NPDES PERMIT MODIFICATION

Issued to

Permittee:
City of Danbury
155 Deer Hill Road
Danbury, CT 06810

Facility Address:
Danbury WPCF
53 Newton Road
Danbury, CT 06810

Permit ID: CT0100145

Design Flow Rate: 12.2 MGD

Effective Date: **DRAFT**

Receiving Waters: Limekiln Brook

Permit Expires: 06/30/2026

SECTION 1: GENERAL PROVISIONS

(A) This permit modification is issued by the Connecticut Department of Energy and Environmental Protection ("Department") in accordance with Section 22a-430 in Chapter 446k of the Connecticut General Statutes ("CGS") and the Regulations of Connecticut State Agencies ("RCSA") adopted thereunder, as amended, and Section 402(b) of the Clean Water Act, as amended, 33 U.S.C. 1251, et. seq., and pursuant to an approval dated September 26, 1973, by the Administrator of the United States Environmental Protection Agency for the State of Connecticut (the "State") to administer a National Pollutant Discharge Elimination System ("NPDES") permit program.

(B) The **City of Danbury** (the "Permittee") shall comply with all conditions of this permit including the following sections of the RCSA which have been adopted pursuant to Section 22a-430 of the CGS and are hereby incorporated into this permit. **Your attention is especially drawn to the notification requirements of subsections (i)(2), (i)(3), (j)(1), (j)(6), (j)(8), (j)(9)(C), (j)(10)(C), (j)(11)(C), (D), (E), and (F), (k)(3), and (k)(4) of Section 22a-430-3.** To the extent this permit imposes conditions more stringent than those found in the regulations, this permit shall apply.

Section 22a-430-3 General Conditions

(a) Definitions
(b) General
(c) Inspection and Entry
(d) Effect of a Permit
(e) Duty to Comply
(f) Proper Operation and Maintenance
(g) Sludge Disposal
(h) Duty to Mitigate
(i) Facility Modifications; Notification
(j) Monitoring, Records and Reporting Requirements
(k) Bypass
(l) Conditions Applicable to POTWs
(m) Effluent Limitation Violations
(n) Enforcement

(o) Resource Conservation
(p) Spill Prevention and Control
(q) Instrumentation, Alarms, Flow Recorders
(r) Equalization

Section 22a-430-4 Procedures and Criteria
(a) Duty to Apply
(b) Duty to Reapply
(c) Application Requirements
(d) Preliminary Review
(e) Tentative Determination
(f) Draft Permits, Fact Sheets
(g) Public Notice, Notice of Hearing
(h) Public Comments
(i) Final Determination
(j) Public Hearings
(k) Submission of Plans and Specifications. Approval.
(l) Establishing Effluent Limitations and Conditions
(m) Case-by-Case Determinations
(n) Permit Issuance or Renewal
(o) Permit or Application Transfer
(p) Permit Revocation, Denial or Modification
(q) Variances
(r) Secondary Treatment Requirements
(s) Treatment Requirements
(t) Discharges to POTWs – Prohibitions

(C) Violations of any of the terms, conditions, or limitations contained in this permit may subject the Permittee to enforcement action including, but not limited to, seeking penalties, injunctions, and/or forfeitures pursuant to applicable sections of the CGS and RCSA.

(D) Any false statement in any information submitted pursuant to this permit may be punishable as a criminal offense under Section 22a-438 or 22a-131a of the CGS or, in accordance with Section 22a-6, under Section 53a-157b of the CGS.

(E) No provision of this permit and no action or inaction by the Commissioner shall be construed to constitute an assurance by the Commissioner that the actions taken by the Permittee pursuant to this permit will result in compliance or prevent or abate pollution.

(F) Nothing in this permit shall relieve the Permittee of other obligations under applicable federal, state, and local law.

(G) This permit becomes effective on the 1st day of the month following the date of signature of the Commissioner or their designee.

(H) An annual fee shall be paid for each year this permit is in effect as set forth in Section 22a-430-7 of the RCSA. As of October 1, 2009, in accordance with Section 22a-6f of the CGS, the annual fee is $3,005.00.

SECTION 2: DEFINITIONS

(A) The definitions of the terms used in this permit shall be the same as the definitions contained in Sections 22a-423 and 22a-424a of the CGS and Sections 22a-430-3(a) and 22a-430-6(b) of the RCSA, except for "Composite" and "No Observable Acute Effect Level (NOAEL)", which are redefined below.

(B) In addition to the above, the following definitions shall apply to this permit:

"------" in a "Limit" column on any monitoring table in Attachment 1 means that a limit is not specified but a value must be reported on the DMR, MOR, and/or the ATMR.

"Annually" in the context of any sampling frequency, shall mean the sample must be collected in the month of July, except in the case of the Chronic Aquatic Toxicity Test, for which samples must be collected in the months of July, August or September.

"ATMR" means Aquatic Toxicity Monitoring Report.

"Average Monthly Limit" means the maximum allowable "Average Monthly Concentration" as defined in Section 22a-430-3(a) of the RCSA when expressed as a concentration (e.g., mg/l); otherwise, it means "Average Monthly Discharge Limitation" as defined in Section 22a-430-3(a) of the RCSA.

"Bimonthly" in the context of any sampling frequency, shall mean once every two months including the months of January, March, May, July, September, and November.

"Biweekly" in the context of any sampling frequency, shall mean once every two weeks.

"Composite" means a sample consisting of a minimum of eight aliquot samples collected at equal intervals of no less than 30 minutes and no more than 60 minutes and combined proportionally to flow over the sampling period provided that during the sampling period the peak hourly flow is experienced.

"Connecticut Water Quality Standards" means the regulations adopted under Sections 22a-426-1 through 22a-426-9 of the RCSA, as amended.

"Critical Test Concentration" or **"CTC"** means the specified effluent dilution at which the Permittee is to conduct a single-concentration Aquatic Toxicity Test.

"Daily Composite" means a composite sample taken over a full operating day consisting of grab samples collected at equal intervals of no more than sixty (60) minutes and combined proportionally to flow; or a composite sample continuously collected over a full operating day proportionally to flow.

"Daily Concentration" means the concentration of a substance as measured in a daily composite sample, or arithmetic average of all grab sample results defining a grab sample average.

"Daily Quantity" means the quantity of waste discharged during an operating day.

"DMR" means Discharge Monitoring Report.

"Geometric Mean" is the n^{th} root of the product of n observations.

"Infiltration" means water other than wastewater that enters a sewer system (including sewer system and foundation drains) from the ground through such means as defective pipes, pipe joints, connections, or manholes. Infiltration does not include, and is distinguished from, inflow.

"Inflow" means water other than wastewater that enters a sewer system (including sewer service connections) from sources such as, but not limited to, roof leaders, cellar drains, yard drains, area drains, drains from springs and swampy areas, cross connections between storm sewers and sanitary sewers, catch basins, cooling towers, storm waters, surface runoff, street wash waters, or drainage. Inflow does not include, and is distinguished from, infiltration.

"Instantaneous Limit" means the highest allowable concentration of a substance as measured by a grab sample, or the highest allowable measurement of a parameter as obtained through instantaneous monitoring.

"In-stream Waste Concentration" or **"IWC"** means the concentration of a discharge in the receiving water (as a percentage) after mixing has occurred in the allocated Zone of Influence.

"Maximum Daily Limit" means the maximum allowable "Daily Concentration" (defined above) when expressed as a concentration (e.g., mg/l), otherwise, it means the maximum allowable "Daily Quantity" as defined above, unless it is expressed as a flow quantity. If expressed as a flow quantity, it means "Maximum Daily Flow" as defined in Section 22a-430-3(a) of the RCSA.

"MGD" means million gallons per day.

"MOR" means Monthly Operating Report.

"NA" as a Monitoring Table abbreviation means "not applicable".

"NAR" means Nutrient Analysis Report submitted pursuant to the General Permit for Nitrogen Discharges.

"NR" as a Monitoring Table abbreviation means "not required".

"No Observable Acute Effect Level" or **"NOAEL"** means any concentration equal to or less than the critical test concentration in a single concentration (pass/fail) toxicity test, conducted pursuant to Section 22a-430-3(j)(7)(A)(i) of the RCSA, demonstrating 90% or greater survival of test organisms in 100% undiluted effluent at a CTC of 100%.

"Permitted Sewage Bypass" means any bypass meeting the requirements of Section 22a-430-3(k)(1) of the RCSA, and if applicable, any discharge from a permitted combined sewer overflow outfall in response to wet weather conditions (i.e., rainfall or snowmelt) when the total available transportation, treatment, and storage capabilities are exceeded, as well as any bypass of secondary treatment resulting from wet weather flows collected by a combined sewer system.

"Quarterly" in the context of any sampling frequency, shall mean sampling is required in the months of January, April, July, and October.

"Range During Sampling" or **("RDS")** as a sample type, means the maximum and minimum of all values recorded resulting from analyzing each individual aliquot of 1) a Composite Sample; or 2) a Grab Sample Average. For those permittees with continuously monitoring and recording dissolved oxygen, pH, or ultraviolet light meters, RDS means the maximum and minimum readings recorded with the continuous monitoring device during the Composite or Grab Sample Average sample collection.

"µg/l" means micrograms per liter.

"Workday" in the context of a sampling frequency, means Monday through Friday excluding holidays.

"Zone of Influence" means the spatial area or volume of receiving water flow within which some degradation of water quality or use impairment is anticipated to occur as a result of a discharge.

SECTION 3: COMMISSIONER'S DECISION

(A) The Commissioner has issued a final decision and found that continuance of the existing system to treat the discharge would protect the waters of the State from pollution. The Commissioner's decision is based on application #202401481 for permit modification received on February 5, 2024 and the administrative record established in the processing of that application.

(B) The Commissioner hereby authorizes the Permittee to discharge in accordance with the provisions of this permit, the above referenced application, and all approvals issued by the Commissioner or their authorized agent for the discharges and/or activities authorized by or associated with this permit.

(C) The Commissioner reserves the right to make appropriate revisions to the permit, if required after Public Notice, in order to establish any appropriate effluent limitations, schedules of compliance, or other provisions which may be authorized under the Federal Clean Water Act or the CGS or the regulations adopted thereunder, as

amended. The permit as modified under this paragraph may also contain any other requirements of the Federal Clean Water Act or CGS or regulations adopted thereunder which are then applicable.

SECTION 4: GENERAL LIMITATIONS AND CONDITIONS

(A) The Permittee shall not accept any new sources of non-domestic sewage conveyed to its publicly owned treatment works (POTW) through its sanitary sewerage system or by any means other than its sanitary sewerage system unless the generator of such wastewater: (a) is authorized by a permit issued by the Commissioner under Section 22a-430 of the CGS (individual permit); (b) is authorized under Section 22a-430b of the CGS (general permit); or (c) has been issued an emergency or temporary authorization by the Commissioner under Section 22a-6k of the CGS. All such non-domestic sewage shall be processed by the POTW via receiving facilities at a location and in a manner prescribed by the Permittee which are designed to contain and control any unplanned releases.

(B) No new discharge of domestic sewage from a single source to the POTW in excess of 50,000 gallons per day shall be allowed by the Permittee until the Permittee has notified the Department via email to DEEP.MunicipalNPDES@ct.gov of said new discharge.

(C) The Permittee shall ensure that the receiving water body conforms to the Connecticut Water Quality Standards outside of the Zone of Influence specifically assigned to this discharge. This discharge shall not cause or contain:

(1) sludge deposits, solid refuse, floating solids, oils and grease, or scum, except as may result from a discharge from a wastewater treatment facility providing appropriate treatment and none exceeding levels necessary to protect and maintain all designated uses assigned to the classification of the receiving waters pursuant to the Connecticut Water Quality Standards;

(2) color resulting in obvious discoloration of the surface water;

(3) suspended and settleable solids in concentrations or combinations which would impair the designated uses, be aesthetically objectionable, significantly alter the physical or chemical composition of bottom sediments, and/or adversely impact organisms living in or on the bottom sediment;

(4) silt or sand deposits other than of natural origin except as may result from normal road maintenance and construction activity provided all reasonable controls or best management practices are used in such activities and all designated uses are protected and maintained;

(5) turbidity other than that of natural origin except as may result from a discharge from a wastewater treatment facility providing appropriate treatment, provided all reasonable controls are used to control turbidity and none exceeding levels necessary to protect and maintain all designated uses; or

(6) odor that would impair the designated uses.

(D) No discharge from the permitted facility shall cause acute toxicity or chronic toxicity in the receiving water body outside of any Zone of Influence specifically allocated to that discharge in this permit.

(E) Any new or increased amount of sanitary sewage discharge to the sewer system is prohibited where it will cause a dry weather overflow or exacerbate an existing dry weather overflow.

(F) Sludge Conditions

(1) The Permittee shall comply with all existing federal and state laws and regulations that apply to sewage sludge use and disposal practices, including but not limited to Part 503 of Title 40 of the Code of Federal Regulations (40 CFR 503).

(2) If an applicable management practice or numerical limitation for pollutants in sewage sludge more

stringent than existing federal and state regulations is promulgated under Section 405(d) of the Clean Water Act (CWA), this permit shall be modified or revoked and reissued to conform to the promulgated regulations.

(3) The Permittee shall give prior notice to the Commissioner of any planned changes to its sludge use or disposal practice. A change in the Permittee's sludge use or disposal practice **may be a cause** for modification of the permit.

(4) Testing for inorganic pollutants shall follow "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", EPA Publication SW-846 as updated and/or revised.

(G) Proper Operation & Maintenance

(1) The Permittee shall comply with Sections 22a-416-1 through 22a-416-10 of the RCSA concerning operator certification.

(2) **Within fourteen (14) days** after a chief operator, shift operator, or process control operator begins or terminates employment in such capacity at a wastewater treatment facility, the Permittee shall notify the Department of that fact via email to Craig Motasky, Operator Certification Coordinator, at craig.motasky@ct.gov. Direct responsible charge experience shall not start to accumulate for such chief operator, shift operator, or process control operator until the date the Department receives such notification from the Permittee.

(3) The Permittee shall maintain a system of user charges or dedicated taxes or other fees sufficient to properly operate and maintain the POTW (including the collection system) and replace critical components.

(4) The Permittee shall maintain a sewer use ordinance that is consistent with the "Model Sewer Ordinance for Connecticut Municipalities" prepared by the Department and dated March 1982, as amended. The Commissioner alone may authorize certain discharges which may not conform to the Model Sewer Ordinance.

(5) The Permittee shall operate and maintain all processes as installed in accordance with the approved plans and specifications and as outlined in the associated operation and maintenance manual. This includes but is not limited to all preliminary treatment processes, primary treatment processes, recycle pumping processes, anaerobic treatment processes, anoxic treatment processes, aerobic treatment processes, flocculation processes, effluent filtration processes or any other processes necessary for the optimal removal of pollutants. The Permittee shall not bypass or fail to operate any of the aforementioned processes without the written approval of the Commissioner.

(6) The Permittee shall maintain an alternate power source adequate to provide full operation of all pump stations in the sewerage collection system and to provide a minimum of primary treatment and disinfection at the water pollution control facility to ensure that no discharge of untreated wastewater will occur during a failure of a primary power source.

(7) **No later than July 31st of each calendar year,** the main flow meter shall be calibrated by an independent contractor in accordance with the manufacturer's specifications. The actual record of the calibration shall be retained on-site and upon request, the Permittee shall submit to the Commissioner a copy of that record.

(8) Without prior written approval from the Commissioner, the Permittee shall not introduce any chemicals, virgin or otherwise, to the treatment process that were not identified in the permit application referenced in Section 3(A) of this permit, nor in any plans and specifications approved by the Department in accordance with Section 22a-430-3(i) of the RCSA.

(9) **No later than February 15th of the year following the issuance of this permit modification,** the Permittee shall submit an updated Sewer Service Area (SSA) Map to the Department via email to

DEEP.MunicipalNPDES@ct.gov. The SSA shall at a minimum clearly identify and delineate the following information as applicable:

(a) areas currently connected to sanitary sewers;
(b) areas considered for future sanitary sewer service; and
(c) areas where sanitary sewer service will not be provided.

(10) **No later than February 15th of each calendar year,** the Permittee shall submit to the Department via email to DEEP.MunicipalNPDES@ct.gov, an updated listing of all wastewater treatment plant and collection system improvements (outside of routine maintenance) and all sewer extensions performed during the most recent calendar year. At a minimum the following information must be included in the submission:

(a) the street name or nearest identifiable location to where the project was performed;
(b) the total linear feet of pipe replaced or repaired;
(c) the number of manholes repaired or replaced;
(d) a description of work performed at pump stations;
(e) a description of work performed at the treatment plant; and
(f) a project listing with proposed collection system and plant improvements for the following calendar year.

(11) **Within one (1) year of the date of issuance of this permit modification**

(a) The Permittee shall develop and submit a report to DEEP.MunicipalNPDES@ct.gov for the review and approval of the Commissioner describing a plan to reduce infiltration and inflow (I/I) flows into the collection system with a schedule of planned action(s). Additionally, such report shall include proposed or planned future increases in flow to the plant for a period of 3 years from the date of permit modification issuance. This plan shall include a schedule for completing any recommended improvements and a plan for financing the improvements.

(b) The Permittee shall submit to the Commissioner semiannual status reports beginning 180 days after the effective date of this permit modification. Status reports shall include, but not be limited to, a detailed description of progress made by the Permittee in performing actions required by this Section of the permit including a project schedule to implement the actions in the most expeditious manner. The report and schedule shall include but not be limited to development of engineering plans and specifications, construction activity, contract bidding, operational changes, preparation and submittal of permit applications, and any other required information or action items under this Section.

(c) The Permittee shall retain one or more qualified consultants acceptable to the Commissioner until the actions required in this Section of this permit modification have been completed. The consultant(s) retained to perform the studies and oversee any remedial measures required pursuant to this Section shall be a qualified professional engineer licensed to practice in Connecticut.

(12) **Within one (1) year** from the date when the arithmetic mean of the average daily BOD_5 or TSS load into the POTW exceeds 90% of the design load rate over the previous 180 days, the Permittee shall develop and submit a report to DEEP.MunicipalNPDES@ct.gov for the review and approval of the Commissioner describing a plan to accommodate future increases in load to the plant. This plan shall include a schedule for completing any recommended improvements and a plan for financing the improvements.

SECTION 5: SPECIFIC LIMITATIONS, MONITORING REQUIREMENTS, and CONDITIONS

(A) The discharge(s) shall not exceed and shall otherwise conform to the specific limitations, terms, and conditions listed in this permit. The discharge is restricted by and shall be monitored in accordance with Tables A through H incorporated in this permit as Attachment 1.

(B) The Permittee shall provide monitoring data of the performance of the treatment process in accordance with the Monthly Operating Report (MOR) form incorporated in this permit as Attachment 2.

(C) The average monthly concentrations of 5-day Biochemical Oxygen Demand (BOD_5) and Total Suspended Solids (TSS) in the Permittee's effluent shall not exceed 15% of the respective average monthly concentrations of BOD_5 and TSS in the influent.

(D) The temperature of any discharge shall not increase the temperature of the receiving stream above 85°F, or, in any case, raise the normal temperature of the receiving stream more than 4°F beyond the permitted Zone of Influence.

(E) The Permittee is hereby authorized to accept fats, oil and grease (FOG) and septage at the treatment facility.

(F) The Permittee is hereby authorized to process FOG at the FOG to biodiesel conversion facility. The Permittee shall not modify the volume or characteristics of the discharges sent from this facility to the wastewater treatment plant unless prior written approval is received from the Commissioner, including an approval received pursuant to Sections 4(A) and 4(F)(8) of this permit.

SECTION 6: SAMPLE COLLECTION, HANDLING and ANALYTICAL TECHNIQUES

(A) Chemical Analyses

(1) All samples collected to determine compliance with effluent limitations and conditions established in this permit shall be handled and analyzed in accordance with methods approved under 40 CFR 136 unless an alternative method has been approved in writing pursuant to 40 CFR 136.4 or as provided in Section 22a-430-3(j)(7) of the RCSA. Monitoring parameters which do not have approved methods of analysis defined in 40 CFR 136 or the RCSA shall be sampled and analyzed in accordance with methods specified in this permit.

(2) All metals analyses identified in this permit shall refer to analyses for Total Recoverable Metal as defined in 40 CFR 136, unless otherwise specified.

(3) Grab samples shall be taken during the period of the day when the peak hourly flow is normally experienced.

(4) Samples collected for bacteriological examination shall be collected between the hours of 11 a.m. and 3 p.m. or at the time of day when the peak hourly flow is normally experienced. A chlorine residual sample must be taken at the same time and the results recorded.

(5) The term Minimum Level (ML) refers to either the sample concentration equivalent to the lowest calibration point in a method or a multiple of the method detection limit (MDL). The Minimum Levels specified below represent the concentrations at which quantification must be achieved and verified during the chemical analyses for the parameters identified in Attachment 1, Tables A through H. Analyses for these parameters must include check standards within ten percent of the specified Minimum Level or calibration points equal to or less than the specified Minimum Level.

Parameter	Minimum Level
Aluminum, Total	50 µg/l
Antimony, Total	10 µg/l
Arsenic, Total	5 µg/l
Beryllium, Total	1 µg/l
Cadmium, Total	0.5 µg/l
Chlorine, Total Residual	50 µg/l
Chromium, Total	5 µg/l
Chromium, Total Hexavalent	10 µg/l
Copper, Total	5 µg/l

Cyanide, Total	10 µg/l
Iron, Total	40 µg/l
Lead, Total	5 µg/l
Mercury, Total	0.2 µg/l
Mercury, Total	*****0.05 µg/l**
Nickel, Total	5 µg/l
Phosphorus, Total	0.05 mg/l
Selenium, Total	5 µg/l
Silver, Total	2 µg/l
Thallium, Total	5 µg/l
Zinc, Total	20 µg/l

(a) *****No later than 365 days after the effective date of this permit,** the Permittee shall comply with a Mercury Minimum Level of 0.05 ug/l, which is achievable using EPA Methods 245.7 and 1631E. Until such time, the Permittee shall comply with a Mercury Minimum Level of 0.2 ug/l.

(6) The value of each parameter for which monitoring is required under this permit shall be reported to the maximum level of accuracy and precision possible, consistent with the requirements of this Section of the permit.

(7) Effluent analyses for which quantification was verified to be at or below a minimum level specified in this Section and which indicate that a parameter was not detected shall be reported as "less than *x*" where *x* is the numerical value equivalent to the analytical method detection limit for that analysis.

(8) Results of effluent analyses which indicate that a parameter was not present at a concentration greater than or equal to the Minimum Level specified for that analysis shall be considered equivalent to zero (0.0) for purposes of determining compliance with effluent limitations or conditions specified in this permit.

(9) It is a violation of this permit for a Permittee or their designated agent to manipulate test samples in any manner, to delay sample shipment, or to terminate or to cause to terminate a toxicity test. Once initiated, all toxicity tests must be completed.

(B) Acute Aquatic Toxicity Testing

(1) Samples for monitoring of Acute Aquatic Toxicity shall be collected and handled as prescribed in "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms" (EPA-821-R-02-012).

(a) Composite samples shall be chilled as they are collected. Grab samples shall be chilled immediately following collection. Samples shall be held at 0–6ºC until Acute Aquatic Toxicity testing is initiated.

(b) Effluent samples shall not be dechlorinated, filtered, or modified in any way prior to testing for Acute Aquatic Toxicity unless specifically approved in writing by the Commissioner for monitoring at this facility. Facilities with effluent dechlorination and/or filtration designed as part of the treatment process are not required to obtain approval from the Commissioner.

(c) Samples shall be taken after dechlorination for Acute Aquatic Toxicity unless otherwise approved in writing by the Commissioner for monitoring at this facility.

(d) Chemical analyses of the parameters identified in Attachment 1, Table C, shall be conducted on an aliquot of the same sample tested for Acute Aquatic Toxicity.

(i) At a minimum, pH, specific conductance, total alkalinity, total hardness, and total residual chlorine shall be measured in the effluent sample and, during Acute Aquatic Toxicity tests, in the highest concentration of the test and in the dilution (control) water at the beginning of

the test and at test termination. If total residual chlorine is not detected at test initiation, it does not need to be measured at test termination. Dissolved oxygen, pH, and temperature shall be measured in the control and all test concentrations at the beginning of the test, daily thereafter, and at test termination.

(e) Tests for Acute Aquatic Toxicity shall be initiated within 36 hours of sample collection.

(2) Monitoring for Acute Aquatic Toxicity to determine compliance with the permit limit on Acute Aquatic Toxicity (invertebrate) shall be conducted for 48 hours utilizing neonatal (less than 24 hours old) *Daphnia pulex*.

(3) Monitoring for Acute Aquatic Toxicity to determine compliance with the permit limit on Acute Aquatic Toxicity (vertebrate) shall be conducted for 48 hours utilizing larval (1 to 14-day old with no more than 24 hours range in age) *Pimephales promelas*.

(4) Tests for Acute Aquatic Toxicity shall be conducted as prescribed for static non-renewal acute tests in "Methods for Measuring the Acute Aquatic Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms" (EPA-821-R-02-012), except as specified below.

(a) For Acute Aquatic Toxicity limits, and for monitoring only conditions, expressed as a NOAEL value, Pass/Fail (single concentration) tests shall be conducted at a specified Critical Test Concentration (CTC) equal to the Aquatic Toxicity limit, (100% in the case of monitoring only conditions), as prescribed in Section 22a-430-3(j)(7)(A)(i) of the RCSA.

(b) Organisms shall not be fed during the tests.

(c) Synthetic freshwater prepared with deionized water adjusted to a hardness of 50±5 mg/L as $CaCO_3$ shall be used as dilution water in the tests.

(d) Copper nitrate shall be used as the reference toxicant.

(5) For limits expressed as NOAEL = 100%, compliance shall be demonstrated when the results of a valid pass/fail Acute Aquatic Toxicity Test indicate 90% or greater survival in the effluent sample at the CTC (100%).

(C) Chronic Aquatic Toxicity Test for Freshwater Discharges

(1) Chronic Aquatic Toxicity testing of the discharge shall be conducted annually during July, August, or September of each year.

(2) Chronic Aquatic Toxicity testing shall be performed on the discharge in accordance with the test methodology established in "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms" (EPA-821-R-02-013) as referenced in 40 CFR 136 for *Pimephales promela* larval survival and growth and *Ceriodaphnia dubia* survival and reproduction.

(a) Chronic Aquatic Toxicity tests shall utilize a minimum of five effluent dilutions prepared using a dilution factor of 0.5 (100% effluent, 50% effluent, 25% effluent, 12.5% effluent, 6.25% effluent).

(b) Limekiln Brook water collected immediately upstream of the area influenced by the discharge shall be used as control (0% effluent) and dilution water in the toxicity tests.

(c) A laboratory water control consisting of synthetic freshwater prepared in accordance with EPA-821-R-02-013 at a hardness of 50±5 mg/l shall be used as an additional control (0% effluent) in the toxicity tests.

(d) Daily composite samples of the discharge (final effluent following disinfection) and grab samples of the Limekiln Brook for use as site water control and dilution water shall be collected on day 0 for

test solution renewal on day 1 and day 2 of the test; day 2, for test solution renewal on day 3 and day 4 of the test; and day 4, for test solution renewal for the remainder of the test. Samples shall not be pH or hardness adjusted, or chemically altered in any way.

(3) All samples of the discharge and Limekiln Brook water used in the Chronic Aquatic Toxicity test shall, at a minimum, be analyzed and results reported in accordance with the provisions listed in Section 6(A) of this permit for the parameters listed in Attachment 1, Table C included herein, except for organism testing, which is specified in paragraph C(2) above.

SECTION 7: DATA RECORDING AND REPORTING REQUIREMENTS

(A) The results of the process monitoring required in Section 5 of this permit shall be entered on the Monthly Operating Report (MOR) form, included herein as Attachment 2, and submitted to the Department via email to DEEP.WPCF@ct.gov, or in another format approved by the Commissioner, **by the 15th day of the month** following the month in which the data and samples were collected. The subject line of the email shall include the name of the facility and the keyword "MOR" to ensure proper routing. The MOR report shall also be accompanied by a detailed explanation of any violations of the limitations specified in this permit.

(B) Complete and accurate test data, including percent survival of test organisms in each replicate test chamber, LC_{50} values and 95% confidence intervals for definitive test protocols, and all supporting chemical/physical measurements performed in association with any aquatic toxicity test as outlined in Section 6(B) shall be entered on the Aquatic Toxicity Monitoring Report (ATMR) forms and submitted to the Department via email to DEEP.WPCF@ct.gov, or in another format approved by the Commissioner, **by the 15th day of the month** following the month in which the samples were collected. The subject line of the email shall include the name of the facility and the keyword "ATMR" to ensure proper routing.

(C) A complete and thorough report of the results of the chronic toxicity monitoring outlined in Section 6(C) shall be prepared as outlined in Section 10 of EPA-821-R-02-013 and submitted to the Department via email to DEEP.WPCF@ct.gov, or in another format approved by the Commissioner, **no later than December 31st of each calendar year**. The subject line of the email shall include the name of the facility and the keyword "Chronic" to ensure proper routing.

(D) The Permittee shall continue to report the results of chemical analyses and aquatic toxicity tests required by Sections 5 and 6 above and detailed in Attachment 1 below via electronic submission of Discharge Monitoring Reports (DMRs) to the Department using the NetDMR system. Monitoring results shall be reported at the monitoring frequencies specified in this permit. Any parameters for which monitoring is required more frequently than monthly shall be reported on an attachment to the DMR, and any additional monitoring conducted in accordance with 40 CFR 136 or other methods approved by the Commissioner, shall also be included on the DMR, or as an attachment, if necessary, and the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR. Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Commissioner in the permit. All aquatic toxicity reports shall also be included as an attachment to the DMR. A report shall also be included with the DMR which includes a detailed explanation of any violations of the limitations specified. DMRs shall be submitted via NetDMR monthly, **no later than the 15th day of the month** following the month in which the samples were collected.

(E) For composite samples not collected by automatic samplers, the instantaneous flow and the time of each aliquot sample collection shall be recorded and maintained at the POTW.

SECTION 8: RECORDING AND REPORTING OF VIOLATIONS, BYPASSES, MECHANICAL FAILURES, AND MONITORING EQUIPMENT FAILURES

(A) Initial Emergency Response Notification

(1) For any sewage spill or permitted sewage bypass that reaches a water body, wetland, or catch basin **or** exceeds one hundred (100) gallons in volume over a 24-hour period, the reporting requirements of Section 22a-450 of the CGS shall apply. **Within one (1) hour** of becoming aware of any such spill or

bypass, the Permittee shall notify the DEEP Emergency Response and Spill Prevention Program via telephone at (860) 424-3338. The Permittee shall record the time the call was made, the name of the DEEP staff spoken with, and the case number.

(2) For any sewage spill or permitted sewage bypass that reaches a water body **or** may come in contact with the general public, the reporting requirements of Section 22a-424a(c)(3) of the CGS shall apply. **Within two (2) hours** of becoming aware of any such spill or bypass, the Permittee shall notify the chief elected official (CEO) and the local public health official in the municipality where the spill occurred and the CEO and local public health official of any municipality that may be potentially impacted downstream.

(B) Required Electronic Reporting to DEEP

(1) In accordance with Section 22a-424a(d) of the CGS, any report required pursuant to Section 22a-430-3 of the RCSA shall be submitted electronically. The Department maintains an electronic sewage bypass and permit noncompliance reporting system located at https://deepct.qscend.com/qalert/. The Permittee shall submit an **initial incident report** to the Commissioner through the Department's electronic sewage bypass and permit noncompliance reporting system or in another format approved by the Commissioner, **within two (2) hours** of becoming aware of any of the following circumstances:

(a) All instances of bypass, including bypass of the entire treatment plant or any portion thereof, permitted sewage bypasses such as those performed during required maintenance, and bypass of any component of the sewage collection system including any discharge through combined sewer overflow, in accordance with Section 22a-424a(c)(2) of the CGS and Section 22a-430-3(k) of the RCSA;

(b) Any actual or anticipated noncompliance with a minimum or maximum daily limit or any actual or anticipated noncompliance that is greater than two times any permit limit, in accordance with Section 22a-430-3(j)(11)(D) of the RCSA;

(c) Any condition that may endanger human health or the environment, including but not limited to noncompliance with aquatic toxicity effluent limitations, or any condition that may endanger the operation of the POTW, including sludge handling and disposal, in accordance with Section 22a-430-3(j)(11)(D) of the RCSA;

(d) In the event of a monitoring equipment malfunction or failure including, but not limited to, loss of refrigeration for an auto-sampler or lab refrigerator or loss of flow proportion sampling ability, in accordance with Section 22a-430-3(j)(8) of the RCSA; and

(e) In the event of failure of any major component of the treatment facility which the Permittee may have reason to believe would result in an effluent violation, in accordance with Sections 22a-430-3(i)(3), (j), and (k) of the RCSA.

(2) A **final incident report** shall be submitted to the Commissioner through the electronic reporting system **within five (5) days** of submission of the initial incident report for any of the scenarios described under paragraph (B)(1) above.

(3) If the electronic reporting system is not functioning or there is an emergency at the facility that impedes electronic reporting (no electricity, flooding, etc.) and a call to the DEEP Emergency Response and Spill Prevention Program has not already been made, then the Permittee shall call the DEEP Emergency Response and Spill Prevention Program at (860) 424-3338 to provide the bypass information and describe the issue(s) the facility is having with reporting. The Permittee shall record the time the call was made, the name of the DEEP staff spoken with, and the case number. Once the event impeding electronic reporting has cleared, the operator is required to submit the event electronically.

(C) Failed/Invalid Aquatic Toxicity Tests

(1) If any Aquatic Toxicity sample analysis indicates that an Aquatic Toxicity effluent limitation has been

exceeded, or that the test was invalid, an additional sample of the effluent shall be collected and tested for Aquatic Toxicity and associated chemical parameters as described above in Sections 5 and 6, and the results shall be reported to the Department via the ATMR form in accordance with Section 7(B) **within thirty (30) days** of the previous test. These test results shall also be reported on DMR report in accordance with Section 7(A). The results of all toxicity tests and associated chemical parameters, valid and invalid, shall be reported.

(2) If any two consecutive Acute Aquatic Toxicity test results or any three Acute Aquatic Toxicity test results within a twelve month period indicate that an Aquatic Toxicity effluent limitation has been exceeded, the Permittee shall immediately take all reasonable steps to eliminate toxicity wherever possible and in accordance with Section 22a-430-3(j)(10)(c) of the RCSA, **within thirty (30) days,** shall submit a report to DEEP.WPCF@ct.gov for the review and approval of the Commissioner describing proposed steps to eliminate the toxic impact of the discharge on the receiving water body. Such a report shall include a proposed time schedule to accomplish toxicity reduction and the Permittee shall comply with any schedule approved by the Commissioner.

This permit is hereby issued on

_____

Katherine S. Dykes
Commissioner

ATTACHMENT 1

Tables A through H

TABLE A

Discharge Serial Number (DSN): 001-1	**Monitoring Location:** 1
Wastewater Description: Sanitary Sewage	
Monitoring Location Description: Final Effluent	
Allocated Zone of Influence (ZOI): 3.15 cfs	**In-stream Waste Concentration (IWC):** 85.7%

PARAMETER	UNIT	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			REPORTING FORM	Minimum Level Analysis (See Section 6)
		Average Monthly Limit	Maximum Daily Limit	Sample Freq.	Sample Type	Instantaneous Limit or Required Range[1]	Sample Freq.	Sample Type		
Alkalinity	mg/l	NA	NA	NR	NA	------	Monthly	Grab	MOR	
Aluminum, Total	mg/l	------	------	Weekly	Daily Composite	NA	NR	NA	MOR	*
Biochemical Oxygen Demand, 5-day (BOD_5) October – June July – September	mg/l	 30 19	 50 29	 3/Week 3/Week	Daily Composite	NA	NR	NA	DMR/MOR	
Carbonaceous Biochemical Oxygen Demand, 5-day ($CBOD_5$)[2]	mg/l	NA	------	Monthly	Daily Composite	NA	NR	NA	DMR/MOR	
Chlorine, Total Residual[3] May 1st – September 30th	mg/l	0.01[4]	0.02[4]	4/Workday	Grab	0.04	4/Work day	Grab	DMR/MOR	*
Copper, Total	mg/l	0.019	0.029	Weekly	Daily Composite	NA	NR	NA	DMR/MOR	*
Escherichia coli[5] May 1st – September 30th	Colonies/ 100 ml	NA	NA	NR	NA	410	3/Week	Grab	DMR/MOR	
Flow[6]	MGD	------	------	Daily	Continuous (Metered)	NA	NR	NA	DMR/MOR	
Lead, Total	kg/day	0.052	0.105	Weekly	Daily Composite	NA	NA	NA	DMR/MOR	*
Lead, Total	mg/l	------	------	Weekly	Daily Composite	NA	NA	NA	DMR/MOR	*

Nitrogen, Ammonia (total as N) January – April May June July – September October November – December	mg/l	 4.0 1.9 1.7 1.5 1.9 4.0	------	3/Week	Daily Composite	NA	NR	NA	DMR/MOR	
Nitrogen, Nitrate (total as N)	mg/l	NA	------	2/Week	Daily Composite	NA	NR	NA	MOR	
Nitrogen, Nitrite (total as N)	mg/l	NA	------	2/Week	Daily Composite	NA	NR	NA	MOR	
Nitrogen, Total Kjeldahl	mg/l	NA	------	2/Week	Daily Composite	NA	NR	NA	MOR	
Nitrogen, Total	mg/l	NA	------	2/Week	Daily Composite	NA	NR	NA	MOR	
Nitrogen, Total [7]	lbs/day	NA	------	2/Week	Daily Composite	NA	NR	NA	DMR/MOR	
Oxygen, Dissolved	mg/l	NA	NA	NR	NA	≥ 6.0	Workday	Grab	DMR/MOR	
pH	S.U.	NA	NA	NR	NA	6.0 – 9.0	Workday	Grab	DMR/MOR	
Phosphate, Ortho April 1st – October 31st November 1st – March 31st	mg/l	 ------ NA	 ------ ------	 Weekly Monthly	Daily Composite	NA	NR	NA	MOR	
Phosphorus, Total April 1st – October 31st November 1st – March 31st	mg/l	 0.14 NA	 0.31 ------	 2/Week Monthly	Daily Composite	NA	NR	NA	DMR/MOR	*
Phosphorus, Total April 1st – October 31st November 1st – March 31st	lbs/day	 ------ NA	 ------ ------	 2/Week Monthly	Daily Composite	NA	NR	NA	DMR/MOR	*
Phosphorus, Total (Average Seasonal Load Cap, April 1st – October 31st season) [7, 8]	lbs/day	7.55		End of October	Calculated	NA	NA	NA	DMR/MOR	
Solids, Settleable	ml/l	NA	NA	NR	NA	------	Workday	Grab	MOR	
Solids, Total Suspended (TSS) October – June July – September	mg/l	 30 29	 50 49	 3/Week	Daily Composite	NA	NA	NA	DMR/MOR	
Temperature	ºF	NA	NA	NR	NA	------	Workday	Grab	MOR	
Turbidity	NTU	NA	NA	NR	NA	------	Workday	Grab	MOR	
Zinc, Total	mg/l	0.053	0.080	Weekly	Daily Composite	NA	NR	NA	DMR/MOR	*

TABLE A – CONDITIONS

Footnotes:

[1] The instantaneous limits in this column are maximum limits except for Dissolved Oxygen, which is a minimum limit.

[2] $CBOD_5$ testing shall be performed on the same final effluent sample collected for one of the BOD_5 tests.

[3] The use of chlorine for disinfection and sodium bisulfite for dechlorination shall be discontinued from October 1st through April 30th except that chlorination and dechlorination equipment may be started and tested no earlier than April 15th, and any residual chlorine gas or liquid and sodium bisulfite may be used up until, but no later than, October 15th. During these times in April and October, the total residual chlorine of the effluent shall not exceed an instantaneous limit of 0.01 mg/l and a maximum daily limit of 0.02 mg/l. The analytical results shall be reported on the MOR for the months of April and October.

[4] The daily concentration to be reported shall be determined by mathematically averaging the results of the four grab samples required for this parameter. The average monthly concentration shall be determined by mathematically averaging the daily concentrations. All grab samples shall comply with the instantaneous limit.

[5] The geometric mean of the Escherichia coli bacteria values for the effluent samples collected in a period of a calendar month shall not exceed 126 per 100 milliliters.

[6] The Permittee shall report on the MOR the minimum instantaneous, maximum instantaneous, and total flow for each day of discharge, as well as the average daily flow for each sampling month. The Permittee shall report on the DMR the average daily flow and maximum daily flow for each sampling month.

[7] For total nitrogen and total phosphorus load reporting in lbs/day, the mg/l concentration values from each sample should be converted using the following equation:

$$\boldsymbol{Load\ (lbs/day) = Concentration\ (mg/l) \times 8.34 \times Total\ Flow\ on\ Day\ of\ Sampling\ (MGD)}$$

[8] Compliance with the Average Seasonal Load Cap for total phosphorus of 7.55 lbs/day is determined as follows: Calculate the Average Seasonal Load by adding together all Total Phosphorus sample results in lbs/day from the April 1st through October 31st season and dividing by the total number of samples in that season. This calculated seasonal average shall be reported on the October MOR and DMR.

TABLE B

Discharge Serial Number (DSN): 001-1		**Monitoring Location:** K			
Wastewater Description: Sanitary Sewage					
Monitoring Location Description: Final Effluent					
Allocated Zone of Influence (ZOI): 3.15 cfs		**In-stream Waste Concentration (IWC):** 85.7 %			
PARAMETER	**UNIT**	**FLOW/TIME BASED MONITORING**			**REPORT FORM**
		Average Monthly Minimum	**Reporting Freq.**	**Sample Type**	
Biochemical Oxygen Demand, 5-day (BOD_5) Percent Removal [1]	% of Influent	85	Monthly	Calculated [2]	DMR
Solids, Total Suspended (TSS) Percent Removal [1]	% of Influent	85	Monthly	Calculated [2]	DMR

TABLE B – CONDITIONS

Footnotes:

[1] The average monthly concentrations of BOD_5 and TSS in the POTW's final effluent shall not exceed 15% of the average monthly concentrations of BOD_5 and TSS in the influent.

[2] Calculated based on the average monthly concentrations of samples collected and analyzed in accordance with Tables A and E:

$$Removal\ efficiency\ (\%) = \frac{(Inf.BOD\ or\ TSS) - (Eff.BOD\ or\ TSS)}{Inf.BOD\ or\ TSS}\ \text{X}\ 100$$

TABLE C

Discharge Serial Number (DSN): 001-1			**Monitoring Location:** T			
Wastewater Description: Final Effluent for Toxicity Testing						
Monitoring Location Description: Final Effluent						
Allocated Zone of Influence (ZOI): 3.15 cfs			**In-stream Waste Concentration (IWC):** 85.7 %			
PARAMETER	**UNIT**	**Daily Limit**	**Sampling Frequency**	**Sample Type**	**REPORTING FORM**	**Minimum Level Analysis See Section 6**
Aluminum, Total	µg/l	------	Quarterly	Daily Composite	ATMR/DMR	*
Antimony, Total	µg/l	------	Quarterly	Daily Composite	ATMR/DMR	*
NOAEL Static 48Hr Acute *D. pulex* [1]	% survival	≥90%	Quarterly	Daily Composite	ATMR/DMR	
NOAEL Static 48Hr Acute *P. promelas* [1]	% survival	≥90%	Quarterly	Daily Composite	ATMR/DMR	
Arsenic, Total	µg/l	------	Quarterly	Daily Composite	ATMR/DMR	*
Beryllium, Total	µg/l	------	Quarterly	Daily Composite	ATMR/DMR	*
Biochemical Oxygen Demand, 5-day (BOD_5)	mg/l	------	Quarterly	Daily Composite	ATMR/DMR/	
Cadmium, Total	µg/l	------	Quarterly	Daily Composite	ATMR/DMR	*
Chlorine, Total Residual	µg/l	------	Quarterly	Daily Composite	ATMR/DMR	*
Chromium, Hexavalent	µg/l	------	Quarterly	Daily Composite	ATMR/DMR	*
Chromium, Total	µg/l	------	Quarterly	Daily Composite	ATMR/DMR	*
Copper, Total	µg/l	------	Quarterly	Daily Composite	ATMR/DMR	*
Cyanide, Amenable	µg/l	------	Quarterly	Daily Composite	ATMR/DMR	
Cyanide, Total	µg/l	------	Quarterly	Daily Composite	ATMR/DMR	*
Iron, Total	µg/l	------	Quarterly	Daily Composite	ATMR/DMR	*
Lead, Total	µg/l	------	Quarterly	Daily Composite	ATMR/DMR	*
Mercury, Total	µg/l	------	Quarterly	Daily Composite	ATMR/DMR	*
Nickel, Total	µg/l	------	Quarterly	Daily Composite	ATMR/DMR	*
Nitrogen, Ammonia (total as N)	mg/l	------	Quarterly	Daily Composite	ATMR/DMR/	
Nitrogen, Nitrate, (total as N)	mg/l	------	Quarterly	Daily Composite	ATMR/DMR/	
Nitrogen, Nitrite, (total as N)	mg/l	------	Quarterly	Daily Composite	ATMR/DMR/	
Phenols, Total	µg/l	------	Quarterly	Daily Composite	ATMR/DMR	
Phosphorus, Total	mg/l	------	Quarterly	Daily Composite	ATMR/DMR/	*
Selenium, Total	µg/l	------	Quarterly	Daily Composite	ATMR/DMR	*
Silver, Total	µg/l	------	Quarterly	Daily Composite	ATMR/DMR	*
Suspended Solids, Total	mg/l	------	Quarterly	Daily Composite	ATMR/DMR/	
Thallium, Total	µg/l	------	Quarterly	Daily Composite	ATMR/DMR	*
Zinc, Total	µg/l	------	Quarterly	Daily Composite	ATMR/DMR	*
FOR CHRONIC TOXICITY TESTING						
Carbon, Dissolved Organic	mg/l	------	Annually	Daily Composite	Annual Report	
pH	S.U.	------	Annually	Daily Composite	Annual Report	
Hardness	mg/l	------	Annually	Daily Composite	Annual Report	

TABLE C - CONDITIONS

Footnotes:

[1] The results of the Toxicity Tests are recorded in % survival. The Permittee shall report <u>% survival</u> on the DMR based on criteria in Section 6(B) of this permit.

TABLE D

Discharge Serial Number: 001-1			**Monitoring Location:** N		
Wastewater Description: Aeration Unit					
Monitoring Location Description: Each Aeration Unit					
PARAMETER	**UNIT**	**REPORTING FORMAT**	**INSTANTANEOUS MONITORNG**		**REPORTING FORM**
			Sample Frequency	**Sample Type**	
Oxygen, Dissolved	mg/l	High & Low for each workday	4/Workday	Grab	MOR
Sludge Volume Index	ml/g	Workday	Workday	Grab	MOR
Mixed Liquor Suspended Solids	mg/l	Workday	Workday	Grab	MOR

TABLE E

Discharge Serial Number: 001-1			**Monitoring Location:** G				
Wastewater Description: Raw Sewage Influent							
Monitoring Location Description: Influent							
PARAMETER	**UNIT**	**DMR REPORTING FORMAT**	**FLOW/TIME BASED MONITORING**		**INSTANTANEOUS MONITORNG**		**REPORTING FORM**
			Sample Frequency	**Sample Type**	**Sample Frequency**	**Sample Type**	
Biochemical Oxygen Demand, 5-day (BOD_5)	mg/l	Monthly average	3/Week	Daily Composite	NA	NA	DMR/MOR
Copper, Total	mg/l	Monthly average and maximum day	Weekly	Daily Composite	NA	NA	DMR/MOR
Lead, Total	kg/d	Monthly average and maximum day	Weekly	Daily Composite	NA	NA	DMR/MOR
Nitrogen, Ammonia (total as N)	mg/l	NA	Monthly	Daily Composite	NA	NA	MOR
Nitrogen, Nitrate (total as N)	mg/l	NA	Monthly	Daily Composite	NA	NA	MOR
Nitrogen, Nitrite (total as N)	mg/l	NA	Monthly	Daily Composite	NA	NA	MOR
Nitrogen, Total Kjeldahl	mg/l	NA	Monthly	Daily Composite	NA	NA	MOR
Nitrogen, Total	mg/l	NA	Monthly	Daily Composite	NA	NA	MOR
Phosphate, Ortho	mg/l	NA	Monthly	Daily Composite	NA	NA	MOR
Phosphorus, Total	mg/l	NA	Monthly	Daily Composite	NA	NA	MOR
pH	S.U.	NA	NA	NA	Workday	Grab	MOR
Solids, Total Suspended (TSS)	mg/l	Monthly average	3/Week	Daily Composite	NA	NA	DMR/MOR
Temperature	˚F	NA	NA	NA	Workday	Grab	MOR

TABLE F

Discharge Serial Number: 001-1					**Monitoring Location:** P		
Wastewater Description: Primary Effluent							
Monitoring Location Description: Primary Sedimentation Basin Effluent							
PARAMETER	**UNIT**	**REPORTING FORMAT**	**TIME/FLOW BASED MONITORING**		**INSTANTANEOUS MONITORING**		**REPORTING FORM**
			Sample Frequency	**Sample Type**	**Sample Frequency**	**Sample Type**	
Alkalinity, Total	mg/l	NA	NA	NA	Monthly	Grab	MOR
Biochemical Oxygen Demand, 5-day (BOD_5)	mg/l	Monthly average	Weekly	Composite	NA	NA	MOR
Nitrogen, Ammonia (total as N)	mg/l	NA	Monthly	Composite	NA	NA	MOR
Nitrogen, Nitrate (total as N)	mg/l	NA	Monthly	Composite	NA	NA	MOR
Nitrogen, Nitrite (total as N)	mg/l	NA	Monthly	Composite	NA	NA	MOR
Nitrogen, Total Kjeldahl	mg/l	NA	Monthly	Composite	NA	NA	MOR
Nitrogen, Total	mg/l	NA	Monthly	Composite	NA	NA	MOR
Phosphate, Ortho	mg/l	NA	Monthly	Composite	NA	NA	MOR
Phosphorus, Total	mg/l	NA	Monthly	Composite	NA	NA	MOR
pH	S.U.	NA	NA	NA	Monthly	Grab	MOR
Solids, Total Suspended (TSS)	mg/l	Monthly average	Weekly	Composite	NA	NA	MOR

TABLE G

Discharge Serial Number: 001-1		**Monitoring Location:** SL		
Wastewater Description: Dewatered Sludge				
Monitoring Location Description: At dewatered sludge draw off				
PARAMETER	**UNIT**	**INSTANTANEOUS MONITORING**		**REPORTING FORM**
		Sample Frequency	**Sample Type**	
Arsenic, Total	mg/kg	Bimonthly	Grab	DMR
Beryllium, Total	mg/kg	Bimonthly	Grab	DMR
Cadmium, Total	mg/kg	Bimonthly	Grab	DMR
Chromium, Total	mg/kg	Bimonthly	Grab	DMR
Copper, Total	mg/kg	Bimonthly	Grab	DMR
Lead, Total	mg/kg	Bimonthly	Grab	DMR
Mercury, Total	mg/kg	Bimonthly	Grab	DMR
Nickel, Total	mg/kg	Bimonthly	Grab	DMR
Polychlorinated Biphenyls	mg/kg	Bimonthly	Grab	DMR
Solids, Fixed	%	Bimonthly	Grab	DMR
Solids, Total	%	Bimonthly	Grab	DMR
Solids, Volatile	%	Bimonthly	Grab	DMR
Zinc, Total	mg/kg	Bimonthly	Grab	DMR
Testing for inorganic pollutants shall follow “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods”, EPA Publication SW-846 as updated and/or revised.				

TABLE H

Discharge Serial Number: 001-1		**Monitoring Location:** L		
Wastewater Description: Digested Sludge				
Monitoring Location Description: Each Anaerobic Digestion Unit				
PARAMETER	**UNIT**	**INSTANTANEOUS MONITORING**		**REPORTING FORM**
		Sample Frequency	**Sample Type**	
Temperature	°F	Weekly	Grab	MOR
Alkalinity	mg/kg	Weekly	Grab	MOR
Volatile Acids	mg/kg	Weekly	Grab	MOR
pH	S.U.	Weekly	Grab	MOR

ATTACHMENT 2

MONTHLY OPERATING REPORT (MOR) FORM

Year	Month	Facility	Subscriber
		Danbury	

Date Received:

Facility ID: 034-001 Chief Plant Operator: Ralph Azzarito Phone: 203.748.9116

Page 1 of MOR for Permit #CT0100145 Permit Expiration Date: 6-30-2026

	Daily Flow			Primary Sludge			Aeration Tank #1				Aeration Tank #2				Aeration Tank #3				Aeration Tank #4				Carbon	Trickling	Return		Waste	Dry Solids		Waste	Diges		
									High	Low			High	Low			High	Low			High	Low	Source	Filter	Sludge		Sludge			Accepted	Pri.	Sec.	Pri.
	Max	Min	Total	Vol.	%	wt.	MLSS	SVI	D.O.	D.O.	MLSS	SVI	D.O.	D.O.	MLSS	SVI	D.O.	D.O.	MLSS	SVI	D.O.	D.O.		% R:Q	%flow	%TS		In	Out	septic	pH	pH	Alk
Units	MGD			MGD	Solids	lbs	mg/l		mg/l				mg/l				mg/l				mg/l		gal/day				lbs	lbs		gal	SU	SU	mg/l
Freq	daily			workday			workday		4/workday		workday		4/workday		workday		4/workday		workday		4/workday		daily	wkday	workday		wkday	workday		workday			
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30																																	
31																																	
TOT																																	
AVG																																	

ter Complex 1					Digester Complex 2								BOD (5-day)				cBOD 5	Suspended Solids			Sett.	Turb.	Chlorine		Chlorine			Fecal	E.Coli	Ammonia			Nitrite			Nitrate		
Sec. Alk	Pri. Temp	Sec. Temp	Pri. V.A.	Sec. V.A.	Pri. pH	Sec. pH	Pri. Alk	Sec. Alk	Pri. Temp	Sec. Temp	Pri. V.A.	Sec. V.A.	Inf.	Pri. Eff.	T.F. Eff.	Final Eff.	Final Eff.	Inf.	Pri. Eff.	Final Eff.	Solids Eff.	Eff.	Dose		Residual			Coliform Eff.	Eff.	Inf.	Pri. Eff.	Final Eff.	Inf.	Pri. Eff.	Final Eff.	Inf.	Pri. Eff.	Final Eff.
mg/l	F	F	mg/l	mg/l	SU	SU	mg/l	mg/l	F	F	mg/l	mg/l	mg/l				mg/l	mg/l			ml/l	NTU	Gals	mg/l	High	Low	Avg	#/100 ml	#/100 ml	mg/l			mg/l			mg/l		
weekly					weekly								3/wk	1/wk	1/mo	3/wk	1/mo	3/wk	1/wk	3/wk	wday	wday	daily		4/workday			3/week	3/week	1/mon	1/mon	3/wk	monthly			monthly		

TKN			Total N			Total N	D.O.	pH			Total P		Total P	Ortho P			Total P	Total P	Total P	Ferric	Temp		Alum	Copper		Lead			Zinc		Alkalinity		Comments
Inf.	Pri. Eff.	Final Eff.	Inf.	Pri. Eff.	Final Eff.	Final Eff.	Eff.	Inf.	Pri. Eff.	Final Eff.	Inf.	Pri. Eff.	Eff. Nov 1,14-Mar 31,15	Inf.	Pri. Eff.	Eff.	Eff. Nov-Mar	Eff. Apr-Oct	Eff. Apr-Oct	Chloride	Inf.	Eff.	inum Eff.	Inf.	Eff.	Inf.	Eff.	Eff.	Inf.	Eff.	Prim Eff.	Final Eff.	
mg/l			mg/l			lb/d	mg/l	S.U.			mg/l	mg/l		mg/l	mg/l	mg/l	mg/l	mg/l	lb/d	gal/day	deg F		mg/l	mg/l	mg/l	kg/d	kg/d	mg/l	mg/l	mg/l	mg/l	mg/l	
monthly			monthly			monthly	wday	workday			monthly	monthly	2/wk	monthly	monthly	weekly	monthly	2/wk	2/wk	daily	work day		1/wk	1/wk	1/wk	1/wk	1/wk	1/wk	1/wk	1/wk	monthly		

Sludge Disposal I

Please return forr
DEP - Water Man

Attn: Municipal W

Municipal Facilitie
79 Elm Street
Hartford, CT 0610

Location:
Naugatuck, CT

ns to:
nagement
/astewater Monitoring Coordinator

es

06-5127

DATA TRACKING AND TECHNICAL FACT SHEET

APPLICANT/PERMITTEE: City of Danbury

PERMIT #: CT0100145 **APPLICATION #:** 202401481 **FACILITY ID:** 034-001

APPLICANT Contact Information		FACILITY Contact Information	
Mailing Address:	155 Deer Hill Road Danbury, CT 06810	**Facility Address:**	Danbury WPCF 53 Newton Road, Danbury, CT 06810
Contact Name: **Phone Number:**	David M. Day 203-797-4637	**Contact Name:** **Phone Number:** **DMR Contact Email Address:**	Ralph Azzarito (Veolia) 203-748-9116 Ralph.azzarito@veolia.com

PERMIT INFORMATION

DURATION
- ☒ 5 YEARS
- ☐ 10 YEARS
- ☐ 30 YEARS

TYPE
- ☐ NEW
- ☐ REISSUANCE
- ☒ MODIFICATION

OWNERSHIP
- ☐ PRIVATE
- ☐ FEDERAL
- ☐ STATE
- ☒ MUNICIPAL (town only)
- ☐ OTHER PUBLIC

CATEGORIZATION
- ☒ POINT
- ☐ NON-POINT; GIS #_____

- ☒ NPDES
  - ☒ NPDES MAJOR **(MA)**
  - ☐ NPDES SIGNIFICANT MINOR or PRETREAT SIU **(SI)**
  - ☐ NPDES or PRETREATMENT MINOR **(MI)**
- ☐ PRETREAT
- ☐ GROUND WATER (UIC)
- ☐ GROUND WATER (OTHER)

COMPLIANCE SCHEDULE ☐ YES ☒ NO
- ☐ POLLUTION PREVENTION
- ☐ TREATMENT REQUIREMENT
- ☐ WATER QUALITY REQUIREMENT
- ☐ OTHER

AVERAGE MONTHLY FLOW (last 12 months): 10.77 MGD

OUTFALL LOCATION

Latitude: 41°24'8"
Longitude: 73°24'53"
USGS Quad Map Name: Danbury

FOR NPDES DISCHARGES

Drainage Basin Code: 6606
Water Quality Classification Goal: B
Water Body Segment: 6606-00-3

NATURE OF BUSINESS GENERATING DISCHARGE

Municipal Sanitary Sewage Treatment

DEEP STAFF ENGINEER: Anthony Poon and Carlos Esguerra **DATE DRAFTED:** April 23, 2025

GENERAL COMMENTS

The City of Danbury operates a municipal water pollution control facility (the "Facility") located at 53 Newton Road, Danbury, CT. The Facility is designed to treat and discharge up to 12.2 million gallons per day of effluent into the Limekiln Brook. The Facility currently utilizes advanced secondary treatment with denitrification, tertiary phosphorus treatment, and seasonal chlorine disinfection to treat effluent prior to being discharged.

Pursuant to Sec. 22a-430 of the Connecticut General Statutes (CGS) and Regulations of CT State Agencies (RCSA) 22a-430-3 and 4, the Department of Energy and Environmental Protection (the "Department") has previously issued the City of Danbury a permit for the discharge from this Facility. The City of Danbury has submitted an application to modify its permit. The Department has made a tentative determination to approve the permit modification application and has prepared a draft permit modification consistent with that determination.

The most significant changes included in the modification are as follows:

- **Increased design flow from 12.0 MGD to 12.2 MGD.** Wright-Pierce submitted a technical memorandum included in the permit modification application dated January 25, 2024 documenting that Danbury WPCF can continue to meet the effluent quality requirements with the addition of 0.2 MGD to the design flow rate of the plant. DEEP reviewed the documentation and concurs with W-P's assessment that the plant will continue to meet effluent quality requirements, especially as it relates to effluent Phosphorus limits, with the slight increase in design flow.

- In Section 6 of the permit, the Minimum Level (ML) for Mercury has been reduced to 0.05 µg/l (50 ng/l), which is quantifiable using EPA Methods 245.7 (minimum quantification level of 5.0 ng/l) and 1631E (minimum quantification level of 0.5 ng/l). The previous Mercury ML of 0.2 µg/l was not sufficiently sensitive to determine consistency with the human health/fish consumption water quality criteria of 0.051 µg/l for Class B and SB waters of the State.

- The Department is requiring dissolved organic carbon, pH, and hardness testing of the effluent and receiving waters as part of the chronic toxicity test for the purpose of investigating the need for future Aluminum limits related to EPA's "2018 Final Aquatic Life Ambient Water Quality Criteria for Aluminum in Freshwater". This will be continued in this permit modification.

- New instructions for the digital submission of documents have been included in Sections 7 & 8 of the permit.

- To comply with Anti-degradation policies, DEEP lowered BOD and TSS by 1 mg/L commensurate with the increased design flow rate for the July - September timeframe (i.e., 29 mg/L AML and 49 mg/L MDL.). These limits will remain the same for the October – June timeframe at 30 mg/L AML and 50 mg/L MDL.

- Section 8 has been updated with new SRTK reporting requirements.

- Regarding Fats, Oil and Grease (FOG) accepted at the facility:

    - The Permittee has been authorized to accept fats, oil and grease (FOG) at the POTW. With the FOG received, Danbury proposes two separate energy recovery projects:

        - **Methane (Biogas) Production:** The Fats, Oils and Grease (FOG) facility receives, screens and heats FOG in two decant tanks. The first tank heats and decants the FOG back to the plant's influent. The remaining concentrated FOG is conveyed and stored in a second decant tank where it is further processed to extract the grease portion which is then hauled off-site to a company in Massachusetts (Baker Commodities) where it is transported to and repurposed. The POTW would like the option to introduce this remaining FOG directly into the primary anaerobic digester (AD) to increase biogas production. The primary AD has sufficient capacity to accept this FOG and is limited only by the receiving capacity of the FOG facility. The

FOG should be metered into the AD at an adjustable and consistent flowrate over a 24-hour period. Any FOG addition will be controlled and monitored by POTW operations staff. FOG addition shall cease and be re-evaluated if there are process upsets or operational concerns from POTW staff. DEEP hosted a pre-application meeting with Veolia, the City and Wright-Pierce representatives on July 22, 2025 where this project was discussed. No FOG will be added to the AD until a full-scale pilot study is conducted and the operation of the system is evaluated. The biogas would be used in a combined heat and power (CHP) generation unit with an expected 600 kW power output using the existing biogas production at the POTW. This proposal may need a permit from the Air Bureau and possibly from the Waste Engineering and Enforcement Division (WEED) prior to implementation. These two groups attended the pre-application meeting in July of this year and permitting guidance was provided beyond those needed from Municipal Wastewater.

- **Biodiesel conversion:** The POTW also has the capacity to convert FOG to biodiesel via a separate refinery process collocated at the POTW site. However, at the time this permit modification was written, the use of this facility had been suspended due economical infeasibility. When/if put back in use, the FOG can be converted to biodiesel at the refinery building collocated at the POTW. One of the waste streams from these processes would be recycled back to the POTW's aeration tanks. Another waste stream from this facility would be recycled back to the POTW headworks, however the latter discharge would be authorized in the Miscellaneous Industrial User General Permit regulated by DEEP's Water Permitting and Enforcement Division. Biodiesel produced at this facility would be used to operate municipal vehicles and fuel for emergency generators. The operation of this system is currently discontinued as a federal government subsidy was pulled back. However, the City would like to retain the ability to resume its operation should the opportunity arise in the future. The City has been notified in writing of the need to consult with other programs within DEEP regarding additional permits or approvals that may be needed to operate this system.

  Based on an email from Ralph Azzarito from Veolia water (contract operator). The waste streams volumes and characteristics from the biodiesel refinery building would be as follows:

  Decant to Headworks:

  ~ 17,000 gal/day of wastewater from Primary and Secondary Decant Tanks No Change.

  ~ 1,000 gal/day of wastewater from chemical treatment with ~25 gal/day of acid catalyst No Change.

  Waste stream to Denitrification:

  ~ 1,100 gal/day of water mixed with ~800 gal/day MeOH will be sent to WPCP Denitrification System Revised to 2,200 gpd.

  From Transesterification: ~250 gal/day MeOH and ~1000 gal/day water Revised to 2,000 gpd.

  From Methanol Recovery: ~550 gal/day MeOH and ~100 gal/day water Revised to 200 gpd.

- Section 4(F)(11) requires the permittee to submit a plan for the reduction of I/I with a schedule for planned corrective actions. This plan must be prepared by a professional engineer licensed in CT, and semiannual status reports must be submitted starting 180 days after the effective date of the permit.

PROCESS AND TREATMENT DESCRIPTION (by DSN)

Flow enters the Danbury WPCF through gravity flow and force main discharge. Two gravity flow interceptors combine and discharge into the influent/septage receiving structure south of the maintenance facility. Septage is hauled to the plant by merchant truck and is discharged to the influent/septage receiving structure through two septage receiving stations. The septage and influent gravity flows exit the influent/septage receiving structure, and flow by gravity through new sewer piping through the maintenance facility and on to the new Headworks facility. In the Headworks facility, flow passes through two multi-rake mechanical bar screens. Solids collected by the screens are discharged onto the conveyor belt, and transported to a grinder, washer, and compactor unit for processing prior to being hauled off site. Flow exits the headworks facility and continues onto the grit removal facility. Flow enters the grit removal facility, passing through two detritors, and spills over effluent weirs into an effluent channel. The flow continues to the comminution and metering chamber. Influent wastewater flow is measured as it passes through the parshall flume. Wastewater flows to four primary settling tanks. Scum and grease are skimmed off the water and pumped into scum concentrators. The sludge from the primary settling tanks is pumped through the grit cyclones and the sludge flows to the gravity thickeners. Polymer may be added to the sludge for thickening. It is then pumped into anaerobic digesters prior to dewatering, filter pressed, and disposal. The primary settling tank effluent flows to the secondary treatment system. Excess flow is diverted to the flow equalization tank. The flow is evenly distributed to tickling filters, and then intermediate settling tanks, then to the screw lift pump station. Sludge and scum is removed from the settling tanks and are returned to the comminution and metering chamber with provisions to pump the gravity thickeners and activated sludge wet wells. The combined intermediate settling tank effluent and bypass flow is lifted to the influent channel of the nitrification tanks. The wastewater is diverted to one of the four nitrification tanks and mixed with return activated sludge. The mixed liquor flows through an aerobic, two anoxic, and a reaeration zone. Methanol is added to the first anoxic zone for nitrogen removal. Ferric chloride is added to the effluent channel to reduce phosphorus.

COMPLIANCE HISTORY

Staff reviewed the Facility's DMRs from the period between 01/01/2023 – 10/6/2025 which indicate no significant noncompliance.

PERMIT FEES

Discharge Code	DSN	Annual Fee
111000e	001	$3,005.00

APPLICATION FEE PAID? ☐ NO ☒ YES, Date: February 5, 2024
ANNUAL FEES PAID? ☐ NO ☒ YES, Date: May 20, 2024
Permit processing fee: Yes. 6/30/2025

RESOURCES USED TO DRAFT PERMIT

☒ *Federal Effluent Limitation Guideline 40 CFR 133 – Secondary Treatment Regulation*

☐ *Performance Standards*

☐ *Federal Development Document*

☒ *Department File Information*

☒ *Connecticut Water Quality Standards*

☒ *Anti-degradation Policy*

☐ *Coastal Management Consistency Review Form*

☐ *Other - Explain*

BASIS FOR LIMITATIONS, STANDARDS OR CONDITIONS

☒ *Secondary Treatment (Section 22a-430-4(r) of the Regulations of Connecticut State Agencies)*

☐ *Case-by-Case Determination (See Other Comments)*

☒ *In order to meet in-stream water quality (See General Comments)*

☒ *Anti-degradation policy*

SPECIFIC REQUIREMENTS OR REVISIONS

The Department has reviewed the application for consistency with Connecticut's Water Quality Standards and has determined based on the limits in the draft permit, including those discussed below, that the draft permit is consistent with maintenance and protection of water quality in accordance with the Tier I Anti-degradation Evaluation and Implementation Review provisions of such Standards.

Water quality-based limits for ammonia, copper, and zinc were included in the permit and continued from the current permit. An updated reasonable potential analysis will be performed in accordance with the state's water quality regulations during DEEP's review of Danbury's renewal permit application which is due in 2026.

WATER QUALITY-BASED LIMIT CALCULATIONS

N/A. Please see previous paragraph.

PUBLIC NOTICE

Date of Public Notice:
Date Permit Cleared Public Notice:
Date Publication Fees Paid:

SUMMARY OF COMMENTS RECEIVED DURING THE PUBLIC NOTICE PERIOD AND THE DEPARTMENT'S RESPONSES

☐ The Department has received no written comments on the proposed action.

☐ Staff has reviewed the written comments and responded to the comments, no significant permit changes have been made.

☐ The Department has received, and Staff have reviewed written comments on the proposed action and made significant changes as follows: (DESCRIBE COMMENTS RECEIVED, DEEP'S RESPONSES, AND ANY CHANGES TO THE DRAFT PERMIT)