Underground Injection Control Permit

Issued to
Yale University
135 College Street, Suite 100
New Haven, CT 06510

Site Name: Yale Divinity School
Site Address: 423 Prospect Street
New Haven, CT 06511
Watershed: South Central Shoreline

Permit No.: UI0000524

Issuance Date:
Effective Date: 1st day of next month from Issuance Date
Expiration Date: 10 years from Issuance Date

1.0 GENERAL PROVISIONS

1.1 This permit is issued in accordance with section 1421 of the Federal Safe Drinking Water Act 42 USC 300h et. seq., section 22a-430 of Chapter 446k, Connecticut General Statutes ("Conn. Gen. Stat."), and Regulations of Connecticut State Agencies ("Regs. Conn. State Agencies") adopted thereunder, as amended.

1.2 Yale University ("Permittee"), shall comply with all conditions of this permit including the following sections of the Regs. Conn. State Agencies which have been adopted pursuant to section 22a430 of the Conn. Gen. Stat. and are hereby incorporated into this permit. Your attention is especially drawn to the notification requirements of subsection (i)(2), (i)(3), (j)(1), (j)(6), (j)(8), (j)(9)(C), (j)(11)(C), (D) of section 22a-430-3.

Section 22a-430-3 General Conditions
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(k) Submission of Plans and Specifications. Approval
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(m) Case by Case Determinations
(n) Permit issuance or renewal
(o) Permit Transfer
(p) Permit revocation, denial or modification
(r) Treatment Requirements for Metals and Cyanide

2.0 COMMISSIONER'S DECISION

2.1 The Commissioner has made a final determination and found that the system installed for the treatment of the discharge will protect the waters of the state from pollution. The Commissioner's decision is based on Application No. 202306082 for permit issuance, received on August 23, 2023, and the administrative record established in the processing of that application.

2.2 From the effective date of this permit, for a term not to exceed ten (10) years and until this permit expires or is modified or revoked, the Commissioner hereby authorizes the Permittee to treat, reuse, and discharge a total maximum daily flow based on the design flow of three thousand nine hundred (3,900) gallons per day. This includes the discharge of two thousand (2,000) gallons per day of treated domestic sewage to waters of the state, and the reuse of eight hundred (800) gallons per day of treated wastewater as flush water for bathrooms in accordance with the terms and conditions of this permit, the above referenced application, and all modifications and approvals issued by the Commissioner or the Commissioner's authorized agent for the discharges and/or activities authorized by, or associated with, this permit following the issuance date of this permit. In the event that the discharge or effluent does not comply with the requirements of this permit, all noncompliant effluent shall be diverted to the municipal sanitary sewer system.

2.3 The Commissioner reserves the right to make appropriate revisions to the permit in order to establish any appropriate effluent limitations, schedules of compliance, or other provisions that may be authorized under the Federal Safe Drinking Water Act or the Connecticut General Statutes or regulations adopted thereunder, as amended. The permit as modified or renewed under this paragraph may also contain any other requirements of the Federal Safe Drinking Water Act or Connecticut General Statutes or regulations adopted thereunder, which are then applicable.

2.4 The Permittee shall assure that ground water affected by the subject discharge shall conform to the Connecticut Water Quality Standards.

2.5 The Permittee shall develop, retain, and implement an Operations and Maintenance Plan in accordance with section 22a-430 of the Regs. Conn. State Agencies. The Operations and Maintenance Plan shall be retained on site and made immediately (within forty-eight (48) hours) available upon request.

2.6 The use of any sewage system additive as defined in section 22a-460(g) of the Conn. Gen. Stat. is prohibited unless such additive complies with section 22a-461 of the Conn. Gen. Stat. The Commissioner in no way certifies the safety or effectiveness of any sewage system additive.

2.7 Oils, greases, industrial or commercial wastes, toxic chemicals, or other substances that will adversely affect the operation of the subsurface sewage treatment and disposal system, or which may pollute ground or surface water, shall not be discharged to the subsurface sewage treatment and disposal system.

2.8 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 Plan. This includes but is not limited to all recycle pumping systems, aeration equipment, mixing equipment, anoxic reactors, chemical feed systems, or any other process equipment necessary for the optimal removal of pollutants. The Permittee shall neither bypass nor fail to operate any of the approved equipment or processes without the written approval of the Commissioner.

2.9 The Permittee shall comply with Section 22a-416-1 through Section 22a-416-10 of the Regs. Conn. State Agencies concerning operator certification. Unless a different classification of certified operator is required under a separate written approval issued by the Commissioner, the Permittee shall ensure that the wastewater treatment facility is operated by a person with a valid and effective certification in the State of Connecticut, at a minimum, as a facility Class II operator pursuant to Section 22a-416(d) of the Conn. Gen. Stat. and the regulations adopted thereunder. The Permittee shall ensure that the wastewater treatment facility is operated by such an operator with such qualifications throughout the entire life of the wastewater treatment facility.

3.0 EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

3.1 The Permittee's discharge shall not exceed and shall otherwise conform to the specific terms and conditions listed in this permit. The discharge is restricted by and shall be monitored in accordance with Tables A through D, which are incorporated into this permit as Attachment 1.

3.2 The Permittee shall maintain at the facility a record of the total flow for each day of discharge and shall attach to the Discharge Monitoring Report ("DMR") the total flow and number of hours of discharge for the day of sample collection and the average daily flow for each sampling month.

3.3 All samples shall be comprised of only those wastewaters described in Attachment 1 of this permit. Samples shall be taken prior to combining with wastewaters of any other type and after all approved treatment units, if applicable. All samples taken shall be representative of the

discharge during standard operating conditions.

3.4 In cases where limits and sample type are specified but sampling is not required, the limits specified shall apply to all samples which may be collected and analyzed by the Permittee, or other parties.

3.5 The Permittee shall monitor, inspect, and maintain the treatment facilities in accordance with Table E, which is incorporated into Attachment 2 of this permit. The results of all inspections and maintenance requirements shall be kept on-site and made immediately available to DEEP upon request.

3.6 The monitoring and sampling required within this permit is the minimum for reporting purposes only. More frequent monitoring and sampling of the treatment system may be required to properly operate the facility as required by the Operation and Maintenance Plan.

4.0 SAMPLE COLLECTION AND HANDLING, ANALYTICAL TECHNIQUES, AND REPORTING REQUIREMENTS

4.1 Chemical analyses to determine compliance with effluent limits and conditions established in this permit shall be performed using the methods approved by the Environmental Protection Agency pursuant to 40 CFR 136 unless an alternative method has been approved in writing in accordance with 40 CFR 136.4 or as provided in section 22a-430-3(j)(7) of the Regs. Conn. State Agencies. Chemicals which do not have methods of analysis defined in 40 CFR 136 shall be analyzed in accordance with methods specified in this permit or prescribed by the Commissioner.

4.2 If any sample analysis indicates that an effluent limitation specified in Section 3 of this permit has been exceeded, in addition to the notification requirements, a second sample of the effluent shall be collected and analyzed for the parameter(s) in question and the results shall be reported to the Commissioner within thirty (30) days of the exceedance and submitted as an attachment with the next DMR. Resampling for a permit violation is in addition to routine required sampling.

4.3 If this permit requires monitoring of a discharge on a calendar basis (e.g. monthly, quarterly, etc.) but a discharge has not occurred within the monitoring period specified in the permit, the Permittee must submit the DMR, indicating "NO DISCHARGE". For those Permittees whose required monitoring is discharge dependent (e.g. per batch), the minimum reporting frequency is monthly. Therefore, if there is no discharge during a calendar month for a batch discharge, a DMR must be submitted indicating such by the end of the following month.

4.4 The Permittee shall report the results of chemical analysis and treatment facilities monitoring required on the DMR in accordance with this permit. Except for continuous monitoring, any monitoring required more frequently than monthly shall be reported on an attachment to the DMR.

4.5 The DMR shall be submitted by the last day of the following month in which the samples are taken.

4.6 The Permittee shall report electronically using NetDMR, a web-based tool that allows Permittees

to electronically submit DMRs and other required reports through a secure internet connection. All reports required under the permit, including any monitoring conducted more frequently than monthly or any additional monitoring conducted in accordance with 40 CFR 136, shall be submitted to DEEP as an electronic attachment to the DMR in NetDMR.

4.6.1 Information on NetDMR is available on DEEP's website at www.ct.gov/deep/netdmr.

4.6.2 NetDMR can be access at the following online website address, as amended: https://netdmr.epa.gov/netdmr/public/home.htm

5.0 COMPLIANCE SCHEDULE

5.1 On or before seven (7) days after issuance of this permit, the Permittee shall record on the land records of the Town of New Haven a document indicating the location of the zone of influence created by the subject discharge, as reflected in the application and approved plans and specifications for this permit. On or before one (1) month after issuance of this permit, the Permittee shall submit written verification to the Commissioner that the approved document indicating the location of the zone of influence created by the subject discharge as reflected in the application for this permit has been recorded on the land records in the Town of New Haven.

5.2 On or before thirty (30) days after issuance of this permit, the Permittee shall record a copy thereof on the land records in the Town of New Haven. On or before thirty (30) days after such recording, the Permittee shall submit written verification to the Commissioner that this permit has been recorded on the land records in the Town of New Haven.

5.3 On or before six (6) months after the issuance of this permit, the Permittee shall submit for the Commissioner's review and written approval, plans and specifications for the proposed treatment system, prepared by a professional engineer licensed to practice in the state of Connecticut.

5.4 On or before two (2) years after receiving the Commissioner's written approval for the installation of the alternative treatment and disposal system required by paragraph 5.3 of this permit, the Permittee shall provide verification of system installation.

5.5 On or before three (3) months after the issuance of this permit, the Permittee shall verify in writing to the Commissioner that the alternative sewage treatment system is operating in accordance with the approved plans and specifications and is achieving compliance with all permit limits and conditions.

5.6 Starting two (2) years after the issuance date of this permit and at a two (2) year frequency thereafter, the Permittee shall submit the results of a Permit Compliance Audit ("Audit") to the Commissioner. Such Audits shall be performed within sixty (60) days prior to the submittal date. The compliance Audits shall be performed by a professional engineer licensed to practice in the state of Connecticut with the appropriate education, experience and training that is relevant to the work required.

5.6.1 Each Audit shall evaluate compliance with all permit terms and conditions for the preceding two-year period. The evaluation shall review all pertinent records and documents as necessary, including DMRs, laboratory reports, operations and maintenance

plans, performance logs/records, equipment specifications, maintenance schedules, engineering drawings, and spare parts inventory.

5.6.2 Each Audit report shall include a description of all records and documents used in the evaluation, a summary of compliance with permit terms and conditions, and detailed descriptions of all remedial actions taken or proposed to address each violation or deficiency discovered.

5.6.3 The 4th (fourth) Audit report shall also include detailed findings from a physical inspection of each on-site sewage treatment and disposal system and an evaluation of the performance and operation of each such system. In the event of a system malfunction or failure, the Permittee shall prepare and submit a remedial plan identifying action proposed and/or implemented to correct the malfunction or failure for the Commissioner's review and written approval.

5.6.4 A copy of each Audit report shall be submitted to the New Haven Health Department.

5.6.5 In the event that the Permittee becomes aware that it did not or may not comply, or did not or may not comply on time, with any requirement of this section of the permit or of any document required hereunder, the Permittee shall immediately notify the Commissioner and shall take all reasonable steps to ensure that any noncompliance or delay is avoided or, if unavoidable, minimized to the greatest extent possible. In so notifying the Commissioner, the Permittee shall state in writing the reasons for the noncompliance or delay and propose, for the review and written approval of the Commissioner, dates by which compliance will be achieved, and the Permittee shall comply with any dates, which may be approved in writing by the Commissioner. Notification by the Permittee shall not excuse noncompliance or delay, and the Commissioner's approval of any compliance dates proposed shall not excuse noncompliance or delay unless specifically so stated by the Commissioner in writing.

5.7 Within fourteen (14) days of the date the Permittee becomes aware of a change in any information submitted to the Commissioner under this section of the permit, or that any such information was inaccurate or misleading or that any relevant information was omitted, the Permittee shall submit the correct or omitted information to the Commissioner.

6.0 RECORD KEEPING

6.1 Records required by this permit shall be retained on-site, or at the Permittee's principal place of business in Connecticut, as required by section 22a-430-3(j)(9)(B) of the Regs. Conn. State Agencies.

6.2 The Permittee shall retain records and all reports required by the permit for a period of at least ten (10) years after the expiration date of the permit.

6.3 The Commissioner may extend this period as he or she deems necessary upon written notice to the Permittee, and this period is automatically extended for as long as a Permittee is under an

active order from the Commissioner under Chapter 446K of the Conn. Gen. Stat. or if the Permittee is in litigation for any violation of any permit or order issued by the Commissioner under Chapter 446K of the Conn. Gen. Stat.

6.4 All records shall be made available to the Commissioner immediately (within 24 hours) upon request.

7.0 RECORDING AND REPORTING OF VIOLATIONS, ADDITIONAL TESTING REQUIREMENT

7.1 In accordance with Section 22a-430-3(j)(8), 22a-430-3(j)(11)(D), 22a-430-3(k)(4), and 22a-430-3(i)(3) of the RSCA, the Permittee shall notify the Commissioner of the following actual or anticipated noncompliance with the terms or conditions of this permit within two (2) hours of becoming aware of the circumstances. All other actual or anticipated violations of the permit shall be reported to the Commissioner within twenty-four (24) hours of becoming aware of the circumstances:

7.1.1 A noncompliance that is greater than two times an effluent limitation;
7.1.2 A noncompliance of any minimum or maximum daily limitation or excursion beyond a minimum or maximum daily range;
7.1.3 Any condition that may endanger human health or the environment, including but not limited to noncompliance with WET limitations;
7.1.4 Any condition that may endanger the operation of a POTW, including sludge handling and disposal;
7.1.5 A failure or malfunction of monitoring equipment used to comply with the monitoring requirements of this permit;
7.1.6 Any actual or potential bypass of the Permittee's collection system or treatment facilities; or
7.1.7 Expansions or significant alterations of any wastewater collection, treatment facility, or its method of operation for the purpose of correcting or avoiding a permit violation.

7.2 Notifications shall be submitted via the Commissioner's online Noncompliance Notification Form:
https://portal.ct.gov/deep/water-regulating-and-discharges/industrial-wastewater/compliance-assistance/notification-requirements..

7.3 Within five (5) days of any notification of noncompliance in accordance with Sections 9(A)(a) through 9(A)(f) of this permit, the Permittee shall submit a follow-up report within five (5) days of the noncompliance using the Commissioner's online Noncompliance Follow-up Report Form:
https://portal.ct.gov/deep/water-regulating-and-discharges/industrial-wastewater/compliance-assistance/notification-requirements..

The follow-up report shall contain, at a minimum, the following information: (i) A description of the noncompliance and its cause; (ii) the period of noncompliance, including exact dates and times; (iii) if the noncompliance has not been corrected, the anticipated time it is expected to continue; and (iv) steps taken or planned to correct the noncompliance and reduce, eliminate and prevent recurrence of the noncompliance.

7.4 Within thirty (30) days of any notification of facility modifications reported in accordance with

Section 9(A)(g) of this permit, the Permittee shall submit a written follow-up report by submitting a "Facility and Wastewater Treatment System Modification Request for Determination" for the review and approval of the Commissioner. The report shall fully describe the changes made to the facility and reasons therefor.

7.5 Notification of an actual or anticipated noncompliance or facility modification does not stay any term or condition of this permit.

7.6 In accordance with Section 22a-430-3(j)(11)(D) of the Regs. Conn. State Agencies, the Permittee shall notify the Commissioner within seventy two (72) hours and in writing within thirty (30) days when he or she knows or has reason to believe that the concentration in the discharge of any substance listed in the application, or any toxic substance as listed in Appendix B or D of Regs. Conn. State Agencies Section 22a-430-4, has exceeded or will exceed the highest of the following levels: (1) One hundred micrograms per liter; (2) Two hundred micrograms per liter for acrolein and acrylonitrile, five hundred micrograms per liter for 2,4-dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter for antimony; (3) An alternative level specified by the commissioner, provided such level shall not exceed the level which can be achieved by the Permittee's treatment system; or (4) A level two times the level specified in the Permittee's application.

Seventy-two (72) hour initial notifications shall be submitted via the Commissioner's online Noncompliance Notification Form. Thirty (30) day follow-up reports shall be submitted via the Commissioner's online Noncompliance Follow-up Report Form. The Forms are available at the Commissioner's website, here: https://portal.ct.gov/deep/water-regulating-and-discharges/industrial-wastewater/compliance-assistance/notification-requirements.

8.0 STANDARD CONDITIONS

8.1 Annual Fee
An annual fee shall be paid for each year this permit is in effect as set forth in section 22a-430-7 of the Regs. Conn. State Agencies.

8.2 Inspection and Entry
The Commissioner or his or her authorized representative may take any actions authorized by sections 22a-6 (5), 22a-425 or 22a-336 of the Conn. Gen. Stat. as amended.

8.3 Submission of Documents
Any document required to be submitted to the Commissioner under this section of the permit will, unless otherwise specified in this permit or in writing by the Commissioner, be directed to:

DEEP.UICPermitting@ct.gov
With the subject line: "ATTN: UIC Permit No. UI0000524"

8.4 Violations
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 Conn. Gen. Stat. and Regs. Conn. State

Agencies.

8.5 Enforcement
The Commissioner may take any enforcement action provided by law, including but not limited to seeking injunctions, penalties and forfeitures as provided in sections 22a-6, 22a-7, 22a-430, 22a-432, 22a-435, 22a-438 and 22a-471 of the Conn. Gen. Stat. as amended, for any violations or acts of noncompliance with chapter 446k of the Conn. Gen. Stat. or any regulation, order, permit or approval issued thereunder.

8.6 Need to Halt or Reduce Activity Not a Defense
It shall not be a defense for a 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 the permit.

8.7 No Assurance
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.

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

8.9 Duty to Provide Information
The Commissioner may require any Permittee to provide within a reasonable time (thirty (30) days) any information which the Commissioner may request to determine whether cause exists for modifying or revoking the permit or to determine compliance with the permit, including but not limited to copies of records required to be kept by the Permittee.

8.10 Duty to Comply
The Permittee shall comply with all terms and conditions of the permit. Any permit noncompliance constitutes a violation of Chapter 446k of the Conn. Gen. Stat. Permit noncompliance is grounds for enforcement action, permit revocation or modification, or denial of a permit renewal application.

It shall not be a defense for a 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 the permit.

8.11 Duty to Mitigate
The Permittee shall take all reasonable steps to minimize or prevent any discharge in violation of the permit or any discharge which has a reasonable likelihood of adversely affecting human health or the environment.

8.12 Sludge Disposal
The Permittee shall dispose of screenings, sludges, chemicals and oils and any solid or liquid

wastes resulting from the wastewater treatment processes at locations approved by the Commissioner for disposal of such materials, or by means of a waste hauler licensed under the provisions of the Conn. Gen. Stat.

8.13 Resource Conservation

All Permittees shall implement and maintain practices and/or facilities which, to the maximum extent practicable, result in the minimum amount of wastewater discharged. Such results may be achieved by methods including but not limited to water conservation, resource recovery, waste recycling, wastewater reuse, and material or product substitution. Excessive use of water or the addition of water to dilute an effluent in order to meet any permit limitations or conditions is prohibited.

8.14 Spill Prevention and Control

The Permittee shall maintain practices, procedures and facilities designed to prevent, minimize and control spills, leaks or such other unplanned releases of all toxic or hazardous substances and any other substances as the Commissioner deems necessary to prevent pollution of the waters of the state. Such requirements shall, unless otherwise allowed by the Commissioner, apply to all facilities used for storing, handling transferring, loading or unloading such substances, including manufacturing areas.

The requirements of this section do not apply to facility components or systems already covered by plans prepared or approved under the Resource Conservation and Recovery Act and the Spill Prevention, Control and Countermeasure program.

8.15 Duty to Reapply

The permit will be effective for a fixed term not to exceed ten years and the Permittee shall reapply for permit coverage one hundred eighty (180) days prior to the expiration date of the permit.

8.16 Equalization

All treatment facilities shall be designed to prevent upsets, malfunctions or instances of noncompliance resulting from variations in wastewater strength or flow rate, and shall include, as the Commissioner deems necessary, equalization facilities separate from the treatment facilities.

8.17 Bypass

The Permittee shall not at any time bypass the collection system or treatment facilities or any part thereof unless such bypass is unanticipated, unavoidable, and necessary to prevent loss of life, personal injury or severe property damage, and there were no feasible alternatives to the bypass, including but not limited to the use of auxiliary or back- up treatment facilities, retention of untreated wastes, stopping the discharges, or maintenance during normal periods of equipment downtime; or the Permittee receives prior written approval of the bypass from the Commissioner in order to perform essential maintenance, and the bypass does not cause effluent limitations to be exceeded.

In the event such a bypass is necessary, the Permittee shall to the extent possible minimize or halt production and/or all discharges until the facility is restored or an alternative method of treatment is provided.

In order to prevent a bypass, the Permittee may schedule maintenance during periods when no discharge is occurring or employ any necessary means, including but not limited to duplicate units and systems or alternative collection and treatment or pretreatment schemes. Any such means shall insure that the effluent limitations specified in the permit are achieved; be approved by the director in writing prior to its use, which approval shall include an alternative schedule for monitoring if appropriate; and be discontinued upon completion of the performance of the essential maintenance.

The Permittee shall provide notice to the director not less than twenty-four (24) hours prior to the use of any alternative scheme and monitor and record the quality and quantity of the discharge in accordance with permit terms and conditions or an approved alternative schedule. Such monitoring shall be submitted with the next monitoring report required by the permit and shall not be used to meet routine scheduled monitoring report requirements of the permit.

If any bypass occurs or may occur, the Permittee shall, within one (1) hour of becoming aware of such condition or need, notify the director during normal business hours (860-566-3245), and DEEP's Emergency Response Unit at all other times (860-566-3338) and submit within five (5) days a written report including the cause of the problem, duration including dates and times and corrective action taken or planned to prevent other such occurrences.

In addition, if the Permittee has reason to believe that any effluent limitation specified in the permit may be violated, the Permittee shall immediately take steps to prevent or correct such violation, including but not limited to employing an alternative scheme of collection or treatment, and/or control the production of the wastewater and shall monitor and record the quality and quantity of the discharge in accordance with the permit terms and conditions or an approved alternative schedule. Such monitoring shall be submitted with the next monitoring report required by the permit and shall not be used to meet the routine monitoring requirements of the permit.

8.18 Proper Operation and Maintenance

The Permittee shall at all times properly operate and maintain all facilities and systems and parts thereof for wastewater collection, storage, treatment and control which are installed or used by the Permittee to achieve compliance with the terms and conditions of the permit. Proper operation and maintenance includes but is not limited to effective performance, adequate funding, and adequate operator staffing and training, including the employment of certified operators as may be required by the Commissioner pursuant to sections 22a-416-1 through 22a-416-10 of the Regs. Conn. State Agencies, as amended, and adequate laboratory and process controls, including appropriate quality assurance procedures.

In accordance with sections 22a-416 through 22a-471 of the Conn. Gen. Stat. as amended, the Permittee is required to install and operate a back-up or auxiliary facilities or similar systems or the inventory of spare parts and appurtenances.

8.19 Instrumentation, Alarms, and Flow Records

Except for batch treatment systems unless required by the Commissioner, process wastewater treatment systems shall include instrumentation to automatically and continuously indicate, record and/or control those functions of the system and characteristics of the discharge which the Commissioner deems necessary to assure protection of the waters of the State.

If continuous flow measurement equipment is not present at a given outfall or discharge location, you may estimate flows and retain records in accordance with this permit the following information: (1) A description of the methodology used to estimate flow (for each applicable outfall); (2) Documentation appropriate to the methodology utilized which provides information necessary to support the validity of the reported flow estimate. If actual measurements or observations are made, a description of typical sampling times, locations, and persons performing the measurements/observations should be provided; and (3) A description of the factors (e.g. batch discharges, intermittent operation, etc.) which cause flow at the outfall to fluctuate significantly from the estimate provided.

8.20 Signatory Requirements
All permit applications and permit modification requests submitted to the Commissioner shall be signed as follows:

For a corporation: by a responsible corporate officer. For the purposes of this section, a responsible corporate officer means: a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision making functions for the corporation, or the manager of one or more manufacturing, production, or operating facilities employing more than two hundred fifty persons or having gross annual sales or expenditures exceeding twenty-five million dollars (in second quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or

For a municipality, State, Federal, or other public agency; by either a principal executive officer or a ranking elected official. For purposes of this section, a principal executive officer of a federal agency includes the chief executive officer of the agency, or a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.

All reports required by permits, and other information submitted to the Commissioner shall be signed by a person described above of this section or by a duly authorized representative of that person. A person is a duly authorized representative only if:

The authorization is made in writing by a person described above;

The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or well field, superintendent, position or equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. A duly authorized representative may thus be either a named individual or any individual occupying a named position; and

The written authorization is submitted to the Commissioner.
If an authorization under this subsection is no longer accurate because a different individual or position has assumed the applicable responsibility, a new authorization satisfying the requirements of this section must be submitted to the Commissioner prior to or together with any

reports or other information to be signed by an authorized representative.

Any person signing a document under this section shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

"I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that a false statement made in the submitted information may be punishable as a criminal offense, in accordance with section 22a- 6 of the General Statutes, pursuant to section 53a-157b of the General Statutes, and in accordance with any other applicable statute."

8.21 False Statements
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 Conn. Gen. Stat. or in accordance with section 22a-6, under section 53a-157 of the Conn. Gen. Stat.

8.22 Correction of Inaccuracies
Within fifteen (15) days after the date a Permittee becomes aware of a change in any of the information submitted pursuant to this permit or becomes aware that any such information is inaccurate or misleading or that any relevant information has been omitted, such Permittee shall correct the inaccurate or misleading information or supply the omitted information in writing to the Commissioner. Such information shall be certified in accordance with Section 8.20 of this permit.

8.23 Transfer of Authorization
The authorization to discharge under this permit may not be transferred without prior written approval of the Commissioner. To request such approval, the Permittee and proposed transferee shall register such proposed transfer with the Commissioner at least thirty (30) days prior to the transferee becoming legally responsible for creating or maintaining any discharge which is the subject of the permit transfer. Failure, by the transferee, to obtain the Commissioner's approval prior to commencing such discharge may subject the transferee to enforcement action for discharging without a permit pursuant to applicable sections of the Conn. Gen. Stat. and Regs. Conn. State Agencies

8.24 Other Applicable Law
Nothing in this permit shall relieve the Permittee of the obligation to comply with any other applicable federal, state and local law, including but not limited to the obligation to obtain any other authorizations required by such law.

8.25 Other Rights

This permit is subject to and does not derogate any present or future rights or powers of the State of Connecticut and conveys no rights in real or personal property nor any exclusive privileges and is subject to all public and private rights and to any federal, state, and local laws pertinent to the property or activity affected by such permit. In conducting any activity authorized hereunder, the Permittee may not cause pollution, impairment, or destruction of the air, water, or other natural resources of this state. The issuance of this permit shall not create any presumption that this permit should or will be renewed.

8.26 Effect of a Permit

The issuance of a permit does not convey any property rights of any sort, or any exclusive privilege, authorize any injury to persons or property or invasion of other private rights, authorize any infringement of the Conn. Gen. Stat., Regs. Conn. State Agencies or municipal ordinances, or affect the responsibility of the Permittee to obtain all applicable federal, State and municipal authorizations or permits for the discharge and activities which generate the discharge.

9.0 COMMISSIONER'S POWERS

9.1 Abatement of Violations

The Commissioner may take any action provided by law to abate a violation of this permit, including the commencement of proceedings to collect penalties for such violation. The Commissioner may, by summary proceedings or otherwise and for any reason provided by law, including violation of this permit, revoke a Permittee's authorization hereunder in accordance with sections 22a-3a-2 through 22a-3a-6, inclusive, of the Regs. Conn. State Agencies. Nothing herein shall be construed to affect any remedy available to the Commissioner by law.

The Commissioner reserves the right to make appropriate revisions to the permit in order to establish any appropriate effluent limitations, schedules of compliance, or other provisions which may be authorized under the Conn. Gen. Stat. or regulations adopted thereunder, as amended. The permit as modified or renewed under this paragraph may also contain any other requirements of the Conn. Gen. Stat. or regulations adopted thereunder which are then applicable.

9.2 Permit Revocation, Suspension, or Modification

The Commissioner may, for any reason provided by law, by summary proceedings or otherwise, revoke or suspend this permit or modify to establish any appropriate conditions, schedules of compliance, or other provisions which may be necessary to protect human health or the environment.

9.3 Permit Actions

The Commissioner may modify or revoke a permit during its term for cause as provided in subsection (p) of section 22a-430-4 of the Regs. Conn. State Agencies. Notification of facility modifications does not stay any permit term or condition.

10.0 DEFINITIONS

10.1 The definitions of the terms used in this permit shall be the same as the definitions contained in section 22a-423 of the Conn. Gen. Stat. and sections 22a-430-3(a) and 22a-430-6 of the Regs. Conn. State Agencies.

10.2 In addition to the above, the following definitions shall apply to this permit:

"Annual", in the context of a sampling frequency, shall mean the sample must be taken in the month of March.

"Average" means the arithmetic average.

"Average daily concentration" means the average concentration of a substance in a daily composite sample.

"Average daily flow" means the average of all total daily flows measured during any calendar month.

"Average monthly concentration" means the average concentration of a substance as measured by the average of all daily composite samples or grab sample averages taken during any calendar month.

"Average monthly limit" means the highest allowable average of all grab samples taken during any calendar month.

"Continuous", as a sample frequency, means data points must be collected and recorded by a continuous monitoring device in at least one-minute intervals for as long as a discharge occurs.

"Day" means the twenty four hour period commencing at 12:00 a.m., and, unless specified as "business day" shall mean calendar day.

"Discharge" means the emission of any water, substance or material into the waters of the state, whether or not such substance causes pollution as defined in section 22a-423 of the Conn. Gen. Stat.

"Domestic sewage" means sewage that consists of water and human excretions or other waterborne wastes incidental to the occupancy of a residential building or a non-residential building but not including manufacturing process water, cooling water, wastewater from water softening equipment, commercial laundry wastewater, blowdown from heating or cooling equipment, water from cellar or floor drains or surface water from roofs, paved surface or yard drains.

"Effluent limitation" means (1) any numerical limitation imposed by the Commissioner on quantities, discharge rates or concentrations of any water, substance or material discharged to the waters of the State or (2) any limitation imposed by the Commissioner on any other measure of the quality or quantity of the discharge.

"Grab sample" means an individual sample collected in less than fifteen minutes.

"Ground waters" means those waters of the state which naturally exist or flow below the surface of the ground and waters flowing through earth materials beneath the ground surface.

"Injection" means the subsurface emplacement of fluids by gravity or greater pressure through a well.

"Instantaneous", as a sample type, means a grab sample collected with automatic equipment or in-line analysis with automated instrumentation.

"Maximum concentration" means the maximum concentration at any time as determined by a grab sample.

"Maximum daily concentration" means the maximum concentration as measured in a daily composite sample or a grab sample average.

"Maximum daily flow" means the greatest volume of wastewater to be discharged over an operating day, not to exceed the design flow rate.

"Maximum daily quantity" means the maximum quantity of waste generated during an operating day.

"mg/l" means milligrams per liter.

"Non-point source" means any unconfined and diffuse source of pollution such as stormwater or snowmelt runoff, atmospheric deposition, or ground water not conveyed to a surface water discharge point within a discrete conveyance.

"Permittee" means any person who or municipality which is authorized by this permit.

"Pollutant" means any water, substance or material for which the permit in question specifies an effluent limitation.

"Quarterly", in the context of a sampling frequency, shall mean sampling is required during each calendar quarter ending on the last day of March, June, September and December.

"Safe Drinking Water Act" or "SDWA" means the federal Safe Drinking Water Act, 42 U.S.C. 300fet seq. and applicable regulations promulgated thereunder.

"Subsurface sewage disposal system" means a system receiving domestic sewage consisting of a house sewer, a septic tank followed by a leaching system, any necessary pumps or siphons, and any groundwater control system on which the operation of the leaching system is dependent, as amended.

"Sufficiently sensitive" means using a sufficiently sensitive analytical method as defined in 40 CFR §122.44(i)(1)(iv).

"Three times per year", in the context of a maintenance frequency, shall mean the maintenance must be performed at least three (3) times during the period of May to November.

"Twice per month", when used as a sample frequency, shall mean two samples per calendar month collected no less than twelve (12) days apart.

"Twelve month rolling average", means the average monthly concentration of the current month's samples averaged with average monthly concentrations from each of the previous eleven (11) months.

"Well" means a bored, drilled, or driven shaft, or a dug hole, the depth of which is greater than its largest surface dimension or a commercial subsurface sewage disposal system, household subsurface sewage disposal system, or other subsurface sewage disposal system.

This permit is hereby issued on

DRAFT

Emma Cimino
Deputy Commissioner
Department of Energy and Environmental Protection

ATTACHMENT 1

Table A
Domestic wastewater: Influent to the treatment system

Discharge Serial No. A01	**Monitoring Location:** ST2[1]
Wastewater Description: Domestic sewage influent to the Bioclere	
Monitoring Location Description: Outlet of the pre-treatment tank	

Flow/Time Based Monitoring

Parameter	Units	Average Daily Flow Limit	Maximum Daily Flow Limit	Sample Type	Sample Frequency
Flow Rate (Average daily)[2]	gpd	2,600	3,900	Totalizer	Continuous

Instantaneous Monitoring

Parameter	NetDMR Code	Units	Average Monthly Limit[3,4]	Sample Type	Sample Frequency[5]
Biochemical Oxygen Demand$_{5day}$	00310	mg/L	Report	Grab	Twice per month
Total Suspended Solids	00530	mg/L	Report	Grab	Twice per month
Total Kjeldahl Nitrogen	00625	mg/L	Report	Grab	Twice per month
pH[4]	00400	S.U.	Report[4]	Grab	Twice per month

Footnotes:

1. Monitoring location as depicted on as-built plan.
2. For this parameter, the Permittee shall maintain at the facility a record of the total flow for each day of discharge and shall report on the DMR the Average Daily Flow and the Maximum Daily Flow for each month.
3. "Report" in the limits column on this monitoring table means a limit is not specified, but monitoring is required, and a value must be reported on the DMR.
4. pH shall be reported as the daily minimum and daily maximum values for the month.
5. Sample shall be taken twice per month on two different calendar days.

Table B Effluent Intermediate Process					
Discharge Serial No.: A01				**Monitoring Location:** J	
Wastewater Description: Effluent Intermediate Process					
Monitoring Location Description: Effluent from the second Bioclere Unit					
Instantaneous Monitoring					
Parameter	**NetDMR Code**	**Units**	**Average Monthly Limit[1]**	**Sample Type**	**Sample Frequency[2]**
pH[3]	00400	S.U.	Report	Grab	Twice per month
Temperature	00011	º F	Report	Grab	Twice per month
Alkalinity	00410	mg/L	Report	Grab	Twice per month

Footnotes:

1. "Report" in the limits column on this monitoring table means a limit is not specified, but monitoring is required, and a value must be reported on the DMR.
2. Sample shall be taken twice per month on two different calendar days.
3. pH shall be reported as the daily minimum and daily maximum values for the month.

TABLE C - Reuse Effluent (Required to be Reported in NetDMR)						
Discharge Serial No. A01				**Monitoring Location:** E		
Wastewater Description: Treated effluent from sand filter						
Monitoring Location Description: Reuse Tank						
FLOW/TIME BASED MONITORING						
Parameter	**NetDMR Code**	**Units**	**Average Daily Flow Limit**	**Maximum Daily Flow Limit**	**Sample Type**	**Sample Frequency**
Flow Rate (Average daily)[1]	00056	gpd	600	800	Totalizer	Continuous
Instantaneous Monitoring						
Parameter	**ICIS Code**	**Units**	**Average Monthly Limit[2]**	**Maximum Daily Limit[4,5]**	**Sample Type**	**Sample Frequency[4]**
Biochemical Oxygen Demand$_{5\text{-day}}$	00310	mg/L	10	10	24-hr composite	weekly
Total Suspended Solids	00530	mg/L	5	5	24-hr composite	weekly
Total Nitrogen[8]	00600	mg/L	10^{3}	Report	24-hr composite	monthly
Ammonia	00610	mg/L	Report	Report	24-hr composite	monthly
Nitrate Nitrogen[7]	00620	mg/L	Report	Report	24-hr composite	monthly
Nitrite Nitrogen	00615	mg/L	Report	Report	24-hr composite	monthly
Total Kjeldahl Nitrogen[6]	00625	mg/L	Report	Report	24-hr composite	monthly
Total Phosphorus	00665	mg/L	Report	Report	24-hr composite	monthly
pH, Minimum[5] (Day of Sampling)	61942	S.U.	NA	6.0	Grab	Online sensor
pH, Maximum[5] (Day of Sampling)	61941	S.U.	NA	9.0	Grab	Online sensor
Alkalinity	00410	mg/l	Report	Report	Grab	Weekly
Turbidity		NTU	Report	2	Continuous	Online sensor
Total Coliform		CFU/100ml	2.26	14	Grab	Weekly
UV Dose		mJ/cm2	>100	>100	Continuous	Online calculation

Footnotes:

1. For this parameter, the Permittee shall maintain at the facility a record of the total flow for each day of discharge and shall report on the DMR the Average Daily Flow and the Maximum Daily Flow for each month.
2. "Report" in the limits column on this monitoring table means a limit is not specified, but monitoring is required, and a value must be reported on the DMR.
3. Limit is based on a twelve-month rolling average.
4. Sample shall be taken twice per month on two different calendar days.
5. For the parameter pH, the daily minimum limit is 6.0 S.U. and the daily maximum limit is 9.0 S.U. For reporting purposes, report the minimum and maximum values for the month.
6. Total Kjeldahl nitrogen shall be analyzed in accordance with EPA Method 4500 in accordance with 40 CFR 136.
7. Nitrate Nitrogen shall be analyzed in accordance with EPA Method 4110 B-2020 in accordance with 40 CFR 136.
8. Total Nitrogen shall be determined by the summation of nitrate nitrogen, nitrite nitrogen and total Kjeldahl nitrogen (Total Nitrogen (TN)=TKN+NO_3-N+NO_2-N).

TABLE D - Drip Irrigation System April 1 - October 31 (Required to be Reported in NetDMR)						
Discharge Serial No. A01				**Monitoring Location:** E		
Wastewater Description: Treated effluent from sand filter						
Monitoring Location Description: Reuse Tank						
FLOW/TIME BASED MONITORING						
Parameter	**ICIS Code**	**Units**	**Average Daily Flow Limit**	**Maximum Daily Flow Limit**	**Sample Type**	**Sample Frequency**
Flow Rate (Average daily)[1]	00056	gpd	----	2,000	Totalizer	Continuous
Instantaneous Monitoring						
Parameter	**ICIS Code**	**Units**	**Average Monthly Limit[2]**	**Maximum Daily Limit[4,5]**	**Sample Type**	**Sample Frequency[4]**
Biochemical Oxygen Demand$_{5\text{-day}}$	00310	mg/L	20	30	24-hr composite	Weekly
Total Suspended Solids	00530	mg/L	20	30	24-hr composite	Weekly
Total Nitrogen[8]	00600	mg/L	10^{3}	Report	24-hr composite	Monthly
Ammonia	00610	mg/L	Report	Report	24-hr composite	Monthly
Nitrate Nitrogen[7]	00620	mg/L	Report	Report	24-hr composite	Monthly
Nitrite Nitrogen	00615	mg/L	Report	Report	24-hr composite	Monthly
Total Kjeldahl Nitrogen[6]	00625	mg/L	Report	Report	24-hr composite	Monthly
Total Phosphorus	00665	mg/L	Report	Report	24-hr composite	Monthly
pH, Minimum[5] (Day of Sampling)	61942	S.U.	NA	6.0	Grab	Online sensor
pH, Maximum[5] (Day of Sampling)	61941	S.U.	NA	9.0	Grab	Online sensor
Alkalinity	00410	mg/l	Report	Report	Grab	Weekly
Turbidity		NTU	Report	Report	Continuous	Online sensor

Total Coliform		CFU/100ml	200	400	Grab	Weekly
UV Dose		mJ/cm2	>100	>100	Continuous	Online calculation

Footnotes:

1. For this parameter, the Permittee shall maintain at the facility a record of the total flow for each day of discharge and shall report on the DMR the Average Daily Flow and the Maximum Daily Flow for each month.
2. "Report" in the limits column on this monitoring table means a limit is not specified, but monitoring is required, and a value must be reported on the DMR.
3. Limit is based on a twelve-month rolling average.
4. Sample shall be taken twice per month on two different calendar days.
5. For the parameter pH, the daily minimum limit is 6.0 S.U. and the daily maximum limit is 9.0 S.U. For reporting purposes, report the minimum and maximum values for the month.
6. Total Kjeldahl nitrogen shall be analyzed in accordance with EPA Method 4500 in accordance with 40 CFR 136.
7. Nitrate Nitrogen shall be analyzed in accordance with EPA Method 4110 B-2020 in accordance with 40 CFR 136.
8. Total Nitrogen shall be determined by the summation of nitrate nitrogen, nitrite nitrogen and kjeldahl nitrogen (Total Nitrogen (TN)=TKN+NO_3-N+NO_2-N).

ATTACHMENT 2

TABLE E - Inspection, Monitoring and Maintenance Requirements[1,2]	
Discharge Serial No.: A01	**Monitoring Location:** S
Wastewater Description: Domestic Sewage	
Average Daily Flow: 2,600 gallons per day	**Maximum Daily Flow:** 3,900 gallons per day
Inspection, Monitoring, or Maintenance	**Minimum Frequency**
Depth of sludge in pre-treatment tank	During pump-out
Pump out the pre-treatment tank	Annually
Mechanical inspection of the primary reactor baffles	During pump-out
Water meter readings of potable water usage	Quarterly
Water meter readings of effluent reuse to the building	Monthly
Water meter readings of effluent reuse to drip irrigation	Monthly (April 1-October 31)
Visual inspection of primary reactor	Monthly
Visual inspection of BioClere units	Monthly
Visual inspection vertical wetland	Monthly
Visual inspection sand filter	Monthly
Visual inspection of final settling tank	Monthly
Mechanical inspection of alarms	Monthly
Mechanical inspection of blowers	Monthly
Mechanical inspection of the recycling and dosing pumps	Monthly
Mechanical inspection of reuse tank and sensors	Monthly
Visual inspection of UV-disinfection system	Monthly
Clean UV bulbs	Monthly
Visual inspection of ozone disinfection system	Monthly
Visual inspection of labeling, signage, and marking of plumbing for reclaimed water system	Quarterly
Verify that all reclaimed water plumbing fixtures shall be labeled and/or purple.	Annually
Verify that outside plumbing fixtures locks are operating properly and are labeled as “Reclaimed Water, Do Not Drink”.	Annually
Visual inspection of distribution chambers	Quarterly
Visual inspection of surface condition of drip irrigation areas	Quarterly
Additional Notes: 1. All inspection, monitoring, and maintenance required in this table shall be reported annually by the end of each January as an attachment to the December DMR. 2. The Sanitarian shall be notified at least one week prior to pumping of the primary tank. Verification of all pump outs shall be attached to the monitoring report and a copy of the report shall be sent to the New Haven Health Department Director of Health.	

Connecticut
Department of Energy &
Environmental Protection

Underground Injection Control Permit
Fact Sheet

Permit Summary	
Applicant	Yale University
Permit No.	UI0000524
Application No.	202306082
Date Application Received	August 23, 2023
Date of Public Notice of Application	July 28, 2023
Location Address	Yale Divinity School 423 Prospect Street New Haven, CT 06511
Facility Contact	Whyndam Abrams, CHMM Yale University Environmental Health & Safety Phone number: 203-432-2093 Email: Whyndam.abrams@yale.edu
Discharge Monitoring Report Contact	Whyndam Abrams, CHMM Yale University Environmental Health & Safety Phone number: 203-432-2093 Email: Whyndam.abrams@yale.edu
Mailing Address	135 College Street, Suite 100 New Haven, CT 06510
Permit Term	10 Years
Permit Type	New
Permit Category	UIC Class V Injection Well
Treatment System Description	5W12 Advanced Treatment
Ownership	Private
Compliance Schedule in Draft Permit	No
Compliance Schedule in Previous Permit	No
Receiving Waterbody	Groundwater in the South Central Shoreline
Water Quality Classification(s)	GB
Treatment System Location(s)	DSN A01
DEEP Staff	Antoanela Daha, Environmental Engineer 860-424-3876 Email: Antoanela.daha@ct.gov

Table of Contents

Section 1.0 Permit fees

Discharge Code: 312000a Treatment System: DSN - A01 Annual Fee: $1,110

Section 2.0 Nature of business generating discharge

Yale University has constructed a new residential graduate school building incorporating a range of water conservation and wastewater reuse measures. The design includes: low-flow plumbing fixtures, the use of treated wastewater for toilet and urinal flushing, and a subsurface wastewater drip irrigation system with a discharge to the groundwater. Wastewater that does not meet applicable permit effluent limits will be directed to the sanitary sewer system. This proposal is consistent with the applicant's objective to design and construct a water-efficient building in pursuit of the distinction the "Water Petal" under the Living Building Challenge, a sustainability framework that emphasizes responsible water use and reuse.

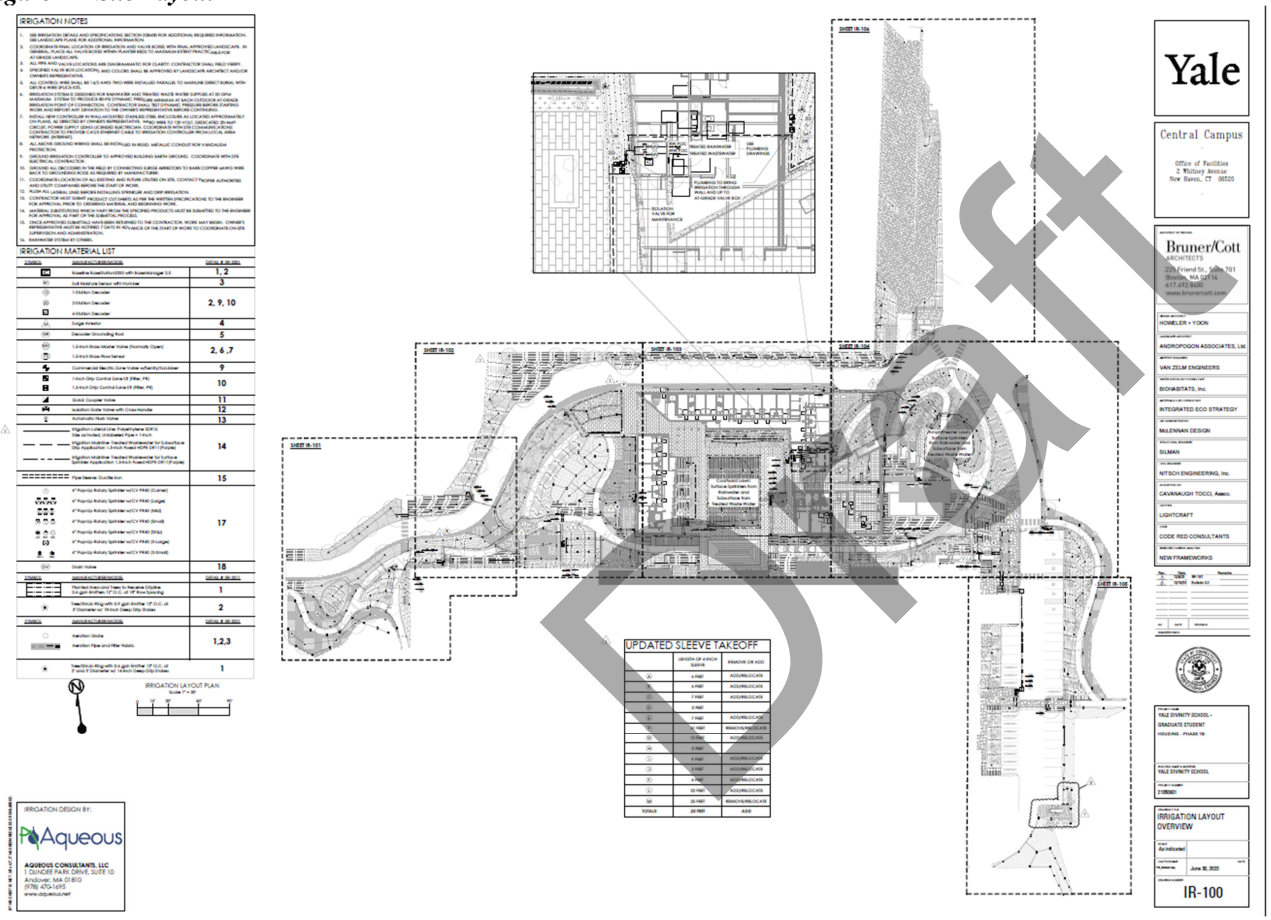
Section 3.0 Application submittal information

On August 23, 2023, the Department of Energy and Environmental Protection ("DEEP") received an application (Application No. 202306082) from Yale University ("the Permittee", "the Applicant", "the facility") located in City of New Haven, Connecticut for the issuance of a new UIC permit.

Consistent with the requirements of Section 22a-6g of the Connecticut General Statutes ("Conn. Gen Stat."), the Permittee published a Notice of Permit Application in the New Haven Register on July 28, 2023.

DEEP determined the application was administratively sufficient and issued a Notice of Sufficiency on October 25, 2023. The technical review phase started January 17, 2024.

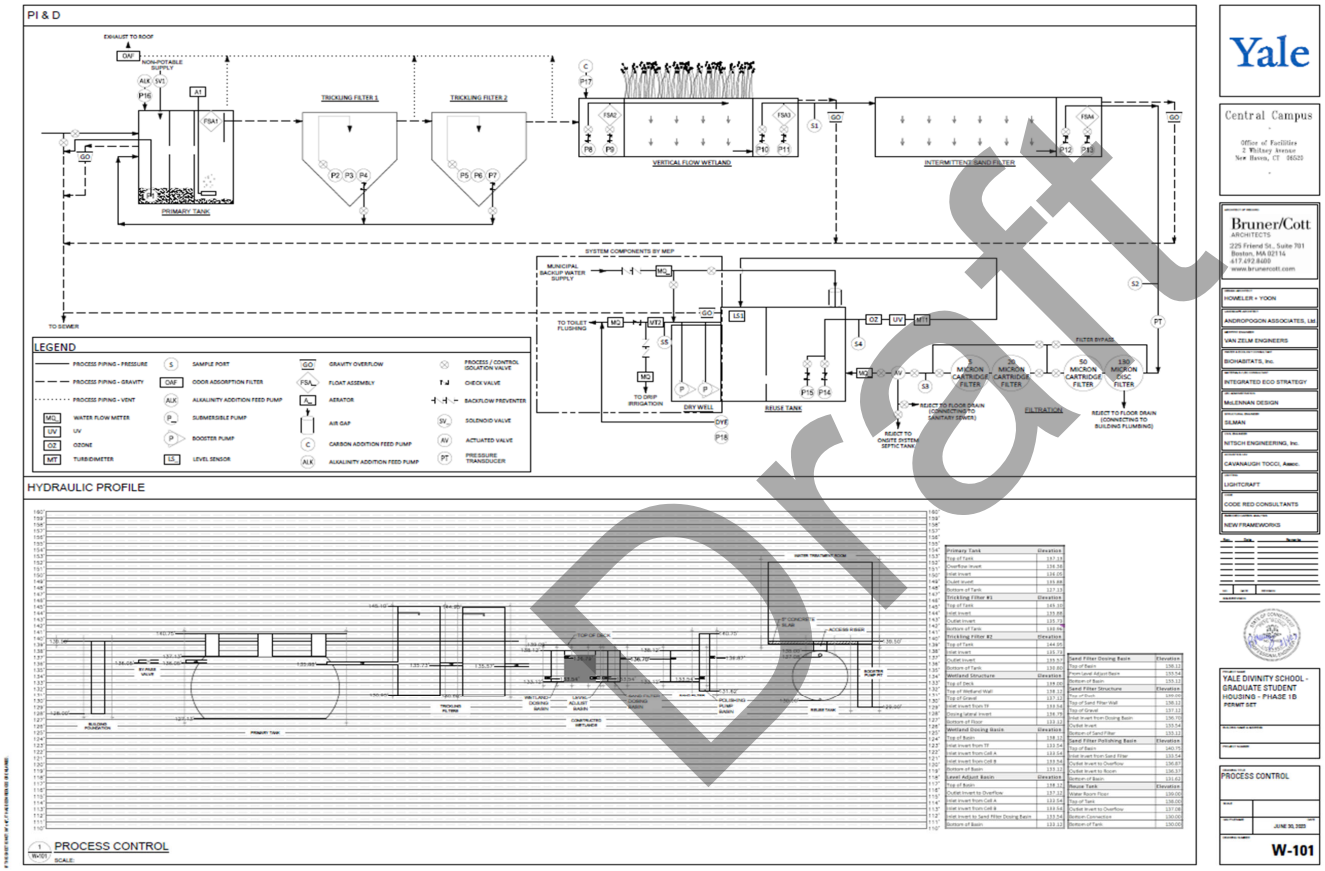
Figure 1 – Site Layout



The Applicant seeks authorization to treat and discharge wastewater for the following:

Discharge serial number	Proposed average daily flow (gpd)	Proposed maximum daily flow (gpd)	Building served	Treatment type
A01	*2,600*	*3,900 (Treatment Capacity)* *2,000 (drip irrigation from April 1-October 31)* *800 (year round re-use to toilets and urinals)*	*Yale Divinity School Dormitory*	☐ Conventional Treatment ☒ Advanced Treatment ☒ Reuse Three stages: pretreatment tank, two trickling filters in series, two units of constructed wetlands and a sand filter with effluent reuse to toilets and urinals and seasonal discharge to drip irrigation system.
Total Site		3,900		The site is already connected to the City of New Haven POTW and the total flow to the site is covered by a different permit that is not subject to this application. The maximum flow associated with the building is 3,900 gallons per day. Any flows in excess of that will be directed to the POTW.

Figure 2. Flow Diagram



Section 4.0 Permit amendments & facility changes

The Regulations of the Connecticut State Agencies ("Regs. Conn. State Agencies") require that permittees notify DEEP and obtain written approval of any facility expansion or process change that may result in an increased or new discharge or constitute a new source, and of any expansion or significant changes made to a wastewater collection system, treatment system, or its method of operation in accordance with Regs. Conn. State Agencies Section 22a-430-3(i). These regulatory provisions are commonly referred to as "3(i) determinations". DEEP will review the notification and determine if the change can be implemented under the current permit or if the requested change requires a permit modification to protect waters of the State in accordance with Regs. Conn. State Agencies Section 22a-430-4(p).

There are no changes to the facility, as this is a new application.

Section 5.0 Special site considerations

5.1 Federally recognized Indian land

As provided in the permit application, is the site located on federally recognized Indian land?

☐ Yes ☒ No

5.2 Coastal area/coastal boundary

Is the activity located within a coastal boundary as defined in Conn. Gen. Stat. 22a-94(b)?

☐ Yes ☒ No

5.3 Endangered species

As provided in the permit application, is the site located within an area identified as a habitat for endangered, threatened or special concern species according to the *State and Federal Listed Species and Natural Communities Map*?

☐ Yes ☒ No

5.4 Aquifer protection areas

As provided in the permit application, is the site located within a protected area identified on a Level A or B map?

☐ Yes ☒ No

5.5 Conservation or preservation restriction

As provided in the permit application, is the property subject to a conservation or preservation restriction?

☐ Yes ☒ No

5.6 Public water supply watershed

As provided in the permit application, is the site located within a public water supply watershed?

☐ Yes ☒ No

Section 6.0 Compliance history

Is the Permittee subject to an ongoing enforcement action? ☐ Yes ☒ No

Section not applicable.

Section 7.0 Application review

DEEP's technical review of the application identified that the proposed project includes elements not typically addressed under existing permitting frameworks, including onsite wastewater treatment with residential reuse for toilet flushing. The proposed subsurface drip irrigation system qualifies the discharge as a regulated Underground Injection Control (UIC) activity.

Due to the nature of the proposed wastewater reuse system and its application on a residential scale, the Department identified the need for additional information and clarification. The technical review focused on reconciling the proposed sustainable design with standard UIC regulatory requirements.

The Department issued Requests for Additional Information ("RFAIs") to the applicant on March 19, 2024, August 22, 2024, and June 4, 2025, addressing design aspects including flow derivation, implementation of the discharge to the sanitary sewer, water balance, inconsistencies in reported concentrations across application attachments, drip irrigation design and soil analysis, pathogen inactivation, and phosphorus evaluation.

Through this iterative review process and multiple technical exchanges, the Engineering Report submitted with the application and supporting documentation were revised and supplemented to address Department comments. These revisions clarified system design, treatment performance, reuse water quality controls, monitoring requirements, and operational safeguards, including diversion of non-compliant effluent to the sanitary sewer.

As a result of the project-specific design and regulatory considerations, the review required the development and application of policy considerations for residential water reuse, as well as the establishment of project-specific permit terms and conditions to ensure protection of public health and the environment.

Based on the additional information provided and the incorporation of these conditions, DEEP has determined that the application is technically sufficient and consistent with applicable regulatory requirements.

7.1 Site investigation

Based on the review of the application materials, information provided by the applicant and follow-up discussions, it was determined that the site will be able to accept and disperse the seasonal discharge of treated wastewater based on the following determinations:

1. A geotechnical and environmental evaluation of the site was performed by Haley & Aldrich (December 2021). The subsurface investigations indicate that bedrock and groundwater are present at depths greater than 9 feet in the proposed irrigation areas.
2. The native soils at the site are classified as Hydrologic Soil Group ("HSG") D which are not favorable for drip irrigation. The applicant proposes to replace native soils within the irrigation areas with engineered fill designed to function as HSG Group A (loamy sand or equivalent) to enhance infiltration capacity.
3. The proposed subsurface drip irrigation system will be installed within the engineered soil layer at a depth of approximately 6 inches below grade. Wastewater will be applied at rates of 0.24 to 0.64 inches per hour, substantially lower than the estimated hydraulic conductivity of the engineered soils (11 to 25 inches per hour), ensuring infiltration without surface breakout or mounding. Wastewater will be distributed across 52 zones, with each zone receiving a single daily dose of short duration (approximately 4 to 11 minutes), limiting hydraulic loading to the shallow root zone.
4. The system will be equipped with soil moisture sensors and climate-based controls to limit irrigation to periods when conditions warrant it. The maximum design flow is 2,000 gallons per day; however, actual flows are expected to be lower and variable.
5. Based on the proposed design, including the use of engineered permeable soils, low application rates, and controlled dosing, site testing typically witnessed by DEEP for subsurface sewage disposal systems was not required.
6. Treated wastewater will be disinfected prior to reuse, and turbidity will be continuously monitored. Wastewater not meeting established quality criteria will be diverted to the sanitary sewer.

Overall, the proposed design, including engineered soils, low application rates, controlled dosing, and automated monitoring, provides reasonable assurance that the system, if operated in compliance with the permit terms and conditions should operate as intended without adverse impacts to groundwater or surface conditions.

Section 8.0 Basis for limitations, permit standards or conditions

In accordance with section 22a-430 of the Regs. Conn. State Agencies, DEEP's "Guidance for Design of Large-Scale On-Site Wastewater Renovation Systems" (February 2006), and DEEP's review of the permit application, site investigation, additional administrative record, "Connecticut Reuse Design Manual" (March 2026), and pollutant analyses of the wastewater, a determination has been made that there is a need for an alternative wastewater treatment system to protect the ground water from pollution. The alternative wastewater treatment system is designed to treat wastewater and remove pollutants before being re-used for toilets and urinal flushing or discharged to the drip irrigation system.

8.1 Alternative wastewater treatment

The wastewater treated though the alternative treatment plant was designed to meet the following parameters prior to entering the drip irrigation system:

- Average daily flow: 2,600 gallons per day
- Maximum daily flow: 3,900 gallons per day
- Daily minimum and maximum: pH: 6.0 – 9.0 s.u.

Discharge to the drip irrigation system shall be limited to the period from April 1 through October 31 and must meet the following parameters:

- Maximum daily flow: 2,000 gallons per day

Parameter	Units	Average Daily Flow Limit	Maximum Daily Flow Limit
Biochemical Oxygen Demand$_{5\text{-day}}$	mg/L	20	30
Total Suspended Solids	mg/L	20	30
Total Nitrogen	mg/L	10[3]	Report
Ammonia	mg/L	Report	Report
Nitrate Nitrogen	mg/L	Report	Report
Nitrite Nitrogen	mg/L	Report	Report
Total Kjeldahl Nitrogen	mg/L	Report	Report
Total Phosphorus	mg/L	Report	Report
pH (Day of Sampling)	S.U.	NA	6.0 – 9.0
Alkalinity	mg/l	Report	Report
Turbidity	NTU	Report	Report
Total Coliform	CFU/100ml	200	400

Monitoring requirements for additional parameters, such as nitrate, have been incorporated into the permit to quantify total nitrogen loading and to validate the design criteria and year-round operational efficiency of the treatment system. These discharge limits are established to ensure the continuous hydraulic performance of the system and maintain consistency with established standards for similar permitted discharges across the State of Connecticut.

8.2 Reuse wastewater treatment

The wastewater discharging to the reuse treatment plant was designed to meet the following parameters:

- Average daily flow: 600 gallons per day
- Maximum daily flow: 800 gallons per day
- Daily minimum and maximum: pH: 6.0 – 9.0 s.u.

Parameter	Units	Average monthly limit	Maximum daily limit
Biochemical Oxygen Demand$_{5\text{-day}}$	mg/L	10	10
Total Suspended Solid	mg/L	5	5
Total Nitrogen	mg/L	10[1]	

Turbidity	NTU		2
Total Coliform	CFU/100ml	2.2[2]	14
Disinfection[3]	mJ/cm2	>100	>100

Footnotes:

1. Limit is based on a twelve-month rolling average.
2. Seven-day median.
3. The proposed disinfection is ultraviolet (UV).

Monitoring requirements for additional parameters, such as nitrate, have been incorporated into the permit to quantify total nitrogen loading and to validate the design criteria and year-round operational efficiency of the treatment system. These discharge limits are established to ensure the continuous hydraulic performance of the system and maintain consistency with established standards for similar permitted discharges across the State of Connecticut.

8.3 Sampling frequency, type, and reporting
Table A: Domestic wastewater: influent to the treatment system

Table A **Domestic wastewater: Influent to the treatment system**					
Discharge Serial No. A01			**Monitoring Location:** ST2[1]		
Wastewater Description: Domestic sewage influent to the Bioclere					
Monitoring Location Description: Description: Outlet of the pre-treatment tank					
Flow/Time Based Monitoring					
Parameter	**Units**	**Average Daily Flow Limit**	**Maximum Daily Flow Limit**	**Sample Type**	**Sample Frequency**
Flow Rate (Average daily)[2]	gpd	2,600	3,900	Totalizer	Continuous

Instantaneous Monitoring					
Parameter	**ICIS Code**	**Units**	**Average Monthly Limit[3,4]**	**Sample Type**	**Sample Frequency[5]**
Biochemical Oxygen Demand$_{5day}$	00310	mg/L	Report	Grab	Twice per month
Total Suspended Solids	00530	mg/L	Report	Grab	Twice per month
Total Kjeldahl Nitrogen	00625	mg/L	Report	Grab	Twice per month
pH	00400	S.U.	Report[4]	Grab	Twice per month

Footnotes:

1. Monitoring location as depicted on as-built plan.
2. For this parameter, the Permittee shall maintain at the facility a record of the total flow for each day of discharge and shall report on the DMR the Average Daily Flow and the Maximum Daily Flow for each month.
3. "Report" in the limits column on this monitoring table means a limit is not specified, but monitoring is required, and a value must be reported on the DMR.
4. pH shall be reported as the daily minimum and daily maximum values for the month.
5. Sample shall be taken twice per month on two different calendar days.

Table B: Intermediate Process

Table B Effluent Intermediate Process					
Discharge Serial No.: A01			**Monitoring Location:** J		
Wastewater Description: Effluent Intermediate Process					
Monitoring Location Description: Effluent from the second Bioclere Unit					
Instantaneous Monitoring					
Parameter	**ICIS Code**	**Units**	**Average Monthly Limit[1]**	**Sample Type**	**Sample Frequency[2]**
pH[3]	00400	S.U.	Report	Grab	Twice per month
Temperature	00011	º F	Report	Grab	Twice per month
Alkalinity	00410	mg/L	Report	Grab	Twice per month

Footnotes:

1. "Report" in the limits column on this monitoring table means a limit is not specified, but monitoring is required, and a value must be reported on the DMR.
2. Sample shall be taken twice per month on two different calendar days.
3. pH shall be reported as the daily minimum and daily maximum values for the month.

TABLE C- Reuse to Toilets and Urinals

TABLE C- Reuse to Toilets and Urinals (Required to be Reported in NetDMR)						
Discharge Serial No. A01				**Monitoring Location:** E		
Wastewater Description: Treated effluent from sand filter						
Monitoring Location Description: Reuse Tank						
FLOW/TIME BASED MONITORING						
Parameter	**ICIS Code**	**Units**	**Average Daily Flow Limit**	**Maximum Daily Flow Limit**	**Sample Type**	**Sample Frequency**
Flow Rate (Average daily)[1]	00056	gpd	600	800	Totalizer	Continuous
Instantaneous Monitoring						
Parameter	**ICIS Code**	**Units**	**Average Monthly Limit[2]**	**Maximum Daily Limit[4,5]**	**Sample Type**	**Sample Frequency[4]**
Biochemical Oxygen Demand$_{5\text{-day}}$	00310	mg/L	10	10	24-hr composite	weekly
Total Suspended Solids	00530	mg/L	5	5	24-hr composite	weekly
Total Nitrogen[8]	00600	mg/L	10[3]	Report	24-hr composite	monthly
Ammonia	00610	mg/L	Report	Report	24-hr composite	monthly
Nitrate Nitrogen[7]	00620	mg/L	Report	Report	24-hr composite	monthly
Nitrite Nitrogen	00615	mg/L	Report	Report	24-hr composite	monthly
Total Kjeldahl Nitrogen[6]	00625	mg/L	Report	Report	24-hr composite	monthly
Total Phosphorus	00665	mg/L	Report	Report	24-hr composite	monthly
pH, Minimum[5] (Day of Sampling)	61942	S.U.	NA	6.0	Grab	Online sensor
pH, Maximum (Day of Sampling)	61941	S.U.	NA	9.0	Grab	Online sensor
Alkalinity	00410	mg/l	Report	Report	Grab	weekly
Turbidity		NTU	Report	2	Continuous	Online sensor
Total Coliform		CFU/10	2.2	14	Grab	weekly

		ml				
UV Dose		mJ/cm2	>100	>100	Continuous	Online calculation

Footnotes:

1. For this parameter, the Permittee shall maintain at the facility a record of the total flow for each day of discharge and shall report on the DMR the Average Daily Flow and the Maximum Daily Flow for each month.
2. "Report" in the limits column on this monitoring table means a limit is not specified, but monitoring is required, and a value must be reported on the DMR.
3. Limit is based on a twelve-month rolling average.
4. Sample shall be taken twice per month on two different calendar days.
5. For the parameter pH, the daily minimum limit is 6.0 S.U. and the daily maximum limit is 9.0 S.U. For reporting purposes, report the minimum and maximum values for the month.
6. Total Kjeldahl nitrogen shall be analyzed in accordance with EPA Method 4500 in accordance with 40 CFR 136.
7. Nitrate Nitrogen shall be analyzed in accordance with EPA Method 4110 B-2020 in accordance with 40 CFR 136.
8. Total Nitrogen shall be determined by the summation of nitrate nitrogen, nitrite nitrogen and kjeldahl nitrogen (Total Nitrogen (TN)=TKN+NO_3-N+NO_2-N).

Table D **Drip Irrigation System April 1- October 31**

TABLE D- Drip Irrigation System April 1- October 31 (Required to be Reported in NetDMR)						
Discharge Serial No. A01				**Monitoring Location:** E		
Wastewater Description: Treated effluent from sand filter						
Monitoring Location Description: Reuse Tank						
FLOW/TIME BASED MONITORING						
Parameter	**ICIS Code**	**Units**	**Average Daily Flow Limit**	**Maximum Daily Flow Limit**	**Sample Type**	**Sample Frequency**
Flow Rate (Average daily)[1]	00056	gpd		2,000	Totalizer	Continuous
Instantaneous Monitoring						
Parameter	**ICIS Code**	**Units**	**Average Monthly Limit[2]**	**Maximum Daily Limit[4,5]**	**Sample Type**	**Sample Frequency[4]**
Biochemical Oxygen Demand$_{5\text{-day}}$	00310	mg/L	20	30	24-hr composite	weekly
Total Suspended Solids	00530	mg/L	20	30	24-hr composite	weekly

Total Nitrogen[8]	00600	mg/L	10^3	Report	24-hr composite	monthly
Ammonia	00610	mg/L	Report	Report	24-hr composite	monthly
Nitrate Nitrogen[7]	00620	mg/L	Report	Report	24-hr composite	monthly
Nitrite Nitrogen	00615	mg/L	Report	Report	24-hr composite	monthly
Total Kjeldahl Nitrogen[6]	00625	mg/L	Report	Report	24-hr composite	monthly
Total Phosphorus	00665	mg/L	Report	Report	24-hr composite	monthly
pH, Minimum[5] (Day of Sampling)	61942	S.U.	NA	6.0	Grab	Online sensor
pH, Maximum (Day of Sampling)	61941	S.U.	NA	9.0	Grab	Online sensor
Alkalinity	00410	mg/l	Report	Report	Grab	weekly
Turbidity		NTU	Report	Report	Continuous	Online sensor
Total Coliform		CFU/100ml	200	400	Grab	weekly
UV Dose		mJ/cm2	>100	>100	Continuous	Online calculati

Footnotes:

1. For this parameter, the Permittee shall maintain at the facility a record of the total flow for each day discharge and shall report on the DMR the Average Daily Flow and the Maximum Daily Flow for ea month.
2. "Report" in the limits column on this monitoring table means a limit is not specified, but monitoring required, and a value must be reported on the DMR.
3. Limit is based on a twelve-month rolling average.
4. Sample shall be taken twice per month on two different calendar days.
5. For the parameter pH, the daily minimum limit is 6.0 S.U. and the daily maximum limit is 9.0 S.U. F reporting purposes, report the minimum and maximum values for the month.
6. Total Kjeldahl nitrogen shall be analyzed in accordance with EPA Method 4500 in accordance with 40 CI 136.
7. Nitrate Nitrogen shall be analyzed in accordance with EPA Method 4110 B-2020 in accordance with CFR 136.
8. Total Nitrogen shall be determined by the summation of nitrate nitrogen, nitrite nitrogen and total Kjelda nitrogen (Total Nitrogen (TN)=TKN+NO_3-N+NO_2-N).

Commented [AG1]: Flag for Applicant to review and discussion. May need to apply the instream standards which is closer to 126 col/ 100 ml for E.coli.

Commented [AD2]: Although the proposed treatment system may not consistently achieve the reuse standard for fecal coliform (2.2 MPN/100 mL 7-day median and 14 MPN/100 mL maximum), subsurface discharge remains protective of public health and groundwater quality due to multiple treatment barriers and site conditions, even without proper disinfection.
The treatment train consisting of Bioclere (secondary treatment), constructed wetland, and polishing filter, is expected to provide approximately 3–5 log reduction of fecal indicator bacteria (Bioclere: ~1–2 log; wetland: ~1–2 log; polishing filter: ~1 log) prior to disinfection. Based on literature, this corresponds to an anticipated effluent concentration on the order of 200 MPN/100 mL average and 400 MPN/100 mL maximum, even without UV.
Additional attenuation occurs within the unsaturated soil zone, where published literature and regulatory guidance support 2–4+ log pathogen reduction within several feet of separation. With 8 feet of vertical separation to groundwater in glacial till, the system provides a substantial secondary treatment barrier.
Accordingly, the combined treatment and soil attenuation are considered protective, and the expected effluent quality is appropriate for subsurface discharge in a GB area, including urban settings such as New Haven.

Section 9.0 Groundwater monitoring requirements

To ensure that treated domestic wastewater does not result in groundwater pollution, monitoring is required at the perimeter of the designated Zone of Influence ("ZOI"). Pursuant to Regs. Conn. State Agencies Section 22a-426-7, all groundwater migrating beyond the ZOI must comply with the primary Maximum Contaminant Levels ("MCLs") established by the Commissioner of Public Health. Adherence to these standards ensures that discharges do not pose an unacceptable risk to public health and remain consistent with the State's anti-degradation policies.

9.1 Drip Irrigation Leaching System

In lieu of a conventional leaching system for subsurface discharge, the applicant proposes a subsurface drip irrigation system. The system will be installed within an engineered soil layer (loamy sand) at a depth of approximately 6 inches below grade, within the shallow root zone. Wastewater will be distributed over approximately 64,000 square feet of drip dispersal area across 52 zones, with each zone receiving a single daily dose for short duration (approximately 4 to 11 minutes), thereby limiting hydraulic loading to the shallow root zone.

9.2 Groundwater nitrogen calculation

The applicant did not provide a nitrogen dilution analysis consistent with the Department's standard nitrogen loading model. Such calculations were not required in this case because the proposed treatment system is designed to achieve a total nitrogen ("TN") concentration of approximately 10 mg/L prior to discharge to groundwater. As a result, nitrogen is not expected to exceed the applicable drinking water standard at the point of discharge.

In addition, the system includes operational controls to ensure compliance with permit effluent limits. If treated wastewater does not meet the required effluent quality, including nitrogen limits, the flow will be automatically diverted to the sanitary sewer, thereby preventing the discharge of non-compliant effluent to the subsurface.

Groundwater quality at the point of environmental concern must not exceed the drinking water MCL of 10 mg/L for nitrate, unless otherwise authorized. Given that the effluent total nitrogen concentration is expected to be consistent with this standard, and considering the low loading rates and controlled application associated with the drip irrigation system, it has been determined that a detailed nitrogen dilution analysis was not necessary.

9.3 Phosphorus (P) removal and soil sorption analysis

The Department utilizes a removal model for phosphorus in treatment system percolate which assumes 30% of phosphorus is removed within the septic tank and the biomat interface. The remaining phosphorus must be attenuated by the unsaturated soil zone beneath the leaching system. The unsaturated soil must demonstrate the capacity to sorb at least six (6) months of the phosphorus load.

Phosphorus Sorption Methodology
Step 1: Determine Total Equivalent Horizontal Area (A_h)

- A_h = Linear Feet x (Width + Sidewall Correction)

Step 2: Calculate Monthly Phosphorus Load (L_p)

- L_p = (Q x 3.785 x C_p) x 30.4 days

Step 3: Calculate Mass of Soil (M_s)
The Department assumes 50% of the area beneath the system is active for flow:

- M_s = 0.5 x A_h x D x Dry Unit Weight (converted to gm/cu. ft.)

Step 4: Determine Sorption Duration

$$\text{Months of Sorption} = \frac{(M_s \times S_v/100)}{L_p}$$

Variable	Description	Applicant Value	Units
Q	Design Average Daily Flow	2,000	GPD
L X W	Total linear feet of leaching units X Effective bottom width (inc. stone)	64,000	sf
D	Depth of unsaturated soil	10	ft
C_p	Effluent P concentration (est. X mg/L)	5	mg/L
S_v	P sorption value (from soil test)	9	mg/100g
W_d	Average dry unit weight of soil	75	lb/cu.ft
T_s	**Calculated Months of Sorption**	**1,063**	**Months**

- Total Monthly P Load: 1.19 x 10^6 mg
- Total Soil Sorption Capacity: 1.26 x 10^9 mg
- Sorption Duration: 1,063 months

Determination: The site meets the minimum 6-month sorption requirement and is satisfactory with respect to Phosphorus removal.

9.4 Groundwater pathogen inactivation and travel time analysis

The DEEP has established a performance objective of 5-$\log_{10}$ (99.999%) virus removal/inactivation before commingled wastewater reaches a sensitive receptor.

The removal occurs through physical processes such as filtration and adsorption, ion exchange processes, natural die-off and microbial antagonism. Inactivation is enhanced in aerobic conditions within the unsaturated soils beneath the leaching field.
Pathogens not removed in the unsaturated zone must be inactivated through natural attenuation in saturated soils. The DEEP requires a minimum travel time to ensure public health is safeguarded before effluent reaches a point of concern.

Calculation Methodology:
The relationship v = ((k x i) / n) must be used to determine velocity, where (n) is derived from established technical literature for the specific soil class found on-site.

To determine that these travel times are met, groundwater velocity **(***v***)** through the site's specific soil conditions is identified using the following equation:

$$v=ki/n$$

Once the velocity is known, the time (*t*) or required distance (*d*) is calculated using the relationship:

$$v=d/t$$

Site-Specific Demonstration:

The requirement to demonstrate time of travel through soils for pathogen attenuation is not necessary for this discharge, as pathogen removal is achieved through tertiary treatment with disinfection and enforceable effluent limitations**,** rather than reliance on subsurface soil processes.

Typical fecal coliform concentrations in raw domestic wastewater range from approximately 10^6 to 10^8 CFU/100 mL**.** The permitted effluent limits of the discharge to the subsurface of 200 CFU/100 mL (geometric mean) and 400 CFU/100 mL (maximum) correspond to an estimated average of 5 log reduction in fecal coliform concentrations. This level of removal reflects substantial and quantifiable pathogen reduction achieved through treatment processes prior to discharge, and is consistent with water quality standards.

Because compliance is demonstrated through routine effluent monitoring and enforceable numeric limits, pathogen control is verified directly at the point of discharge. In addition, the system includes an operational safeguard allowing for diversion of flow to the sanitary sewer in the event that effluent quality does not meet permit limits. This contingency ensures that non-compliant discharges are prevented**,** further reducing any reliance on subsurface attenuation mechanisms.

The design also provides approximately 8 to 9 feet of vertical separation to groundwater, exceeding typical minimum separation distances and providing an additional physical buffer.

While this separation offers secondary attenuation capacity, it is not relied upon as the primary means of pathogen removal.

Finally, the site is located within a groundwater-bearing (classified as GB area) area in downtown New Haven, where subsurface conditions may be heterogeneous and influenced by historical industrialization and urban infrastructure. Under these conditions, reliance on engineered treatment, performance-based standards, and compliance monitoring is more appropriate and protective than reliance on modeled soil travel times.

Given the low flow rates, infrequent application, treated effluent, and the urban context of the groundwater (classified as a GB area,) DEEP has determined that groundwater monitoring wells are not required at this time.

Section 10.0 Permit compliance schedule

Does the permit include a compliance schedule? ☒ Yes ☐ No

The proposed permit includes the following compliance schedules:
1) Record the permit in the town's land records;
2) Record the zone of influence in the town's land records;
3) Provide verification that the system was installed in accordance with the approved plans and specifications and all permit terms and conditions are met after the initial start-up; and
4) Submit the results of a detailed permit compliance audit every two years.

Section 11.0 Variances and waivers

The facility did not request a variance or a waiver.

Section 12.0 E-reporting

The permittee is required to electronically submit discharge monitoring reports.

Section 13.0 Public participation procedures

13.1 Information requests

The application has been assigned the following numbers by the Department of Energy and Environmental Protection. Please use these numbers when corresponding with this office regarding this application.

Application No. 202306082 Permit No. UI0000524

Interested persons may obtain copies of the application from:
Whyndam Abrams
Yale University, Environmental Health and Safety
135 College Street, Suite 100
New Haven, CT 06510
Telephone number 203-432-2093
E-mail: Whyndam.abrams@yale.edu

The application is available for inspection by contacting Antoanela Daha at 860-424-3876 or antoanela.daha@ct.gov, at the Department of Energy and Environmental Protection, Bureau of Materials Management and Compliance Assurance, 79 Elm Street, Hartford, CT 06106-5127 from 8:30 to 4:30, Monday through Friday.

Any interested person may request in writing that his or her name be put on a mailing list to receive notice of intent to issue any permit to discharge to the surface waters of the state. Such request may be for the entire state or any geographic area of the state and shall clearly state in writing the name and mailing address of the interested person and the area for which notices are requested.

13.2 Public comment

Prior to making a final decision to approve or deny any application, the Commissioner shall consider written comments on the application from interested persons that are received within thirty (30) days of this public notice. Written comments should be directed to Antoanela Daha, Bureau of Materials

Management and Compliance Assurance, Department of Energy and Environmental Protection, 79 Elm Street, Hartford, CT 061065127 or DEEP.UICPermitting@ct.gov-. The Commissioner may hold a public hearing prior to approving or denying an application if in the Commissioner's discretion the public interest will be best served thereby and shall hold a hearing upon receipt of a petition signed by at least twenty-five persons. Notice of any public hearing shall be published at least thirty (30) days prior to the hearing.

13.3 Petitions for hearing

Petitions shall be submitted within thirty (30) days from the date of publication of this public notice and should include the application number noted above and also identify a contact person to receive notifications. Petitions may also identify a person who is authorized to engage in discussions regarding the application and, if resolution is reached, withdraw the petition. Upon receipt of a petition, the Commissioner shall take action as required by relevant laws, including Public Act 25-84, which was effective upon passage in June 2025. The Office of Adjudications will accept electronically-filed petitions for hearing in addition to those submitted by mail or hand-delivered. Petitions with required signatures may be sent to deep.adjudications@ct.gov; those mailed or delivered should go to the DEEP Office of Adjudications, 79 Elm Street, Hartford, CT 06106. If the signed original petition is only in an electronic format, the petition must be submitted with a statement signed by the petitioner that the petition exists only in that form. Original petitions that were filed electronically must also be mailed or delivered to the Office of Adjudications within thirty (30) days of electronic submittal. Additional information can be found at www.ct.gov/deep/adjudications.

Attachment A– Application with all required Attachments

NOTICE OF TENTATIVE DETERMINATION
INTENT TO ISSUE AN UNDERGROUND INJECTION CONTROL PERMIT
FOR THE FOLLOWING DISCHARGES
INTO THE WATERS OF THE STATE OF CONNECTICUT

1.0 TENTATIVE DETERMINATION

The Commissioner of the Department Energy and Environmental Protection ("DEEP") hereby gives notice of a tentative determination to issue a permit based on an application submitted by Yale University ("the applicant") authorizing a discharge into the waters of the State under section 22a-430 of the Connecticut General Statutes.

In accordance with applicable federal and state law, the Commissioner has made a tentative determination that a new alternative sewage treatment system including water reuse and drip irrigation), would protect the waters of the state from pollution.

Next steps for the applicant:

- Within 6 months of final determination: Submit treatment system plans and specifications.
- Within 2 years of plan approval: Fully construct the system.

Once these conditions are met, the Commissioner proposes to issue the final groundwater discharge permit for the South Central Shoreline watershed.

The proposed permit, if issued by the Commissioner, will require that all wastewaters be treated to meet the applicable effluent limitations and the permittee meet all permit conditions and requirements, and periodic monitoring to demonstrate that the discharge will not cause pollution.

2.0 APPLICANT'S PROPOSAL

Yale University proposes to treat and discharge a total maximum daily flow of three thousand nine hundred (3,900) gallons per day, based on the system design flow. This total includes the discharge of two thousand (2,000) gallons per day of treated domestic sewage to the groundwaters in the South Central Shoreline Watershed, and the reuse of eight hundred (800) gallons per day of treated wastewater as flush water in bathrooms. In the event that the discharge or effluent quality does not comply with permit requirements, all non-compliant effluent shall be diverted to the municipal sanitary sewer system.

The name and mailing address of the permit applicant are: Yale University, Environmental Health and Safety, 135 College Street, Suite 100, New Haven, CT 06510

The activity takes place at: Yale Divinity School, 423 Prospect Street, New Haven, CT 06511

3.0 REGULATORY CONDITIONS

3.1 Type of Treatment

The alternative sewage treatment system consists of a three-stage pretreatment tank, two trickling filters in series, two constructed wetland units, and a sand filter. The treated effluent will be reused as flush water in bathrooms, with additional discharge directed to a drip irrigation system. Any effluent flow that fails to meet the quality or quantity limitations specified in the permit must be diverted to the municipal sanitary sewer.

3.2 Effluent Limits

This permit contains effluent and ground water discharge limitations applicable to internal and external outfalls, developed to ensure the treatment system as designed and properly operated will protect ground waters of the State consistent with section 22a-430 of the Regulations of Connecticut State Agencies ("RCSA"), DEEP's "Guidance for Design of Large-Scale On-Site Wastewater Renovation Systems," (February 2006), "Connecticut Reuse Design Manual" (March 2026) and a case-by-case determination using the criteria of Best Professional Judgement.

3.3 Compliance Schedule

The proposed permit includes a compliance schedule requiring the applicant to: 1) record the permit in the town's land records; 2) record the zone of influence in the town's land records; 3) provide verification that the system was installed in accordance with the approved plans and specification and the all permit terms and conditions are met after the initial start up; and 4) submit the results of a detailed permit compliance audit every two years.

4.0 COMMISSIONER'S AUTHORITY

The Commissioner is authorized to approve or deny such permits pursuant to section 22a-430 of the Connecticut General Statutes and section 22a-430 of the Water Discharge Permit Regulations, and section 1421 of the Federal Safe Drinking Water Act 42 USC et. seq.

5.0 INFORMATION REQUESTS

The application has been assigned the following application and permit numbers. Please use these numbers when corresponding with this office regarding this application and draft permit.

Application No.: 202306082 **Permit No.:** UI0000524

Interested persons may obtain copies of the application from

Mr. Whyndam Abrams
Yale University
Environmental Health and Safety
135 College Street, Suite 100, New Haven, CT 06510

Telephone No.: (203) 432-2093
E-mail: Whyndam.abrams@yale.edu

The application is available for inspection by contacting Antoanela Daha at 860-424-3876 or antoanela.daha@ct.gov, at the Department of Energy and Environmental Protection, Bureau of Materials Management and Compliance Assurance, 79 Elm Street, Hartford, CT 06106-5127 from 8:30 to 4:30, Monday through Friday.

Any interested person may request in writing that his or her name be put on a mailing list to receive notice of intent to issue any permit to discharge to the surface waters of the state. Such request may be for the

entire state or any geographic area of the state and shall clearly state in writing the name and mailing address of the interested person and the area for which notices are requested.

6.0 PUBLIC COMMENT

Prior to making a final decision to approve or deny any application, the Commissioner shall consider written comments on the application from interested persons that are received within thirty (30) days of this public notice. Written comments should be directed to Antoanela Daha, Bureau of Materials Management and Compliance Assurance, Department of Energy and Environmental Protection, 79 Elm Street, Hartford, CT 061065127 or DEEP.UICPermitting@ct.gov-. The Commissioner may hold a public hearing prior to approving or denying an application if in the Commissioner's discretion the public interest will be best served thereby, and shall hold a hearing upon receipt of a petition signed by at least twenty-five persons. Notice of any public hearing shall be published at least thirty (30) days prior to the hearing.

Petitions shall be submitted within thirty (30) days from the date of publication of this public notice and should include the application number noted above and also identify a contact person to receive notifications. Petitions may also identify a person who is authorized to engage in discussions regarding the application and, if resolution is reached, withdraw the petition. Upon receipt of a petition, the Commissioner shall take action as required by relevant laws, including Public Act 25-84, which was effective upon passage in June 2025. The Office of Adjudications will accept electronically-filed petitions for hearing in addition to those submitted by mail or hand-delivered. Petitions with required signatures may be sent to deep.adjudications@ct.gov; those mailed or delivered should go to the DEEP Office of Adjudications, 79 Elm Street, Hartford, CT 06106. If the signed original petition is only in an electronic format, the petition must be submitted with a statement signed by the petitioner that the petition exists only in that form. Original petitions that were filed electronically must also be mailed or delivered to the Office of Adjudications within thirty (30) days of electronic submittal. Additional information can be found at www.ct.gov/deep/adjudications.

The Connecticut Department of Energy and Environmental Protection is an Affirmative Action/Equal Opportunity Employer that is committed to complying with the requirements of the Americans with Disabilities Act (ADA). If you are seeking a communication aid or service, have limited proficiency in English, wish to file an ADA or Title VI discrimination complaint, or require some other accommodation, including equipment to facilitate virtual participation, please contact the DEEP Office of Diversity and Equity at 860-418-5910 or by email at deep.accommodations@ct.gov. Any person needing an accommodation for hearing impairment may call the State of Connecticut relay number - 711. In order to facilitate efforts to provide accommodation, please request all accommodations as soon as possible following notice of any agency hearing, meeting, program, or event.

Audra Godfrey

Audra Godfrey
Director
Water Permitting and Enforcement Division
Bureau of Materials Management and Compliance Assurance

Date: May 26, 2026