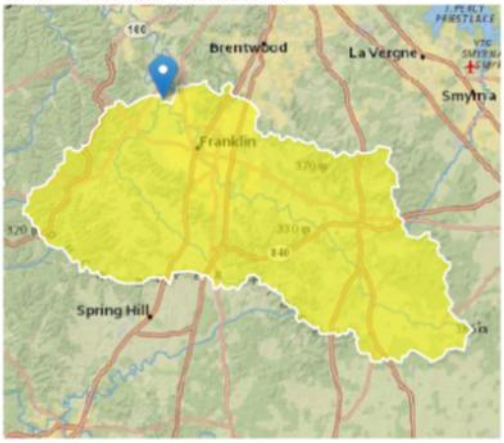
	NITROGEN											PHOSPHORUS								
	Total Nitrogen										TKN	Total Phosphorus								Insoluble P
	Summer					Winter				All Year	Summer	Summer				Winter				Summer
	Mon. Avg	Mon. Avg.	Wkly Avg.	Wkly Ave.	Daily Max	Mon. Avg.	Mon. Avg.	Daily Max	Daily Max	Max Load	Mon. Avg.	Mon. Avg.	Mon. Avg.	Daily Max	Daily Max	Mon. Avg.	Mon. Avg.	Daily Max.	Daily Max	Mon. Avg.
	mg/L	lb/d	mg/l	lb/d	mg/l	mg/l	lb/d	mg/l	lb/d	lb/d	lb/d	mg/l	lb/d	mg/l	lb/d	mg/l	lb/d	mg/l	lb/d	mg/l
09/30/2022	0.9	1.8	1	1.6	1.3					1.75	1.47	4.6	9	5.4	10.79					0.07
10/31/2022	0.22	0.46	0.22	0.42	0.24					0.22	0.95	3.46	6.6	3.52	6.6					0.2
11/30/2022						1.85	3.64	3.49	6.87	3.64						3.6	7.2	3.6	7.2	
12/31/2022						1.4	4.4	2.47	7.46	4.4						3	10.1	3	11.01	
01/31/2023						0.5	1.4	0.6	1.6	1.4						2.7	7	3	8.1	
02/28/2023						0.17	8.1	4.3	15.1	15.1						2.6	7.6	2.9	10.19	
03/31/2023						0.6	1.3	0.7	1.5	1.3						3.7	8	3.8	8.3	
04/30/2023						0.6	1.4	0.7	1.7	1.4						3.6	8.2	4.1	8.3	
05/31/2023	0.7	1.3	1.2	2.3	1.2					0.7	0.69	3.1	6.2	3.5	7.11					0.12
06/30/2023	0.5	0.7	0	0	0.5					0.71	0.71	3.57	5.04	3.66	5.53					0.09
07/31/2023	0.36	0.48	0.53	0.72	0.53					0.48	0.48	2	2.5	3.33	4.1					0.1
08/31/2023	0.6	0.5	0.77	0.8	0.77					0.77	0.77	3.2	4.2	3.7	4.8					0.2
09/30/2023	0.3	0.4	1	1.6	0.5					0.42	0.42	3.8	4.5	4.4	4.6					0.1
10/31/2023	0.39	0.4	0.42	0.44	0.42					0.4	0.4	4.1	4.2	4.2	4.3					0.16
11/30/2023						2	0.33	0.2	0.36	0.33						4.3	5.8	4.4	6.49	
12/31/2023						0.4	0.5	0.6	0.85	0.5						4.2	6.1	4.4	6.14	
01/31/2024						0.8	1.6	1.1	2	1.6						2.7	5.9	2.9	7.2	
02/29/2024						0.9	1.5	0.91	1.6	1.5						3.5	5.7	3.6	5.9	
03/31/2024						1.3	2	1.5	2.4	2						4.5	8.2	5.7	12.7	
04/30/2024						0.3	0.4	0.39	0.52	0.39						4.5	6.4	4.5	6.7	
05/31/2024	0.4	0.7	0.5	0.9	0.5					0.66	0.66	4.22	6.9	5.26	8.38					0
06/30/2024	1.3	1.9	1.7	2.4	1.7					1.9	1.9	5.7	8.3	5.8	8.44					0.12
07/31/2024	2.1	2.8	2.5	3.53	2.5					2.8	2.8	5.3	6.9	5.8	8.21					0.3
08/31/2024	1.1	1.3	1.4	1.1	1.4					1.3	0.7	4.4	4.9	4.6	5.2					0.2
09/30/2024	1.7	3.9	2.2	6.4	2.2					3.9	1.49	4.79	10.53	5.35	15.63					0.24
10/31/2024	1.17	1.61	1.21	1.71	1.21					1.51	1.2	4.27	5.9	4.31	6					0.03
11/30/2024						0.48	0.91	0.5	1.05	0.91						2.34	4.37	2.7	4.55	
12/31/2024						0.5	1	0.7	1.3	1.3						2.8	5.9	2.9	8.8	
01/31/2025						0.92	1.5	0.946	1.92	1.5						3.7	5.9	3.9	6.93	
02/28/2025						1.1	2.9	1.3	4.49	2.9						4.4	10.9	4.7	16.33	
03/31/2025						1	1.6	1.2	1.7	1.6						3.4	5.7	4.5	8.3	
04/30/2025						0.8	0.5	1	0.6	0.5						4.1	6.8	5.2	5.16	
05/31/2025	0	0.1	0	0	0.1					0.1	0	3.5	5.7	4.7	6.8					0
06/30/2025	0.3	0.6	0.5	1.2	0.5					0.255	0.3	1.8	4.3	2.5	6.1					0.045
07/31/2025	0.8	1.2	1.2	1.66	1.2					1.2	1.1	4.3	6.4	4.7	6.5					0.23
08/31/2025	1.1	1.8	1.39	2.34	1.4					0.6	1	4.3	6.7	4.5	7.6					0.115
09/30/2025	1.1	1.7	0.43	0.7	1.6					1.7	1.3	4	6.1	4.1	6.1					0
10/31/2025	0.1	0.1	0.1	0.1	0.1					0.1	0.3	4.9	5.9	5.3	6					0.1
11/30/2025						0.8	1.4	1.4	2.3	1.4						5.1	8.2	6.3	10.6	
12/31/2025																				
Limit	3	10	4.5	15	6	Report	Report	Report	Rerpot	22	Report	5.7	Report	Report	Report	Report	Report	Report	Report	Report
Average	0.8	1.2	0.9	1.5	1.0	0.9	1.9	1.3	2.9	1.7	0.9	4.0	6.0	4.4	6.9	3.6	7.1	4.0	8.4	0.1

(The 2004 Organic Enrichment TMDL caps total nitrogen at the equivalent of 6.6 mg/L total nitrogen.)

APPENDIX 3 – RECEIVING STREAM LOW FLOW DETERMINATION

StreamStats Report

Region ID: TN
Workspace ID: TN20210209132403029000
Clicked Point (Latitude, Longitude): 35.97485, -86.91235
Time: 2021-02-09 07:24:22 -0600



Low-Flow Statistics Parameters[Low Flow Central and East Regions 2009 5159]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	339.77	square miles	1.3	14441
RECESS	Recession Index	40	days per log cycle	32	175
CLIMFAC2YR	Tennessee Climate Factor 2 Year	2.338	dimensionless	2.056	2.46
SOILPERM	Average Soil Permeability	1.496	inches per hour	0.45	9.72
PERMGTE2IN	Percent permeability gte 2 in per hr	44.033	percent	2	100

Low-Flow Statistics Flow Report[Low Flow Central and East Regions 2009 5159]

PII: Prediction Interval-Lower, Plu: Prediction Interval-Upper, SEp: Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	SEp
7 Day 10 Year Low Flow	5.05	ft^3/s	89
30 Day 5 Year Low Flow	10.5	ft^3/s	70.2

Low-Flow Statistics Citations

Law, G.S., Tasker, G.D., and Ladd, D.E.,2009, Streamflow-characteristic estimation methods for unregulated streams of Tennessee: U.S. Geological Survey Scientific Investigations Report 2009–5159, 212 p., 1 pl. (http://pubs.usgs.gov/sir/2009/5159/)