



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

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

Electronically Filed in TPUC Docket  
Room on February 20, 2025 at 1:29 p.m.

February 14, 2025

Mr. Josiah Cox  
President  
e-copy: [jcox@cswrgroup.com](mailto:jcox@cswrgroup.com)  
Central States Water Resources (CSWR)  
1630 Des Peres Rd., Suite 140  
Des Peres, MO 63131

Subject: **Minor Modification of NPDES Permit No. TN0078379**  
**Limestone Water Utility Operating Company, formerly IRM Utility, Inc.**  
**Bath Springs, Decatur County, Tennessee**

Dear Mr. Cox:

In accordance with the provisions of the Tennessee Water Quality Control Act, Tennessee Code Annotated (T.C.A.), Sections 69-3-101 through 69-3-120, the Division of Water Resources hereby issues the enclosed, minor modified, NPDES Permit. The continuance and/or reissuance of this NPDES Permit is contingent upon your meeting the conditions and requirements as stated therein.

Minor modification of the permit is to reflect the removal of sections about Sanitary Sewer Overflows and Releases, as well as specific collection system requirements from this permit, which is not applicable, but was not removed from our original permit template document. Riverstone Estates has a collection system operated by Limestone Water Utility Operating Company. However, as a septic tank effluent pump system primarily discharging to a treatment system followed by land application, the potential for collection system overflows and releases are much less than for a gravity system. Therefore, the Division only intended for any unpermitted releases be reported via MyTDEC Forms as described in Section 1.3.4 as is required for small domestic systems without collection systems and similarly to the reporting requirements for non-discharging systems. This permit was previously issued

under cover dated January 8, 2025, and public noticed on August 22, 2023, and after Limestone officially acquired the facility from another privately-owned utility. This minor modification eliminates conditions related to bypass, releases and the collection system on Pages 4, 5 and 21 of the previously issued permit.

Please be advised that a petition for permit appeal may be filed, pursuant to T.C.A. Section 69-3-105, subsection (i), by the permit applicant or by any aggrieved person who participated in the public comment period or gave testimony at a formal public hearing whose appeal is based upon any of the issues that were provided to the commissioner in writing during the public comment period or in testimony at a formal public hearing on the permit application.

Additionally, for those permits for which the department gives public notice of a draft permit, any permit applicant or aggrieved person may base a permit appeal on any material change to conditions in the final permit from those in the draft, unless the material change has been subject to additional opportunity for public comment.

Any petition for permit appeal under this subsection (i) shall be filed with the Technical Secretary of the Water Quality, Oil and Gas Board within thirty (30) days after public notice of the commissioner's decision to issue or deny the permit. A copy of the filing should also be sent to TDEC's Office of General Counsel.

TDEC has activated a new email address to accept appeals electronically. If you wish to file an appeal, you may do so by emailing the appeal and any attachments to [TDEC.Appeals@tn.gov](mailto:TDEC.Appeals@tn.gov). If you file an appeal electronically, you do not have to send a paper copy. If you have questions about your electronic filing, you can call (615) 532-0131. Electronic filing is encouraged, but not required.

If you have questions, please contact the Jackson Environmental Field Office at 1-888-891-TDEC; or, at this office, please contact Ms. Priyaa Dhasarathy at (615) 913-0076 or by E-mail at [Priyaa.Dhasarathy@tn.gov](mailto:Priyaa.Dhasarathy@tn.gov).

Sincerely,



Vojin Janjić  
Manager, Water-Based Systems

Enclosure

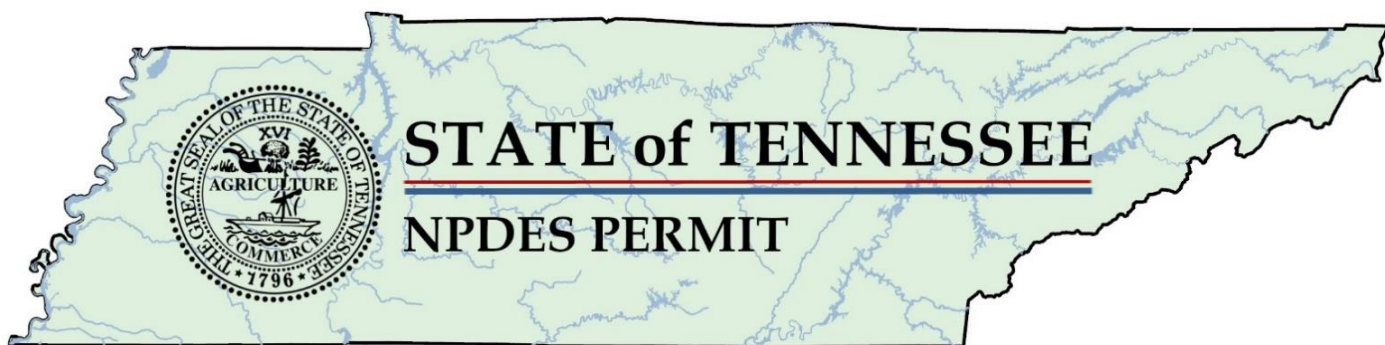
cc: Permit File  
Jackson Environmental Field Office  
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[dana.douglas@clearwatersol.com](mailto:dana.douglas@clearwatersol.com)  
Ms. Mandy Sappington, Compliance Manager, CSWR, [msappington@cswrgroup.com](mailto:msappington@cswrgroup.com)

Mr. Brad Thibault, Regional Manager, Limestone Water Utility Operating Company LLC,  
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Ms. Michelle Mairs, Deputy Director, Utilities Division, Tennessee Regulatory Authority,  
[michelle.mairs@tn.gov](mailto:michelle.mairs@tn.gov)

Mr. J. Bill Cox, President, IRM Utility, Inc., [irmutility@gmail.com](mailto:irmutility@gmail.com)

Mr. Cole McCormick, Tennessee Public Utility Commission (TPUC), [cole.mccormick@tn.gov](mailto:cole.mccormick@tn.gov)



**Authorization to Discharge Under the  
National Pollutant Discharge Elimination System (NPDES)  
Permit Number TN0078379**

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

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: **Limestone Water Utility Operating Company  
Riverstone Estates Wastewater Treatment Plant**

is authorized to discharge: treated domestic wastewater from Outfall 001  
from a facility located at: 1128 Old Ferry Road, Bath Springs, Decatur County, Tennessee  
to receiving waters named: Tennessee River at mile 161.6  
in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective on: **February 1, 2025**

This permit shall expire on: **August 31, 2028**

Issuance date: **February 14, 2025**

  
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for April Grippo  
Director

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## **PART 1**

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### **1. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

#### **1.1. NUMERIC AND NARRATIVE EFFLUENT LIMITATIONS**

##### **1.1.1. Numeric Limitations**

This permit allows the operation of a wastewater collection, treatment, and storage system with disposal of treated wastewater through approved land application areas. The drip irrigation disposal activity shall be limited and monitored by the permittee as specified below.

#### **EFFLUENT LIMITATION AND MONITORING REQUIREMENTS FOR DRIP IRRIGATION**

The treatment system shall be monitored by the permittee as specified below:

<u>Parameter</u>	<u>Sample Type</u>	<u>Daily Maximum</u>	<u>Measurement Frequency</u>
Flow *	Totalizer		1/month
BOD <sub>5</sub>	Grab	45 mg/l	Once/year
<i>E. Coli</i>	Grab	941 (colonies/100 ml)	1/quarter

\* Report average daily flow for each calendar month.

Sampling requirements in the table above apply to effluent being discharged to the drip irrigation plots.

There shall be no discharge of wastewater to any surface waters or to any location where it is likely to enter surface waters. There shall be no discharge of wastewater to any open throat sinkhole. In addition, the drip irrigation system shall be operated in a manner preventing the creation of a health hazard or a nuisance.

The land application component shall be operated and maintained to ensure complete hydraulic infiltration within the soil profile, transmission of the effluent away from the point of application, and full utilization of the soil profile as a portion of the treatment system.

Instances of surface saturation, ponding or pooling within the land application area as a result of system operation are prohibited. Instances of surface





saturation, ponding or pooling shall be promptly investigated and noted on the Monthly Operations Report. The report shall include details regarding location(s), determined cause(s), the actions taken to eliminate the issue, and the date the corrective actions were made. Any instances of surface saturation, ponding or pooling not associated with a major precipitation event not corrected within three days of discovery shall be reported to the local Environmental Field Office at that time for investigation. Surface saturation, ponding or pooling resulting in the discharge of treated wastewater into Waters of the State or to locations where it is likely to move to Waters of the State shall be immediately reported to the local Environmental Field Office, unless the discharge is separately authorized by a NPDES permit."

The permittee must disinfect the wastewater in order to meet the above E. Coli limit.

All drip lines shall be buried and maintained 6 to 10 inches below the ground surface.

The site shall be inspected by the certified operator or his/her designee, at a minimum, once per fourteen days (default) OR in accordance with an operating and maintenance inspection schedule in the permit administrative file record. The default inspection frequency will apply if an operating and maintenance inspection schedule is not submitted to be a part of the permit administrative file record. The operating and maintenance inspections shall be performed via onsite visits or telemetry monitoring or a combination of the two. The operating and maintenance inspections shall at a minimum evaluate:

- the condition of the treatment facility security controls (doors, fencing, gates, etc.);
- the condition of the drip area security controls (doors, fencing, gates, etc.);
- the condition of the site signage;
- the operational status of the mechanical parts of the treatment system (pumps, filters, telemetry equipment, etc.);
- the condition of the UV bulbs (if applicable);
- the condition of the land application area including the location of any ponding;
- the name of the inspector; and
- the description of any corrective actions.

Submission of the inspection schedule, or revisions to the schedule, may be submitted to the division electronically. The schedule shall be submitted on or before the effective date of the permit. The permittee is responsible for



maintaining evidence that the schedule, or revisions, have been submitted to the division.

Limestone Water Utility Operating Company, formerly IRM Utility, Inc. is authorized to discharge treated municipal wastewater from Outfall 001 on an emergency basis to Tennessee River at mile 161.6 from a treatment facility with a design capacity of 0.033 MGD. Discharge from Outfall 001 shall be limited and monitored by the permittee as specified below:

<b>External Outfall, Number: 001, Monitoring: Effluent Gross, Season: All Year</b>							
<u>Code</u>	<u>Parameter</u>	<u>Qualifier</u>	<u>Value</u>	<u>Unit</u>	<u>Sample Type</u>	<u>Monitoring Frequency</u>	<u>Statistical Base</u>
00300	Oxygen, dissolved (DO)	>=	1.0	mg/L	Grab	Five Per Week	Daily Minimum
00310	BOD, 5-day, 20 C	<=	30	mg/L	Grab	Twice Per Month	Monthly Average
00310	BOD, 5-day, 20 C	<=	45	mg/L	Grab	Twice Per Month	Daily Maximum
00400	pH	>=	6.0	SU	Grab	Two Per Week	Minimum
00400	pH	<=	9.0	SU	Grab	Two Per Week	Daily Maximum
00530	Total Suspended Solids (TSS)	<=	30	mg/L	Grab	Twice Per Month	Monthly Average
00530	Total Suspended Solids (TSS)	<=	45	mg/L	Grab	Twice Per Month	Daily Maximum
00545	Settleable Solids	<=	1.0	mL/L	Grab	Two Per Week	Daily Maximum
50050	Flow	Report	-	MGD	Instantaneous	Five Per Week	Monthly Average
50050	Flow	Report	-	MGD	Instantaneous	Five Per Week	Daily Maximum
50060	Chlorine, total residual (TRC)	<=	2.0	mg/L	Grab	Five Per Week	Daily Maximum
51040	E. coli	<=	487	#/100mL	Grab	Twice Per Month	Daily Maximum
51040	E. coli	<=	126	#/100mL	Grab	Twice Per Month	Monthly Average

**Notes:**

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.

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

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

### **1.1.2. Narrative Conditions (Outfall 001)**

The authorized discharge shall not:

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



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

## **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<sup>1</sup>, and maintained to ensure that the accuracy of the measurements is consistent with accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of plus or minus 10% from the true discharge rates throughout the range of expected discharge volumes.

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

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

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

**Effluent samples** must be representative of the wastewater being discharged and collected prior to mixing with any other discharge or the receiving stream.

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<sup>1</sup> 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](#).



This can be a different point for different parameters but must be after all treatment for that parameter or all expected changes. Specifically:

- a) The chlorine residual must be measured after the chlorine contact chamber and any dechlorination. It may be to the advantage of the permittee to measure at the end of any long outfall lines.
- b) Samples for *E. coli* can be collected at any point between completion of disinfection and the actual discharge.
- c) The dissolved oxygen (DO) can drop in the outfall line; therefore, DO measurements are required at the discharge end of outfall lines greater than 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 and submitted monthly using Monthly Operational Reports (MORs). The permittee shall continue using MORs and will also be required to submit Discharge Monitoring Reports (DMRs) using EPA's NetDMR website for electronic reporting. The permittee must sign up for NetDMR within 90 days of the permit effective date. See Section 1.6 for more information.

See below for more specific information for MOR and NetDMR reporting requirements:

#### ***MOR Reporting:***

Monitoring results shall be recorded monthly and submitted monthly using Monthly Operational Reports (MORs). MORs shall be submitted by the 15<sup>th</sup> day of the month following data collection and 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](mailto:DWRWW.Report@tn.gov) and to the Cookeville EFO:

Chattanooga	<a href="mailto:TDEC.Chattanooga.EFO@tn.gov">TDEC.Chattanooga.EFO@tn.gov</a>
Columbia	<a href="mailto:TDEC.Columbia.EFO@tn.gov">TDEC.Columbia.EFO@tn.gov</a>
Cookeville	<a href="mailto:TDEC.Cookeville.EFO@tn.gov">TDEC.Cookeville.EFO@tn.gov</a>
Jackson	<a href="mailto:TDEC.Jackson@tn.gov">TDEC.Jackson@tn.gov</a>
Johnson City	<a href="mailto:TDEC.JohnsonCity.EFO@tn.gov">TDEC.JohnsonCity.EFO@tn.gov</a>
Knoxville	<a href="mailto:TDEC.KEFO.DWRPermits@tn.gov">TDEC.KEFO.DWRPermits@tn.gov</a>
Memphis	<a href="mailto:TDEC.Memphis.EFO@tn.gov">TDEC.Memphis.EFO@tn.gov</a>
Nashville	<a href="mailto:DWR.NEFO@tn.gov">DWR.NEFO@tn.gov</a>



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

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

Monthly Operation Reports must be signed and certified by a responsible corporate officer, as defined at 40 CFR 122.22, or a general partner or proprietor, or a principal municipal executive officer or ranking elected officer, or a 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 1.6**.

***DMR Reporting using NetDMR:***

The first DMR is due on the 15<sup>th</sup> of the month following permit effectiveness using EPA's [NetDMR](#) website. 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 1.6**.

For more information about NetDMR electronic reporting and how to sign up, visit the Division's website [here](#).





### **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. Upset and Bypass Reporting**

#### **1.3.4.1. Event Report Requirements**

For the purpose of this section, “events” are known as instances of unpermitted discharges, 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;



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

#### **1.3.5. 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.

#### **1.4. 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.

#### **1.5. 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.

#### **1.6. 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](mailto:DWRWater.Compliance@tn.gov), in compliance with the Federal NPDES Electronic Reporting Rule.

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



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

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



## **PART 2**

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### **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. 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.

### **2.3.3. 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.

### **2.3.4. 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.



### **2.3.5. 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**

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### **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. SEPTIC (STEP) TANK OPERATION**

The proper operation of this treatment system depends, largely, on the efficient use of the septic tank. The solids that accumulate in the tank shall be removed at a frequency that is sufficient to ensure that the treatment plant will comply with the discharge requirements of this permit.

#### **3.3. SEPTAGE MANAGEMENT PRACTICES**

The permittee must comply with the provisions of Rule 0400-48-01-.22. If the septage is transported to another POTW for disposal, the permittee shall note the amount of septage wasted in gallons and name of the facility the hauler intends to use for disposal of the septage on the monthly operation report. Sludge or any other material removed by any treatment works must be disposed of in a manner which 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, TCA 68-31-101 et seq. and Tennessee Hazardous Waste Management Act, TCA 68-46-101 et seq.

#### **3.4. OWNERSHIP OF THE TREATMENT FACILITIES**

The permittee shall own the treatment facilities (and the land upon which they are constructed) including the land to be utilized for wastewater dispersal. A perpetual easement (properly recorded) may be accepted in lieu of ownership.

Where the treatment facility serves private homes, condominiums, apartments, retirement homes, nursing homes, trailer parks, or any other place where the individuals being served have property ownership, rental agreements, or other agreements that would prevent their being displaced in the event of abandonment or noncompliance of the sewerage system, ownership of the treatment facilities must be by a municipality, a public utility, a wastewater



authority, or a privately owned public utility (having a Certificate of Convenience and Necessity from the Tennessee Public Utility Commission) or another public agency.

### **3.5. 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  
Jackson Environmental Field Office  
1625 Hollywood Drive  
Jackson, Tennessee 38305  
(731)512-1300*

### **3.6. PLACEMENT OF SIGNS**

Within 60 days of the effective date of this permit, the permittee shall place and maintain a sign at each outfall and any 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. 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 Domestic Outfall:**

**TREATED DOMESTIC WASTEWATER**  
**Tennessee State Parks**  
**Pickwick Landing State Park WWTP**  
**(731) 689-3129**  
**NPDES Permit NO. TN0074870**  
**TENNESSEE DIVISION OF WATER RESOURCES**  
**1-888-891-8332 ENVIRONMENTAL FIELD OFFICE - Jackson**





## **PART 4**

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### **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  $n^{\text{th}}$  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<sub>25</sub>** 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<sub>50</sub>*** 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.

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

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

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

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

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



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

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

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

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

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

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

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

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

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



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

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

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

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

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

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

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

#### **4.2. ACRONYMS AND ABBREVIATIONS**

1Q10 –	1-day minimum, 10-year recurrence interval
30Q5 –	30-day minimum, 5-year recurrence interval
7Q10 –	7-day minimum, 10-year recurrence interval
BAT –	best available technology economically achievable
BCT –	best conventional pollutant control technology
BDL –	below detection limit





BOD <sub>5</sub> –	five-day biochemical oxygen demand
BPT –	best practicable control technology currently available
CBOD <sub>5</sub> –	five-day carbonaceous biochemical oxygen demand
CEI –	compliance evaluation inspection
CFR –	code of federal regulations
CFS –	cubic feet per second
CFU –	colony forming units
CIU –	categorical industrial user
CSO –	combined sewer overflow
DMR –	discharge monitoring report
D.O. –	dissolved oxygen
<i>E. coli</i> –	<i>Escherichia coli</i>
EPA –	Environmental Protection Agency
EFO –	environmental field office
GPM –	gallons per minute
IC <sub>25</sub> –	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 <sub>50</sub> –	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
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/Title40/40chapt\\_erl.tpl](https://www.ecfr.gov/cgi-bin/text-idx?SID=75202eb5d09974cab585afeea981220b&mc=true&tpl=/ecfrbrowse/Title40/40chapt_erl.tpl)

Electronic Reporting (NetDMR) Waiver Request

[https://www.tn.gov/content/dam/tn/environment/water/documents/wr\\_ereporting\\_waiver.pdf](https://www.tn.gov/content/dam/tn/environment/water/documents/wr_ereporting_waiver.pdf)

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

[https://www.epa.gov/sites/production/files/2018-11/documents/low\\_flow\\_stats\\_tools\\_handbook.pdf](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](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](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](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](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](https://www.usgs.gov/mission-areas/water-resources/science/streamstats-streamflow-statistics-and-spatial-analysis-tools?qt-science_center_objects=0#qt-science_center_objects)

USGS SWToolbox

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



#### **4.4. UNDERGROUND INJECTION CONTROL AUTHORIZATION**



**STATE OF TENNESSEE  
DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
DIVISION OF WATER RESOURCES  
William R. Snodgrass - Tennessee Tower  
312 Rosa L. Parks Avenue, 11<sup>th</sup> Floor  
Nashville, Tennessee 37243-1102**

Underground Injection Control Authorization No. DEC 0000003

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In accordance with Tennessee Code Annotated section 69-3-108 and Rule Chapter 0400-45-06, the following entity is authorized to construct and operate a Class V injection well at the identified property:

Riverstone Estates Wastewater Treatment Plant  
1128 Old Ferry Road  
(35.4152°, -86.0431°)  
Decatur County, TN

This injection well is a subsurface fluid distribution system and is authorized by rule. Fluids authorized for underground injection through this well are limited to sanitary waste. Construction, operation, and abandonment of the injection well must comply with all provisions identified in Rule 0400-45-06-.14 located at <http://publications.tnsosfiles.com/rules/0400/0400-45/0400-45-06.20140505.pdf>. A paper copy of this rule will be provided upon request.

This authorization is issued as a result of the application received on July 14, 2023 by the Tennessee Department of Environment and Conservation, Division of Water Resources, and in conformity with plans, specifications, and other data submitted in support of the application. Activities associated with the construction, operation and abandonment of the injection well must not present a hazard to groundwater that is currently used or has the potential to be used as an underground source of drinking water.

The owner/operator of a Class V injection well is responsible for notifying the Division of: change in the owner or operator of the well; change in nature of injected fluids; or, intent to abandon the well when it is no longer used or is usable for its intended purpose.

If the owner/operator wishes to continue the activity regulated by this authorization after the expiration date of this authorization, the applicant must apply for and obtain a new authorization prior to the expiration of this authorization.

This authorization shall become effective on: August 15, 2023

John Newberry  
Division of Water Resources



## **RATIONALE**

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**Limestone Water Utility Operating Company, formerly IRM Utility, Inc.  
Riverstone Estates Wastewater Treatment Plant  
NPDES Permit No. TN0078379  
Permit Writer: Priyaa Dhasarathy  
August 21, 2023**

### **5. PERMIT STATUS & PUBLIC PARTICIPATION**

<b>Permit Type:</b>	Municipal
<b>Classification:</b>	Minor
<b>Previous Issuance Date:</b>	01-JUN-18
<b>Previous Expiration Date:</b>	31-AUG-23
<b>Previous Effective Date:</b>	01-SEP-18

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".

<b>Public Notice Date:</b>	August 22, 2023
<b>Comment Period Ends:</b>	September 21, 2023

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

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

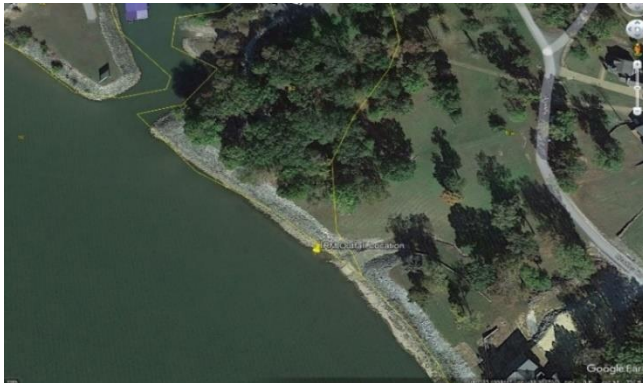
The public may also request a public hearing on a proposed permit by submitting such a request in writing during the public comment period specified above. The request should indicate the interest of the party filing it and the reasons why a hearing is warranted. A request for public hearing should be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



## 6. FACILITY INFORMATION

### Outfall Location

<b>Permittee Name:</b>	<b>Limestone Water Utility Operating Company, formerly IRM Utility, Inc.</b>
<b>Project Name:</b>	<b>Riverstone Estates Wastewater Treatment Plant</b>
<b>Location:</b>	1128 Old Ferry Road, Bath Springs, Decatur County, Tennessee
<b>Contact:</b>	Mr. Josiah Cox - President (314) 736-4672 jcox@cswrgroup.com
<b>Design Flow Rate:</b>	0.033 MGD
<b>Percentage Industrial Flow:</b>	Not Applicable
<b>Certified Operator Grades:</b>	STP: BNS; CS: I; Date Rated: 07/11/2014
<b>Treatment Description:</b>	Septic Tank Effluent Pump (STEP) collection system and treatment of domestic wastewater by a lagoon system and drip irrigation disposal with emergency discharge to river from Outfall 001



Outfall 001 location



Lagoon and drip fields





## 7. RECEIVING STREAM INFORMATION

**Receiving Waterbody:** Tennessee River at mile 161.6  
**Watershed Group:** Tennessee Western Valley-Beech  
**Hydrocode:** 06040001  
**Low Flow:** 1Q10 = 2,120.4 MGD (3280.7 CFS)  
**Low Flow Reference:** USGS Gage Station 03593500  
**Stream Designated Uses:**

<i>Domestic Water Supply</i>	<i>Industrial</i>	<i>Fish &amp; Aquatic Life</i>	<i>Recreation</i>
<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<i>Livestock &amp; Wildlife</i>	<i>Irrigation</i>	<i>Navigation</i>	<i>Trout</i>
<b>X</b>	<b>X</b>	<b>X</b>	

In this permit, USGS Gage Station 03593500 at river mile 206.5 provides sufficient data to characterize the low flow of the receiving stream as compared to the facility flows. Note that the current low flow of 3,280.7 cfs is about half of the low flows used in the past for the period of 1946 through 1992. One possible explanation for reduced flows at Pickwick Dam is opening of the Tennessee-Tombigbee Waterway in 1985. As the map shows, the waterway diverts Tennessee River flow upstream of the dam on a shortened route to the Gulf of Mexico.







## **8. NEW PERMIT LIMITATIONS AND COMPLIANCE SCHEDULE SUMMARY**

Limestone Water Utility Operating Company and IRM Utility Inc. have submitted a joint petition to Tennessee Public Utility Commission (TPUC) and the former is in the process of acquiring Riverstone Estates Wastewater Treatment Plant from the latter (Docket# 2300037). The Division directed Limestone to reapply for this permit because of their intent to operate this facility in the future. However, this permit will be issued without an effective date until Limestone demonstrates it has acquired the facility. This permit will be minor modified to include the effective date after receiving the proof of ownership.

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

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.

- b) Compliance Schedule Summary

<b>Description of Report to be Submitted</b>	<b>Reference Section in Permit</b>
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.

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



## **9. PREVIOUS PERMIT TERM REVIEW**

Limestone Water Utility Operating Company does not have any monitoring data as it was not made available to them by IRM Utility Inc. In the permit application submitted by Limestone Water Utility Operating Company, they have referenced an engineering evaluation of the facility. Based on a visual inspection performed by them on September 02, 2022, and from the information gathered from IRM utility, the tankage and equipment of the facility overall appear to be in a decent, operable condition. They reported that the concrete [features] of the lagoon, valve vault, secondary settling tank and UV building appear to be in good condition.

As per the application from Limestone Water Utility Operating Company, the compliance history of the WWTP was gathered from the information provided by The EPA Echo detailed facility report. The facility shows two informal enforcement actions over the past 10 years, one action (January 7, 2022) for the facility failing to submit monitoring records and the other for the application not being sent in time to renew an expiring permit.

During the previous permit term, Division personnel from the Jackson Environmental Field Office performed a Compliance Evaluation Inspection (CEI) of the permittee's facility. The CEI was performed by Bradley Smith on December 20, 2016, and the permittee was found to be out of compliance. The inspection report described the lagoon and levees to have had excessive vegetation, the flow meters needed calibration, the Monthly Operating Reports (MORs) weren't submitted as frequently as required by the permit and E. Coli samples for the drip irrigation system were not collected as frequently as required by the permit.

## 10. PROPOSED EFFLUENT LIMITS AND RATIONALE

Outfall 001(emergency use only):

PARAMETERS	MONTHLY AVERAGE CONCENTRATION (MG/L)	MONTHLY AVERAGE AMOUNT (LB/DAY)	WEEKLY AVERAGE CONCENTRATION (MG/L)	WEEKLY AVERAGE AMOUNT (LB/DAY)	DAILY MAXIMUM CONCENTRATION (MG/L)	DAILY MINIMUM PERCENT REMOVAL	RATIONALE
BOD <sub>5</sub>	30				45		Rule <a href="#">0400-40-05-.09</a> (for BOD <sub>5</sub> )
Total Suspended Solids	30				45		Rule <a href="#">0400-40-05-.09</a>
Dissolved Oxygen	1.0 (daily minimum) instantaneous	—	—	—	—	—	D.O. protection, Refer to 6.1 below
Total Chlorine Residual	—	—	—	—	2.0	—	Refer to 6.5 below
<i>E. coli</i> (#/100mL)	126/100 mL	—	—	—	487/100 mL	—	Rule <a href="#">0400-40-03-.03</a> , Refer to 6.7 below
Settleable Solids (mL/L)		—	—	—	1.0	—	Rule <a href="#">0400-40-05-.09</a>
pH (standard units)	6.0 - 9.0	—	—	—	—	—	Rule <a href="#">0400-40-03-.03</a>
Flow (MGD):							
Influent	Report	—	—	—	Report	—	Used to quantify pollutant load
Effluent	Report	—	—	—	Report	—	Used to quantify pollutant load
	<b>Monthly Total</b>		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 BOD<sub>5</sub>/CBOD<sub>5</sub> and TSS concentrations are given as required per 40 CFR 133.105(a)(2) or 133.105(e)(1)(ii) & 133.105(b)(2) respectively; daily BOD<sub>5</sub>/CBOD<sub>5</sub> and TSS limitations are authorized by T.C.A. 0400-40-05-.09; monthly, weekly, and daily 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 BOD<sub>5</sub>/CBOD<sub>5</sub> are required per 40 CFR 133.105(a)(3) and 133.105(e)(1)(iii). Monthly average percent removals for TSS are established per 40 CFR 133.105 (b)(3) and 133.103(c).



## **EFFLUENT LIMITATION AND MONITORING REQUIREMENTS FOR DRIP IRRIGATION**

The treatment system shall be monitored by the permittee as specified below:

<u><b>Parameter</b></u>	<u><b>Sample Type</b></u>	<u><b>Daily Maximum</b></u>	<u><b>Measurement Frequency</b></u>
Flow *	Totalizer		1/month
BOD <sub>5</sub>	Grab	45 mg/l	Once/year
<i>E. Coli</i>	Grab	941 (colonies/100 ml)	1/quarter

\* Report average daily flow for each calendar month.

Sampling requirements in the table above apply to effluent being discharged to the drip irrigation plots.

### **10.1. CONVENTIONAL PARAMETERS**

#### **10.1.1. BOD<sub>5</sub> and Dissolved Oxygen**

##### Outfall 001

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 BOD<sub>5</sub>. This parameter is used in the wastewater industry to measure both the strength of wastewater and the performance of wastewater treatment processes.

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

For this facility, the monthly average BOD<sub>5</sub> limit of 30 mg/L is a technology-based effluent limit for conventional secondary treatment plants (0400-40-05-.09).



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

#### Land Application

Again, the 45 mg/L daily maximum limit is the required treatment standard for domestic wastewater in Tennessee. Land application, versus stream discharge, enables reduced monitoring frequency for these parameters.

### **10.1.2. Total Suspended Solids (TSS)**

#### Outfall 001

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\(1\)\(a\)](#).

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

This permit does not propose lagoon limits for TSS because the majority of solids are treated as septage in the STEP Collection System and lagoon effluent is further treated via disc filter.

### **10.1.3. Percent Removal**

This permit does not impose percent removal requirements that apply to discharge permits because the permittee intends to utilize land application as the primary disposal method and discharge to the Tennessee River only on an emergency basis. It is not practicable to calculate a percent removal on an emergency basis. State rules for non-discharging systems do not impose demonstration of a minimum percent removal. The Division reserves the right to modify the permit for cause in the future to add percent removal requirements if the facility has need to discharge treated wastewater on a continuous or routine basis.



#### **10.1.4. Settleable Solids**

##### Outfall 001

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

#### **10.2. FLOW**

Monitoring of flow quantifies the load of pollutants to the stream and the land disposal site.

#### **10.3. PH**

For outfall 001, 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.

For land application, the division regulations does not impose pH limits.

#### **10.4. AMMONIA (NH<sub>3</sub>-N)**

This permit has historically not limited effluent ammonia due to the size of the receiving stream. With a dilution ratio more than 500:1, limiting ammonia will neither be necessary to protect instream dissolved oxygen nor to prevent toxicity to fish. The permit requires reporting of ammonia for the drip irrigation activity because, generally, treatment technologies that treat wastewater sufficiently for land disposal will nitrify ammonia to other forms of nitrogen. Reporting low ammonia levels is a means for the permittee to demonstrate proper operation of the treatment technology. The Division regulation does not impose limits on ammonia discharges to land.

#### **10.5. CHLORINATION**

##### Outfall 001

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:

$$\frac{0.019 (Qd + Qs)}{Qd} = \text{Limit (mg/L)} = \frac{0.019(.033 + 2120.4)}{.033} = 1220.86 \text{ mg/L} \approx 1220.9 \text{ mg/L}$$

Where:

0.019 mg/L	=	acute instream protection value
2120.4	=	Qs – 1Q10 flow of receiving stream (MGD)
.033	=	Qd – design flow of STP (MGD)

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

$$\frac{0.011 (Qd + Qs)}{Qd} = \text{Limit (mg/L)} = \frac{0.011(.033 + 2120.4)}{.033} = 706.81 \text{ mg/L} \approx 706.8 \text{ mg/L}$$

When water quality is not the limiting factor due to the large dilution afforded by the receiving stream, an effluent concentration of 2.0 mg/L shall not be exceeded as an operational control of treatment facilities. Because the permittee intends to discharge only on an emergency basis, this permit only imposes the chlorine limit of 2.0 mg/L as a daily maximum limit.

Review of the previous permit file record suggests that the previous limit of 1.0 mg/L was an error. All previous permits use the same rationale above, so the division proposes to correct the limit to 2.0 mg/L in this permit.

## **10.6. 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.

For small domestic systems who may apply using Form 2E (facilities which do not discharge process wastewater), the Division will generally make a conservative estimate and not require effluent monitoring and reporting. However, effluent characterization may be requested pursuant to T.C.A. § 69-3-107(10) by the Division during the permit term or included in a permit action with site-specific rationale for its inclusion.

#### **10.7. *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](#). The *E. coli* daily maximum limit of 487 colony forming units per 100 mL applies to lakes and exceptional Tennessee waters. A maximum daily limit of 941 colony forming units per 100 mL applies to all other recreational waters and land application sites. The units for *E. coli* have been standardized to #/100 mL, which is functionally equivalent to colony forming units.





## **11. COLLECTION SYSTEMS**

### **11.1. 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.

### **11.2. 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.

### **11.3. 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).*

#### **11.4. CERTIFIED WASTEWATER TREATMENT OPERATOR**

The waste treatment facilities shall be operated under the supervision of a Grade Biological Natural Systems (BNS) 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.

#### **11.5. BIOSOLIDS MANAGEMENT PRACTICES**

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

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

Tennessee regulates the land application of non-exceptional quality biosolids under state rules, Chapter [0400-40-15](#). The state rules became effective on June 30, 2013. Under these state rules, all facilities that land apply non-exceptional quality biosolids must obtain a biosolids permit from the division. The land application of non-exceptional quality biosolids under state rules is regulated



through either a general permit or by an individual permit. Questions about the division's biosolids regulations and permitting program should be directed to the State Biosolids Coordinator at:

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

#### **11.6. PERMIT TERM**

In order to meet the target reissuance date for the Tennessee Western Valley-Beech watershed and following the directives for the Watershed Management Program initiated in January 1996, the permit will be issued to expire in 2028.

#### **11.7. 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.

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](mailto:DWRwater.compliance@tn.gov) or by mail to the following address:



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

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

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

#### **11.8. 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# TN06040001001\_1000.

The Division has made a determination of the receiving waters associated with the subject discharge(s) and has found the river to be an exceptional Tennessee water. No permanent degradation of water quality above the level of *de minimis* will be allowed unless the applicant demonstrates to the Division that the degradation is for necessary economic or social development and will not interfere with or become injurious to any existing uses. The specific requirements for this demonstration are described in the Rules of the Tennessee Department of Environment and Conservation, Chapter 0400-40-03-.06(4).

Additionally, the Division has made a determination of the receiving waters associated with the subject discharge(s) and has found the receiving stream to be an available conditions water. Additionally, this water is fully supporting of its designated uses. The Division has maintained, and shall continue to assess, the water quality of the stream to assure that the water quality is adequate to protect the existing uses of the stream fully, and to assure that there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for non-point source control.



No Total Maximum Daily Loads (TMDLs) have been developed and approved for this waterbody segment.

To comply with the antidegradation provisions of state water quality standards relative to Exceptional Tennessee Waters (ETW), Limestone Water Utility Operating Company intends to continue disposing of treated effluent by land application and discharge to waters only on an intermittent or emergency basis. The permittee will subject to an analysis of non-degrading alternatives at such time it decides to discharge to the river on a continuous or routine basis.

## 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
BOD <sub>5</sub>	30				45		Twice Every Month
Total Suspended Solids	30				45		Twice Every Month
Dissolved Oxygen (mg/L)	1.0 (daily minimum) instantaneous	—	—	—	—	—	5/week
Total Chlorine Residual (mg/L)	—	—	—	—	1.0 (daily maximum)	—	5/week
<i>E. coli</i> (colonies/100ml)	126/100 ml	—	—	—	487/100 ml	—	2/week
Settleable Solids (ml/l)		—	—	—	1.0 (daily maximum)	—	2/week
pH (standard units)	6.0- 9.0	—	—	—	—	—	2/week
Flow (MGD):							
Influent	Report	—	—	—	Report	—	5/week
Effluent	Report	—	—	—	Report	—	5/week
Sanitary Sewer Overflows, Total Occurrences	Report						continuous
Dry Weather Overflows, Total Occurrences	Report						continuous
Bypass of Treatment, Total Occurrences	Report						continuous

### EFFLUENT LIMITATION AND MONITORING REQUIREMENTS FOR DRIP IRRIGATION

The treatment system shall be monitored by the permittee as specified below:

<u>Parameter</u>	<u>Sample Type</u>	<u>Daily Maximum</u>	<u>Measurement Frequency</u>
Flow *	Totalizer		1/month
BOD <sub>5</sub>	Grab	45 mg/l	Once/year
<i>E. Coli</i>	Grab	941 (colonies/100 ml)	1/quarter



## **APPENDIX 2 – RECEIVING STREAM LOW FLOW DETERMINATION**

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Program SWStat      U.S. GEOLOGICAL SURVEY      Seq 00001  
Ver. 5.0      Log-Pearson & Pearson Type III Statistics      Run Date / Time  
03/13/2018      based on USGS Program A193      1/24/2023 7:02 AM

Notice -- Log-Pearson Type III or Pearson Type III distributions are used  
for these computations. Users are responsible for assessment  
and interpretation.

Description: 03593500 TENNESSEE RIVER AT SAVANNAH, TN  
Year Boundaries: April 1 - March 31  
Period in report: April 1, 1987 - March 31, 2005  
Parameter: 1-day low  
Non-zero values: 18  
Zero values: 0  
Negative values: 0 (ignored)

Input time series (zero and negative values not included in listing.)

7460.000 3860.000 8970.000 8350.000 10400.000 7700.000 8670.000 7810.000  
7860.000 8480.000 8840.000 9500.000 5450.000 1400.000 7360.000 2190.000  
7360.000 7610.000

LOG PEARSON TYPE III Frequency Curve Parameters  
(based on logs of the non-zero values)

Mean (logs)	3.814
Variance (logs)	0.053
Standard Deviation (logs)	0.231
Skewness (logs)	-2.114
Standard Error of Skewness (logs)	0.536
Serial Correlation Coefficient (logs)	0.039
Coefficient of Variation (logs)	0.060

Frequency Curve - Parameter values at selected probabilities

Non- exceedance Probability	Variance Recurrence Interval	95-Pct Confidence Parameter Value	of Estimate	Intervals Lower	Upper
0.1000	10.00	3280.700	1.003	1353.800	4735.700